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Sup. Ct.

TRANSCRIPT OF RECORD

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

No. 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC., APPELLANTS

vs.

THE UNITED STATES OF AMERICA

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY, INC., APPELLANT

vs.

THE UNITED STATES OF AMERICA

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

FILED APRIL 18, 1946

VOLUME I—PAGES 1 TO 674

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2 In the District Court of the United States
for the Southern District of New York
Civil No. 26-258

UNITED STATES OF AMERICA, PLAINTIFF,
v.
NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, INC., DEFENDANTS.

Complaint

Filed June 24, 1944

The United States of America, plaintiff, by its attorneys acting under the direction of the Attorney General of the United States brings this action against the defendants and complains and alleges as follows:

JURISDICTION AND VENUE

1. This complaint is filed and these proceedings are instituted against the defendants under Section 4 of the Act of Congress of July 2, 1890, c. 647, 26 Stat. 209, as amended, entitled "An Act to protect trade and commerce against unlawful restraints and monopolies," in order to prevent and restrain violations by defendants, as hereinafter alleged, of Sections 1 and 2 of the Sherman Antitrust Act. Each of the defendants is a corporation and each has an office, transacts business, and is found within the Southern District of New York. Defendants National Lead Company and Titan Company, Inc. both have their respective principal offices in the Southern District of New York.

DESCRIPTION OF DEFENDANTS

2. National Lead Company (hereinafter sometimes referred to as National), a corporation organized and
3 existing under the laws of the State of New Jersey, with its office and principal place of business at 111 Broadway, New York, New York, is made a defendant herein. Defendant National is one of the largest manufacturers of pigments in the United States, with total assets in excess of $100,000,000. It is also the largest manufacturer of titanium compounds in the world, manufacturing at least 50 per cent of such compounds produced in the United States.

3. Titan Company, Inc. (hereinafter sometimes referred to as Titan Inc.), a corporation organized and existing under the laws of the State of Delaware, with its office and principal place of business at 111 Broadway, New York, New York, is made a defendant herein. Approximately 87 per cent of the stock of defendant Titan Inc. is owned by the defendant National. Defendant Titan Inc. now owns, and throughout the period of time covered by the conspiracy hereinafter alleged, has owned large numbers of patents and held exclusive licenses, with the right to grant sublicenses, under many patents relating to the manufacture and use of titanium compounds. Defendant Titan Inc. also owns the following percentages of the voting stock of the following named foreign companies:

British Titan Products Co., Ltd.	49%
Titangesellschaft, g.m.b.h.	50%
Societe Industrielle du Titane	78%
Titan Co., A/S	100%
Titan Kogyo Kabushiki Kaisha	17½%

Since its formation in 1929, defendant Titan Inc. and all of its policies and activities have been controlled by defendant National, and a majority of Titan Inc.'s officers and directors are, and at all times have been, officers and directors of defendant National.

4. E. I. du Pont de Nemours and Company, Inc. (hereinafter sometimes referred to as du Pont), a corporation organized and existing under the laws of the State of Delaware with its office and principal place of business at Wilmington, Delaware, is made a defendant herein. Defendant du Pont is the largest chemical company in the United States, having assets in excess of $1,000,000,000. It is also one of the largest manufacturers of pigments in the United States and the second largest manufacturer of titanium compound in the world, manufacturing approximately 45% of such compounds made in the United States.

4

THE CO-CONSPIRATORS

5. The Titanium Pigments Company, Inc. (hereinafter sometimes referred to as Titanium Pigments), a corporation organized in 1916 and, until its dissolution in 1936, existing under the laws of the State of Maine, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. Prior to 1920 Titanium Pigment had erected a factory in Niagara Falls,

New York, for the manufacture of titanium compounds and was there manufacturing said compounds. In or about 1920 defendant National acquired a substantial stock interest in said company, and in 1932 acquired all its stock. Until 1936 defendant National conducted all activities relating to the manufacture and sale of titanium compounds through said company. In 1936 defendant National dissolved said company and thereafter conducted its titanium operations directly. During the period 1920 to 1936, defendant National controlled all of the policies and activities of Titanium Pigment.

6. Krebs Pigment & Color Corporation (hereinafter sometimes referred to as Krebs), a corporation organized and, until its dissolution in 1936, existing under the laws of the State of Delaware is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. In 1931 the defendant du Pont acquired a company of the same name as Krebs, which company was an old established manufacturer of pigments. At or about the same time, said defendant du Pont organized a new company, Krebs, acquired approximately 70% of its capital stock, and turned over to it the assets of the old company of the same name, as well as all the assets of the Commercial Pigments Company, which at that time was a corporation engaged in manufacturing titanium compounds in the United States under a license from one Blumenfeld, as is hereinafter more particularly set forth.

From 1931 to 1936 defendant du Pont manufactured
5 and sold titanium compound through Krebs. In 1936 defendant du Pont acquired all of the assets of Krebs and dissolved said company, thereafter conducting to the present time all of its titanium operations directly through the Krebs Division of defendant du Pont.

7. Titan Co. A/S (hereinafter sometimes referred to as Titan A/S), a corporation organized and existing under the laws of the Kingdom of Norway with its office and principal place of business at Fredrikstad, Norway, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. Titan A/S originally owned the Jebsen patents, hereinafter referred to, and for some time prior to 1920 and until 1927 was engaged in the manufacture of titanium compounds in Norway. Titan A/S was the owner of large deposits of ilmenite. In 1927 defendant National acquired approximately 87 per cent of the stock of Titan A/S and,

since that time, has controlled the policies and activities of said company. Since about 1927, co-conspirator Titan A/S has discontinued the manufacture of titanium compounds and has purchased all such compounds sold by it from co-conspirator Titangesellschaft.

8. Interessengemeinschaft Farbenindustrie Aktiengesellschaft (hereinafter sometimes referred to as I. G.), a corporation organized and existing under the laws of Germany with its office and principal place of business at Frankfort am Main, Germany, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. I. G. is the largest corporation in Germany and is one of the largest chemical companies in the world.

9. Titangesellschaft, g.m.b.h., a company organized and existing under the laws of Germany with its office and principal place of business at Leverkusen, Germany, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. Titangesellschaft was organized in 1927 by the defendant National and co-conspirators Titan A/S and I. G. pursuant to the conspiracy hereinafter alleged. Titangesell-
6 schaft is the largest producer of titanium compounds in Europe.

10. Societe Industrielle du Titane (hereinafter sometimes referred to as Societe Industrielle), a corporation organized and existing under the laws of France with its principal place of business at Paris, France, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. In 1922 Societe Industrielle entered into a contract with co-conspirator Titan A/S under which it received rights to manufacture titanium compounds in France, as is hereinafter more particularly described.

11. Imperial Chemical Industries, Ltd. (hereinafter sometimes referred to as I. C. I.), a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at London, England, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. I. C. I. was organized in 1926 by the amalgamation of the leading British chemical companies and is the largest manufacturer of chemicals in the British Empire, having total assets in excess of £100,000,000.

12. Goodlass Wall and Lead Industries, Ltd. (hereinafter sometimes referred to as Goodlass Wall), a corpora-

tion organized and existing under the laws of the United Kingdom with its office and principal place of business at London, England, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. Goodlass Wall is the largest producer of lead and lead pigments in the British Empire.

13. Imperial Smelting Corporation (hereinafter sometimes referred to as I. S. C.), a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at London, England, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleegd. I. S. C. is one of the largest producers of pigments in the British Empire.

7 14. British Titan Products, Ltd. (hereinafter sometimes referred to as British Titan), a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at Billingham, England, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. British Titan was organized in 1933 by defendant Titan Inc. and co-conspirators I. C. I., Goodlass Wall and I. S. C., pursuant to the conspiracy hereinafter alleged. British Titan is the largest manufacturer of titanium compounds in the British Empire.

15. National Titanium Pigments Ltd. (hereinafter sometimes referred to as Laporte), a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at Luton, England, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. Laporte is the only other producer of titanium compounds in the British Empire.

16. Canadian Industries, Ltd. (hereinafter sometimes referred to as C. I. L.), a corporation organized and existing under the laws of the Dominion of Canada with its office and principal place of business at Montreal, Canada, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. C. I. L. is the largest chemical manufacturer in Canada and substantially all of its stock is owned in equal shares by defendant du Pont and co-conspirator I. C. I.

17. Canadian Titanium Pigments, Ltd. (hereinafter sometimes referred to as Canadian Titan), a corporation organized and existing under the laws of the Dominion of Canada with its office and principal place of business

at Montreal, Canada, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. Canadian Titan was organized in 1937 pursuant to the conspiracy hereinafter alleged by defendant National and co-conspirator C. I. L. and approximately 49 per cent of its stock is owned by defendant National and the balance by co-conspirator C. I. L.

18. Kokusan Kogyo Kabushiki Kaisha (hereinafter sometimes referred to as Kokusan), an organization existing under the laws of Japan, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. Kokusan is the largest manufacturer of paints in Japan. It is a subsidiary of Nippon Sangyo which is one of the largest industrial enterprises in Japan.

19. Titan Kogyo Kabushiki Kaisha (hereinafter sometimes referred to as Titan Kogyo), a company organized and existing under the laws of Japan with its office and principal place of business at Tokio, Japan, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. Titan Kogyo was organized in 1936 by defendant Titan Inc. and co-conspirators I. G., Titangesellschaft, Terres Rares, and Thann & Mulhouse (said five companies being hereinafter sometimes collectively referred to as the European-American Group). Fifty per cent of the stock of co-conspirator Titan Kogyo is owned by co-conspirator Kokusan, 17½ per cent by defendant Titan Inc., 17½ per cent by co-conspirator I. G., and the remaining 15 per cent by co-conspirators Terres Rares and Thann & Mulhouse. Titan Kogyo is the largest manufacturer of titanium compounds in Japan.

20. Defendant Titan Inc. and co-conspirators I. G., Titangesellschaft, I. C. I., I. S. C., Goodlass Wall, British Titan, C. I. L., Canadian Titan, Kokusan, and Titan Kogyo are sometimes hereinafter collectively referred to as the Titan Companies, and defendant National and defendant du Pont, together with the Titan Companies, are sometimes hereinafter collectively referred to as the Allied Companies.

21. Societe de Produits Chemiques des Terres Rares (hereinafter sometimes referred to as Terres Rares), a corporation organized and existing under the laws of France, with its office and principal place of business at Paris, France, is not made a defendant here-

in but is named as a co-conspirator to the combination and conspiracy herein alleged. Terres Rares acquired the Blumenfeld patents for the manufacture of titanium compounds which are hereinafter referred to.

22. Fabriques de Produits Chemiques de Thann et de Mulhouse (hereinafter sometimes referred to as Thann & Mulhouse), a corporation organized and existing under the laws of France, with its office and principal place of business at Paris, France, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. Both co-conspirators Thann & Mulhouse and Terres Rares are affiliated with the French chemical company of Saint Gobain, which is the second largest such company in France, with assets in excess of 500,000,000 francs. Co-conspirator Thann & Mulhouse is the largest manufacturer of titanium compounds in France.

23. Societa Anonima Titanium (hereinafter sometimes referred to as Montecatini), a corporation organized and existing under the laws of Italy, with its office and principal place of business at Milan, Italy, is not made a defendant herein but is named as a con-conspirator to the combination and conspiracy herein alleged. Montecatini is the only manufacturer of titanium compounds in Italy and is a subsidiary of a company of that name which is the largest manufacturer of chemicals in Italy and which has a capital in excess of 2,000,000,000 lira.

24. Verein fur Chemische and Metallurgische Produktion Aussig (hereinafter sometimes referred to as Aussig), a corporation organized and existing under the laws of Czechoslovakia, with its office and principal place of business at Prague, Czechoslovakia, is not made a defendant herein but is named as a co-conspirator to the combination and conspiracy herein alleged. Aussig is the only manufacturer of titanium compounds in Czechoslovakia and is the largest chemical company in Central Europe.

25. Co-conspirators Aussig, Montecatini, Terres Rares, Thann & Mulhouse, and Laporte are hereinafter sometimes referred to collectively as the Blumenfeld Companies.

NATURE OF TRADE AND COMMERCE INVOLVED

26. Titanium is the ninth most abundant element on the earth's surface. The principal titaniferous ores are ilmenite and rutile. Titanium compounds have become of increasing commercial importance since the last war. Be-

cause of certain unique characteristics which titanium compounds possess, such as their opacity, great hiding power, and chemical inertness, they are today largely displacing other pigments such as lithopone and white lead. Although the industry is only a little over twenty years old, over 100,000 tons of pure titanium dioxide, having a value in excess of $40,000,000, are produced and sold in the United States annually. The principal use of titanium compounds is for the manufacture of paints; although they are also largely used in the manufacture of rubber, glass, paper and vitreous enamels.

27. The earliest development work in the utilization of titanium compounds was carried on by two chemists, Barton and Rossi. As an outgrowth of their efforts, co-conspirator Titanium Pigment was incorporated in 1916. It acquired the Barton and Rossi patents and built a factory at Niagara Falls, New York, for the production of titanium compounds. This company was subsequently acquired by and became a part of defendant National.

28. At substantially the same time that Barton and Rossi were developing their process for the manufacture of titanium compounds in the United States, Gustav Jebsen and an associate were developing another process for the manufacture of titanium compounds in Norway.

11 To exploit their process, co-conspirator Titan A/S was organized under the laws of Norway and acquired the Jebsen patents.

29. Simultaneously with the development work of Barton and Rossi in the United States and Jebsen in Norway, a chemist by the name of Joseph Blumenfeld had also developed a patented process for the manufacture of titanium compounds in France. He transferred the patent rights covering his process to co-conspirator Terres Rares, which then proceeded to exploit these patents by a series of licensing agreements. Licenses under the Blumenfeld patents were granted to co-conspirators Thann & Mulhouse, Montecatini, Aussig, Laporte and Commercial Pigments.

30. A company known as Auergesellschaft had likewise developed a process for the manufacture of titanium compounds and had engaged in their manufacture in Germany in the early 1920's. Patent rights belonging to Auergesellschaft were subsequently acquired by co-conspirator Krebs and defendant du Pont.

31. All of the important patents obtained by Blumen-

feld, defendant Jebsen, Barton and Rossi, and Auergesellschaft had expired by 1936.

32. There are only four manufacturers of titanium compounds in the United States. The largest of these is defendant National, and its principal factories for manufacturing such compounds are located at St. Louis, Missouri, and Sayreville, New Jersey. Defendant National sells and ships the titanium compounds so made by it at these factories into all of the states of the United States, such sales and shipments being generally made directly to consumers of such products located throughout the country. Defendant National has exported some titanium compounds to South and Central America and to Canada, but because of the conspiracy hereinafter set forth has refrained from exporting any such compounds to any other country in the world.

12 33. Defendant du Pont is, next to defendant National, the largest manufacturer of titanium compounds in the United States. Its principal factory for the manufacturer of such compounds is located at Newark, New Jersey, and defendant du Pont sells and ships titanium compounds made by it at said factory into all of the states of the United States. Similarly to defendant National, defendant du Pont follows the general policy of selling and shipping such compounds directly to consumers located throughout the country. Defendant du Pont, because of the conspiracy hereinafter alleged, has refrained from exporting titanium compounds from the United States, except to South and Central America.

34. The American Zirconium Company, a subsidiary of the Glidden Company of Cleveland, Ohio, also manufactures titanium compounds at a factory located at Baltimore, Maryland, from whence it sells and ships the titanium compounds made by it into all of the states of the United States. Pursuant to the conspiracy hereinafter alleged, defendants and co-conspirators have restrained the production and sale of titanium compounds by the American Zirconium Company in the manner hereinafter described.

35. The Virginia Chemical Company, a subsidiary of the Interchemical Company, also manufactures titanium compounds at a factory located at South River, Virginia, from whence it sells and ships titanium compounds made by it into all the states of the United States. Pursuant to the conspiracy hereinafter alleged, defendants and co-

conspirators have restrained the production and sale of titanium compounds by the Virginia Chemical Company in the manner hereinafter described.

36. Prior to the time when each of the defendants and co-conspirators joined in the conspiracy hereinafter alleged, each such defendant and co-conspirator was actively engaged in, or threatened to engage in, competition with the others in the manufacture and sale of titanium compounds. As each defendant or co-conspirator joined the conspiracy hereinafter alleged, all such competition has been eliminated.

37. The corporate defendants and co-conspirators include all the important manufacturers of titanium compounds in the world. They manufacture and sell in excess of 90 per cent of such compounds manufactured and sold in the United States, and manufacture and sell a similar proportion in all other important markets of the world. Throughout the period of time covered by the conspiracy, they have possessed the power, by concerted action, to eliminate competition in the manufacture and sale of titanium compounds in all markets of the world. In addition to acquiring all patents covering the Barton and Rossi process, the Jebsen process, the Auergesellschaft process in all countries, and the United States patents covering the Blumenfeld process, the Allied Companies have taken out and purchased numerous patents relating to the manufacture and sale of titanium compounds, and throughout the period covered by the conspiracy have owned substantially all patents of commercial importance relating to the manufacture and sale of such compounds and by pooling such patents have possessed the power, by concerted action, to prevent persons other than themselves from engaging in the manufacture and sale of titanium compounds in the United States.

COMBINATION AND CONSPIRACY IN RESTRAINT OF TRADE AND COMMERCE AMONG THE SEVERAL STATES AND WITH FOREIGN NATIONS

38. Beginning on or about July 30, 1920, defendant National and co-conspirator Titan A/S, and the remaining defendants and co-conspirators, and others to plaintiff unknown, on various dates thereafter, continuing at all times thereafter to the date of the filing of this complaint, have been continuously engaged in a combination by the means and methods hereinafter set forth, in restraint of, and to monopolize, the aforesaid trade

and commerce in titanium compounds among the several states of the United States and with foreign nations and have been and are now parties to contracts, agreements, and understandings in restraint of such trade and commerce, all in violation of Sections 1 and 2 of the Act of Congress of July 2, 1890, c. 647, 26 Stat. 209, as amended, entitled "An Act To protect trade and commerce against unlawful restraints and monopolies" commonly known as the Sherman Antitrust Act. Such combination and conspiracy and such unlawful contracts, agreements, arrangements and understandings is continuing and will continue unless the relief hereinafter prayed for in this complaint is granted.

39. Said unlawful combination and conspiracy has consisted of a continuing agreement and concert of action among all the defendants and co-conspirators, the terms of which have been that—

(a) The United States market was to be allocated to defendants National and du Pont as their exclusive territory for the manufacture and sale of titanium compounds;

(b) The markets of the world outside of the United States were to be allocated among defendants and co-conspirators by reserving certain markets as the exclusive territory for the manufacture and sale of titanium compounds to some of them, and by fixing quotas which certain of them were to be permitted to sell in other markets;

(c) Defendants National and du Pont and customers purchasing from them were not to export titanium compounds from the United States except to South and Central America;

(d) Domestic manufacturers other than defendants National and du Pont were to be prevented from exporting titanium compounds from the United States;

(e) The foreign co-conspirators and customers purchasing from them were not to import titanium compounds into the United States;

(f) The foreign co-conspirators were not to manufacture and sell titanium compounds in the United States;

(g) The foreign co-conspirators were not to license under their patents any persons, except defendants National and du Pont, to manufacture and sell titanium compounds in the United States;

(h) All persons were to be prevented from engaging in the manufacture and sale of titanium compounds in

the United States, except with the consent of defendants National and du Pont;

(i) All present and future patents, owned or to be acquired by the defendants and the other Allied Companies, relating to the manufacture and sale of titanium compounds were to be pooled in such manner that defendants National and du Pont would receive licenses exclusive of all others under all such United States patents, present and future, owned by the Titan Companies; each Allied Company would grant to each Titan Company an exclusive license under all such patents, present and future, owned or to be acquired by such Allied Company for use in the territory allocated to such Titan Company; defendant National would grant to defendant du Pont a license exclusive of all others except defendant National under all such United States patents, present and future, owned or to be acquired by National; and defendant du Pont would grant to defendant National a license exclusive of all others except defendant du Pont under all such United States patents, present and future, owned or to be acquired by defendant du Pont.

Said unlawful combination and conspiracy was formed and carried into effect principally by means of the several contracts, agreements, understandings and acts alleged in paragraphs 40 through 76 hereof, all of which were made and have been carried out by defendants and co-conspirators as a part of said combination and conspiracy.

40. On or about July 30, 1920, co-conspirators Titanium Pigment and Titan A/S entered into a written contract (sometimes referred to herein as the Contract of 1920), which is now in effect and cannot be terminated until 1956. Said contract provides as follows:

(a) Titanium Pigment was assigned the territory of North America, and Titan A/S was given the rest of the world, with the exception of South America, which was to be common territory;

(b) Titanium Pigment granted to Titan A/S for Titan A/S territory a license exclusive of all others, including Titanium Pigment, to manufacture and sell titanium compounds under all patents then owned or which might thereafter be acquired by it, or which might be at its disposal. Similarly, Titan A/S granted Titanium Pigment for Titanium Pigment's territory, a license exclusive of all others, including Titan A/S, to manufacture and sell titanium compounds under all patents then owned or which

might thereafter be acquired by it, or which might be at its disposal. Each company agreed to grant the other non-exclusive licenses under such patents for the territory of South America;

17 (c) Each party agreed that it would not ship titanium compounds into the other's territory without the other's consent;

(d) Each party agreed to present the importation into the other party's territory of finished articles, that is, manufactured articles, such as paint, glass, and rubber, utilizing any titanium compound as one of the raw materials for the manufacture thereof, if the importation of such finished articles interfered in any way with sales of titanium compounds by the other party in its own territory;

(e) Each party was allowed to grant sub-licenses. The contract, however, recited that neither party could grant licenses, either under its own patents or under any patents licensed to it under the Contract of 1920, unless the licensee or sub-licensee agreed to grant to the other party to the Contract of 1920 an exclusive license under all such licensee's or sub-licensee's patents, present and future, relating to the manufacture of titanium compounds for the territory of such other party, and unless such licensor compelled the licensee or sub-licensee to agree to all of the territory restrictions of the Contract of 1920, referred to in sub-paragraphs (a) through (d) hereof;

(f) The agreement was to last until 1936, and was automatically renewable for periods of ten years thereafter, with the right of either party to cancel by giving notice five years before the expiration of any ten-year period.

18 41. Simultaneously with the execution of the Contract of 1920, defendant National entered into a written contract with co-conspirators Titanium Pigment and Titan A/S. Under its provisions defendant National agreed to respect the Contract of 1920, and further agreed to assign promptly to Titanium Pigment all patents, inventions, and improvements relating to titanium compounds which it then owned or might thereafter acquire, or which should ever be at its disposal, throughout the world.

42. On or about May 1, 1925, co-conspirator Titan A/S entered into a written contract with co-conspirator Societe Industrielle, under which it granted Societe Industrielle a sub-license for the manufacture of titanium compounds

under and subject to the provisions of the Contract of 1920. The contract so entered into is now in effect and cannot be terminated until [illegible] provides as follows:

(a) Societe Industrielle w[illegible] the territory of France, including all of its colo[illegible] possessions, except those appurtenant to the territo[illegible] North and South Amer[illegible] Titan A/S was assigned [illegible] rest of the world;

(b) [illegible]n A/S granted to Societe Industrielle for [illegible]ciete [illegible]ustrielle's territory a license exclusive [illegible] othe[illegible] including Titan A/S, to manufacture and s[illegible] tanium compounds under [illegible] patents, methods, and [illegible] perience then owned or w[illegible]ight thereafter be acqui[illegible]ed by Titan [illegible], or which should ever be at its disposal. Similarly, [illegible]ciete Industrielle granted Titan A/S for Titan A/S territ[illegible] license exclusive of all others, including Societe [illegible]trielle, to manufacture and sell titanium compo[illegible]nder all patents, methods, [illegible] experience then o[illegible] which might thereafter be a[illegible]ed by Societe Industrielle, or which should be [illegible] its disposal;

19 (c) E[illegible]rty agreed not to [illegible] titaniu[illegible] compounds i[illegible] other's territo[illegible]ut the [illegible]er's consent, and ag[illegible] impose the [illegible]e obligation upon its customers;

(d) Each party agreed not to [illegible]port into the other's territory finished [illegible]ticles manufactured by it, and further agreed to preve[illegible] such importation by customers purchasing titani[illegible] compounds from it, if the importation of such finished a[illegible]les interfered in any way with the sale of titanium c[illegible]pounds by the other party in its own territory;

(e) Each party was allowed to grant sub-licenses. The contract, however, provided that neither party could grant licenses under its own patents or under any patents licensed to it under the contract, unless the licensee or sub-licensee agreed to grant to the other party to the contract an ex[illegible]ive license under all such licensee's or sub-licensee's [illegible]patents, present and future, relating to the manufacture of titanium compounds for the territory of such other party, and unless such licensor party compelled the licensee or sub-licensee to agree to all of the territorial restrictions of the contract referred to in sub-paragraphs (a) through (d) hereof. In case Societe Industrielle wished to grant licenses under its patents or under any patents licensed to it by the contract, it was required to obtain the permission of Titan A/S;

(f) The Contract was to last until 1941, and was automatically renewable for ten year periods, with the right of either party to cancel by giving notice six years before the expiration of any ten-year period.

43. Some time in the year 1927, defendant National purchased approximately 87 per cent of the stock of co-conspirator Titan A/S, and also acquired a controlling interest in co-conspirator Societe Industrielle. In 1932 defendant National acquired all of the stock of co-conspirator Titanium Pigment, and in 1936 acquired all of its assets, assumed all of its obligations, and thereafter directly operated the business of manufacturing and selling titanium compounds which had been conducted by Titanium Pigment.

44. Upon defendant National's acquiring the controlling interest in co-conspirator Titan A/S, defendant National and co-conspirator Titan A/S agreed to utilize Titan A/S and the Contract of 1920 to further control competition in the manufacture and sale of titanium compounds in all markets of the world, including the United States. Said defendants and co-conspirator agreed to have Titan A/S (and subsequently defendant Titan Inc.) form in each of the important industrial countries of the world, in association with any corporation or firm contemplating the manufacture and sale of titanium compounds and threatening to be a serious competitor of National and Titan A/S, new companies in which National or Titan A/S were to have a part interest. Any new company so formed was to be given certain territory in which it would have the exclusive right to manufacture and sell titanium compounds; National was to agree not to export into such territory, and the new company so organized was to refrain from exporting into National's territory (consisting of the United States and the other countries of North America) or into the territory of any other company associated with National. The contracts providing for the formation of the new companies were to be made by Titan A/S (and subsequently defendant Titan Inc.), and defendant National was to be bound to adhere to all of the territorial restrictions placed on Titan Inc. in such contracts by virtue of the Contract of 1920. All the patents, present and future belonging to National or Titan A/S, or any of the companies associated with either in the formation of such new companies, as well as those of the new companies to be organized, were to be licensed exclusively to National for North America, to the New companies to be organized

for their respective territories, and to Titan A/S for the balance of the world.

21 45. Prior to 1927 co-conspirator I.G. conducted extensive development work preparatory to engaging in the manufacture and sale of titanium compounds. Defendant National believed that co-conspirator I.G., because of its inventive power and great resources, would develop into a serious competitor of defendant National, not only in Germany but in all markets of the world. In order to eliminate the competition which National expected would develop between itself and I.G. throughout the world, defendant National and co-conspirator Titan A/S entered into negotiations with I.G. and some time in 1927, agreed with I.G. to form a new company, co-conspirator Titangesellschaft, which was to be given the countries of Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Roumania, Serbia, Croatia, Slovenia, Bulgaria, Greece, Turkey, Japan, China, and Spain, as its exclusive territory for the manufacture and sale of titanium compounds. Thereupon, defendant National (acting through Titan A/S), I.G., and Titangesellschaft entered into nine separate contracts which provided for the organization of Titangesellschaft and the control of its activities. These nine separate contracts, provided among other things that:

(a) Titangesellschaft was to be owned jointly by Titan A/S and I.G.;

(b) I.G. would not conduct any operations relating to the manufacture and sale of titanium compounds except through co-conspirator Titangesellschaft, and Titan A/S would not conduct any such operations in Titangesellschaft's territory except through Titangesellschaft;

(c) Titangesellschaft would confine all its manufacturing and selling operations to the countries listed above;

(d) I.G. agreed to grant an exclusive license to Titangesellschaft under all patents then owned or which might be subsequently acquired by I.G., or which should

22 be at its disposal, relating to the manufacture and sale of titanium compounds;

(e) Titan A/S was given the right to require Titangesellschaft to furnish Titan A/S with 50 per cent of the titanium compounds produced by Titangesellschaft at cost, which compounds, however, could only be sold outside of Titangesellschaft's territory;

(f) Titan A/S would enter into a written contract with

Titangesellschaft under which it would grant Titangesellschaft a sub-license for the manufacture and sale of titanium compounds under and subject to the provisions of the Contract of 1920. Such licensing contract which was entered into and is now in force provided as follows:

(1) Titangesellschaft was assigned the countries listed above, and Titan A/S was assigned the rest of the world;

(2) Titan A/S granted Titangesellschaft for Titangesellschaft's territory an exclusive license to manufacture and sell titanium compounds under all patents, methods, and experience then owned or which thereafter might be acquired by Titan A/S, or which should thereafter be at its disposal. Similarly, Titangesellschaft granted Titan A/S for Titan A/S territory an exclusive license to manufacture and sell titanium compounds under all patents, methods, and experience then owned or which might thereafter be acquired by Titangesellschaft, or which should thereafter be at its disposal;

(3) Each party agreed that it would not ship titanium compounds into the other's territory without the other's consent, and agreed to impose the same obligation upon its customers;

23 (4) Each party agreed not to import into the other's territory finished articles manufactured by it, and further agreed to prevent such importation by customers purchasing titanium compounds from it, if the importation of such finished articles interfered in any way with the sale of titanium compounds by the other party in its own territory;

(5) Each party was allowed to grant sub-licenses. The contract, however, provided that neither party could grant licenses, under its own patents or under any patents licensed to it under the contract, unless the licensee or sub-licensee agreed to grant to the other party to the contract an exclusive license under all such licensee's or sub-licensee's patents, present and future, relating to the manufacture and sale of titanium compounds for the territory of such other party, and unless such licensor compelled the licensee or sub-licensee to agree to all of the territorial restrictions of the contract referred to in sub-paragraphs (1) through (4) hereof;

(6) The contract was to last until 1957, and was to be automatically renewable for ten-year periods.

46. After the outbreak of the present war in 1939, defendants National and Titan Inc. and co-conspirator

Titangesellschaft believed that eventually the United States would be at war with Germany, and that after the outbreak of war the United States patents owned by Titangesellschaft under which defendants National and du Pont were licensed in this country would be seized by the Alien Property Custodian, and the German patents owned by defendant Titan Inc. under which co-conspirator Titangesellschaft was licensed in Germany would similarly be seized by the corresponding official in Germany. They also believed that the patents if seized in the two countries would be licensed to others, and that this would lead to competition from others in their respective markets. Consequently, defendants National and Titan Inc. and co-conspirators Titangesellschaft and I. G. decided to amend the various licensing contracts existing between Titan Inc. (successor to Titan A/S), Titangesellschaft, and I. G., by providing that all of the United States patents owned by Titangesellschaft should be transferred to defendant Titan Inc., and the German patents owned by defendant Titan Inc. should be transferred to co-conspirator Titangesellschaft. The parties thereupon amended the several contracts referred to in Paragraph 45, to provide for an assignment of patents, instead of exclusive licenses, in their respective countries, but stipulated that none of the other provisions in the several contracts referred to were to be affected in any way and the same now remain in effect. Thereafter Titangesellschaft assigned to defendant Titan Inc. all of its United States patents, and defendant Titan Inc. endeavored to transfer all of its German patents to Titangesellschaft.

47. After the execution of the contracts between co-conspirators Titan A/S, I. G., and Titangesellschaft, referred to in Paragraph 45, Titangesellschaft erected a factory for the manufacture of titanium compounds adjacent to I. G.'s factories at Leverkusen, Germany, and Titangesellschaft thereupon became the largest manufacturer of titanium compounds in Europe. Titan A/S discontinued its manufacturing operations in Norway and thereafter purchased all of its requirements of titanium compounds from co-conspirator Titangesellschaft and sold them in the territory reserved to it.

48. Some time in 1929, defendant National organized defendant Titan Inc. under the laws of the State of Delaware, and transferred to it all of the patents and licensing rights then owned by co-conspirator Titan A/S, as well

as the stock interest then owned by defendant National and Titan A/S in co-conspirators Societe Industrielle and Titangesellschaft. Defendant Titan Inc. thereupon assumed all of the obligations of Titan A/S under the Contract of 1920, and under all other contracts theretofore entered into by Titan A/S. Thereafter, Titan A/S continued to function as a selling agency for defendant Titan Inc. in part of the territory reserved from time to time to Titan Inc.

49. Some time in 1933, the German corporation known as Sachtleben, affiliated with Metallgesellschaft, a very large German industrial company, informed co-conspirator I. G. that it was going to undertake the manufacture and sale of titanium compounds. To avoid competition in the various markets of the world and as part of the conspiracy herein alleged, defendants National and Titan Inc. and co-conspirator I. G., acting through co-conspirator Titangesellschaft, entered into a contract with Sachtleben, by the terms of which Sachtleben agreed to refrain from manufacturing and selling titanium compounds, and in consideration therefor Titangesellschaft agreed to pay to Sachtleben a sum of money each year during the existence of such agreement. As a result, Sachtleben refrained from manufacturing and selling titanium compounds.

50. By 1933 co-conspirator I. C. I., Goodlass Wall, and I. S. C. were planning to engage in the manufacture of titanium compounds in Great Britain. I. C. I. had begun work to develop a process of its own, and co-conspirator Laporte had approached I. S. C. and Goodlass with a view to forming a joint company for the manufacture and sale of titanium compounds. Defendants National and Titan Inc. believed the aforesaid co-conspirators I. C. I., I. S. C., and Goodlass Wall would develop into serious competitors of defendant National, not only in the British Empire but in all the markets of the world. Consequently, in order to eliminate the competition which they expected would develop between themselves and the aforesaid co-conspirators throughout the world, and to keep control of the manufacture and sale of titanium compounds within the British Empire, defendants National and Titan Inc. entered into negotiations with the aforesaid co-conspirators, and some time in 1933 all the parties came to an agreement and entered into a series of written contracts, which provided for the formation of a new company, con-conspirator British Titan, which was to

have the exclusive right to manufacture and sell titanium compounds in the British Empire, except those parts thereof which are appurtenant to North or South America. These contracts so entered into, which are still in effect, provided:

(a) Defendant Titan Inc. was to own 49 per cent of British Titan, and I. C. I., I. S. C., and Goodlass Wall were to own the remaining 51 per cent in equal shares;

(b) Defendants National and Titan Inc. agreed that they would not conduct any operations relating to the manufacture and sale of titanium compounds within the British Empire except through co-conspirators British Titan; and co-conspirators I. C. I., I. S. C., and Goodlass Wall agreed that they would not conduct any operations relating to such manufacture and sale in any place in the world except through British Titan. Co-conspirator British Titan was to confine all its operations relating to the manufacture and sale of titanium compounds to the British Empire, except those parts thereof which are appurtenant to North or South America;

(c) I. C. I., I. S. C., and Goodlass Wall agreed to transfer to co-conspirator British Titan all their patents, present and future, relating to the manufacture and sale of titanium compounds;

(d) Defendant Titan Inc. executed a written contract with British Titan under which it granted British Titan a sub-license for the manufacture and sale of titanium compounds under and subject to the provisions of the Contract of 1920. Said licensing contract, which is now in effect, provided as follows:

(1) British Titan was assigned the British Empire as its exclusive territory, except those parts thereof appurtenant to North and South America, and defendant Titan Inc. was assigned the rest of the world;

(2) Defendant Titan Inc. granted to British Titan for British Titan's territory an exclusive license under all patents and processes then owned or which might thereafter be acquired by defendant Titan Inc. or which should be at its disposal, relating to the manufacture and sale of titanium compounds. Similarly, British Titan granted defendant Titan Inc. for Titan Inc.'s territory an exclusive license to manufacture and sell titanium compounds under all patents and processes then owned or which might thereafter be acquired by British Titan, or which should be at its disposal;

(3) Each party agreed that it would not export titanium compounds into the other's territory without the other's consent, and further agreed to impose the same obligation upon its customers;

(4) Each party agreed not to import into the other's territory finished articles manufactured by it, and further agreed to prevent such importation by customers purchasing titanium compounds from it, if the importation of such finished articles interfered in any way with the sale of titanium compounds by the other party in its own territory;

(5) Each party was allowed to grant sub-licenses. The contract, however, provided that neither party could grant licenses, under its own patents or under any patents licensed to it under the contract, unless the licensee or sub-licensee agreed to grant to the other party to the contract an exclusive license under all such licensee's or sub-licensee's patents, present and future, relating to the manufacture and sale of titanium compounds for the territory of such other party, and unless such licensor compelled the licensee or sub-licensee to agree to all of the territorial restrictions of the contract referred to in sub-paragraphs (1) through (4) hereof;

(6) The contract was to last until 1963, and was to continue in force thereafter until canceled by either party to the contract upon twelve months' notice.

51. Upon the execution of the aforesaid contracts between defendant Titan Inc. and co-conspirators I.C.I., I.S.C., Goodlass Wall, and British Titan, defendant Titan Inc. turned over to British Titan all of its business in the British Empire, and British Titan erected a factory for the manufacture of titanium compounds at Billingham, England. British Titan thereupon became the largest manufacturer of titanium compounds in the British Empire.

52. Some time prior to 1930, defendants National and Titan Inc. and co-conspirator Titangesellschaft found that the various Blumenfeld Companies and Commercial Pigments (subsequently acquired by defendant du Pont) were competing with them in the various markets of the world in the manufacture and sale of titanium compounds. Defendants National and Titan Inc. thereupon began negotiations with the various Blumenfeld Companies and with Commercial Pigments, which at that time was manufacturing titanium pigments in the United States under a

license from Blumenfeld, in an effort to eliminate such competition in all the markets of the world. The parties to these negotiations recognized that no agreement eliminating competition in the various European markets could be reached unless a similar agreement was made between defendant National and Commercial Pigments in the United States. Consequently, negotiations designed to eliminate competition in the various European markets proceeded simultaneously with negotiations between defendant National and Commercial Pigments in the United States. The European negotiations were conducted by Titangesellschaft and Gustav Jebsen on behalf of defendants National and Titan Inc., pursuant to instructions given them by defendant National. The negotiations on behalf of the Blumenfeld Companies in Europe were conducted chiefly by Blumenfeld himself. The negotiations in the United States on behalf of defendant National in its efforts to promote a world-wide understanding eliminating competition in all the markets of the world were conducted chiefly by its former Vice President McCarthy, and on behalf of Commercial Pigments by its officers, Tichnor and Chase.

53. Some time in 1931 co-conspirator Krebs purchased all of the assets and manufacturing facilities of Commercial Pigments, which thereupon ceased business, and Krebs continued the titanium business of Commercial Pigments. Krebs at the same time acquired from Commercial Pigments all of the United States patents taken out by Blumenfeld covering his process. Thereupon Krebs was substituted for Commercial Pigments in the above negotiations. Defendant National and Krebs continued negotiations in an effort to reach a world-wide agreement which would eliminate competition in the manufacture and sale of titanium compounds, and which would give control and domination of the manufacture and sale of titanium compounds in the United States to defendants National and du Pont. From time to time thereafter throughout the years 1931, 1932, and 1933, defendant National, represented by Fletcher W. Rockwell and other officers of National, and defendant du Pont, represented by Carl H. Rupprecht and by Chase and Tichnor, who were at that time officers of Krebs, continued negotiations for the purpose of reaching an understanding of the nature above described. During the same period, Gustav Jebsen and officials of Titangesellschaft held similar meet-

ings with Blumenfeld and other representatives of the Blumenfeld Companies abroad. Jebsen and Blumenfeld kept defendants National and du Pont fully informed of the progress of their negotiations abroad, and they in turn were informed of the progress of the negotiations in this country.

54. Defendants National and du Pont wished at that time to pool all of their patents in this country in order to control and dominate the manufacture and sale of titanium compounds and to eliminate competition in the United States. The Contract of 1920, however, prohibited defendant National from issuing licenses under its own patents, or issuing sub-licenses under any patents licensed to it relating to the manufacture and sale of titanium compounds, unless the licensee or sub-licensee complied
31 with all of the territorial restrictions of said contract, and unless such licensee or sub licensee agreed to give to the various Titan Companies an exclusive license under its patents for the respective territories of the various Titan Companies. Defendant du Pont was unwilling to execute a written contract agreeing to comply with the provisions of the Contract of 1920, because such an agreement would be in violation of the antitrust laws. Consequently, defendants National and du Pont decided to employ a written contract, not embodying the full understanding of the parties, and to enter into an oral understanding containing the provisions which they believed were unlawful.

Thereupon defendants National and du Pont, through their respective subsidiaries, Titanium Pigment and Krebs, did, subject to said oral understanding and subject to the consent and approval of the Titan Companies, as hereinafter further described, execute a written contract dated January 1, 1933, but which was actually executed and put into effect some months later. Said written contract provided:

(a) Titanium Pigment and Krebs granted each other a non-exclusive license under all their patents, processes, methods, and apparatus relating to the manufacture and sale of titanium compounds, whether patented or unpatented, which it then owned or should thereafter acquire in the future, and the right to sell the products resulting from the use of such processes, methods, and apparatus in the United States, Mexico and Central and South America;

(b) Each party agreed to disclose to each other full

technical information with respect to the methods, processes, apparatus, and products licensed pursuant to the contract;

(c) Each party agreed to use its best efforts to
32 assist the other to acquire a license to manufacture, use, and sell under any such United States patents owned by other companies under which such party itself was licensed. Co-conspirator Krebs further agreed to offer to any foreign associate of Titanium Pigment the opportunity to acquire a non-exclusive license under any patent issued in any European country or in Great Britain, which might be owned or otherwise be at the disposal of Krebs;

(d) The agreement was to be perpetual in duration, but could be terminated by either party by three years' notice, but such termination was not to affect or impair the licenses theretofore acquired by either party from the other;

55. Prior to the execution of the aforesaid contract in 1933, defendants du Pont and National had arrived at a separate oral understanding, which was not embodied in the terms of the aforesaid written contract. At that time Carl H. Rupprecht, acting on behalf of Krebs, and defendant du Pont orally agreed with Beschorman, a vice president of defendant National, that neither Krebs nor defendant du Pont would export any titanium compounds outside of the United States except to South and Central America, and further agreed that whereas the written contract recited that the licenses to be granted by Titanium Pigment to co-conspirator Krebs and by co-conspirator Krebs to Titanium Pigment were non-exclusive, such licenses were to be exclusive in fact.

By the terms of the contracts with the Titan Companies herein above referred to, National was prevented from licensing du Pont under said contract of 1933, either under National's own patents or under those of the Titan Companies. Accordingly, with the full knowledge and ap-
33 proval of du Pont, National submitted said contract of 1933 and the aforesaid oral understanding to British Titan, Societe Industrielle Titangesellschaft, and I.G. for their consent to, and approval of, the execution of said contract as amplified by the aforesaid oral understanding. The said Titan Companies and I.G. gave their consent and approval to the execution of the said 1933 contract and oral understanding as carrying out in

substance the provisions of the Contract of 1920, and accordingly an agreement between all of the said parties was reached on that basis.

56. Some time in the year 1936, defendant du Pont acquired all of the assets of co-conspirator Krebs and assumed all of its obligations, including the written contract above referred to in Paragraph 54, as well as all the obligations under the oral understandings referred to in the previous paragraph, and has at all times since observed the same.

57. At the time defendants du Pont and National entered into the oral understanding referred to in Paragraph 55 hereof, it was understood that defendant du Pont would grant to defendant Titan Inc. and each of the other Titan Companies an exclusive license under all patents relating to the manufacture and sale of titanium compounds then owned by Krebs or du Pont, or which they should thereafter acquire, or should ever have at their disposal. There was, however, some delay in carrying out this provision of the understanding, because defendant du Pont believed it might be obligated to transfer to the various Blumenfeld Companies all of its European patents, and consequently du Pont first endeavored to terminate any such obligation.

58. Beginning with the year 1937, and each year thereafter, defendant du Pont and Titan Inc. entered into contracts for the exchange of patent rights under the terms of which defendant du Pont has granted to defendant Titan Inc. exclusive licenses, with the right to grant sub-licenses, to each of the Titan Companies under defendant du Pont's patents relating to the manufacture and sale of titanium compounds for all countries, except North and South America. In all of these contracts, defendant du Pont has reserved operating rights, and such provision has been inserted by defendant du Pont for the sole purpose of making such contracts appear to be legal on their face. This provision was not intended to have any practical effect, as will be hereinafter more fully set forth. In these several patent exchange contracts, defendant Titan Inc. with the consent of defendant National, has granted du Pont a license under the patents which defendant Titan Inc. then owned or under which it had a right to issue sublicenses.

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59. On or about June 1938, defendant du Pont, represented by Carl H. Rupprecht, and defendants National

and Titan Inc., represented by Gustav Jebsen, and other officials of defendants National and Titan Inc., entered into a detailed oral understanding providing for the exchange of licenses between defendants Titan Inc. and du Pont. This oral understanding, which has remained in full force and effect, provided as follows:

(a) Defendant Titan Inc. agreed on behalf of itself and the other Titan Companies to restrict its operations relating to the manufacture and sale of titanium compounds to the territory outside of North America, and further agreed that the Titan Companies would not export to North America except with the permission of defendant National. Defendant du Pont agreed that it would confine all of its operations, in connection with the manufacture and sale of titanium compounds, within the United States and Central and South America, and it further agreed to prevent its customers from exporting titanium compounds outside of said territory. Defendant du Pont agreed to give, at defendant Titan Inc.'s request, exclusive licenses to manufacture, use, and sell under all patents which it then owned or might thereafter acquire relating to the manufacture and sale of titanium compounds for the territories in which defendant Titan Inc. operated, with the exception of Central and South America. Defendant Titan Inc. was also given the right to grant sub-licenses to co-conspirators Titangesellschaft, British Titan, Societe Industrielle, Titan Kogyo, and Titan A/S, and any other company licensed by Titan Inc. in the future. Defendant Titan Inc. agreed to give to defendant du Pont, at defendant du Pont's request, a non-exclusive license to manufacture, use, and sell under any United States patents which it then owned or might subsequently acquire, or under which it should have the right to an exclusive license, with the right to use and sell in Central and South America. The understanding further provided that in all the licenses granted by defendant du Pont to defendant Titan Inc. or to any of the other Titan Companies a reservation of a non-exclusive license to defendant du Pont would be inserted in the written contracts granting such licenses, but this reservation was to be of a formal nature and was to have no practical importance and would never be—and it has in fact never been—exercised by defendant du Pont. The oral understanding was to last indefinitely and could only be terminated by three years' notice given by either party.

It was, however, provided that any license granted prior to the termination of the understanding was irrevocable;

(b) The above understanding was subject to approval by co-conspirators British Titan, Titangesellschaft, and Societe Industrielle;

36 (c) Shortly thereafter, co-conspirators Titangesellschaft, British Titan, and Societe Industrielle consented to the above understanding.

60. On or about January 1, 1941, the written contract of 1933 between co-conspirators Titanium Pigment and Krebs (subsequently assumed by defendants National and du Pont, respectively) was amended by a supplemental contract entered into between defendants National and du Pont which provided for a discontinuance of the exchange of technical information, but which confirmed in all respects the obligations of the written contract and the various oral understandings above referred to, and the same now remain in effect.

61. By virtue of said written contract of 1933, as amended, and the various oral understandings above referred to, defendant du Pont has in fact subscribed to said Contract of 1920, and is and was entitled to receive all of its benefits, to wit, an agreement on the part of defendant Titan Inc. and all of the other Titan Companies to refrain from exporting into the United States, and to receive a license under all the patents, present and future, belonging to any of the Titan Companies relating to the manufacture and sale of titanium compounds, and defendant du Pont in turn has assumed the obligations of said Contract of 1920, to wit, not to export from the United States except to South and Central America, and to grant to defendant Titan Inc. and the other Titan Companies, for their respective territories, an exclusive license under all of its patents, present and future, relating to the manufacture and sale of titanium compounds.

62. It was one of the purposes of defendants du Pont, Titan Inc., and National in pooling their patents in the manner hereinbefore described to utilize the United States patents so pooled to prevent any person, other than said defendants, from engaging in the manufacture and sale of titanium compounds in the United States, except with the consent of and under terms approved by defendants

37 du Pont and National. In or about the year 1934, a company known as the American Zirconium Company (hereinafter sometimes referred to as Zirconium), erected a factory at Baltimore, Maryland, for the manu-

facture and sale of titanium compounds. Zirconium at that time was owned 50 per cent by the Glidden Company of Cleveland, Ohio and 50 per cent by the Metal and Thermit Corporation of New York City. Said 50 per cent stock interest of Metal and Thermit had been issued in exchange for patents which it possessed for the manufacture of such compounds. As soon as Zirconium started manufacturing operations, defendants du Pont and National agreed that they would use the threat of infringement suits to be brought by defendants du Pont and National to compel Zirconium to accept a license agreement or license agreements from defendants du Pont and National, which would so control the manufacturing and selling activities of Zirconium relating to titanium compounds as to prevent it from becoming a competitor of defendants du Pont and National. Both defendants National and du Pont thereupon notified Zirconium that it was infringing their patents, and as a result Zirconium accepted a license from defendant National and one from defendant du Pont. Both du Pont and National agreed on the terms of the license agreements which they separately granted Zirconium.

63. Under the license from defendant du Pont, Zirconium received a license under certain United States patents relating to the manufacture and sale of titanium compounds, which restricted the amount of such compounds that could be manufactured by Zirconium to 3,000 tons a year for the three years beginning with 1935, 6,000 tons a year for six years beginning with 1938, and 9,000 tons a year for the balance of the term of the agreement, which ran until the expiration of all of the patents in 1951. Zirconium agreed to pay defendant du Pont a royalty equal to two per cent of the selling price of all titanium compounds produced by Zirconium.

Under the license from defendant National, its subsidiary Titanium Pigment granted Zirconium a non-
88 exclusive license under all patents then owned or to be subsequently acquired by Titanium Pigment during the life of the license agreement which ran until 1951. Zirconium in turn agreed to grant a non-exclusive license to Titanium Pigment under all of its patents then owned or to be subsequently acquired by it, and an exclusive license to defendant Titan Inc. and the other Titan Companies for their respective territories. Zirconium also agreed not to export titanium compounds from the United States, and also to prevent the exportation of

finished articles into the territory of any of the Titan Companies, if the importation of such finished articles interfered in any way with the sales of titanium compounds by any of the Titan Companies in its territory. In lieu of paying royalties, Zirconium agreed to issue, and did issue, to defendant National 10 per cent of the stock of Zirconium, and thereafter defendant National elected an officer of defendant National to be a director of Zirconium.

64. Some time prior to 1937, the Virginia Chemical Company erected a factory for the production of titanium compounds, and thereafter manufactured and sold such compounds. Defendants National and du Pont thereupon agreed that they would utilize the threat of infringement proceedings to compel Virginia Chemical to accept a license, which would so control the operations of Virginia Chemical as to prevent it from becoming a competitor of defendants National and du Pont. They thereupon notified Virginia Chemical that it was infringing patents of defendants du Pont and National, and as a result Virginia Chemical some time in 1937 accepted a license from defendant du Pont under certain United States patents relating to the manufacture and sale of titanium compounds, which restricted the amount of titanium compounds that could be produced by Virginia Chemical to 3,000 tons for three years commencing with October 1, 1937, 6,000 tons for the next six years, and 9,000 tons during the remainder of the license period, which was at least until 1953.

Before du Pont granted the aforesaid license, it
39 secured the approval of National to the terms of the license to be granted Virginia Chemical. Negotiations for a license from National to Virginia Chemical have continued from 1937, but have not been consummated in the grant of a license.

65. At the time defendants National and du Pont entered into their written contract and the oral understandings in 1933, described above, negotiations were proceeding in Europe between Titan, Inc. and the other Titan Companies and the various Blumenfeld Companies for the purpose of eliminating competition between the Blumenfeld Companies and defendants National, Titan Inc., and the other Titan Companies in all markets of the world, as hereinabove described. After the conclusion of the arrangements between defendants National and du Pont in 1933, defendant du Pont continued to assist defendants National and Titan Inc. in fostering and promoting an

agreement among all the European producers in order to eliminate competition between defendants National, du Pont, and the various Titan Companies on the one hand, and the Blumenfeld Companies on the other hand, in all the markets of the world. To induce the Blumenfeld Companies to enter into a convention with the Titan Companies, defendants National and du Pont agreed with the Blumenfeld Companies not to export any titanium compounds outside of the United States except to South and Central America, and the various Blumenfeld Companies in turn agreed not to export any titanium compounds to North America. As part of the conspiracy herein alleged, defendant Titan Inc. and the other Titan Companies, having first secured the approval of defendants National and du Pont, thereupon entered into four separate contracts with the Blumenfeld Companies for the purpose of eliminating competition.

66. The first of these was a contract between co-conspirators Titangesellschaft and Aussig dated November 10, 1933. The territory covered by this contract was Germany, Czechoslovakia, Poland, Austria, Hungary, Jugoslavia, Roumania, and Russia. Under the terms of the contract, Aussig was allotted between 25 and 28 per cent of all sales of titanium compounds made in this territory, and co-conspirator Titangesellschaft was granted the remainder. Both parties agreed to prevent titanium compounds from being imported into this territory by third parties, and Titangesellschaft and I. G. agreed that they would not lend any assistance, technical or commercial, to any person who delivered titanium compounds into said territory. Provisions for the determination of prices of titanium compounds sold by the parties in this territory were likewise inserted. To prevent Aussig from expanding its productive facilties, it was provided that Aussig should purchase all of its requirements of titanium compounds in excess of its then capacity from Titangesellschaft. The contract was to continue in existence until December 31, 1938, and was to be renewed for two-year periods thereafter.

67. Another of the four contracts referred to in paragraph 65, termed by the parties thereto as the Contrat a Six, is dated June 1935, but was actually in effect for at least a year prior thereto. The parties to this contract were defendant Titan Inc. and co-conspirators Titangesellschaft, Societe Industrielle, Thann & Mulhouse, Terres Rares, and Montecatini. This contract applied to all the

countries of the world with the exception of North America and the British Empire. Each party renounced any rights in the territory of the other and agreed to impose the same obligation on its customers, and exclusive rights for the sale and delivery of titanium compounds were allocated among the parties to the contract on the basis hereinafter set forth:

(a) Co-conspirators Titangesellschaft and Aussig were assigned the countries referred to in paragraph 66 hereof, and the respective shares of each party in such territory were provided for in said contract;

(b) Titangesellschaft, Terres Rares, and Thann & Mulhouse were to share Japan, Spain, Portugal, Jugoslavia, Switzerland, Bulgaria, Greece, Turkey, China and
41 South America on the basis of 70 per cent for co-conspirator Titangesellschaft, and 30 per cent for co-conspirators Terres Rares and Thann & Malhouse;

(c) Terres Rares, Thann & Mulhouse, and Societe Industrielle were assigned the territory of France, Belgium, and Holland, subject to certain rights given to co-conspirator Montectatini. The quotas of the respective companies for these markets were fixed in the Contrat a Quatre, hereinafter described;

(d) Co-conspirators Terres Rares, Thann & Mulhouse, and defendant Titan Inc. were to share the markets of Estonia, Latvia, Lithuania, Abyssinia, Liberia, Arabia, Afghanistan, Persia, and Siam (referred to hereinafter as "various countries"). The quotas of the respective companies for these markets were fixed in the Contrat a Quatre, hereinafter referred to;

(e) Co-conspirator Montecatini was granted exclusive rights to manufacture and sell titanium compounds in Italy;

(f) Defendant Titan Inc. was given the exclusive right to manufacture and sell titanium compounds in the territories of Norway, Sweden, and Finland;

(g) Each of the parties to the above contract agreed that they would not give any technical or commercial assistance, or assign any patents or issue licenses, to any person not a party to the contract who delivered titanium compounds into any of the territories covered by the contract.

68. Another of the four contracts referred to in paragraph 65 was executed in June 1935, but was in effect for approximately a year prior thereto. The parties to this contract was co-conspirators Thann & Mulhouse, Terres

Rares, and Societe Industrielle and defendant Titan Inc.
This contract was identified and referred to as the
42 Contrat a Quatre, and was supplementary to the
Contrat a Six, hereinabove referred to. This agreement fixed the quotas of co-conspirators Terres Rares and Thann & Mulhouse and Societe Industrielle in the market of France and its dependencies and possessions. Co-conspirator Societe Industrielle was assigned 50 per cent of the market, and co-conspirators Terres Rares and Thann & Mulhouse the remainder. This contract also fixed the quotas for the territories of Belgium, Holland, and the various countries, co-conspirators Terres Rares and Thann & Mulhouse being assigned 30 per cent of these markets and defendant Titan Inc. 70 per cent.

69. The last of the four contracts referred to in paragraph 66, called the Contrat de Livraisons, was executed in June 1935, but was actually in effect for approximately one year prior thereto. The parties to this contract were co-conspirators Thann & Mulhouse and Terres Rares on the one hand, and defendant Titan Inc. and co-conspirator Societe Industrielle on the other. This contract provided that the parties thereto would purchase their requirements of titanium compounds for the markets covered by the four contracts in excess of their then capacity from each other. The object and purpose of this contract was to prevent any party from expanding its productive capacity. This contract further provided that none of the products exchanged between the parties should be re-exported, and a similar obligation was to be imposed upon customers of the parties.

70. The above four contracts continued in force and effect until the outbreak of the present war. At that time the last three of the above four contracts were terminated. However, Blumenfeld and co-conspirators Thann & Mulhouse and Terres Rares agreed with defendant Titan Inc. to continue their commercial cooperation on the basis provided for in the several agreements in the same spirit as previously and as far as possible to respect the quotas in the various markets fixed in the above contracts.

71. The four agreements above referred to did not cover the British Empire, and for a time subsequent to their
execution, co-conspirator Laporte competed with co-
43 conspirator British Titan in the British Empire, and also exported from Great Britain to the various markets of the world. Defendants National and Titan Inc.

and the other Titan Companies commenced negotiations with co-conspirator Laporte through Blumenfeld in order to induce Laporte to cease such exports from Great Britain. As a result, some time in 1936, Laporte agreed to discontinue exporting titanium compounds outside the British Empire. From time to time subsequent to 1936, co-conspirators British Titan and Laporte entered into agreements establishing uniform prices at which titanium compounds could be sold in Great Britain and other parts of the British market since defendant National had the right to sell titanium compounds in Canada prior to the formation of co-conspirator Canadian Titan, hereinafter described, the cooperation of defendant National was essential in order to establish and maintain uniform prices in Canada. Some time in 1936, defendant National agreed with co-conspirators British Titan and Laporte to establish and maintain fixed prices for the sale of titanium compounds in Canada. Thereafter, negotiations were continued between Laporte and British Titan, and some time in 1941, a quota agreement was entered into between British Titan and Laporte establishing the percentages which each could sell in the British Empire, on the basis of 80 per cent for British Titan and 20 per cent for Laporte. This quota arrangement is still in effect.

72. By virtue of the Contract of 1920 defendant National was given the right to export to Canada and to supply the Canadian market with titanium compounds. After the organization of co-conspirator British Titan, defendant National permitted British Titan to supply the Canadian market for some time. However, commencing some time in 1934, co-conspirator Laporte planned to erect a factory in Canada for the manufacture and sale of titanium compounds, and approached co-conspirator C. I. L. with a view to erecting a joint factory. In order to prevent manufacture and sale of titanium compounds in
44 Canada independently of defendants National and Titan Inc., defendant National decided to eliminate the threat of competition from this source in all markets of the world by forming a new company in association with C.I.L. The consent and approval of defendant du Pont and co-conspirator I.C.I. was required before C. I. L. could enter into such an agreement with defendant National. This was given and the understanding between defendant National and C.I.L. and the new company to be formed, Canadian Titan, was evidenced by five separate

contracts, which were all executed during the year 1937. These contracts, which are still in effect, provided as follows:

(a) The new company, Canadian Titan, was to have the exclusive right to manufacture and sell titanium compounds in Canada, and Canadian Titan agreed to confine all activities relating to the manufacture and sale of titanium compounds to Canada;

(b) Defendant National agreed to conduct all of its operations relating to the manufacture and sale of titanium compounds in Canada through Canadian Titan, and C. I. L. agreed it would not conduct any such operations anywhere in the world except through Canadian Titan;

(c) C. I. L. agreed to grant an exclusive license to Canadian Titan under all patents then owned or which might subsequently be acquired by it, or which should ever be at its disposal relating to the manufacture and sale of titanium compounds.

73. Defendant National entered into a licensing contract with Canadian Titan, under which it granted Canadian Titan a sub-license for the manufacture and sale of titanium compounds under and subject to the provisions of the Contract of 1920. Said licensing contract, which is now in effect, provided as follows:

(a) Canadian Titan was assigned Canada, and defendant National was assigned the rest of the world as its territory;

(b) Defendant National granted Canadian Titan for Canadian Titan's territory an exclusive license to manufacture and sell titanium compounds under all patents and processes then owned or which might thereafter be acquired by defendant National, or which should ever be at its disposal. Similarly, Canadian Titan granted to defendant National for National's territory an exclusive license to manufacture and sell titanium compounds under all patents and processes then owned or which might thereafter be acquired by Canadian Titan, or which should ever be at its disposal. It was stipulated that defendant National should grant defendant du Pont a non-exclusive license under any patents or processes so licensed for North and South America whenever requested by defendant du Pont;

(c) Each party agreed that it would not ship titanium compounds into the other's territory without the other's consent, and agreed to impose the same obligation upon its customers;

(d) Defendant National agreed not to export into co-conspirator Canadian Titan's territory any finished articles manufactured by it;

(e) Each party was allowed to grant sub-licenses. The contract, however, provided that neither party could grant licenses, under its own patents or under any patents licensed to it under the contract, unless the licensee or sub-licensee agreed to grant to the other party to the contract an exclusive license under all such licensee's or sub-licensee's patents, present and future, relating to the manu-
46 facture and sale of titanium compounds for the territory of such other party, and unless such licensor party compelled the licensee or sub-licensee to agree to all of the territorial restrictions of the contract referred to in sub-paragraphs (a) through (d) hereof;

(f) The contract was to last until 1967.

74. Defendant National and co-conspirators C. I. L. and Canadian Titan eliminated the threat of competition arising from the fact that co-conspirator Laporte in Canada contemplated erecting a factory for the manufacture of titanium compounds, by entering into a contract with Laporte, under the terms of which Laporte transferred to Canadian Titan all the Canadian patents then owned or which might thereafter be acquired by it relating to the manufacture and sale of titanium compounds, and agreed to stay out of the titanium business in Canada for the term of the agreement, which was fifteen years. Canadian Titan has not as yet erected a factory for the manufacture and sale of titanium compounds in Canada. Defendant National, however, sells to Canadian Titan all its requirements for the Canadian market, and defendant National is obligated to cease all such exports as soon as Canadian Titan erects a factory, which it plans to do immediately upon the cessation of the present war.

75. By 1936, the only industrial country of any importance in which there were no local factories for the manufacture and sale of titanium compounds was Japan. Under the terms of the contracts between defendant Titan Inc. and the other Titan Companies and the various Blumenfeld Companies, co-conspirator Titangesellschaft was entitled to 70 per cent of the Japanese market and co-conspirators Terres Rares and Thann & Mulhouse to 30 per cent. Local companies were laying plans to manufacture and sell such compounds, and defendants National and Titan Inc. and co-conspirators I. G. and Titangesellschaft believed that competition would develop not only in the

trade with Japan, but that the Japanese companies
47 would engage in exports which would lead to competition in all markets of the world, including the United States. Consequently, they decided to organize, in association with the Japanese chemical company Kokusan and the Blumenfeld Companies, co-conspirators Terres Rares and Thann & Mulhouse, a new company, co-conspirator Titan Kogyo, to engage in the manufacture and sale of titanium compounds in Japan. Seven contracts providing for the formation of the new company were agreed to between Titan Inc. and I. G., Titangesellschaft, Terres Rares, Thann & Mulhouse, Kokusan, and Titan Kogyo. Because of the requirement of the Japanese laws, defendant Titan Inc. and co-conspirators Titangesellschaft, I. G., Thann & Mulhouse, and Terres Rares (hereinafter sometimes referred to as the European-American Group) acted through a Japanese subsidiary of I. G., Doitsu, and appointed Doitsu their agent for the purpose of signing the contracts. These contracts provided:

(a) Kokusan was given 50 per cent of the stock of Titan Kogyo, and defendant Titan Inc. 17½ per cent, I. G. 17½ per cent, and Terres Rares and Thann & Mulhouse 15 per cent. I. G., because of the restrictions of the German Government, was unable to supply the capital necessary to subscribe its share of the stock. Consequently, defendant Titan Inc. subscribed to I. G.'s share and gave I. G. an option to purchase such shares at any subsequent time;

(b) Titan Kogyo was assigned the territory of Japan and its dependencies and possessions. Doitsu, representing the European-American Group, was given the rest of the world;

(c) Doitsu as agent for the European-American Group granted Titan Kogyo for Titan Kogyo's territory a license exclusive of all others, including Doitsu, to manu-
48 facture and sell titanium compounds under all patents and processes then owned or which might thereafter be acquired by Doitsu. Similarly, Titan Kogyo granted Doitsu for Doitsu's territory a license exclusive of all others, including Titan Kogyo, to manufacture and sell titanium compounds under all patents and processes then owned or which might thereafter be acquired by Titan Kogyo, or which should ever be at its disposal;

(d) Each party agreed that it would not ship titanium compounds into the other's territory without the other's consent, and agreed to impose the same obligation upon its customers;

(e) Each party to the contract agreed not to import into the other's territory finished articles manufactured by it, and further agreed to prevent such importation by customers purchasing titanium compounds from it, if the importation of such finished articles interfered in any way with the sales of titanium compounds by the other party in its own territory;

(f) Titan Kogyo was prohibited from granting sub-licenses. Doitsu, however, was permitted to grant sub-licenses under any patents licensed to it under the contract, provided its sub-licensee agreed to grant to Titan Kogyo an exclusive license under all such licensee's or sub-licensee's patents, present and future, relating to the manufacture and sale of titanium compounds for the territory of Titan Kogyo, and provided Doitsu compelled the licensee or sub-licensee to agree to all of the territorial restrictions of the contract referred to in sub-paragraphs (a) through (e) hereof;

(g) The contract was to last at least until 1960.

49 This contract is still in effect.

76. By virtue of the Contract of 1920, defendant National had a non-exclusive license to sell in the South American markets, as did defendant Titan Inc. Some time in 1931, at the request of co-conspirator I. G., defendant Titan Inc. assigned to co-conspirator Titangesellschaft its rights to sell in the South American markets. By virtue of the 1933 contract between defendants National and du Pont and the subsequent arrangements between defendants Titan Inc. and du Pont, defendant du Pont likewise was given the right to sell in the South American markets. While each of said defendants and co-conspirators have shipped into the South American markets, they have refrained from competing with each other in the sale of titanium compounds in such markets, and have allotted to each other various customers purchasing titanium compounds in South America. With the outbreak of the war in September 1939, Titangesellschaft was unable to ship titanium compounds to South America, and thereupon defendant National supplied Titangesellschaft's customers in South America, but agreed to turn over the profit on such sales to Titangesellschaft's customers to Titangesellschaft. This understanding was terminated at the outbreak of war between the United States and Germany.

EFFECT OF THE COMBINATION AND CONSPIRACY

77. The aforesaid combination and conspiracy has had,

as was intended by the defendants and co-conspirators, the following effects:

(a) Defendants and co-conspirators have directly, substantially, and unreasonably restrained interstate and foreign trade and commerce in the manufacture and sale of titanium compounds;

(b) All of the foreign co-conspirators have refrained from exportig titanium compounds into the United States;

(c) Defendants National and du Pont have refrained from exporting titanium compounds outside of the
50 United States except to South and Central America, and except that defendant National has exported some titanium compounds to Canada, to be sold only through co-conspirator Canadian Titan, and exports of titanium compounds by all other persons, from the United States to other countries except South and Central America, have been prevented;

(d) Defendants National and du Pont control and dominate the manufacture and sale of titanium compounds in the United States. All other persons have been prevented from manufacturing and selling titanium compounds in the United States except with the consent of defendants National and du Pont. Said defendants National and du Pont have given restricted licenses to American Zirconium Company and the Virginia Chemical Company, which licenses, however, restrict the amount of titanium compounds that each such company can manufacture and sell, with the result that neither of said companies can compete with defendants National and du Pont.

(e) The prices of titanium compounds in the United States have been maintained at uniform and non-competitive levels, and all competition in the manufacture and sale of titanium compounds in the United States has been eliminated.

(f) The markets of the world outside the United States have been allocated and divided among the defendants and co-conspirators by reserving certain markets as exclusive territory for the manufacture and sale of titanium compounds to some of them and by fixing quotas which certain of them were to be permitted to sell in other markets.

51 (g) Defendants National, du Pont, and Titan Inc. have obtained by force of the agreements and understandings above alleged a monopoly of technical information and of United States patents relating to titanium dioxide used in pigments and have utilized their patents to effect the restraints hereinabove described.

PRAYER

WHEREFORE the plaintiff prays:

1. That the aforesaid combination and conspiracy and the aforesaid contracts, agreements, understandings, activities, and arrangements of the defendants in restraint of and to monopolize trade and commerce in titanium compounds be adjudged and decreed to be unlawful and in violation of Sections 1 and 2 of the Sherman Antitrust Act.

2. That the court adjudge and decree that the defendants have combined and conspired to restrain the foreign and domestic trade and commerce of the United States in titanium compounds in violation of Section 1 of the Sherman Antitrust Act.

3. That the court adjudge and decree that the defendants have combined and conspired to monopolize trade and commerce in titanium compounds among the several states of the United States and with foreign nations in violation of Section 2 of the Sherman Antitrust Act.

4. That the defendants and each of them and their officers, directors, agents, representatives, and all persons and corporations acting or claiming to act on behalf of them be perpetually enjoined from combining and conspiring or agreeing to restrain or monopolize trade and commerce among the several states of the United States or with foreign nations with respect to titanium compounds and that they be perpetually enjoined from engaging in or participating in practices, contracts, relationships or understandings or claiming any rights
52 thereunder having the purpose or effect of continuing, reviving, or renewing any of the violations of the Sherman Antitrust Act hereinbefore set forth and described.

5. That the Court adjudge and decree that the defendant National Lead take such steps as may be necessary to prevent it from using Titan Company Inc. to eliminate competition between itself and other companies under such terms and conditions and according to such plan or program as may be approved by or subject to the jurisdiction of this Court.

6. That the defendants be enjoined and restrained from threatening or bringing any infringement suit upon any United States patents relating to any invention or inventions which the said defendants have used in carrying out the aforesaid illegal combination, conspiracy, contracts, agreements, and understandings:

7. That the Court adjudge and decree that the defendants and each of them grant upon request to any third person a royalty-free license to make, use, or sell any invention or inventions which defendants have used in carrying out the aforesaid illegal combination, conspiracy, contracts, agreements and understandings, and to furnish with such licenses all technical information appropriate to practice of the said patents and which was subject to or exchanged under the said combination, conspiracy, contracts, agreements, and understandings.

8. That the plaintiff have such other, further, and different relief as the nature of the case may require and the Court may deem just and proper.

9. That the plaintiff recover its taxable costs.

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JAMES B. M. MCNALLY,
United States Attorney.

53 In United States District Court

[Title omitted.]

Answer of National Lead Company and Titan Company, Inc.

The defendants National Lead Company and Titan Company, Inc. answer the complaint as follows:

1. Deny each and every averment in paragraph 3, except admit that Titan Inc. is a corporation organized and existing under the laws of Delaware, with its office and principal place of business at 111 Broadway, New York, N. Y., and is made a defendant, that 100 per cent of the stock of Titan Inc. is owned by National, that Titan Inc. now owns and since 1929 has owned a number of patents and held exclusive licenses, with the right to grant sub-

licenses, under patents relating to the manufacture and use of titanium compounds, that Titan Inc. owns the following percentages of the voting stock of the following named foreign companies:

British Titan Products Co., Ltd. 44%
Titangesellschaft g. m. b. h. 50%
Societe Industrielle du Titane 57.638%
Titan Kogyo Kabushiki Kaisha 18½%,

that since its formation in 1929 Titan Inc. and all its policies and activities have been controlled by National, and a majority of Titan Inc.'s officers and directors are and at all times have been officers and directors of National.

2. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 4, except admit that du Pont is a corporation organized and existing under the laws of Delaware with is office and principal place of business at Wilmington, Delaware, that it is one of the largest chemical companies in the United States, and is made a defendant.

3. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 6, except admit that Krebs is named as a coconspirator.

4. Admit each and every averment in paragraph 7, except deny that Titan A/S originally owned all the Jebsen patents, that Titan A/S owns directly large ilmenite deposits, and that since 1927 Titan A/S has purchased all titanium compounds sold by it from Titangesellschaft.

5. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 8, except admit that before World War II I. G. was a corporation organized and existing under the laws of Germany with its office and principal place of business at Frankfort-am-Main, that it was one of the largest chemical companies in the world, and is named as a coconspirator.

6. Admit each and every averment in paragraph 9 as to the period before World War II, except deny that Titangesellschaft was organized by National, Titan A/S, and I. G. pursuant to conspiracy.

7. Admit each and every averment in paragraph 10 as to the period before World War II, except deny that

Societe Industrielle entered into a contract with Titan A/S in 1922 under which it received rights to manufacture titanium compounds in France.

8. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 11, except admit that I. C. I. is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at Lohdon, England, that it was organized by an amalgamation of important British chemical companies, that it is the largest manufacturer of chemicals in the British Empire, and is named as a coconspirator.

9. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 12, except admit that Goodlass Wall is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at London, England, that it is the largest producer of lead pigments and fabricator of lead in the British Empire, and is named as a coconspirator.

10. Admit each and every averment in paragraph 14, except deny that British Titan was organized pursuant to conspiracy.

11. Admit each and every averment in paragraph 15, except deny that Laporte is the only other producer of titanium compounds in the British Empire.

12. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 16, except admit that C. I. L. is a corporation organized and existing under the laws of the Dominion of Canada with its office and principal place of business at Montreal, Canada, and is named as a coconspirator.

13. Admit each and every averment in paragraph 17, except deny that Canadian Titan was organized pursuant to conspiracy.

55 14. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 18, except admit that before World War II Kokusan was an organization existing under the laws of Japan and is named as a coconspirator.

15. Deny each and every averment in paragraph 19, except admit that before World War II Titan Kogyo was a company organized and existing under the laws of Japan with its office and principal place of business at Tokio,

Japan, and that it was the largest manufacturer of titanium compounds in Japan.

16. Admit each and every averment in paragraph 22, except that they are without knowledge or information sufficient to form a belief as to the truth of the averment that Thann & Mulhouse and Terres Rares are affiliated with the French chemical company of Saint Gobain, which is the second largest such company in France, with assets in excess of 500,000,000 francs.

17. Admit each and every averment in paragraph 23, except that they are without knowledge or information sufficient to form a belief as to the truth of the averment that the parent company has a capital in excess of 2,000,000,000 lira.

18. Admit each and every averment in paragraph 24, except that they are without knowledge or information sufficient to form a belief as to the truth of the averment that the office and principal place of business of Aussig is at Prague, Czechoslovakia.

19. Admit each and every averment in paragraph 26, except deny that all titanium compounds have the characteristics averted and that all such compounds are used in the products referred to, and aver that only titanium pigment compounds have the characteristics and uses referred to.

20. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 29, except admit that one Joseph Blumenfeld developed a patented process for the manufacture of titanium compounds and the certain rights under the Blumenfeld patents were acquired by Thann & Mulhouse, Montecatini, Aussig, Laporte, and Commercial Pigments.

21. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 30, except admit that Auergesellschaft had certain patents relating to the manufacture of titanium compounds and that certain of its patent rights were acquired by Krebs.

22. Deny each and every averment in paragraph 31, except admit that certain Jebsen United States patents and certain Barton and Rossi patents had expired by 1936.

23. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 32, except admit that National is the largest

manufacturer of titanium pigment compounds in the
56 United States, that National's principal factories for manufacturing such compounds are located at St. Louis, Missouri, and Sayreville, New Jersey, that National sells and ships titanium compounds made by it at these factories into all the states of the United States, that such sales and shipments are generally made to consumers of said products, and that National has exported titanium compounds to South and Central America and Canada; and deny that because of conspiracy National has refrained from exporting to any other country.

24. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 33, except admit that du Pont next to National is the largest manufacturer of titanium pigment compounds in the United States.

25. Deny each and every averment in paragraph 34, except admit that American Zirconium Company is a subsidiary of Glidden Company of Cleveland, Ohio, that it manufactures titanium pigment compounds at a factory located at Baltimore, Maryland, and ships such compounds to states of the United States.

26. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 35, except admit that Virginia Chemical Company was a subsidiary of Interchemical Company, that it manufactures titanium compounds and ships such compounds to states of the United States, and deny that pursuant to conspiracy they have restrained the production and sale of titanium compounds by Virginia Chemical Company.

27. Deny each and every averment in paragraph 36.

28. Deny each and every averment in paragraph 37, except admit that the corporate defendants and alleged conspirators include substantially all the important manufacturers of titanium compounds in the world.

29. Deny each and every averment in paragraphs 38 and 39.

30. Admit each and every averment in paragraph 40, except deny that each party agreed to prevent the importation into the other party's territory of finished articles, that is, manufactured articles such as paint, glass, and rubber utilizing any titanium compounds as one of the raw materials for the manufacture thereof, if the importation of such finished articles interfered in any way with

sales of titanium compounds by the other party in its own territory.

31. Admit each and every averment in paragraph 42, except deny that each party agreed to prevent importation of finished articles by customers purchasing titanium compounds from it if the importation of such finished articles interfered in any way with the sale of titanium compounds by the other party in its own territory.

32. Deny each and every averment in paragraph 44, except aver that National acquired the controlling interest in Titan A/S in 1927.

33. Deny each and every averment in paragraph 45, except admit that Titan A/S entered into negotiations
57 with I. G. in 1925 or 1926 and in 1927 agreed with I. G. to form a new company, Titangesellschaft, which was to be given exclusive licenses for the countries of Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Roumania, Serbia, Croatia, Slovenia, Bulgaria, Greece, Turkey, Japan, China, and Spain for the manufacture and sale of titanium pigment compounds, that Titan A/S, I. G., and Titangesellschaft entered into nine separate contracts that provided for the organization of Titangesellschaft and the control of its activities, and that the provisions of said contracts are in substance as stated in paragraph 45 (a) through (f); but deny that each party agreed to prevent importation of finished articles by customers purchasing titanium compounds from it, if the importation of such finished articles interfered in any way with the sale of titanium compounds by the other party in its own territory.

34. Deny each and every averment in paragraph 46, except admit that Titangesellschaft assigned to Titan Inc. substantially all of its United States patents and that Titan Inc. assigned substanialtly all of its German patents to Titangesellschaft.

35. Admit each and every averment in paragraph 47, except deny that Titan A/S, after it discontinned its manufacturing operations in Norway, purchased all of its requirements of titanium compounds from Titangesellschaft.

36. Deny each and every averment in paragraph 48, except admit that in 1929 National organized Titan Inc. under the laws of Delaware and transferred to it all of the patents and licensing rights then owned by Titan A/S as well as Titan A/S's interest in Titangesellschaft, and

National's stock interest in Societe Industrielle, that Titan Inc. thereupon assumed all of the obligations of Titan A/S under the contract of 1920 and under certain other contracts theretofore entered into by Titan A/S, and that Titan A/S continued its other activities and acted as agent for Titan Inc. in part of Titan Inc.'s territory.

37. Deny each and every averment in paragraph 49, except admit that Sachtleben is a German corporation affiliated with Metallgesellschaft and that some time in 1933 Sachtleben informed I. G. that it was going to undertake the manufacture and sale of titanium compounds.

38. Deny each and every averment in paragraph 50, except admit that in 1933 Titan Inc. entered into negotiations with I. C. I., Goodlass Wall, and I. S. C. as a result of which the parties entered into a series of contracts and that these contracts are in substance as stated in paragraph 50 (a) through (d), except deny that each party agreed to prevent importation of finished articles by customers purchasing titanium compounds from it, if the importation of such finished articles interfered in any way with the sale of titanium compounds by the other party in its own territory.

39. Deny each and every averment in paragraph 52, except admit that National and Titan Inc. carried on negotiations with the various Blumenfeld companies and with Commercial Pigments, that European negotiations were conducted by Titangesellschaft and Gustav Jebsen, that negotiations on behalf of the Blumenfeld com-
58 panies in Europe were conducted chiefly by Blumenfeld, that negotiations in the United States on behalf of National were conducted chiefly by National's former vice-president McCarty and on behalf of Commercial Pigments by its officers Tichnor and Chase.

40. Deny each and every averment in paragraph 53, except admit that in 1931 Krebs purchased Commercial Pigments, which thereupon ceased business, and that Krebs continued the titanium business of Commercial Pigments.

41. Deny each and every averment in paragraph 54, except admit that National and du Pont through their respective subsidiaries, Titanium Pigment and Krebs, executed a written contract dated January 1, 1944 which provided as to titanium compounds useful as a pigment substantially as stated in (a) through (d) of paragraph 54.

42. Deny each and every averment in paragraph 55, except admit that National submitted the contract men-

tioned in paragraph 54 to British Titan, Societe Industrielle, Titangesellschaft, and I. G. for approval and that the Titan companies and I. G. gave their consent and approval to the execution of said contract.

43. They are without knowledge or information sufficient to form a belief as to the truth of each and every averment in paragraph 56, except admit that du Pont assumed the obligations of Krebs under the 1933 contract referred to in paragraph 54.

44. Deny each and every averment in paragraph 57.

45. Deny each and every averment in paragraph 58, except admit that beginning with the year 1937 and each year thereafter through 1941 du Pont and Titan Inc. entered into contracts under the terms of which du Pont granted Titan Inc. exclusive licenses, with the right to grant sublicenses, that du Pont reserved operating rights in all such contracts, and that in several contracts Titan Inc. granted du Pont a license under patents which Titan Inc. then owned or under which it had a right to issue sublicenses.

46. Deny each and every averment in paragraph 59.

47. Deny each and every averment in paragraph 60, except admit that the written contract of 1933 between Titanium Pigment and Krebs was modified by a supplemental contract between National and du Pont which provided for a discontinuance of the exchange of technical information but confirmed the obligations of said contract of 1933 in all other respects and that the same is now in effect.

48. Deny each and every averment in paragraph 61.

49. Deny each and every averment in paragraph 62, except admit that in or about 1934 Zirconium erected a factory at Baltimore, Maryland, for the manufacture and sale of titanium compounds, that Zirconium at that time was owned 50% by the Glidden Company of Cleveland, Ohio, and 50% by Metal and Thermit Corporation of New York City, that said 50% stock interest of Metal and
59 Thermit had been issued in exchange for patents which it possessed for the manufacture of such compounds, that Zirconium accepted a license from National and also from du Pont, and that National notified Zirconium that it was infringing National's patents, but they are without knowledge and information sufficient to form a belief as to the truth of the averment that du Pont notified Zirconium that it was infringing du Pont's patents.

50. Admit each and every averment in paragraph 63, except deny that National has any agreement with Zirconium or holds any stock in Zirconium.

51. They are without knowledge or information sufficient to form a belief as to the truth of each and every allegation in paragraph 64, except admit that prior to 1937 Virginia Chemical erected a factory for the production of titanium compounds, and thereafter manufactured and sold such compounds, that National has not licensed Virginia Chemical, and that National notified Virginia Chemical that it was infringing patents of National; but deny that National and du Pont agreed that they would utilize the threat of infringement proceedings to compel Virginia Chemical to accept a license, which would so control the operations of Virginia Chemical as to prevent it from becoming a competitor of National and du Pont, and that before du Pont granted a license to Virginia Chemical it secured the approval of National to the terms of said license.

52. Deny each and every averment in paragraph 65, except admit that in 1933 negotiations were being carried on between representatives of various Titan companies and various Blumenfeld companies, and that these negotiations resulted in certain contracts between certain Titan companies and certain Blumenfeld companies.

53. Admit each and every averment in paragraph 66, except deny that to prevent Aussig from expanding its production facilities it was provided that Aussig should purchase all its requirements of titanium compounds in excess of its then capacity from Titangesellschaft.

54. Admit each and every averment in paragraph 67, except deny that each party agreed to impose on its customers the obligation to renounce any rights in the territory of the other.

55. Admit each and every averment in paragraph 69, except deny that the object and purpose of the contract referred to was to prevent any party from expanding its productive capacity.

56. Admit each and every averment in paragraph 70, and aver that Montecatini terminated Contrat a Six in December 1938.

57. Admit each and every averment in paragraph 71, except that they are without knowledge or information sufficient to form a belief as to the truth of the averment that the quota arrangement referred to is now in effect.

58. Admit each and every averment in paragraph 72, except deny that in order to prevent the manufacture and sale of titanium compounds in Canada independently of National and Titan Inc. National decided to eliminate the threat of competition from this source in all markets of the world by forming a new company in association with C. I. L., and they are without knowledge or information sufficient to form a belief as to the truth of the averment that the consent and approval of du Pont and I. C. I. was required before C. I. L. could enter into an agreement with National.

59. Admit each and every averment in paragraph 73, except deny that the sublicense referred to was under and subject to all provisions of the contract of 1920.

60. Admit each and every averment in paragraph 74, except deny that under the terms of the contract Laporte transferred to Canadian Titan all the Canadian patents then owned or which might thereafter be acquired by it relating to the manufacture and sale of titanium compounds.

61. Admit each and every averment in paragraph 75, except deny that each party agreed to prevent importation of finished articles by customers purchasing titanium compounds from it, if the importation of such finished articles interfered in any way with the sale of titanium compounds by the other party in its own territory.

62. Deny each and every averment in paragraph 76, except admit that by virtue of the contract of 1920 National had a nonexclusive license to sell in South American markets, as did Titan A/S, and that in 1931 Titan Inc. assigned to Titangesellschaft its rights to sell in the South American markets.

63. Deny each and every averment in paragraph 77.

WHEREFORE the defendants National Lead Company and Titan Company, Inc. demand judgment dismissing the complaint as against each of them, with costs and disbursements.

September 15, 1944.

CLIFTON P. WILLIAMSON,
120 Broadway, New York 5, N. Y.,

BETHUEL M. WEBSTER,
15 Broad Street, New York 5, N. Y.,
Attorneys for National Lead Company and Titan Company, Inc.

62 In United States District Court

[Title omitted.]

Answer of E. I. du Pont de Nemours and Company

The defendant, E. I. du Pont de Nemours and Company, by its attorneys, for its answer to the Complaint herein, admits, denies and avers as hereinafter set forth.

ANSWERING GENERALLY

Du Pont* denies that it is now or ever has been engaged in or a party to any alleged agreement, combination or conspiracy in restraint of trade or commerce in titanium compounds or that it is now or ever has been mo-
63 nopolizing or attempting to monopolize such trade or commerce, in violation of Section 1 or of Section 2 of the Act of Congress of July 2, 1890, C. 647, 26 Stat. 209, as amended, entitled "An Act to protect trade and commerce against unlawful restraints and monopolies", commonly known as the Sherman Antitrust Act.

Du Pont avers that:

The use of titanium compounds as a white pigment is a relatively new commercial development. At the beginning of the period covered by the Complaint titanium pigments were manufactured and sold in the United States in only small quantities. The white pigment market was then occupied and supplied almost entirely by other forms of white pigments, principally lithopone, white lead and zinc oxide. These types of white pigments have throughout this period been produced by many different manufacturers, and, in spite of the commercial development of titanium pigments, such other white pigments have continued to be sold in substantial quantities. Producers of all types of white pigments including titanium compounds compete, and the commercial introduction of titanium compounds simply widened and intensified the competition which has at all times existed in the white pigment field. Du Pont has been, and is, in active, open and vigorous competition not only with National and other titanium compound manufacturers but also with other manufacturers engaged in manufacturing and selling the various other types of competing white pigments.

Du Pont determined to enter the titanium pigment busi-

* The terms "du Pont" and "National" as used in the portion of this answer designated "Answering Generally" refer to E. I. du Pont de Nemours and Company and National Lead Company and their respective subsidiary and associated companies.

ness because it recognized that this type of pigment constituted a new and important development in the white pigment field. At such time, however, the titanium pigment art was already well developed and strong patent positions had been established by both National and Commercial Pigments Company, the only existing titanium pigment manufacturers in the United States. Each of these companies not only held basic patents and
64 patent applications in the field, but the programs of each for research and development of new and improved products and processes were well advanced.

Du Pont considered entering the manufacture of titanium pigments throughout the development of an independent process, but after expending large sums for research concluded that in view of the strength and scope of the patent positions of National and Commercial Pigments Company it was not commercially feasible to do so until some of the then outstanding patents had expired. Thereupon du Pont acquired the assets of Commercial Pigments Company, thus obtaining a position in the titanium pigment business.

In operating the Commercial Pigments processes, du Pont was still confronted with the serious risk of infringement of National's patents. Du Pont, therefore, sought and obtained non-exclusive licenses under the patents controlled by National for producing titanium pigments. This was accomplished through the January 1, 1933, agreement, a copy of which is annexed hereto as Exhibit A. Du Pont thus freed itself to engage in unhampered competition with National.

Since du Pont entered the titanium pigment field, the quantity of titanium compounds manufactured and sold in the United States has steadily increased. Total United States plant capacity for pure titanium dioxide manufacture grew in the period from 1931 to 1943 from less than 20,000 tons per annum to more than 100,000 tons per annum. During the same period du Pont expanded its own productive capacity about 400% and its plants, at all times, have operated at or near capacity.

Similarly, the quality of titanium pigments manufactured and sold in the United States has steadily improved to meet competition and the higher and more exacting requirements of various users. Many new grades have been created and new uses developed, all to the advantage of the consumer. Du Pont has expended large sums on re-

search and has contributed materially to these developments.

65 The price of titanium pigments sold in the United States is a competitive price which has resulted through the operations of free and open competition. This price substantially and consistently decreased until the beginning of World War II, when economic factors required minor price increases.

The relative amount of titanium pigments sold by du Pont and other American producers has varied as the result of the keen and vigorous competition existing among such producers. Du Pont has lost customers to and gained customers from its competitors, including National; it has both initiated and been obliged to meet price reductions; and it has constantly sought new means and methods for improving the quality and type of its titanium pigments and the efficiency of its manufacturing processes. New competitors have been able to enter the field partly with the assistance of licenses granted them at reasonable royalties by du Pont.

Du Pont has never been a party to any agreements allocating or dividing titanium compound markets, nor has it ever authorized anyone to enter into any such agreement or arrangement on its behalf. Du Pont has not sought to prevent its customers from exporting, nor has it placed any restraints upon exports by its licensees. Subject only to conflicting patent rights, du Pont is free to sell titanium compounds in any market of the world where competitive conditions permit.

Du Pont has not exported titanium pigments in substantial quantities because of the operation of one or more of a number of business, economic, political and legal factors beyond du Pont's control; including the tariff and patent laws and other requirements of foreign countries, the low labor costs of foreign countries permitting production of titanium compounds at lower cost, local preference for homemade goods, transportation costs and preference in certain foreign countries for lithopone or other types of pigments as opposed to titanium compounds. Nev-

66 ertheless, it has exported some titanium pigments to Canada, Mexico, Cuba, and South and Central America.

Du Pont is not able, through exercise of its patent rights or otherwise, to prevent other persons from manufacturing and selling titanium compounds in the United States.

Many of the basic patents in the titanium pigment field have long since expired, rendering the processes and products available free to newcomers in the art. In addition, there are and for some time past have been alternative methods of manufacturing titanium pigments which are not controlled by any patents, either those held by du Pont or those held by National; and numerous United States titanium pigment patents are held by concerns other than National, Titan, Inc., and du Pont. Du Pont does own patents covering inventions for improved types and processes for the manufacture of titanium pigments, and in respect of these has granted licenses to American Zirconium Company and Virginia Chemical Company which have assisted these concerns in manufacturing high-grade titanium dioxide more economically and efficiently.

ANSWERING SPECIFICALLY

Without limiting the generality of the foregoing in any way du Pont* admits, denies and avers in respect of each of the paragraphs of the Complaint as follows (the succeeding paragraphs being numbered to correspond with the numbering of the paragraphs of the Complaint):

1. Du Pont admits the allegations of this paragraph except that it denies that it has violated Section 1 or 2 of the Sherman Antitrust Act in the manner alleged or otherwise.

67 2. Du Pont admits that National is a corporation organized and existing under the laws of the State of New Jersey, has its office and principal place of business at 111 Broadway, New York, New York, and is named a defendant herein; that it is one of the largest manufacturers of pigments in the United States and manufactures at least 50% of the titanium compounds useful as pigments produced in the United States. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

3. Du Pont admits that Titan, Inc. is a corporation organized and existing under the laws of the State of Delaware, has its office and principal place of business at 111 Broadway, New York, New York, and is named a defendant herein; and that it now owns and for some time

* Hereafter in this answer E. I. du Pont de Nemours and Company and the other companies mentioned in this answer will be referred to in the abbreviated form used in the Complaint. The references throughout the Complaint to a person or company as a "conspirator" or "co-conspirator" are ignored in this answer as mere characterizations or conclusions of law and shall be deemed in all instances denied.

past has owned or held a number of patents, licenses and licensing rights relating to the manufacture and use of titanium compounds. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

4. Du Pont admits that it is a corporation organized and existing under the laws of the State of Delaware, has its office and principal place of business at Wilmington, Delaware, and is named a defendant herein; that it is a large manufacturer of chemical products and has gross assets in excess of one billion dollars; and that it is one of the largest manufacturers of pigments in the United States. Du Pont denies that it manufactures approximately 45% of the titanium compounds made in the United States. Except as to those facts specifically admitted or denied, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

5. Du Pont admits that Titanium Pigment was a corporation organized in 1916 and, until its dissolution
68 in 1936, existed under the laws of the State of Maine; that it is not named a defendant herein but is named as a co-conspirator; and that prior to 1920 Titanium Pigment had erected a factory at Niagara Falls, New York, for the manufacture of titanium compounds and was there manufacturing such compounds; that in or about 1920 National acquired a substantial stock interest in said company; and that in or about 1936 National dissolved said company and thereafter conducted its operations for the production of titanium compounds in the United States directly. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

6. Du Pont admits and avers that Krebs Pigment and Color Corporation, hereinafter called Krebs, was a corporation organized and, until its dissolution in 1943, existing under the laws of the State of Delaware; and is not named a defendant herein but is named as a co-conspirator; that in 1929 du Pont acquired the Krebs Pigment and Chemical Company, which company was an established manufacturer of lithopone pigments; that in 1931 du Pont and Commercial Solvents Corporation organized a new company, Krebs, in which du Pont acquired approximately 70% of the capital stock; that du Pont, among other

things, turned over to Krebs the assets of Krebs Pigment and Chemical Company and Commercial Solvents Corporation turned over to Krebs the assets of Commercial Pigments Company, which at that time was a corporation engaged in the manufacture and sale of titanium compounds in the United States under certain United States patents and applications acquired from one Blumenthal; that from 1931 to 1935 Krebs manufactured and sold titanium compounds, but in 1935 all manufacturing assets of Krebs were assigned to du Pont, and that Krebs thereafter ceased to manufacture, but continued as a selling company for du Pont's Krebs Pigments Department until the dissolution of Krebs in 1943; and that since
69 1943 to the present time du Pont has conducted all of its titanium compound operations directly through its Pigments Department. Except as to those facts specifically admitted, due Pont denies each and every allegation of this paragraph.

7. Du Pont admits that Titan A/S was a corporation organized and existing under the laws of the Kingdom of Norway, had its office and principal place of business at Fredriksstad, Norway, and is not named a defendant herein but is named as a co-conspirator; and that Titan A/S was at one time engaged in the manufacture of titanium compounds in Norway. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

8. Du Pont admits the allegations of this paragraph, except that it is without knowledge or information sufficient to form a belief as to the truth of the allegation that I. G. is the largest corporation in Germany.

9. Du Pont admits that Titangesellschaft was a corporation organized and existing under the laws of Germany, had its office and principal place of business at Leverkusen, Germany, and is not named a defendant herein but is named as a co-conspirator. Du Pont denies that Titangesellschaft was organized pursuant to any alleged conspiracy to which du Pont was or is a party and denies that du Pont was or is a party to any such conspiracy. Except as to those facts specifically admitted or denied, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

10. Du Pont admits that Societe Industrielle was a corporation organized and existing under the laws of France,

had its principal place of business at Paris, France, and is not named a defendant herein but is named as a co-conspirator. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

70 11. Du Pont admits the allegations of this paragraph.

12. Du Pont admits the allegations of this paragraph, except that it is without knowledge or information sufficient to form a belief as to whether Goodlass Wall is the largest producer of zinc and lead pigments in the British Empire.

13. Du Pont admits the allegations of this paragraph.

14. Du Pont admits the allegations of this paragraph, except that it denies that British Titan was organized pursuant to any alleged conspiracy to which du Pont was or is a party and denies that du Pont was or is a party to any such conspiracy.

15. Du Pont admits the allegations of this paragraph, except that it is without knowledge or information sufficient to form a belief as to the truth of the allegation that Laporte is the only other producer of titanium compounds in the British Empire.

16. Du Pont admits and avers that C.I.L. is a corporation organized and existing under the laws of the Dominion of Canada, has its office and principal place of business at Montreal, Canada, and is not named a defendant herein but is named as a co-conspirator; that C.I.L. is the largest manufacturer of chemicals in the Dominion of Canada; and that approximately 85% of the stock of C.I.L. is held by du Pont and I.C.I. in approximately equal shares. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

17. Du Pont admits the allegations of this paragraph, except that it denies that Canadian Titan was organized pursuant to any alleged conspiracy to which du Pont was or is a party and denies that du Pont was or is a party to any such conspiracy.

18. Du Pont admits that Kokusan was an organization existing under the laws of Japan, and is not named a defendant herein but is named as a co-conspirator. Except as

71 to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

19. Du Pont admits that Titan Kogyo was a company organized and existing under the laws of Japan, had its office and principal place of business at Tokio, Japan, and is not named a defendant herein but is named as a co-conspirator, and that Titan Kogyo was a manufacturer of titanium compounds in Japan. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

20. Du Pont avers that the term "Allied Companies" has been adopted by the pleader purely for purposes of his own convenience and is not justified by any relationship which exists or has ever existed between du Pont and the other companies so designated.

21. Du Pont admits that Terres Rares was a corporation organized and existing under the laws of France, with its office and principal place of business at Paris, France, and is not named a defendant herein but is named as a co-conspirator, and that Terres Rares acquired certain Blumenfeld foreign patents for the manufacture of titanium compounds. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

22. Du Pont admits that Thann & Mulhouse was a corporation organized and existing under the laws of France, had its office and principal place of business at Paris, France, and is not named a defendant herein but is named as a co-conspirator, and that Thann & Mulhouse was a manufacturer of titanium compounds in France. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

23. Du Pont admits that Montecatini was a corporation organized and existing under the laws of Italy, had its office and principal place of business at Milan, Italy, and is not named a defendant herein but is named as a co-conspirator, and that Montecatini was a manufacturer of titanium compounds in Italy and was a subsidiary of a company of that name which was a large manufacturer of chemicals in Italy. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

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24. Du Pont admits that Aussig was a corporation organized and existing under the laws of Czechoslovakia, had its office and principal place of business at Prague, Czecho-

slovakia, and is not named a defendant herein but is named as a co-conspirator. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

26. Du Pont admits and avers that titanium is an abundant element on the earth's surface, but avers that as such it has no value as a pigment and further admits that the principal titaniferous ores are ilmenite and rutile; that titanium compounds useful as pigments have become of increasing commercial importance since the last war; that because of certain characteristics which such titanium compounds, especially titanium dioxide, possess, such as their opacity, great hiding power, and chemical inertness, they are today largely displacing certain white pigments, such as lithopone and white lead; that the titanium compound industry is a little over twenty year old and that over 100,000 tons of pure titanium dioxide are produced and sold in the United States annually, and that the principal use of titanium compounds is for the manufacture of paints, although they are also used in the manufacture of certain grades of rubber, glass, paper and vitreous enamels. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

27. Du Pont admits that certain development work in the production of titanium compounds was carried
73 on in the United States by two chemists, Barton and Rossi; that Titanium Pigment was incorporated in 1916 and acquired the Barton and Rossi patents and built a factory at Niagara Falls, New York, for the production of titanium compounds and that this company was subsequently acquired by and became a part of National. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

28. Du Pont admits that at substantially the same time as Barton and Rossi were developing their process for the manufacture of titanium compounds in the United States, Gustav Jebsen was developing another process for the manufacture of titanium compounds useful as pigments in Norway and that Titan A/S acquired certain Jebsen foreign patents. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

29. Du Pont admits that a chemist by the name of Joseph Blumenfeld also developed and patented a process for the manufacture of titanium compounds useful as pigments; that he transferred certain foreign patent rights covering this process to Terres Rares, which then proceeded to exploit the process by a series of licensing agreements, and that the Blumenfeld United States patents were assigned to Commercial Pigments. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

30. Du Pont admits and avers that Auergesellschaft had a process for the manufacture of titanium compounds and had engaged in their manufacture in Germany in the early 1920's; that Krebs acquired by purchase at a nominal sum from Travancore Minerals Company, Ltd., a British company, a number of United States and foreign patents relating to titanium compounds which Travancore
74 Minerals Company, Ltd., had originally acquired from Auergesellschaft; that such patents proved to be of little value and were never employed commercially in the United States, and that all of the foreign patents were either sold or allowed to become abandoned. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

31. Du Pont denies each and every allegation of this paragraph, except that du Pont admits that some of the United States patents issued to Jebsen and Barton and Rossi had expired by 1936.

32. Du Pont admits that National is the largest manufacturer of titanium compounds in the United States; that National's principal factories are located at St. Louis, Missouri, and Sayreville, New Jersey; that National sells and ships the titanium compounds so made by it at these factories in and to states of the United States, such sales and shipments being generally made to consumers of such products located throughout the country, and that National has exported titanium compounds to Canada. Du Pont is without knowledge or information sufficient to form a belief as to the truth of the allegation that National has exported titanium compounds to South and Central America or the allegation that National has refrained from exporting any such compounds to any other country in the world. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

32. Du Pont admits that, next to National, it is the largest manufacturer of titanium compounds in the United States; that du Pont's factories for the manufacture of such compounds are located at Baltimore, Maryland, and Edge Moor, Delaware; that du Pont sells and ships titanium compounds made by it at such factories in and to states of the United States; that du Pont follows the general policy of shipping such compounds directly to consumers located throughout the country; and
75 avers that du Pont has exported titanium compounds from the United States to Canada, Mexico, Cuba and to South and Central America. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

34. Du Pont admits that American Zirconium Company is a subsidiary of Glidden Company of Cleveland, Ohio, and manufactures titanium compounds at a factory located at Baltimore, Maryland, from which it sells and ships the titanium compounds made by it in and to states of the United States and avers that du Pont assisted Zirconium in manufacturing high-grade titanium dioxide more economically and efficiently by the grant of a license under du Pont patents and applications. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

35. Du Pont admits that Virginia Chemical Company was a subsidiary of Interchemical Company and manufactures titanium compounds at a factory located at Piney River, Virginia, from which it sells and ships titanium compounds made by it in and to states of the United States, and avers that du Pont assisted Virginia Chemical in manufacturing high-grade titanium dioxide more economically and efficiently by the grant of a license under du Pont patents and applications. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

36. Du Pont denies each and every allegation of this paragraph.

37. Du Pont denies each and every allegation of this paragraph.

38. Du Pont denies each and every allegation of this paragraph.

39. Du Pont denies each and every allegation of this paragraph.

76 40. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each

and every allegation of this paragraph except that du Pont admits that Titanium Pigment and Titan A/S entered into a written contract in or about 1920.

41. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

42. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

43. Du Pont admits that in or about 1927 National acquired approximately 87% of the stock of Titan A/S and that since in or about 1936 National has directly operated the business of manufacturing and selling titanium compounds in the United States. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

44. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

45. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

46. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

47. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

48. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

77 49. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

50. Du Pont admits that sometime in 1933 I.C.I., Goodlass Wall, I.S.C., and National after negotiations formed a new company, British Titan. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

51. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph, except that it admits that British Titan erected a factory for the manufacture of

titanium compounds at Billingham, England, and became a manufacturer of titanium compounds.

52. Du Pont admits that for some time prior to 1930 Commercial Pigments was manufacturing titanium compounds in the United States under the Blumenfeld process but denies that Commercial Pigments was competing with National and Titan, Inc., in various markets of the world, other than the United States, in the manufacture and sale of titanium compounds. Except as to those facts specifically admitted or denied, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

53. Du Pont admits and avers that sometime in 1931 Krebs acquired the assets and manufacturing facilities of Commercial Pigments which thereupon ceased business, and that Krebs continued the titanium business of Commercial Pigments in conjunction with Krebs lithopone and dry color business; that at the same time Krebs acquired all of the United States titanium compounds patents and applications owned by Commercial Pigments. Du Pont is without knowledge or information sufficient to form a belief as to the truth of the allegation as to any meeting between Jebsen or any official of Titangesellschaft
78 with Blumenfeld or any other representative of any Blumenfeld Company abroad. Du Pont avers that the patents acquired by Krebs from Commercial Pigments included certain patents which, among other things, covered the titanium compound-producing methods employed in the Commercial Pigments plant wherein a seeding hydrolysis procedure for accelerating titanium dioxide precipitation and substantially increasing the yields of such product was employed; that du Pont had undertaken at various times patent infringement investigations to determine whether Commercial Pigments plant operation as well as other pigment-producing operations which du Pont or Krebs were contemplating undertaking infringed existing United States patents including those owned or controlled by National; that in pursuance thereof du Pont determined that the existing Commercial Pigments operations did, and that the contemplated pigment operations would in fact, infringe process and product patents of National; that following Krebs' acquisition of Commercial Pigments, du Pont on behalf of Krebs opened negotiations with National for the sole object and purpose of resolving such infringement questions; that these negotiations continued from time to time thereafter during the years 1931,

1932 and 1933 and were in no way a continuation of or in any way related to negotiations between National and Commercial Pigments; that the parties sent their technical and patent representatives to inspect the processes and apparatus used by each party in their respective titanium compound plants in order to determine whether either party was infringing by its plant practice the patents of the other and if so the extent and duration of such infringement; that at the conclusion of such plant inspection each party determined that the operations of the other did in fact infringe outstanding patents which it owned or controlled; that National's plant operations were determined by du Pont to infringe certain of Krebs' patents, and that National confirmed the existence of infringement of certain of its patents by Krebs; that the parties
79 and their respective counsel determined that many areas of controversy existed and that the patent situation was unquestionably so involved that both companies were faced with the certainty of continued and prolonged disputes with the resulting protracted and very costly litigation; that to overcome this and to free each party and permit it to proceed with the manufacture, use and sale of titanium compounds, the parties decided to enter into the agreement which was subsequently executed, dated January 1, 1933, a copy of which is hereto annexed as Exhibit A. Except as to those facts specifically admitted or averred, du Pont denies each and every allegation of this paragraph.

54. Du Pont admits that Krebs and Titanium Pigment entered into a written contract dated January 1, 1933, but which was actually executed some months later, a copy of which is hereto annexed as Exhibit A, and avers that this written contract contains the complete and full terms of the understanding and agreement between Titanium Pigment and Krebs. Du Pont further admits and avers that it was unwilling for Krebs or itself to execute a written contract, or in any other way agree, to restrict the right of du Pont or Krebs to export titanium compounds produced under licenses or otherwise or which would obligate du Pont or Krebs to grant exclusive licenses to any specified party or parties under foreign titanium compound patents which might be at their disposal, because such undertakings might be considered in violation of the antitrust laws, and du Pont and Krebs each made its position in this regard unequivocally clear to National

throughout negotiations which led to the written contract dated January 1, 1933. Du Pont is without knowledge or information sufficient to form a belief as to the truth of allegations concerning the provisions of the Contract of 1920. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

55. Du Pont is without knowledge or information sufficient to form a belief as to the truth of the allega-
80 tions concerning the terms of the contracts between the Titan Companies and National with regard to licensing du Pont. Du Pont denies each and every other allegation of this paragraph.

56. Du Pont admits that on January 1, 1936 it acquired the assets of Krebs and assumed all of its obligations including the written agreement between Krebs and National, dated January 1, 1933, and that du Pont has observed the terms of such agreement subject to certain modifications made therein by written agreement between du Pont and National from time to time. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

57. Du Pont denies each and every allegation of this paragraph.

58. Du Pont admits and avers that in each of the years 1937 to 1941, inclusive, it and Titan, Inc., entered into patent agreements involving specifically designated inventions under the terms of which du Pont granted to Titan, Inc., exclusive licenses, with the right to grant sublicenses to one or more of the following, Titangesellschaft, British Titan, Societe Industrielle and, from 1939 to 1941, inclusive, Titan Kogyo, under certain specified patents and patent applications of du Pont in certain specified countries relating to the manufacture of titanium compounds useful as pigments; that each of said licenses was only for the particular countries in which the licensed patents and applications were issued or pending; that du Pont reserved for itself and its subsidiaries the right to use and employ the inventions covered by such patents; and that Titan, Inc., granted du Pont, with the consent of National, non-exclusive licenses under certain specified United States patents and patent applications. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

81 59. Du Pont denies each and every allegation of this paragraph.

60. Du Pont admits and avers that as of May 1, 1940 the exchange of technical information between National and du Pont was discontinued at the insistence of du Pont with the agreement and acquiescence of National; that the agreement of 1933 between Titanium Pigment and Krebs, which had been assumed by National and du Pont, respectively, was subsequently amended to eliminate provisions for exchange of technical information and in other respects by an agreement between National and du Pont, dated January 1, 1941, a copy of which is hereto annexed as Exhibit B; and that the agreement of 1933, as amended by the agreement of January 1, 1941, is now in effect. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

61. Du Pont denies each and every allegation of this paragraph.

62. Du Pont admits that in or about the year 1934 Zirconium erected a factory at Baltimore, Maryland, for the manufacture and sale of titanium compounds; that Krebs, acting independently of National, notified Zirconium that it held certain titanium compound patents; that Krebs licensed Zirconium to manufacture, use, and sell certain specified annual titanium dioxide tonnages under certain du Pont titanium compound patents; and that National licensed Zirconium under certain of its titanium compound patents. Du Pont is without knowledge or information sufficient to form a belief as to the truth of the allegations with respect to the ownership of Zirconium and the consideration for the issuance of Zirconium's stock to National and the allegations as to the relations and negotiations between National and Zirconium which led to the licensing of Zirconium by National. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

82 63. Du Pont admits and avers that Krebs licensed Zirconium, under certain of its United States patents for producing anatase titanium dioxide, to manufacture, use and sell 3000 tons a year of such titanium dioxide for the three years beginning with 1935, 6000 tons a year for the six years beginning with 1938, and 9000 tons a year for the balance of the term of the agreement, which runs until the expiration of all of the patents in 1951; that Zirconium agreed to pay Krebs a royalty equal to 2 per cent per pound of the selling price of all titanium dioxide produced by Zirconium; that in 1937, 1939 and 1941 du Pont, at the request of Zirconium, increased the amount of titanium dioxide which Zirconium under the

license agreement was granted the right to produce under du Pont's patents; and that du Pont, upon Zirconium's request in 1943, broadened such license to include du Pont's rutile titanium dioxide producing patents and applications on the same terms and conditions as the license theretofore granted under the anatase titanium dioxide patents and applications. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

64. Du Pont admits and avers that sometime prior to 1937 Virginia Chemical acquired a plant for the production of titanium compounds and thereafter manufactured and sold titanium dioxide pigments; that du Pont, acting independently of National, notified Virginia Chemical that it held certain titanium compound patents; that Virginia Chemical established to du Pont's satisfaction that its proposal to manufacture a calcium base titanium pigment did not infringe certain of du Pont's patents; that at the same time Virginia Chemical indicated a desire to acquire a license under du Pont's patents to manufacture, use and sell pure titanium dioxide and du Pont agreed to grant such license; that in 1937 du Pont licensed Virginia Chemical under certain of its United States patents for producing anatase titanium dioxide to manufacture, use and sell 3000 tons of titanium compounds for three
83 years commencing with October 1, 1937, 6000 tons for the next six years, and 9000 tons during the remainder of the license period, which was until 1953; that in 1938, twice in 1939, 1940 and twice in 1941 du Pont, at the request of Virginia Chemical or voluntarily, increased the amount of titanium compounds which Virginia Chemical under the terms of the license agreement was granted the right to produce under du Pont's patents; that du Pont in 1943, on its own initiative, broadened such license to include du Pont's rutile titanium dioxide producing patents and applications on the same terms and conditions as the license theretofore granted under the anatase titanium dioxide patents and applications. Du Pont is without knowledge or information sufficient to form a belief as to the truth of the allegations concerning National's negotiations with Virginia Chemical. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

65. Du Pont admits that in or about 1933 negotiations were proceeding in Europe between Titan, Inc. and the

other Titan Companies and the various Blumenfeld Companies relative to the manufacture and sale of titanium compounds. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

66. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

67. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

68. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

69. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

84 70. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

71. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

72. Du Pont is without knowledge or information sufficient to form a belief as to the truth of the allegations respecting the rights of National under the Contract of 1920, the dealings between National and British Titan relative to the Canadian market, the plans of Laporte and National's purpose or reasons for forming Canadian Titan. Du Pont admits that contracts were entered into between National and C. I. L. and the new company to be formed, Canadian Titan, which were executed during the year 1937, which are still in effect and which contain provisions in substance as alleged in subparagraphs (a) through (c) of this paragraph. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

73. Du Pont admits the allegations of this paragraph, except that du Pont is without knowledge or information sufficient to form a belief as to the truth of the allegation that the licensing contract was under and subject to all the provisions of the Contract of 1920. Du Pont avers that by express provision of the contract du Pont was not required to observe territorial restrictions and other provisions and limitations otherwise made applicable under the agreement to sublicensees of the parties.

74. Du Pont admits that Canadian Titan has not as yet erected a factory for the manufacture and sale of titanium compounds in Canada and that National sells titanium compounds to Canadian Titan. Except as to those facts specifically admitted, du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

85 75. Du Pont is without knowledge or information sufficient to form a belief as to the truth of each and every allegation of this paragraph.

76. Du Pont denies knowledge or information sufficient to form a belief as to the truth of the allegations with respect to the Contract of 1920; the alleged assignment by Titan, Inc., to Titangesellschaft; National's relations or agreements with Titangesellschaft after September, 1939, and the alleged refraining from competition or allotment of customers by the other defendants and alleged co-conspirators, and the supplying by National of Titangesellschaft customers in South America. Du Pont admits that by the 1933 contract it was given licenses under National's patents to sell in, among other places, South America, and that it and at least some of the defendants and alleged co-conspirators have shipped into South America. Except as to those facts specifically admitted, du Pont denies each and every allegation of this paragraph.

77. Du Pont denies each and every allegation of this paragraph.

WHEREFORE du Pont denies that the Plaintiff is entitled to the relief prayed for in the Complaint, or any part thereof, or to any other relief against du Pont, and prays for judgment dismissing the Complaint herein as to it with the costs and disbursements of this action.

CRAVATH, SWAINE & MOORE,
By WM. DWIGHT WHITNEY,
A Member of the Firm,
Attorneys for E. I. du Pont de Nemours and Company.
Office and Post Office Address: 15 Broad Street, Borough of Manhattan, City of New York.

Of Counsel:

GERHARD A. GESELL,
COVINGTON, BURLING, RUBLEE, ACHESON & SHORB.

September 15, 1944.

86 EXHIBIT "A" TO ANSWER

THIS AGREEMENT made as of the first day of January, 1933, by and between THE TITANIUM PIGMENT COMPANY, INC., (hereinafter called Titanium), a corporation organized and existing under the laws of the State of Maine, and KREBS PIGMENT & COLOR CORPORATION (hereinafter called Krebs), a corporation organized and existing under the laws of the State of Delaware,

WITNESSETH:

WHEREAS, Titanium and Krebs are engaged in manufacturing and development activities within the Licensed Field as hereinafter defined and maintain research and development organizations for the purpose of expanding such activities; and

WHEREAS, Titanium and Krebs each owns certain United States Letters Patent and applications for United States Letters Patent relating to said Licensed Field which in the opinion of their respective counsel present causes of controversy in respect of claims of mutual infringement, and

WHEREAS, each of the parties hereto, in order to avoid such controversies, desires to acquire from the other party hereto a license of the character and scope and upon and subject to the terms and conditions hereinafter set forth;

NOW, THEREFORE, in consideration of the premises and of the covenants herein contained the parties hereto have agreed as follows:

ARTICLE I

The term "Licensed Field" wherever herein employed means and includes (1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds, containing two per cent. (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adapted for other uses, and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses.

ARTICLE II

Titanium and Krebs each agrees to grant and hereby grants to the other an irrevocable and non-exclusive right and license, within the United States of America, its colonies and possessions, present and future, to use

87 all processes, methods and apparatus of manufacture now or hereafter during the term of this Agreement used by it and as to which it is free to grant

such rights, whether or not patented or subject to patent, and under and in accordance with any and all United States Letters Patent now or hereafter and during the term of this Agreement owned by it or otherwise at its disposal for the grant of licenses, relating to and within the limits of the Licensed Field, and to sell the products resulting from the use of such processes, methods and apparatus of manufacture, whether or not patented or subject to patent, throughout the United States of America, its colonies and possessions present and future, Mexico, Central America, the West Indies, and South America.

Notwithstanding the limitations of the Licensed Field as herein defined, it is understood and agreed that each of the parties hereto shall have the right to sell, within the licensed territory of sale specified in this Article, any and all intermediate products of manufacture under the license hereby granted whether or not such intermediate products are intended or adapted for use as pigments.

It is further understood and agreed that all purchasers from either of the parties hereto of any product, intermediate or final, of manufacture under the license hereby granted shall be privileged to use the product so purchased for any and all purposes.

Nothing in this article contained shall in any manner limit or restrict the right of either party hereto to grant to third parties licenses of the same character and scope as the license granted by it under this Article.

ARTICLE III

Each party hereto agrees, from time to time, during the term of this Agreement, to disclose to the other as promptly as may be practicable, full technical information with respect to all methods, processes, apparatus and products within the Licensed Field, including, when so requested, specifications and claims under any United States Letters Patent owned and under any application for United States Letters Patent filed or contemplated by it, and further to disclose to the other, from time to time, the results and aims of its research and development work in the Licensed Field, and improvements attempted or effected by it in methods, processes, apparatus and
88 products of manufacture therein, to the end that all the knowlege and experience of each party in the Licensed Field shall be at the full disposal of the other within and for the territory of the licenses granted by this Agreement. It is understood and agreed that the

disclosures contemplated by this Article shall be made only by and to officials specially designated for the purpose in writing by the parties hereto respectively.

ARTICLE IV

Within two months after the end of each calendar year from January 1, 1933 to December 31, 1936, each party hereto shall pay to the other a royalty based upon the total quantity of merchantable Titanium Dioxide (excluding sweepings), free or in combination, made wholly or in part under United States Patents or Applications for United States Letters Patent of the other party, and produced and packed by it during the preceding calendar year, in the following respective amounts:

Krebs shall pay Titanium 2½% of the value of the Titanium Dioxide produced and packed by it as aforesaid, valued at the average of Krebs' published carload price for standard Titanium Dioxide in bags for said year; and

Titanium shall pay Krebs 1% of the value of the Titanium Dioxide produced and packed by it as aforesaid, valued at the average of Titanium's published carload price for standard Titanium Dioxide in bags for said year;

Provided, however, that in no event shall the amount of royalty payable by either party under this Article for any year exceed the amount of royalty payable to it hereunder for the same year by more than $10,000.

It is understood and agreed that no royalty shall be payable by either party to the other on Titanium Dioxide produced and packed subsequent to December 31, 1936.

ARTICLE V

Each party hereto agrees during the term of this Agreement to use its best efforts to assist the other to acquire, on terms as favorable as possible to the other, an irrevocable and non-exclusive right and license to manufacture, use and sell, within the limits of the Licensed Field, and within the territory of the licenses granted by this Agreement, under any United States Letters Patent and/or application therefor owned by or otherwise at
89 the disposal of other companies, firms or individuals, domestic or foreign, under which such party hereto itself is licensed.

Krebs further agrees that during the term of this Agreement it will offer to any foreign associate of Titanium that may be designated by Titanium, before offering to any other person, firm of corporation, the opportunity to acquire, upon mutually satisfactory terms and condi-

tions, and irrevocable, and non-exclusive license within the limits of the Licensed Field under any patent relating to the Licensed Field issued in any country of continental Europe or in Great Britain which now is or hereafter and during the term of this Agreement may be owned by or otherwise at the disposal of Krebs.

ARTICLE VI

This Agreement may be terminated and cancelled by either party at any time after December 31, 1933, upon three years' prior notice in writing to the other party, but such termination and cancellation shall not in any manner operate to terminate, restrict or impair the licenses heretofore acquired by either party from the other.

ARTICLE VII

Titanium and Krebs each hereby releases and forever discharges the other from any and all claims for infringement of any and all United States Letters Patent relating to the Licensed Field now owned by it or hereafter, during the term of this Agreement, acquired by it with the right to sue for past infringement.

Titanium and Krebs each hereby releases and forever discharges the customers of each other from any and all claims which it may now or hereafter be entitled to assert by reason of the use of Titanium Dioxide and Titanium compounds and mixtures prior to the date of this Agreement, in violation or infringement of the claims of any United States Letters Patent relating to the said Licensed Field.

ARTICLE VIII

This Agreement shall not be assignable by either party.

IN WITNESS WHEREOF the parties hereto have caused this instrument to be executed, in duplicate, by their
90 duly authorized officers and their respective seals to be hereunto affixed as of the day and year first above written.

THE TITANIUM PIGMENT COMPANY, INC.,
By WM. F. MEREDITH, *President.*

Attest:
(S) J. D. MEREDITH, *Secretary.*

KREBS PIGMENT & COLOR CORPORATION,
By C. H. RUPPRECHT, *President.*

Attest:
(S) C. H. LYMAN, *Secretary.*

91 EXHIBIT "B" TO ANSWER

AGREEMENT

This agreement, made and entered into this 1st day of January 1941, by and between NATIONAL LEAD COMPANY (hereinafter called NATIONAL), a corporation organized and existing under and by virtue of the laws of the State of New Jersey, and having a principal office and place of business in New York, New York, and E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter called DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having a principal office and place of business in Wilmington, Delaware;

WITNESSETH,

WHEREAS, on January 1, 1933, THE TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under the laws of the State of Maine, and KREBS PIGMENT AND COLOR CORPORATION, a corporation organized and existing under the laws of the State of Delaware, entered into an agreement providing for the granting to each other of certain licenses under their respective inventions and within the "Licensed Field" defined in said agreement; and

WHEREAS, under an instrument dated January 1, 1936, by and between DU PONT, said TITANIUM PIGMENT COMPANY, INC., and said KREBS PIGMENT AND COLOR CORPORATION, DU PONT became assigned of and assumed all of the rights and obligations of the KREBS PIGMENT AND COLOR CORPORATION under said January 1, 1933 agreement without changing in any wise the scope or effect of said agreement, as more specifically provided for in said instrument;

WHEREAS, under an instrument dated October 31st, 1936, by and between NATIONAL, said TITANIUM PIGMENT COMPANY, INC., and DU PONT, NATIONAL became assigned of and assumed all of the rights and obligations of THE TITANIUM PIGMENT COMPANY, INC. under said January 1, 1933 agreement without changing in any wise the scope or effect of said agreement, as more specifically provided for in said instrument;

WHEREAS, NATIONAL and DU PONT, as the respective assignees under said agreement dated January 1, 1933 between THE TITANIUM PIGMENT COMPANY, INC., and KREBS PIGMENT AND COLOR CORPORATION, desire to amend the same;

Now, Therefore, in consideration of the premises and the mutual promises, covenants and undertakings
92 hereinafter set forth, it is hereby mutually agreed between National and du Pont that said January 1, 1933 agreement shall be and the same is hereby amended as follows, to-wit:

1. That Article I of said agreement be cancelled and in lieu thereof the following Article be substituted:

Article I

"The term 'Licensed Field', wherever herein employed shall be deemed to include (1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds containing two per cent. (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adapted for other uses, and also inorganic extenders to be used in conjunction with such titanium compounds; and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses, and also inorganic extenders to be used in conjunction with such titanium compounds; provided, however, titanated lithopone shall not be deemed as included within said Licensed Field."

2. That the first paragraph of Article II of said agreement be canceled and that the following be substituted therefor:

"National and du Pont, during the term of this agreement, grant to each other, within the limits of said Licensed Field and as to which National or du Pont is or shall be free to grant such rights, an irrevocable and non-exclusive right and license, throughout the United States of America, its territories, colonies and possessions, present and future:

(a) under all original or reissue Letters Patent of the United States, now or hereafter owned or controlled by either party;

(b) under all applications for Letters Patent of the United States now or hereafter owned or controlled by either party and which have been pending for a period of at least six months from date of filing by either party; and

(c) under all pending applications for Letters Patent of the United States purchased or acquired by National or du Pont from third parties, after the lapse of a period of

six months' time from their date of filing; provided, however, that in event any such application shall be pending for more than six months or shall issue to patent prior to expiration of said six months' period, the license
93 herein provided for under any such application and/or patent shall be deemed to exist as of the date of such purchase or acquisition or the date of issue of said patent.

"It is understood and agreed that the rights vested in the parties hereto shall include the right to sell the products resulting from the use of any licensed process, method and apparatus of manufacture described in the licensed patents and/or applications, throughout the United States of America, its territories, colonies and possessions, present and future, Mexico, Central America, the West Indies, and South America."

3. That Article III of said agreement be canceled and in lieu thereof the following Article be substituted:

ARTICLE III

"Each party hereto agrees not later than six months from the date of filing any application for Letters Patent of the United States which either party may file, purchase or acquire for any invention within the Licensed Field to make full disclosure to the other of the specifications and claims under any such application. It is understood and agreed that the disclosures contemplated by this Article shall be made only by and to officials specifically designated in writing for that purpose by the respective parties hereto."

4. That Article V of said agreement be canceled and in lieu thereof the following Article be substituted:

ARTICLE V

"Each party hereto agrees during the term of this agreement to use its best efforts (but without any obligation to incur out-of-pocket expense) to assist the other to acquire, on terms as favorable as possible to the other, an irrevocable and non-exclusive right and license to manufacture, use and sell, within the limits of the Licensed Field and licensed territory, under any United States original or reissue Letters Patent, or under any application for United States Letters Patent or reissue which has been pending for a period of not less than six (6) months from its filing date, owned by or otherwise at the disposal of other companies, firms or individuals,

domestic or foreign, under which such party hereto itself is licensed.

94 "DU PONT further agrees that not later than six months after the filing date of any licensed application for Letters Patent of the United States it will offer to any foreign associate of NATIONAL that may be designated by NATIONAL, before offering to any other person, firm or corporation, the opportunity to acquire, upon mutually satisfactory terms and conditions, an irrevocable and non-exclusive license, within the limits of the Licensed Field aforesaid, under any application or patent relating to the Licensed Field filed or issued in any country of Continental Europe or in Great Britain, which now is or hereafter and during the term of this agreement may be owned by or otherwise at the disposal of DU PONT."

5. It is understood and agreed between the parties hereto that except as specifically modified hereinabove, each and all of the other provisions of said agreement of January 1, 1933 shall remain in full force and effect and that the amendment and cancellation herein provided for shall not in any manner operate to terminate, restrict or impair the licenses heretofore acquired by either party from the other under said January 1, 1933 agreement; that the licenses provided for in Article II of said agreement of January 1, 1933, as hereinabove amended, and excepting for the specific inclusion of inorganic extenders within the Licensed Field, shall not be construed as extending to or including any patent or application therefor which would not have been licensed by virtue of said January 1, 1933 agreement; that, further, the rights and obligations assumed by DU PONT herein shall not exceed those assumed by it under the above-mentioned January 1, 1936, assignment from Krebs to DU PONT; that the "Licensed Field", as herein defined, and the rights and privileges granted in pursuance hereof and said agreement of January 1, 1933 shall be subject to all conditions of the aforesaid assignments and shall not be deemed to include or apply to any methods, processes, apparatus, uses or products of DU PONT other than those which relate primarily to or come within the scope of the activities now regularly conducted by its Krebs Pigments Department; likewise, said Licensed Field and the rights and privileges granted in pursuance hereof and said agreement of January 1, 1933 shall be subject to all conditions of the aforesaid assignment and shall not be deemed to include or apply to any methods, processes, apparatus,

uses or products of NATIONAL other than those
95 which relate primarily to or come within the scope of the activities now regularly conducted by its Titanium Division.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed, in duplicate, by their respective proper officers, duly authorized, and their respective corporate seals to be hereunto affixed as of the day and year first above written.

NATIONAL LEAD COMPANY,
By (S) FLETCHER W. ROCKWELL,
President.

Attest:
(S) H. O. BATES, Secy.

E. I. DU PONT DE NEMOURS AND COMPANY,
By (S) C. H. RUPPRECHT,
General Manager,
Krebs Pigments Department.

Attest:
(S) E. A. HOWARD, *Assistant Secretary.*

Form Approved
Legal Department
H. C. HASKELL, *Director.*

96 In United States District Court

[Title omitted.]

Supplemental Answer of Defendant,
E. I. du Pont de Nemours
and Company

The defendant, E. I. du Pont de Nemours and Company (hereinafter referred to as du Pont), for its supplemental answer to the complaint herein, avers that since the filing of du Pont's original answer to the complaint herein, du Pont has irrevocably removed from its titanium pigments licenses to American Zirconium Corporation and Virginia Chemical Corporation, respectively (referred to in paragraphs 62 to 64, inclusive, of the complaint), all provisions with respect to the maximum quantities of titanium dioxide to be produced by such licensees under their respective licenses. Such licensees have been notified

by letters, dated November 10, 1944, of the waiver of such conditions in their respective licenses.

CRAVATH, SWAINE & MOORE,
By WM. DWIGHT WHITNEY,
A Member of the Firm,
Attorneys for E. I. du Pont de Nemours and Company.
Office and Post Office Address: 15 Broad Street, Borough of Manhattan, City of New York.

Of Counsel:

GERHARD A. GESELL,
COVINGTON, BURLING, RUBLEE, ACHESON & SHORB.

December 4, 1944.

98 In United States District Court

[Title omitted.]

Plaintiff's Proposed Findings of Fact

JURISDICTION AND VENUE

1. The complaint is filed and the proceedings are instituted against the defendants to restrain and prevent violations by the defendants of Sections 1 and 2 of the Sherman Antitrust Act [DP and NL Answers, pars. 1]. The defendants National Lead Company (referred to herein as NL) and Titan Co., Inc. have their respective principal offices in the Southern District of New York [NL Answer, par. 1; DP Answer, pars. 2 and 3]. The defendant E. I. du Pont de Nemours and Company, Inc. (referred to herein as DP) has an office, transacts business, and is found within the Southern District of New York [DP and NL Answers, pars. 1].

99 2. The defendants DP and NL are engaged in the business of manufacturing, selling and transporting titanium pigments in commerce among the several states of the United States and between the United States and foreign nations [NL Answer, par. 23, DP Answer par. 33; Pl. 26, 44, 45; Tr. p. 3093-3095, 2593, 3350-3351].

100 DESCRIPTION OF DEFENDANTS

3. The defendant NL is a New Jersey corporation with its principal office and place of business at New York, New York, with assets in excess of $100,000,000 [not denied in NL Answer; NL 32; DP Answer, par. 2]. NL

is the largest manufacturer of titanium pigments and compounds in the United States and the largest manufacturer of titanium pigments and compounds in the world [Complaint, par. 2, not denied in NL Answer] manufacturing and selling 76.5 per cent of composite and 46.4 per cent of pure TiO_2 in the United States in 1943 [Pl. 469, 470, 1207; DP 93; Tr. p. 2527]. NL conducted all its activities relating to the manufacture and sale of titanium pigments and compounds through Titanium Pigment Company, Inc. (referred to herein as TP) until its dissolution in 1936 and thereafter conducted such operations through its own Titanium Division [Complaint, par. 5, not denied in NL Answer].

101 4. The defendant NL owned approximately 87 per cent of the stock of Titan Co. A/S since December 31, 1927, and since January 1944 has owned or controlled approximately 99 per cent of said stock [Pl. 6].

102 5. The defendant NL owned 87 per cent of the stock of Titan Co., Inc. from the date of its incorporation to January 28, 1944, at which time it acquired and now owns 100 per cent of said stock [Pl. 6].

103 6. The defendant Titan Co., Inc. is a Delaware corporation, organized in 1929 with its office and principal place of business at New York, New York [NL Answer, par. 1; DP Answer, par. 3].

104 7. The defendant Titan Co., Inc. since its incorporation in 1929, acquired and now owns the following percentages of voting stock in the following named corporations:

BTP—44% [NL Answer par. 1; Pl. 5, 38]
TG—50% [NL Answer par. 1; Pl. 38]
SIT—57.638% [NL Answer par. 1; Pl. 5, 38]
TK—18.5% [NL Answer par. 1; Pl. 5, 38]

105 8. The defendant Titan Co., Inc. acquired most of the business assets of Titan Co. A/S and assumed all of the obligations of and was entitled to receive all the benefits of contracts Exhibits A, A-1, A-2, B, B-1, B-3, C, C-3, C-8 and other contracts of Titan Co. A/S in 1929 [Pl. D, Pl. 89, 90].

106 9. The defendant Titan Co., Inc. since its incorporation, owned a number of patents and has held exclusive licenses, with the right to grant sublicenses, under patents pertaining to the manufacture and use of titanium pigments and compounds [DP Answer, par. 3;

NL Answer, par. 1; Pl. A, D]. A majority of Titan Co., Inc.'s officers and directors are and since its organization have been officers and directors of defendant NL [Pl. 7; 13, 21, 39, 50].

107 10. The defendant DP is a Delaware corporation and is one of the largest chemical companies in the United States with assets in excess of $1,000,000 [DP Answer, par. 4; NL Answer, par. 2]. The defendant DP is also one of the largest manufacturers of titanium pigments in the United States manufacturing and selling approximately 23.5 per cent of the composite pigments made in the United States and 45.1 per cent of the pure TiO_2 made in the United States in 1943. It is also the second largest manufacturer of titanium pigments and compounds in the world [DP Answer, par. 4; Pl. 471, 472, 469, 470, 1207; Tr. p. 2527]. The defendant DP conducted all its activities relating to the manufacture and sale of titanium pigments and compounds through Krebs Pigment & Color Corporation (referred to herein as Krebs) until January 1, 1936, after which time it conducted its titanium pigment activities through the Krebs Division of DP [DP Answer, par. 6; Pl. 260].

108 11. TP was a Maine corporation organized in 1916 and was engaged in the manufacture of titanium pigments and compounds from 1920 until its dissolution in 1936 [DP Answer, par. 5; not denied in NL Answer]. In 1921 the defendant NL acquired approximately 30 per cent of the stock in said company and acquired other portions of its stock at various times thereafter until December 30, 1932 at which time NL owned all the stock of TP [Pl. 6]. NL controlled all the activities and policies of TP from 1920 until its dissolution in 1936 [NL Answer; Pl. 6, 7, 8, 21, 50] at which time all of the assets and liabilities of TP were taken over and its titanium business continued by the defendant NL as a division of NL [Pl. E2]. TP owned and was the exclusive licensee of many patents relating to the manufacture and use of titanium pigments and compounds, including the Barton, Rossie, Jebsen patents and processes [Pl. 470]. TP manufactured composite pigments principally but manufactured a pure TiO_2 in the United States since 1928 [Tr. p. 3097-3098, 2787] in competition with Commercial Pigments Company (referred to herein as CP).

109 12. Krebs was a Delaware corporation formed in July 1931 by the defendant DP, the Grasselli Chem-

ical Co. and the Commercial Solvents Corporation to acquire the business of the CP, the Krebs Pigment & Chemical Co. and the Grasselli Chemical Co. [DP Answer, par. 6; Pl. 195]. CP was the only one of the foregoing companies engaged in the manufacture and sale of titanium pigments and compounds prior to the acquisition of its business by Krebs [Pl. 177, print 625-626]. The defendant DP acquired a 70 per cent stock interest in Krebs at that time and committed itself to engage in the titanium pigment business only through Krebs [Pl. 195, print 765 at 782]. The defendant DP acquired the remaining 30 per cent of the stock of Krebs on December 31, 1934 [Tr. p. 3256]. On December 31, 1935 defendant DP acquired all the business of Krebs and assumed all the obligations of Krebs, thereafter operating the titanium pigment and compound business of said Krebs directly through the Krebs Division of the defendant DP [Pl. E-1]. Krebs continued to operate under the Blumenfeld patents and process after it acquired the business of CP in July 1931 [Pl. 472, par. 2]. It also acquired the right
110 to use all patents owned or thereafter acquired by TP or NL which related to the manufacture and use of titanium pigments in August 1933 [Pl. E]. It did not commence the manufacture of composite pigments until 1935 [Pl. 42, par. 16; Tr. p. 3259]. The defendant DP acquired the right to use such of the United States patents of NL's foreign associates which related to the manufacture of titanium pigments as it desired in 1938 [Pl. Q, R, S]. C. H. Rupprecht was a director and president of Krebs from its incorporation until its dissolution and was in charge of the titanium pigment operations of the defendant DP until his decease September 10, 1944 [Pl. 51]. Krebs also owned a substantial stock interest in Travancore Minerals Company, Ltd. which held rights in extensive ilmenite sand deposits in India [Pl. 196, print 784 at 838; Pl. 199].

114 13. CP was a corporation formed by Commercial Solvents Corporation in 1928 [Pl. 177, print 625 at 669]. It acquired the Blumenfeld and other patents in the United States relating to the manufacture and sale of titanium pigments and compounds and since 1928 was engaged in the manufacture of titanium pigments in the United States operating a plant at Baltimore, Md. [Pl. 175, 176, 177, 196; Tr. p. 669]. It manufactured a pure TiO_2 pigment only and sold it in competition with TP [Tr.

p. 2507]. Its business was acquired by Krebs in July 1931 [Pl. 195].

112 14. Titan Co. A/S was a Norwegian corporation with its principal place of business at Fredrikstad, Norway [NL Answer, par. 4; DP Answer, par. 7] and from some time prior to 1920 until about 1929 was engaged in the manufacture of titanium pigments and compounds in Norway [DP Answer, par. 7; NL Answer, par. 4; Pl. 469, 470; Tr. p. 2847]. Said Titan Co. A/S owned the Jebsen and other patents relating to the manufacture of titanium pigments and compounds [Pl. 470, par. 1] and also controlled through A/S Titania, large deposits of ilmenite in Norway [Pl. 72; NL Answer, par. 4]. It was authorized by TP to use the Barton, Rossi and other patents and processes relating to the manufacture and use of titanium pigments and compounds in 1920 [Pl. A]. Its activities and policies have been controlled by the defendant NL since 1927 [Tr. p. 2844-2844a, 2853]. It ceased the manufacture of titanium pigments and compounds in 1929 [Tr. p. 2846-2847, 2851]. Thereafter, substantially all titanium pigments and compounds sold by Titan Co. A/S in its exclusive territory were purchased from TG [Tr. p. 2847; Pl. C-8]. Titan Co. A/S continued to function as selling agency for defendant Titan Co., Inc. in part of the territory reserved to Titan Co., Inc. after 1929 [Tr. p. 2852].

113 15. The Interessengemeinschaft Farbenindustrie Aktiengesellschaft (referred to herein as IG) is a German corporation with its principal place of business in Frankfurt, Germany, and is one of the largest corporations in Germany and one of the largest chemical companies in the world [NL Answer, par. 5; DP Answer, par. 8; Tr. p. 2505, 3222].

114 16. Titangesellschaft m.b.H. (referred to herein as TG) is a German corporation with its principal place of business at Leverkusen, Germany, and was organized in October 1927 by Titan Co. A/S and IG [NL Answer, par. 6; DP Answer, par. 9; Pl. C, C-1 to C-9 inclusive] and is the largest producer of titanium pigments and compounds in Europe [Pl. 1207; Tr. p. 2527]. TG is licensed to use the Barton, Rossi, Jebsen patents and processes and owns and is licensed to use other patents relating to the manufacture and use of titanium pigments [Pl. C-3, Art. II; Pl. 470]. TG has a right to use some of the DP patents relating to the manufacture and

use of titanium pigments and compounds [Pl. M, N, Q, R, S].

115 17. Societe Industrielle du Titane (referred to herein as SIT) is a French corporation with its principal place of business at Paris, France [NL Answer, par. 7; DP Answer, par. 10]. It received a license from Titan Co. A/S in 1927 to manufacture titanium pigments and compounds in France under the Barton, Rossi, Jebsen patents [Pl. B, B-1, B-3, B-4]. No factory was ever erected by the said company to manufacture titanium pigments or compounds in France [Tr. p. 2844]. In 1927 defendant NL purchased a controlling interest in SIT [Pl. 61, 62, 64, 65, 66, 71]. SIT has a right to use some of DP patents relating to the manufacture and use of titanium pigments and compounds [Pl. M, N, Q, R, S].

116 18. Imperial Chemical Industries, Ltd. (referred to herein as ICI) is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at London, England, and is the largest manufacturer of chemicals in the British Empire with assets in excess of £100,000,000 [DP Answer, par. 11; NL Answer, par. 8; Tr. p. 3223].

117 19. Goodlass Wall and Lead Industries, Ltd. (referred to herein as GW) is a corporation organized under the laws of the United Kingdom with its principal office and place of business in London, England, and is the largest producer of lead and lead pigments in the British Empire [NL Answer, par. 9; DP Answer par. 12].

118 20. Imperial Smelting Corporation (referred to herein as ISC) is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business in London, England, and is one of the largest producers of pigments in the British Empire [DP Answer, par. 13; not denied in NL Answer].

119 21. British Titan Products, Ltd. (referred to herein as BTP) is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at Billingham, England [DP Answer, par. 14; NL Answer, par. 10; Pl. F], and was registered in August 1930 by ISC with the knowledge and approval of the defendants NL and Titan Co., Inc. [Pl. 144, 145]. BTP is the largest manufacturer of titanium pigments and compounds in the British Empire [DP Answer, par. 14; NL Answer, par. 10; Pl. 1207]. BTP is licensed to use the Barton, Rossi, Jebsen patents

and processes and owns and is licensed to use other patents relating to the manufacture of titanium pigments and compounds [Pl. F-1]. BTP also has a right to use some of the DP patents relating to the manufacture and use of titanium pigments and compounds [Pl. M, N, Q, R, S].

120 22. ICI, GW, and ISC subscribed to and each own 17 per cent of the stock of BTP and acquired said stock on or about the time said BTP commenced active operations in the titanium pigment and compound business in the British Empire in February 1933 [Pl. F].

121 23. National Titanium Pigments, Ltd. (referred to herein as Laporte) is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at Luton, England, and is the only other producer of titanium pigments and compounds in the British Empire and manufactures titanium pigments and compounds under the Blumenfeld patents and process in England [NL Answer, par. 11; DP Answer, par. 15; Pl. 614; Tr. p. 2503-4; 2929].

122 24. Canadian Industries, Ltd. (referred to herein as CIL) is a corporation organized and existing under the laws of the Dominion of Canada with its office and principal place of business at Montreal, Canada, and is the largest chemical manufacturer in Canada [NL Answer, par. 12; DP Answer, par. 16]. Approximately 43 per cent of its stock is and has been owned by the defendant DP since 1928 and approximately 43 per cent of its stock is and has been owned by ICI since 1928 [DP Answer, par. 16; Pl. 645].

123 25. Canadian Titanium Pigments, Ltd. (referred to herein as CTP) is a corporation organized in January 1937 and existing under the laws of the Dominion of Canada with its office and principal place of business at Montreal, Canada [NL Answer, par. 13; DP Answer, par. 17; Pl. K]. Defendant NL has since the incorporation of CTP owned 49 per cent of the stock of CTP [Pl. K; Pl. 6]. The balance of the stock is owned by CTP [DP Answer, par. 17; NL Answer, par. 13]. CTP is the only company engaged in the titanium business in Canada and owns and/or is licensed to manufacture and use the Blumenfeld, Barton, Rossi, Jebsen and other patents relating to the manufacture and use of titanium pigments and compounds in Canada [Pl. K, K-3, K-4]. Said CTP is not now manufacturing titanium

pigments and compounds in Canada but purchases all of its requirements for sale in the Dominion of Canada from the defendants NL and DP [NL Answer, par. 60; DP Answer, par. 74; Pl. 45, 685]. NL is required to supply the requirements of CTP on a cost plus basis until CTP commences the manufacture of titanium pigments or compounds [Pl. 685].

124 26. Kokusan Kogyo Kabushibi Kaisha (referred to herein as KK) is a Japanese organization and is the largest manufacturer of paints in Japan and is a subsidiary of Nippon Sangyo, one of the largest industrial enterprises in Japan [DP Answer, par. 18; NL Answer, par. 14; Pl. 622; Tr. p. 2903].

125 27. Titan Kogyo Kabushiki Kaisha (referred to herein as TK) is a Japanese organization existing under the laws of Japan with its office and principal place of business in Tokyo, Japan [NL Answer, par. 15; DP Answer, par. 19]. TK was organized in 1936 by Titan Co., Inc., IG, TG, TR, and Thann & Mulhouse [Pl. J, J-1]. Approximately 50 per cent of the stock of TK has been owned by KK since its organization, 18½ per cent by Titan Co., Inc., 16½ per cent by IG, and 15 per cent by TR and Thann & Mulhouse [NL Answer, par. 1; Pl. J, Pl. 38]. TK is the largest manufacturer of titanium pigments and compounds in Japan [NL Answer, par. 15; DP Answer, par. 19], owns many patents relating to the manufacture and use of titanium pigments and compounds, and is licensed to use the Barton, Rossi, Jebsen, Blumenfeld patents and processes in the Japanese Empire [Pl. J-3, J-4]. TK also has a right to use some of the DP patents relating to the manufacture and use of titanium pigments and compounds [Pl. Q, R, S].

126 28. Societe de Produits Chemiques des Terres Rares (referred to herein as TR) is a French corporation with its principal place of business at Paris, France, and acquired the Blumenthal and other patents relating to the manufacture and use of titanium pigments and compounds in or about the year 1920 [DP Answer, par. 21; not denied in NL Answer to par. 21; Tr. pp. 2502-3; Pl. 121].

127 29. Fabriques de Produits Chemiques de Thann et de Mulhouse (referred to herein as Thann) is a French corporation with its office and principal place of business at Paris, France, and is the only manufacturer of titanium pigments and compounds in France [Tr. p. 2503; NL Answer, par. 16; DP Answer, par. 22; Tr. p.

2540]. It manufactures such pigments and compounds under the Blumenthal patents and process.

128 30. Societa Anonima Titanium is an Italian corporation with its office and principal place of business at Milan, Italy, and is a subsidiary of Montecatini, the largest manufacturer of chemicals in Italy, and is referred to herein as Montecatini [NL Answer, par. 17; DP Answer, par. 23; Tr. p. 2505, 2528]. Montecatini is the only manufacturer of titanium pigments and compounds in Italy and is licensed to use the Blumenfeld patents and process [Tr. p. 2505; NL Answer, par. 17].

129 31. Verein fur Chemische and Metallurgische Produktion Aussig (referred to herein as Aussig) is a corporation organized under the laws of Czechoslovakia with its office and principal place of business at Prague, Czechoslavakia [DP Answer, par. 24; NL Answer, par. 18]. It is the largest chemical company in Central Europe and is the only manufacturer of titanium pigments and compounds in Czechoslovakia and is licensed to use the Blumenfeld patents and processes [Tr. p. 2505, 2506, 2503, 2528].

130 OTHER UNITED STATES COMPANIES REFERRED TO IN THE COMPLAINT

32. American Zirconium Corporation (referred to herein as Zirconium) is a subsidiary of the Glidden Co. and sells and ships TiO_2 from its Baltimore, Md. factory into other states in the United States [DP Answer, par. 34; NL Answer, par. 25]. Zirconium owned certain patents relating to the manufacture of titanium pigments and compounds prior to 1934 [Pl. 352, 361, 368; Pl. H print at 254]. It was licensed to use certain TiO_2 patents by DP on August 19, 1935 by license agreement dated January 1, 1935 [Pl. I]. Zirconium was licensed by NL to use certain of its patents relating to the manufacture of titanium pigments and compounds on May 6, 1935 [Pl. H]. The license from the defendant NL to Zirconium was cancelled on March 9, 1944 [NL 29]. Zirconium manufactures only pure TiO_2 [Tr. p. 3254]. It produced less than 5 per cent of the total production of TiO_2 produced in the United States in 1943 and for prior years [Tr. pp. 3254, 3255; Pl. 470, 472, par. 7].

131 33. Virginia Chemical Corporation (referred to herein as VC) is a subsidiary of Inter-chemical Company and sells and ships TiO_2 between some of the

states of the United States [NL Answer, par. 26; DP Answer, par. 35]. VC was organized in 1935 to manufacture titanium pigments [Pl. 407-412, 427]. It owned certain patents relating to the manufacture and use of titanium pigments and compounds [Pl. 411, 414, 415, 427, 430]. The defendant DP licensed VC to use certain of its TiO_2 patents on August 5, 1937 [Pl. L]. VC produces only pure TiO_2 [Tr. p. 3253] and produced less than 5 per cent of the total production of TiO_2 in the United States in 1943 and prior thereto [Pl. 470, 472; Tr. p. 3253].

132 NATURE OF TRADE AND COMMERCE INVOLVED

34. Titanium pigments and compounds are manufactured from titanium which is the ninth most abundant element on the earth's surface [Tr. pp. 136a-137; DP Answer, par. 26; NL Answer, par. 19]. Titanium pigments and compounds are possessed of great opacity, hiding power and chemical inertness, and are largely displacing other pigments such as lithopone and white lead [DP Answer, par. 26; NL Answer, par. 19]. Titanium pigments are used in the manufacture of paints and are also used in the manufacture of rubber, glass, paper, vitreous enamels, and many other products [DP Answer, par. 26; NL Answer, par. 19; Tr. p. 164]. The production of titanium pigments in the United States has risen from 100 tons in 1920 to approximately 110,000 tons in 1943 with a peak production of approximately 128,000 tons in the United States in 1941 [Tr. pp. 3253-3255; Pl. 470, 472, par. 7; DP Answer, par. 26; NL Answer, par. 19]. The total production of titanium pigments and compounds outside of the United States has shown similar growth, the estimated foreign production of titanium pigments and compounds being approximately 1,000 tons in 1920 and approximately 23,000 tons in 1938 [Pl. 1207; Tr. pp. 2526-7].

133 35. Practically all of the patents relating to the manufacture of titanium pigments and compounds and used in the manufacture of titanium pigments and compounds on a commerical basis are process patents [Pl. 450-468, 473-474, 1229; NL 2, 3, 4, 5, 6, 7]. Prior to 1930 all of the principal producers of titanium pigments and compounds in the world were divided into two groups, the NL group and the Blumenfeld group [Pl. 208, 278; Tr. pp. 2504, 2918]. The NL group included TP, Titan Co A/S, SIT, TG, Titan Co., Inc. and were

using principally the Barton, Rossi, Jebsen patents and processes for the manufacture of titanium pigments and compounds. Each of the companies named had been allocated exclusive marketing territories throughout the world by agreements [Pl. A, B, C and D.]. Most of the Barton and Rossi patents were and are owned either by TP or NL [Pl. 470, 1229, NL 2 and 3]. Most of the Jebsen patents were and are owned by Titan Co. A/S [Pl. 470; NL 4]. The important Barton and Rossi and Jebsen patents related principally to the manufacture of composite pigments and had expired at the end of 1934 [NL 2, 3 and 4; Pl. 69, 70, 177, print 625 at 626, 206]. The Blumenfeld group consisted of TR, Thann, Aussig, Montecatini, and Commercial Pigments Co. to each

134 of which companies TR had allocated exclusive territories throughout the world [Tr. p. 2502, 2507, 2508; Pl. G, G-1, G-3]. Substantially all of the patents issued in the titanium pigment field after 1936 related to improvements on processes theretofore used in the manufacture of titanium pigments and compounds and resulted principally in the production of improved titanium pigments [NL 2-7; Pl. 1229; Tr. p. 2765.] The validity of none of the patents relating to the manufacture of titanium pigments or compounds was ever passed upon by any court of record in the United States [Tr. pp. 3255-3256]. All of the companies engaged in the manufacture of titanium pigments and compounds in the United States on a commercial basis, use the sulphuric acid process disclosed in the Barton, Rossi, Jebsen and Blumenfeld process [Tr. pp. 2777-2779].

135 36. The Auer Company developed a process for the manufacture of titanium pigments and compounds in Germany in the early 1920's but ceased manufacturing in 1931 [Pl. 304-321, 249, 253]. The Auer patents were acquired in November 1932 by Krebs [Pl. 310].

136 37. TP owned approximately 67 United States patents and 22 patent applications relating to the manufacture and use of titanium pigments and compounds on January 1, 1933. It also had the right to use by exclusive license 34 United States patents and 13 patent applications of its foreign associates. TP owned 229 patents in 24 foreign countries prior to January 1, 1933. TP used only 25 patents and patent applications out of a total of 136 patents and patent applications (18 per cent)

which it owned or had the right to use prior to January 1, 1933 [Pl. 470].

137 38. NL now owns or controls 75 United States patents and 28 patent applications relating to the manufacture and use of titanium pigments and compounds and has exclusive licenses on 2 Titan Co. A/S, 18 Titan Co., Inc., 17 IG and 1 TG patent and 4 TG patent applications. It also owns 3 patents in Canada and has non-exclusive licenses on 7 patents in South and Central American countries. NL is also licensed to use 156 DP patents and 30 DP applications and is accordingly entitled to use approximately 269 United States patents and 63 applications. It uses only 66 patents and applications out of a total of approximately 332 which it owns or has the right to use or approximately 20 per cent [Pl. 470].

138 39. Krebs owned approximately 30 United States patents and 24 applications relating to the manufacture and use of titanium pigments and compounds and owned no foreign patents or applications prior to January 1, 1933. Krebs used a total of 18 such patents and applications or approximately 33 per cent of the total which it had the right to use. DP now owns approximately 174 United States patents and 32 applications. It also owns 48 patents and 14 applications in Canada, 13 patents and 9 applications in England, 20 other patents in 7 other countries including 8 in Japan. It is licensed to use 96 patents and 27 applications of NL or its foreign associates in the United States. It accordingly now owns or has the right to use approximately 270 United States patents and 59 applications. It uses approximately 70 such patents and applications or about 20 per cent [Pl. 472].

139 CONTRACTS WITH NL FOREIGN ASSOCIATES

40. TP entered into a contract dated July 30, 1920 with Titan Co. A/S as alleged in paragraph 40 of the complaint [NL Answer, par. 30; DP Answer, par. 40; Pl. A]. This contract divided the world into exclusive territories allocated to Titan Co. A/S and TP in which territories said companies were to confine their activities in the titanium pigment business to the exclusion of any competition from the other party within the exclusive territory allocated to each company under said contract [Pl. A, Art. II, III, VI, XIV, Pl. 245; Tr. pp. 2912-14, 2830]. The territory allocated to TP was North America and the

territory allocated to Titan Co. A/S was the rest of the world exclusive of South America in which both companies were permitted unrestricted operations [NL Answer, par. 30; Tr. p. 2832; Pl. A, Art. II, III, IV]. This contract also provided that each company was to grant to the other exclusive licenses in their respective territories on all its then owned and future patents, secret processes, apparatus and technical information or "know-how" relating in any way to the manufacture or use of titanium pigments and compounds within the limits of the licensed field as defined in said contract [Pl. A, Art. II, III, VII, X; Tr. pp. 2824-25, 2827, 2831-32, 2837]. This contract is still in effect and cannot be terminated until 1956 [Pl. A, Art. X].

41. Simultaneously with the execution of the contract Exhibit A, defendant NL entered into a contract with Titan Co. A/S and TP [Pl. A-1]. NL agreed to respect the provisions of contract Exhibit A and to promptly assign to TP all patents, inventions and improvements relating to titanium pigments or compounds which it then used or might thereafter acquire or whichever should be at its disposal throughout the world. The contract Exhibit A is to run until 1956 [Pl. A, Art. X].

42. Each party to contract Exhibit A agreed not to export titanium pigments or compounds into the other's territory without its consent [NL Answer, par. 30; Pl. A, Art. II, III, IV; Tr. pp. 2829-32, 2913-14]. Each party agreed to prevent the importation into the other party's territory of finished articles as defined in the agreement if the importation of such finished articles interfered in any way with the sales of titanium pigments or compounds by the other party in its own territory [Pl. A, Art. VI; Tr. p. 2835]. Each party was allowed to grant licenses of its own patents or sublicenses of patents exclusively licensed to it by the other party, provided the sublicensee agreed to grant to the other party to the contract an exclusive license under the present and future patents of the licensee or sublicensee relating to the manufacture of titanium pigments or compounds for the territory of such other party, and provided also that such licensee or sublicensee would agree to comply with the restrictions on exports and sales in the territory of such other party to the contract [Pl. A] as was imposed on the respective parties to said contract [Pl. A, Art. XIV; NL Answer, par. 30; Tr. pp. 2839, 2914-15]. The obligations of TP under this contract were assumed by NL in 1936

[Pl. E-2; Complaint, par. 43, no reply by NL]. The obligations of Titan Co. A/S under this contract were assumed by Titan Co., Inc. in 1929 [Pl. D; NL Answer, par. 36].

144 43. The intended purpose and effect of the defendant NL in entering into the contract of 1920 [Pl. A, A-1] was to prevent competition in titanium pigments and compounds between the parties to the said contract. The intended purpose and effect of the acquisition of control of Titan Co. A/S by NL was to utilize Titan Co. A/S and the contract of 1920 to further control competition in the manufacture of titanium pigments and compounds in all markets of the world including the United States. The defendant NL and Titan Co. A/S agreed to have Titan Co. A/S and subsequently defendant Titan Co., Inc. form in each of the important industrial countries of the world, in association with any corporation or firm contemplating the manufacture and sale of titanium pigments and compounds and threatening to be a serious competitor of NL and Titan Co. A/S, new companies in which NL or Titan Co. A/S were to have a part interest. Any new company so formed was to be given certain territory in which it would have the exclusive right to manufacture and sell titanium pigments and compounds free from any exports into said territory by NL. The new company so

145 organized was to refrain from competing with NL in its territory (the United States and other countries of North America) or into the territory of any other company associated with NL. Titan Co. A/S and subsequently defendant Titan Co., Inc. were to make said contracts providing for the formation of the new companies and NL was to be bound to adhere to all of the territorial restrictions placed on Titan Co. A/S and subsequently defendant Titan Co., Inc., in such contracts by virtue of contract Exhibit A. All the present and future patents belonging to NL or Titan Co. A/S or any of the companies associated with either in the formation of such new companies, as well as those of the new companies to be organized, were to be licensed exclusively to NL for North America and to the new companies to be organized for their respective exclusive territories and to Titan Co. A/S and subsequently defendant Titan Co., Inc. for the rest of the world [Pl. 69, 72, 74, 70, 75, 61, 62, 63, 245; Pl. B, C, D, F, J, K; Tr. p. 2912].

146 44. On or about March 3, 1927 Titan Co. A/S entered into a written contract [Pl. B, B-1, pr. 100a;

NL Answer, par. 31] under which Titan Co. A/S allocated France and its territories, except those appurtenant to the territories of North and South America, to SIT as its exclusive territory in which to engage in the titanium pigment business [Pl. B, Art. II, pr. 31; NL Answer, par. 31]. SIT assumed all the obligations imposed upon Titan Co. A/S by Exhibit A for the territory allocated to SIT and was entitled to receive all of the benefits for this territory to which Titan Co. A/S was entitled by Exhibit A [Pl. B, print 29 at 30; NL Answer, par. 31; Pl. A, Art. XIV]. This contract Exhibit B is still in effect and cannot be terminated until 1951 [Pl. B, Art. X].

147 45. Prior to 1927 IG was engaged in development work preparatory to commencing the manufacture and sale of titanium pigments and compounds in competition with NL and Titan Co. A/S in all markets of the world [Pl. 77, 78, 79; Tr. p. 2845]. NL and Titan Co. A/S entered into negotiations with IG in 1927 and in or about October 1927 nine separate contracts, described in paragraph 45 of the complaint, were entered into [NL Answer, par. 33; Pl. C, C-8, 64-68, 71, 76-84]. Titan Co. A/S entered into a contract with IG to create TG [Pl. C-1; NL Answer, par. 33]. IG agreed to engage in the titanium pigment business only through TG and Titan Co. A/S agreed not to engage in the titanium pigment business in the territory allocated to TG except through TG. TG was to confine its manufacturing and selling operations to the exclusive territory allocated to it by Titan Co. A/S, to wit, Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Serbia, Croatia, Slovenia, Bulgaria, Greece, Turkey, Japan, China and Spain. Titan Co. A/S was granted the rest of the world as its territory [NL Answer, par. 33; Pl. C, par. 2; C-3, pars. 1(e), 1(f) Art. IV]. IG agreed to grant exclusive licenses to TG on

148 all patents it then owned or thereafter acquired, secret processes, apparatus and technical information relating in any way to the manufacture or use of titanium pigments or compounds, as defined within the limits of the licensed field in said contract [NL Answer, par. 33; Pl. C-2, par. 1]. Titan Co. A/S was given the right to acquire such titanium pigments and compounds as it desired for sale in its territory from TG at cost [NL Answer, par. 33; Pl. C-8, par. 1]. Such pigments or compounds so purchased by Titan Co. A/S could only be sold outside TG's territory [Pl. C-3, Art. IV; NL Answer, par. 33]. Titan Co. A/S granted an exclusive license to TG

of all its then owned or thereafter acquired patents, secret processes, apparatus and technical information relating in any way to the manufacture or use of titanium pigments or compounds, as defined within the limits of the licensed field in said contract, for use in the territory assigned to TG [Pl. C-3, Art. II; NL Answer, par. 33]. TG granted to Titan Co. A/S for its territory (the rest of the world exclusive of the territory alocated to TG) an exclusive license of its then owned or thereafter acquired patents, secret processes, apparatus and technical information relating in any way to the manufacture or use of titanium pigments or compounds, as defined within the limits of the licensed field in said contract [Pl. C-3, Art. III;
149 NL Answer, par. 33]. Both TG and Titan Co. A/S agreed not to export titanium pigments into the territory of the other party without its consent and to impose the same obligations upon their customers [Pl. C-3, Art. IV; NL Answer, par. 33]. TG and Titan Co. A/S agreed not to import into the territory of the other party finished articles manufactured by it and to prevent the importation of finished articles by customers purchasing titanium pigments or compounds from it, if the importation of such finished articles interfered in any way with the sale of titanium pigments and compounds by the other party in its own territory [Pl. C-3, Art. II, III, IV]. Both Titan Co. A/S and TG were allowed to grant licenses of their own or licensed patents provided the licensee or sublicensee agreed to grant to the other party to the contract (Titan Co. A/S or TG) an exclusive license under all such licensee's or sublicensee's present and future patents relating to the manufacture and sale of titanium pigments or compounds for the territory of such other party (Titan Co. A/S or TG) and provided further that such licensee or sublicensee agreed to respect the exclusive territory of such other party and to assume the same obligations
150 imposed by contract Exhibit C-3 on both Titan Co. A/S and TG with respect to imports and sales into each other's territory. This contract is to run until 1957 and is automatically renewable for 10-year periods thereafter and has not been cancelled [Pl. C-1, par. 9; C-3, Art. VI(g); NL Answer, par. 33]. After the execution of the contract Exhibit C, TG erected a factory for the manufacture of titanium pigments at Leverkusen, Germany [Pl. C-4; Pl. 101; Tr. p. 2851].

151 46. Prior to 1933, ICI, GW, and ISC were planning to engage in the manufacture of titanium pig-

ments and compounds in Great Britain, and ICI had begun development work preparatory to engaging in the manufacture and sale of titanium pigments and compounds [Pl. 76, 92, 93, 94, 95, 96, 98, 99, 101, 103, 105, 106, 109, 111, 113, 114, 122, 129, 144, 163; Tr. p. 2864]. Defendants NL and Titan Co., Inc. were engaged in selling titanium pigments in Great Britain since 1928 [Pl. 92, print 325 at 327; 100; Tr. p. 2856]. NL and Titan Co., Inc. entered into negotiations with ICI, GW and ISC to create BTP through which NL, Titan Co., Inc., ICI, GW, and ISC would engage in the titanium pigment business in the British Empire (exclusive of North America) [Pl. 104-107, 108, 109, 110, 111, 112, 113, 114, 116-120, 122A, 671; Tr. pp. 2856, 2863, 2867]. Defendant Titan Co., Inc. on or about March 1933 entered into the contracts described in paragraph 50 of the complaint [Pl. F-F-6]. NL and Titan Co., Inc. agreed that they would not conduct any operations relating to the manufacture and sale of titanium pigments and compounds within the British Empire as defined in said agreements except through BTP and ICI, ISC and
152 GW agreed to conduct any of their operations, relating in any way to the manufacture and sale of titanium pigments and compounds, through BTP exclusively [NL Answer, par. 38; Pl. F, pars. 1, 11; F-1, Art. I]. BTP was to confine all its operations relating to the manufacture and sale of titanium pigments and compounds to the British Empire, exclusive of any portions thereof appurtenant to North and South America [Pl. F, par. 1; F-1, Art. I; NL Answer, par. 38]. ICI, ISC, and GW agreed to transfer to BTP all their present and future patents relating in any way to the manufacture and sale of titanium pigments and compounds [Pl. F-2; NL Answer, par. 38]. Titan Co., Inc. granted BTP an exclusive license for the manufacture and sale of titanium pigments and compounds in the territory allocated to BTP under all its then owned or thereafter acquired patents, secret processes, apparatus and technical information relating in any way to the manufacture or use of titanium pigments and compounds, as defined within the limits of the licensed field in said contract [Pl. F-1, Art. II; NL Answer, par. 38]. BTP granted Titan Co., Inc. for the territory of Titan Co., Inc. (the rest of the world) a similar exclusive license of its present and future
153 titanium pigment patents, secret processes, apparatus and technical information [Pl. F-1, Art. III; NL Answer, par. 38]. Both BTP and Titan Co., Inc.

agreed not to export any titanium pigments or compounds into the territory of the other without its consent, and further agreed to impose the same obligation upon its customers [Pl. F-1, Art. IV; NL Answer, par. 38]. Each party agreed not to import into the territory of the other finished articles manufactured by it, and further agreed to prevent such importation by customers purchasing titanium pigments or compounds from it if the importation of such finished articles interfered in any way with the sale of titanium pigments or compounds by the other party in its own territory [Pl. F-1, Art. II, III, IV]. Each party was allowed to grant sublicenses within its territory provided that neither party could grant licenses under its own patents or under any patents licensed to it under contract Exhibit F-1 unless the licensee or sublicensee agreed to grant to the other party to the contract (BTP or Titan Co., Inc.) an exclusive license under all the present and future patents of such licensee or sublicensee relating to the manufacture and sale of titanium pigments or
154 compounds for the territory of such other party (Titan Co., Inc. or BTP) and unless the licensor (BTP or Titan Co., Inc.) required the licensee or sublicensee to agree to respect the territory of the other party and to impose upon such licensee or sublicensee all of the obligations imposed upon the other party (BTP or Titan Co., Inc.) with respect to the territory of the other in its contract Exhibit F-1 [NL Answer, par. 38; Pl. F-1 Art. VI, XIV]. Titan Co., Inc. transferred to BTP all of its British Empire titanium pigment business pursuant to said contract [Complaint, par. 51—No reply by NL; Pl. F-3, F-4]. The contract Exhibit F-1 is to run until 1963 and is still in effect [NL Answer, par. 38; Pl. F, par. 13]. The defendant DP had knowledge of the negotiations between ICI and Titan Co., Inc. which culminated in contracts Exhibits F to F-6, inclusive, and waived its rights under its patents and process agreements with ICI to enable ICI to take a stock interest in BTP [Pl. 220, 221, 223, 224, 229, 231, 234, 276-278, 282, 283]. TG supplied BTP with titanium pigments for its markets until BTP constructed a factory [Pl. 577, 676; Pl. F, par. 12, F-6]. BTP erected a factory for the manufacture of titanium pigments at Billingham and BTP became the larg-
155 est manufacturer of titanium pigments in the British Empire [Tr. p. 2870; Pl. 1207; complaint, par. 51—No reply by NL.]

156 47. Prior to 1936 local Japanese companies were planning to manufacture and sell titanium pigments

and compounds in Japan [Pl. 292-294, 615, 616, 617, 618, 619]. NL, Titan Co., Inc., IG, and TG believed that such Japanese companies would engage in exports which would lead to competition in all the markets of the world including the United States [NL Answer, par. 61; Pl. 617, 618]. Titan Co., Inc., TG, IG, TR, Thann, K.K. and Doitsu as trustee for Titan Co., Inc., IG, TG, TR, and Thann entered into agreements as alleged in paragraph 75 of the complaint [Pl. 615-624, J-1-8; NL Answer, par. 61]. TK was created as a result of these contracts for the exclusive purpose of engaging in the titanium pigment business in the Japanese Empire [Pl. J, par. 1, J-1, pars. 1, 2; NL Answer, par. 61]. TK was assigned the Japanese Empire as its territory and the rest of the world was assigned to Doitsu as trustee for Titan Co., Inc., TG, IG, TR, Thann [Pl. J-2, print 294 at 297; NL Answer, par. 61]. TK was granted an exclusive license for its territory to manufacture and sell titanium pigments and compounds under all Doitsu's then owned or thereafter acquired secret processes, apparatus and technical information relating in any way to the manufacture of or use of titanium pigments and compounds, as defined
157 within the limits of the licensed field in said contracts [Pl. J-2, par. 1; J-4, pars. 1, 2; NL Answer, par. 61]. TK granted Doitsu, as agent for Titan Co., Inc., TG, TR and Thann, a similar exclusive license of its present and future titanium pigment patents, secret processes, apparatus and technical information relating in any way to the manufacture or use of titanium pigments or compounds, as defined within the limits of the licensed field in said contract [Pl. J-4, pars. 1, 3; NL Answer, par. 61]. Both TK and Doitsu agreed not to import titanium pigments and compounds into the territory of the other without its consent and agreed to impose the same obligations upon its customers [Pl. J-2, par. 1(e), J-4, par. 4; NL Answer, par. 61; Pl. 633, 634]. TK and Doitsu agreed not to import into the territory of the other finished articles manufactured by it and agreed to prevent such importation by customers purchasing titanium pigments or compounds from it if the importation of such finished articles interfered in any way with the sales of titanium pigments by the other party in its own territory [Pl. J-2, par. 1(f), J-4, pars. 2(b), 3(b), 4; NL Answer, par. 61]. TK was prohibited from granting sublicenses [Pl. J-4, par. 2; NL Answer, par. 61]. Doitsu was permitted to

grant sublicenses under any patents licensed to it
158 by TK provided the sublicensee of Doitsu agreed to grant to TK for its territory an exclusive license under all present and future patents of the licensee or sublicensee relating to the manufacture and sale of titanium pigments and compounds, and provided Doitsu required the licensee or sublicensee to agree to respect the exclusive territory of TK and to assume the same obligations with respect to TK's territory as were imposed on Doitsu [Pl. J-4, par. 3(a); NL Answer, par. 61]. This contract Exhibit J-1 is to run until 1960 and is uncancelled [Pl. J-1, par. 8; NL Answer, par. 61]. TG supplied the Japanese market with titanium pigments until the Japanese factory commenced production [Pl. 618-626; Tr. p. 2915].

159 48. Contract Exhibit A allocated the Canadian and North American markets to NL as part of its exclusive territory [Pl. A, Arts. I, III]. Prior to the year 1934 Laporte was interested in erecting a factory in Canada to manufacture titanium pigments [NL Answer, par. 58; Pl. 533, 644]. NL and DP were selling titanium pigments and compounds in the Canadian market at this time [Pl. 40, not pr.; 45, not pr., 648-659]. DP was obligated to give to CIL the use of its Canadian patents relating to the manufacture of titanium pigments by agreement with ICI [Pl. 169-170, 186, 188, 645-647]. The consent and approval of DP and ICI as owners of the controlled stock interest in CIL were required for any agreement between NL and CIL for the Canadian territory [Pl. 647, 678, 663]. NL and CIL with the knowledge and approval of DP and ICI negotiated and entered into contracts described in paragraphs 72 and 73 of the complaint for the purpose of creating CTP [DP Answer, par. 72; NL Answer, par. 58; Pl. K-K-3, Pl. 45, not pr., 644-670, 674-682, 687-691]. NL and CIL agreed in Exhibit K to organize CTP. CTP was to confine its activities relating to the manufacture and sale of titanium pigments and compounds to Canada as its exclusive territory
160 [DP Answer, pars. 72, 73; NL Answer, pars. 58, 59; Pl. K, par. 1, K-1, Art. I (f)]. NL agreed to conduct all of its operations relating to the manufacture and sale of titanium pigments and compounds in Canada through CTP and CIL agreed that it would not conduct any such operations anywhere in the world except through CTP [DP Answer, pars. 72, 73; NL Answer, pars. 58, 59; Pl. K, par. 11]. CIL agreed to grant an exclusive license

to CTP under all patents then owned or thereafter acquired by it relating to the manufacture or use of titanium pigments or compounds [NL Answer, par. 58; DP Answer, par. 72; Pl. K-2]. NL agreed to transfer its Canadian titanium pigment business to CTP [Pl. K, par. 3, K-3]. NL entered into contract Exhibit K-1 with CTP and granted to CTP an exclusive license on all of NL's patents or processes which it then owned or might thereafter acquire relating to the manufacture of titanium pigments or compounds for the exclusive use of CTP in its exclusive territory [Pl. K-1, Art. II; DP Answer, par. 73; NL Answer, par. 59]. NL was allocated the rest of the world as its territory in contract Exhibit K-1 [Pl. K-1, Art. I (g); DP Answer, par. 73; NL Answer, par
161 59]. CTP granted to NL an exclusive license to manufacture and sell titanium pigments and compounds on all patents and processes then owned or thereafter acquired by CTP for NL's territory provided that NL was to grant to DP a non exclusive license for North and South America under any such patents licensed to NL by CTP [DP Answer, par. 73; NL Answer, par. 59; Pl. K-1, Art. III]. NL and CTP agreed not to export titanium pigments or compounds into the territory of the other without the consent of the other party and agreed to impose the same obligation upon its customers [DP Answer, par. 73; NL Answer, par. 59; Pl. K-1, Art. IV]. NL agreed not to export into CTP's territory any finished articles manufactured by NL [DP Answer, par. 73; Pl. K-1, Art. III; NL Answer, par. 59]. NL and CTP could grant sublicenses but neither party could grant licenses under its own patents or under any patents licensed to it under Exhibit K-1, unless the licensee agreed to grant to the other party to the contract (NL or CTP) an exclusive license under all its present and future patents relating to the manufacture or use of titanium pigments or compounds for the territory of such other party (CTP or NL) and unless such licensor (CTP or NL) com-
162 pelled the licensee or sublicensee to agree to respect the territory allocated to the parties to the contract (CTP or NL) in Exhibit K-1 with respect to each other's territory [DP Answer, par. 73; NL Answer, par. 59; Pl. K-1, Art. XIV]. The contract is to run until 1967 and is still in effect [Pl. K, par. 13; DP Answer, par. 73; NL Answer, par. 59]. CTP acquired all of the titanium pigment business of Laporte in Canada in 1937 and said Laporte agreed to refrain from engaging in the titanium

pigment business in Canada until 1952 [Pl. K-4, 62] BTP, NL and DP jointly supplied the Canadian market until 1939 [Pl. 45, not pr., 685, 1029]. Since 1939 CTP has acquired its products from DP and NL and will continue to do so until it builds a factory [Pl. 45, not pr., 685, 686]. DP sold its titanium pigment products in Canada prior to the creation of CTP through CIL and since the creation of CTP entirely through CTP [Pl. 45, not pr.]. Canadian prices for titanium pigments are based on United States prices and titanium pigments are sold in Canada below American prices [Pl. 656-659, 677, 683, 684].

163 49. The defendants NL and Titan Co., Inc. and their foreign associates agreed in 1939 to extend their obligation to exchange patents, present and future, which in any way related to the titanium pigment business, to titanium compounds and to other matters related to the titanium pigment business outside the licensed field, as defined in various contracts on a reciprocal basis [Pl. O, K-5; Pl. 812-818, 692-713, 718].

164 50. Each and every patent application of NL and NL's foreign associates SIT, TG, BTB, TK, CTP, which related to the licensed field as defined in the various agreements, was immediately available to each other on an exclusive royalty-free basis under their respective agreements for the respective territories in which the companies operated throughout the world [PL 553, 719-735, 741-799, 807, 811, 959-961, 971]. The expense of filing and securing said applications and patents were paid for by the exclusive licensee in whose territory the application was filed [PL 721-725, 746-751, 759-761, 775, 799-803, 804-806, 809, 810].

165 51. After the outbreak of the present war in 1939 NL, Titan Co., Inc., and TG believed that if the United States should be at war with Germany and as a consequence the United States Alien Property Custodian should seize the United States patents owned by TG and the German equivalent of the Alien Property Custodian should seize the German patents owned by Titan Co., Inc. that if such patents were licensed to outsiders there might be competition in the respective markets allocated to the parties to Agreements A and C. NL, Titan Co., Inc., IG, and TG in order to prevent such potential competition decided that all of the United States patents owned by TG should be transferred to Titan Co., Inc. and the Titan Co., Inc. patents in the exclusive territory of TG as defined in Exhibit C-3 should be transferred to TG provided that

none of the other provisions of the several contracts were to be affected in any way. Thereupon TG and IG assigned to Titan Co., Inc. some of its United States patents and applications and Titan Co., Inc. endeavored to transfer all of its German patents and other patents in TG's territory, to TG. [Pl. 1103-1200]. Included among the patents and applications transferred to TG to Titan Co., Inc. in
166 the United States were the rutile pigment patents and applications licensed by Titan Co., Inc. to DP in 1940 [Pl. 1117, 1121, 1229, patents no. 2303305, 2303306, 2303307; Pl. R]; the two patents 2224987 (application 283986) and 2260177 (application 300004) which DP admitted were used by it in producing grades of TiO_2 accounting for 35 per cent of its TiO_2 sales [Pl. 945, 1120].

167 52. Defendants NL and Titan Co., Inc. and their foreign associates TG, BTP, TK and CTP exchanged complete technical information which in any way related to the manufacture or use of titanium pigments or compounds as defined within the limits of the licensed field in their various agreements. Such information was of inestimable value in developing the business of the associated companies to the exclusion of potential newcomers in competition in the industry [Pl. 588, 589, 1210, 144, 620, 621, 635, 636, 637, 638, 639, 640, 641, 642, 592-713, 718, 738-740].

168 53. The defendants NL and Titan Co., Inc. and their foreign associates TG, BTP and SIT exchanged full and complete information relating to the sales prices of titanium pigments and the activities of any other companies and potential competitors engaged in the titanium business in any of the markets of the world. Prices for the various markets in Europe were frequently fixed for all titanium pigments below which none of the associated companies were to sell in their respective markets without immediate notice to Titan Co., Inc. [Pl. 825-834].

169 64. Each and all of the various contracts [Pl. A, B, C, F, J, K] has had the intended effect of (1) preventing competition among the various parties to said contracts within the exclusive territories allocated to the parties in their respective contracts; (2) creating a worldwide patent pool of many of the patents of commercial value relating to the manufacture of titanium pigments and compounds within the licensed field, as defined in said

agreements in which said patents are made available only to the parties to said contracts; (3) creating a world-wide pool of useful technical information, relating to the manufacture and use of titanium pigments, available only to any of the parties to said contracts within their respective exclusive territories; (4) enabling the parties to said contracts outside the United States to control the production and prices of all titanium pigments and compounds produced within their respective exclusive territories [Pl. 70, 79, 85, 87, 88, 112, 114, 183, 245, 530, 544, 552, 575, 576, 578, 583-592, 627-629, 631, 632, 643, 660, 714-717, 819, 820, 821, 822, 823, 824, 839, 1041, 1209, 1212; Tr. pp. 2592, 2618, 2912-16].

170 CONTRACTS OF NL'S FOREIGN ASSOCIATES WITH THE BLUMENFELD ASSOCIATES

55. The only companies other than TG producing titanium pigments on the continent of Europe in 1933 were the Blumenfeld companies, TR, Thann, Aussig and Montecatini [Tr. pp. 2504-6; 2917; Pl. 208, 287]. These companies were in competition with TG and BTP in the markets allocated to them by contracts Exhibits B, C, F and were importing titanium pigments into the United States [Tr. pp. 2880-2895; Pl. 208, 287, 514, 519, 523, 530, 538, 539].

171 56. On November 10, 1933 TG and Aussig entered into a contract to divide and allocate the titanium pigment business in Germany, Czechoslovakia, Poland, Austria, Russia, Hungary, Jugoslavia and Rumania between TG and Aussig [Pl. G]. This territory had previously been granted Aussig by TR in a contract entered into on or about the year 1922 [Tr. p. 2503; Pl. G, Art. I, print 173 at 174; Pl. 287], and was part of the territory allocated to TG by Titan Co. A/S in contract C-3. Prices for all titanium pigments or compounds to be sold under this agreement were to be fixed by joint action of all parties thereto [Pl. G, Art. IV]. Each party was given the right to use the other's titanium pigments patents on a royalty-free basis [Pl. G, Art. X] and was to refrain from giving any technical information or aid to potential competitors [Pl. G, Art. IX]. Aussig was required to purchase any of its requirements under the contract, in excess of Aussig's then productive capacity, from TG [Pl. G]. Said contract was in effect from July 1, 1933 and is uncancelled and the effect of the war on

its operation is undetermined [Tr. pp. 2891-2; Pl. G, Art. XIV; Pl. 550].

172 57. Defendant Titan Co., Inc., SIT, Thann and TR entered into the Contrat a Quatre [Pl. G-1] in June 1935 but the quotas established therein were effective from May 1934 [Article 15]. It provided for the allocation of the titanium pigment business within the respective exclusive territories allocated to SIT in Exhibit B and by TR to Thann Pl. 287; [Tr. p. 2503]. The titanium pigment business was allocated between the parties to Exhibit G-1 on a quota basis in their respective exclusive territories [Pl. G-1, Arts. 1, 2, 10, see also Pl. G-2, print 212 at 221]. Sales prices were to be fixed by mutual consent [Pl. G-1, Art. 5]. All parties were authorized to use each other's titanium pigment patents royalty-free [Pl. G-1, Art. 11]. All parties were to refrain from giving any technical information or aid to potential competitors [Pl. G-1, Art. 10]. No new factories were to be built in the countries of the agreement outside France without the mutual consent of all parties [Art. 12]. Said contract was supplemental to Exhibit G-3, the Contrat a Six [Pl. G-1, Arts. 15, 17]. Portions of this contract were suspended by the outbreak of hostilities in Europe in September 1939, but the parties to said contract

173 Exhibit G-1 cooperated in supplying each other with the requirements of titanium pigments whenever conditions permitted until the occupation of said territory by German forces prevented further cooperation [Tr. pp. 2524-25].

174 58. The defendant Titan Co. Inc. and TR, Thann and SIT entered into a "Contract of Delivery" in June 1935 which provided for the purchase by Titan Co., Inc., SIT, TR, and Thann of their requirements of titanium pigments and compounds for the territories covered by agreement G-1, from TG and the Thann factories in excess of the then capacity of their respective manufacturing plants [Pl. G-2]. Any goods delivered under this contract were not to be exported from the countries for which they had been ordered and delivered. The buyer was required to impose similar obligations on his customers [Pl. G-2, print 212 at 221]. Portions of this contract were suspended by the outbreak of hostilities in September 1939, but the parties to said contract Exhibit G-2 cooperated in supplying each other with their requirements of titanium pigments whenever conditions permitted until the occupation

of said territory by German forces prevented further cooperation [Tr. pp. 2524-25].

175 59. The defendant Titan Co., Inc. entered into "Contrat a Six" [Pl. G-3] with TG, SIT, Thann, TR and Montecatini, in June 1935, providing for the division of the titanium pigment business in the respective markets allocated to the parties to the contract on a quota basis. The quotas established were effective as of May 1, 1934 [Art. 11]. Each of the parties to contract Exhibit G-3 agreed to assist each other in preventing third parties from entering the titanium pigment business within their respective territories and each of the parties to contract Exhibit G-3 agreed not to reexport titanium pigments or products from the territories for which they have been ordered and delivered [Pl. G-3, Art. 2]. Sales prices were to be fixed by mutual agreement [Pl. G-3, Art. 6]. Patent rights were exchanged between the parties on a royalty-free basis [Pl. G-3, Art. 8]. Said contract Exhibit G-3 was in effect until December 31, 1938 when it was cancelled by Montecatini [Pl. 576A]. The intention to continue to cooperate was expressed by the parties to contract Exhibit G-3 after its cancellation [Pl. 550, 551, 576A]. Further cooperation was suspended by the creation of a state

176 of belligerency between some of the parties to said contract with the outbreak of war in Europe in September 1939 [Pl. 576; Tr. p. 2894].

177 60. BTP entered into a price agreement with Laporte in 1934 covering the sale of titanium pigments for the British Empire [Pl. 826, print 2871 at 2873; Pl. 825, print 2878 at 2893; Pl. 576A, print 2170 at 2172; Pl. 593-98]. Said price agreement is still in effect but has no application to the Canadian market from which Laporte withdrew in 1937 [Pl. K-4]. In 1941 BTP and Laporte also entered into a quota agreement whereby a quota of the titanium pigment business in the British market was allocated to each of the said parties, which agreement is still in effect [Pl. F-8; NL Answer, par. 57; Pl. 599-614]. Laporte is obligated to refrain from exporting titanium pigments to any territory outside of the British Empire and has refrained from making such exports outside the British Empire since 1937 [Pl. 605, 606, 829, 830].

178 61. Each and all of the said contracts, Exhibits G, G-1, G-2, G-3, F-8, has had the intended effect of enabling the parties thereto to (1) completely monopolize and control the titanium pigment business and the

markets therein within their respective territories provided for in said contracts; (2) prevent the natural expansion and development of the manufacturing facilities of the respective parties to said contracts; (3) eliminate all competition in titanium pigments and compounds in the exclusive territories theretofore allocated Titan Co. A/S and Titan Co., Inc.; and (4) prevent any exports of titanium pigments or compounds from the territories allocated to the parties to said contracts [Pl. 86, 125, 167, 183, 200, 208, 226, 513-519, 522-544, 545-549, 552-575, 576A, 576B, 592-614].

179 CONTRACTS BETWEEN AMERICAN PRODUCERS

62. Defendants NL and Titan Co., Inc. and T.G. represented by Jebsen, McCarty and Kuhne, commenced negotiations with Commercial Pigments Co. and the other Blumenfeld companies represented by Blumenfeld, Ticknor, Chase and Burton, to eliminate competition between the two groups producing titanium pigments in all markets of the world in 1930 [Pl. 123-125, 127, 129, 130-133, 142, 144-148, 150, 151, 154-156, 158-161, 183, 163-168, 518, 522-530, 200, 1203; Tr. p. 2511]. No agreement eliminating competition between the two groups in markets outside of the United States could be reached unless a similar agreement was reached in the United States between the defendant NL and CP [Pl. 122A-144, 148, 151, 154-156, 159, 161, 163-165, 208, 279; Tr. pp. 2516, 2830]. A tentative understanding had been arrived at between NL's foreign associates and the Blumenfeld interests outside the United States in March 1931 subject to an agreement being reached between the two United States producers TP and CP [Pl. 208; Tr. p. 2511].

180 63. After the purchase of CP by Krebs in July 1931, defendant NL represented by Jebsen, McCarty, Thompson and Beschorman, and DP represented by Rupprecht, Ticknor and Chase, continued negotiations to reach a world-wide agreement which would eliminate competition in the manufacture of titanium pigments and compounds and which would give control and domination of the manufacture and sale of titanium pigments and compounds in the United States to NL and DP [Pl. 193, 200, 202, 203, 210, 211, 214, 216, 242, 243, 249, 250, 1203; Tr. pp. 2516, 3260-61]. Blumenfeld continued to represent the Blumenfeld group. An agreement among the two groups engaged in the titanium pigment business outside the United States continued to be dependent upon an agree-

ment being reached between NL and DP in the United States [Pl. 200, 203, 208, 217, 234, 278, 537; Tr. p. 2516, 2561, 2583].

181 64. DP knew of the plans to combine all the European titanium producers and was willing to give its aid to NL in bringing about an agreement among the European producers in order to secure one in the United States with NL [200-203, 208, 217, 218, 223, 224, 226, 229, 234, 211, 248, 249, 250, 253, 534-536, 537, 307, 309, 313, 1203]. DP and NL wished to pool all their patents and technical information relating to the manufacture or use of titanium pigments in the United States in order to jointly control and dominate the manufacture and sale of titanium pigments and compounds and to eliminate all competition therein in the United States markets [Pl. 206, 210, 211, 245, 246, 278, 280, 281, 284, 304; Tr. pp. 1512-1530]. NL had threatened but failed to file suit on any claims it may have had for any alleged infringements of patents owned or controlled by it against CP prior to July 1, 1931 [Pl. 124, 126, 127, 133-137, 143, 152, 153, 162; Tr. p. 3255]. DP investigation of all United States patents relating to the manufacture or sale of titanium pigments prior to its acquisition of CP showed that the patents NL subsequently alleged were infringed, were either not valid or could be avoided at a slight additional expense [Pl. 190, 192]. The

182 defendant DP knew at the time it acquired the business of CP in July 1931 that NL had failed to enforce any claim it might have against CP for any alleged infringement of any patents relating to the manufacture and sale of titanium pigments or compounds which were owned and controlled by TP [Pl. 177, print 625 at 677; Pl. 196, print 784 at 811]. Both NL and DP agreed not to contest the validity of any of their patents [Pl. 210, 211, 228, 233, 238]. Both NL and DP denied infringement of any patents and the patents alleged to be infringed were of doubtful validity [Pl. 222, 225, 233, 235-7]. NL advised DP of its contracts with Titan Co. A/S in May of 1932 and of the restricted nature of said license agreements [Pl. 211, 250]. TP did not own the legal title to 7 of the 9 patents it claimed were infringed by Krebs in 1932 [Pl. 214, 450-456, not pr., 470]. Krebs did not check the legal title to the patents NL alleged it infringed [Pl. 254]. Both TP and Krebs began to exchange full and complete technical information relating to the manufacture and use of titanium pigments in 1932 and the information so exchanged was unrelated to any alleged claims of patent

infringement by either company [Pl. 210, 212, 1219-1228]. Blumenfeld and his foreign associates furnished technical aid and assistance to Krebs at its request from
183 August 1931 until the approximate date at which TP and Krebs commenced the exchange of technical information in 1932 [Pl. 843, 1206A, 1206B; Tr. p. 2514]. Krebs did not clearly repudiate any obligation to Blumenfeld or TR under their contract with CP until after contract Exhibit E had been approved by NL's foreign associates and executed by TP and Krebs [Pl. 843, 843A, 843B, 1205, 1206, 1206A, 1206B, 286].

184 65. Contract Exhibit A prevented TP from entering into contract Exhibit E unless Krebs agreed not to export into the exclusive territories of NL's foreign associates and unless Krebs agreed to grant exclusive licenses to NL's foreign associates of all its present and future titanium patents for their respective exclusive territories [Pl. A, Art. XIV; Pl. 211, 262-266].

185 66. The defendant DP in order to secure the agreement it desired in the United States with TP (Exhibit E) orally agreed with NL, TP and NL's foreign associates not to export into the exclusive territories of NL's foreign associates and that such licenses as would be granted to NL's foreign associates under paragraph 5 of Exhibit E would be exclusive in fact [Pl. 203, 242, 243, 244, 245, 246, 248, 250, 255, 267-271, 263-266, 273-275, 277, 278, 279, 287, 288, 290, 857, print 2983 at 2986, 507, 510, 839, 884, 887, 944, 1000; Pl. 45, not pr.]. DP orally agreed with Blumenfeld that it would not export into the territories of the Blumenfeld companies outside the United States and Blumenfeld acting on behalf of the Blumenfeld companies and interests agreed that they would not import into the United States [Pl. 534; Tr. pp. 2516-2523, 2561, 2574, 2581, 2583, 2585; P. 45 not pr.]. DP assured NL of its intention to engage in the titanium pigment business exclusively through Krebs prior to the execution of Exhibit E [Pl. 260, 887, print 3056 at 3064]. Contract Exhibit E was approved by NL's foreign associates and executed by DP and NL on August 28, 1933 [Pl. 279, 507, 510]. DP and NL were the only two companies producing titanium pigments in the United States at the time this agreement was entered into. Krebs at all times observed said oral understanding and agreements [Pl. 45, not pr.].

186 67. Contract Exhibit E provided for the full and complete exchange of technical information be-

tween NL and DP, [Article III] and full and complete exchange of present and future patents of either company, relating to the manufacture of titanium pigments within the licensed field on a royalty-free basis. Said contract also restricted the sale of titanium pigments by DP to the United States, Central and South America [Article II, Tr. p. 2356]. Contract Exhibit E only released each of the parties from alleged infringement of claims of patents owned by them at the time of the execution of the agreement or thereafter acquired during the term of said agreement with the right to sue for past infringement [Article VII].

187 68. Defendant DP acquired all the assets of Krebs on or about January 1, 1936 and assumed all its obligations including Exhibit E and the obligations under the oral agreements and understandings entered into with representatives of NL, its foreign associates, TP, Titan Co., Inc. and Blumenfeld [DP Answer, par. 6; Pl. E-1]. DP has at all times since January 1, 1936 observed said oral agreements and understandings [Pl. E-1, Pl. 45, not pr.; Pl. 664, 1009].

188 69. Blumenfeld's foreign associates, TR, Aussig, Thann, Montecatini, observed the oral agreement of 1933 and imported no titanium pigments or compounds into the United States after the oral understanding entered into between Krebs and the Blumenfeld associates in July 1933 [Pl. 93, 538; Tr. p. 2618-2623].

189 70. Zirconium had secured patents relating to the manufacture of titanium pigments in 1933 from the Glidden Company and Metal & Thermit Corporation and was about to commence the manufacture of titanium pigments in 1934 [Pl. 352, 361-368; Pl. H, print 251 at 254]. Zirconium was notified by the defendants NL and DP that such manufacture might involve infringement of the respective titanium pigment patents owned or controlled by TP, NL, Krebs or DP [Pl. 350, 353-355, 359]. Defendants DP and NL licensed some of their titanium pigment patents to Zirconium [Pl. H, I; Pl. 356, 357, 359, 360, 369]. The defendants NL and DP acting through Rupprecht and Beschorman discussed the respective licenses proposed to be granted to Zirconium by both companies prior to the granting of such licenses and agreed to eliminate any competition from Zirconium in the United States by DP licensing only some of their patents and restricting Zirconium production of all titanium pigments. [Tr. pp. 2608, 2616-17]. NL was to eliminate any threat of com-

petition to the foreign producers by restricting Zirconium exports [382 Pl. 1009, print 3287 at 3288; Tr. p. 2608, 2609, 2616, 2617] DP restricted the production of titanium pigments under its license to Zirconium and re-
190 quired Zirconium to pay a royalty on all titanium pigments produced by Zirconium whether produced under its license with DP or not [Pl. 1; DP Answer, par. 63; Pl. 360, 369, 376, 377, 390, 391, 393, 394, 395, 398, 399, 400, 401, 402; Tr. p. 3254]. NL required Zirconium to refrain from exporting any titanium pigments produced by it outside the United States and required it to grant exclusive licenses to the foreign associates of NL of Zirconium patents [Pl. H, Pl. 378-381, 361-364, 371]. NL agreed to exchange technical information relating to the manufacture of titanium pigments with Zirconium in its license to Zirconium [Pl. H, Pl. 383-389, 404; Tr. p. 2801]. Zirconium was frequently refused technical information by NL on the ground that it had prior commitments to DP and NL's foreign associates [Pl. E, Pl. 383-389, 403, 404]. Contract Exhibit H was cancelled and mutual releases exchanged on the 9th of March 1944 after an indictment was returned against NL and DP for the alleged violation of the antitrust laws on June 28, 1943 [S.D.N.Y. Crim. 114-455; Pl. 405-406; NL 29]. The defendant DP collected a total of $196,655.86 in royalties from Zirconium [Pl. 46, not pr.]. Zirconium issued to defendant NL 10 per cent of its stock in lieu of any cash royalty and defend-
191 ant NL was represented on the board of directors of Zirconium by the president of NL [Pl. H-1; Tr. p. 3131]. Zirconium purchased 275 tons of titanium pigments from NL and 4394 tons from DP since the issuance of the licenses to it by NL and DP [Tr. pp. 3252, 3253]. DP eliminated the restrictions on the production of titanium pigments by Zirconium on November 10, 1944 [DP 53, 56]. There is no evidence in the record that the removal of these restrictions has resulted in increased production of titanium pigments by Zirconium.

192 71. VC was organized in 1935 to manufacture titanium pigments in the United States [Pl. 407-412, 427]. It was notified by NL and DP respectively of the possibilities of alleged infringement by it of the respective patents of NL and DP which related to the production of titanium pigments [Pl. 407, 408, 412, 413, 421, 428, 429, 430, 431, 432; Tr. pp. 2610-2612]. VC owned some patents relating to the manufacture of composite pigments but refrained from the manufacture of composite

pigments and manufactured only titanium dioxide [Tr. pp. 3253-3254; Pl. 411, 414, 415, 427, 430]. VC accepted a license to manufacture titanium dioxide under some of DP's titanium dioxide patents in 1937 with restrictions imposed upon its production [Pl. L, Pl. 414, 415, 417-420, 422, 423, 425, 426, 427, 436, 438-440]. NL deemed it inadvisable to have an oral agreement with a company not well known to NL's foreign associates that would obligate VC not to export and never made a license agreement with VC [Pl. 433-435, 437, 442]. It failed to institute any court action against VC to enforce its claim theretofore made against VC of alleged infringement of its patents relating to the manufacture of titanium pigments [Pl. 441; Tr. pp. 2610, 2613, 2789, 2790, 3255, 3256; Pl. 1229]. The restrictions imposed upon the amount of titanium dioxide
193 which VC could produce under its license with DP were removed by DP in November 1944 [Pl. L; DP 5 -55]. There is no evidence in the record that the removal of other restrictions has resulted in the increased production of titanium pigments by VC. VC paid $193,875.24 in royalties to DP from the date of its license from DP to July 1, 1944 [Pl. 47, not pr.].

194 72. All patents and patent applications owned or filed by TP, NL, Krebs or DP which in any way related to titanium pigments or compounds as defined in the licensed field of contract Exhibit E, were immediately available to each other on acquisition or filing on a royalty-free basis from August 1933 to January 1, 1941 [314, 315, 317, 320, 321, 338, 339, 340-349]. From and after January 1, 1941 all United States patent applications of either NL or DP were made available and still are available for the use of the other company after six months from the date of the filing of applications [Pl. E-3, Art. 1-2(b) Art. III]. All United States patents issued to or acquired by either DP or NL within the licensed field from and after January 1, 1941 continued to be and still are available to either company on a royalty-free basis immediately on issue or acquisition [Pl. E-3, Art. I-2-(A)].

195 73. Defendants NL and DP jointly purchased the Lenchs patent relating to the manufacture of titanium pigments [Pl. 322-334]. Title to said patent was taken in the name of NL and thereafter assigned to DP who granted NL a non-exclusive license thereunder. Although NL had believed the patent to be invalid [Pl. 323, 324, 325] the patent was reissued with broader claims

[Pl. 329, 330, 473, 474]. Said patent was never used by either DP or NL [Pl. 470, 472].

196 74. DP and NL exchanged full and complete technical information relating to any manner to the manufacturing or use of titanium pigments or compounds from about April 1932 until April 1940 at which time this practice of exchanging technical information was terminated by DP on the ground that such exchange of technical information might be a violation of the Sherman Antitrust law [Pl. 285, 302, 475-503, 1219-1228; Tr. pp. 2784, 2791-3]. The defendants DP and NL cooperated in the acquisition of ilmenite and furnishing of pigments to each other [Pl. 122A, 149, 150, 166, 295-301].

197 75. NL granted DP the right to use certain "Micronizing Apparatus" necessary to the manufacturing of fine grade of titanium pigment on the same terms and conditions as those granted to NL under its exclusive license from International Pulverizing Corporation [Pl. P-1]. The license from NL to DP was granted at about the same time NL secured an exclusive license from International Pulverizing Corporation to use this apparatus [Pl. P, P-1]. DP admitted that this apparatus was necessary to enable it to make a pigment comparable to one produced by NL by the same apparatus [DP 68, 69, 74, 75]. Zirconium was granted the right to use this apparatus about eighteen (18) months later on the same terms and conditions as was granted DP [Pl. P-2, 443, 444]. NL refused a license of the "Micronizing Apparatus" to VC and Sherwin-Williams Company, who also desired to use this apparatus [Pl. 445, 449].

198 76. Contract Exhibit E was amended on January 1, 1941 to eliminate the exchange of technical information by NL and DP and the licensed field was specifically broadened to include extender pigments theretofore included by implication and practice between NL and DP [Pl. E-3, 493-495, 497-512]. The contract Exhibit E as amended is still in effect [Pl. E-3, Art. V-5, DP Answer, 60; NL Answer, 47]. DP continued to observe and adhere to the oral understandings and agreements entered into in 1933 after said amendment and did not export outside the Western Hemisphere [Pl. 45, not pr., Pl. 507].

199 77. The intended effect of the 1933 DP and NL contract Exhibit E, Exhibit E-3, and oral understanding of 1933, has been to enable DP and NL to jointly dominate and control the titanium pigment business in the United States; to eliminate all competition in the United

States between the American producers of titanium pigments [Pl. H, I, L, P, P-1, Q, R, S; Pl. 26, 44, not pr., 24, 42, not pr., 40, 470, 472, par. 7; Tr. pp. 2618-2621, 3097-3105, 3109, 3113; 3114, 3254, 3255]; and to restrict DP exports in titanium pigments to the Western Hemisphere [Pl. 45, 374, 375]; to enable the defendant NL to enter into contracts, Exhibits K, K-1; to enable the defendant Titan Co., Inc. to enter into contracts Exhibits G-1, G-2, G-3, J; to enable TG to enter into contract Exhibit G. [Pl. 278, Tr. pp. 1512-1530]; and to prevent the imports of titanium pigments into the United States except with the consent of the defendants NL and Titan Co., Inc. [Tr. pp. 2592-2599, 2618-2623].

200 DP-TITAN CONTRACTS

78. The contract between Blumenfeld, TR, and CP provided for the exchange of future patents and technical information relating to the manufacture and use of titanium pigments between CP, TR, and its associated companies engaged in the manufacture and sale of titanium pigments outside the United States [Pl. 175, 176]. Krebs disclaimed any obligation to TR and Blumenfeld under the CP, TR, Blumenfeld contract [Pl. 286, 843, 843A, 843B, 1205, 1206, 1206A, 1206B].

201 79. After the execution of Exhibit E, representatives of DP and NL's foreign associates enjoyed the privilege of visiting each other's titanium pigment plants and obtaining any and all technical information desired by either as regards plant operations and plant equipment from August 1933 to September 1938 [Pl. 290, 480-483, 486, 512, 862]. At that time the exchange of any technical information relating to matters of research involving titanium pigments was expressly terminated by DP as DP and NL were not exchanging such technical information [Pl. 891-893]. The exchanging of technical information between DP and NL's foreign associates as limited in September 1938 continued until the exchange of all technical information and experience was terminated between DP and NL in May 1940 [Pl. E-3, 495, 497-503, 512].

20 80. DP had no foreign patents or applications which related to the manufacture or use of titanium pigments or compounds in any of the territories of NL's foreign associates prior to 1934 [Pl. 472]. Article V of Exhibit E gave NL's foreign associates the first right to secure licenses on any foreign patents relating to the

manufacture or use of titanium pigments which DP might secure in the territory of the foreign associates of NL. Such licenses were subject to negotiations as to royalties to be paid to DP by NL's foreign associates for such licenses. Article V of Exhibit E also provided that NL would use its best efforts to secure similar rights for DP on any patents and applications licensed to NL in the United States by its foreign associates which related to the manufacture or use of titanium pigments [Pl. 337].

203 81. DP's first offer to NL's foreign associates of a license under Article V of Exhibit E covered a "blended" pigment application and was filed by DP in 1934 [Pl. 835-842]. This was the only titanium pigment patent filed by DP in the territory of NL's foreign associates without their specific request for such filing [Pl. 911, 952-955, 957]. The royalties asked by DP of NL's foreign associates for its proposed license were unsatisfactory [Pl. 838]. DP withdrew its blended pigment application and permitted the foreign associates of NL to file a new application in DP's name in such territories of NL's foreign associates as its foreign associates desired [Pl. 845-852]. DP granted royalty-free licenses to NL's foreign associates on such applications [Pl. M, 854-861]. All expenses of filing and securing patents issuing on said applications were paid by NL's foreign associates [Pl. 863, 864, 952-955]. The reservations of DP in license agreement Exhibit M were never made use of and said license was exclusive in fact [Pl. 857, 876].

204 82. The foreign associates of NL desired a general arrangement covering the exchange of patents between DP and themselves in order to eliminate the details of negotiating licenses of specific patents in specific agreements as required by Article V of Exhibit E [Pl. 823, 838-842, 844, 847, 853-884; Tr. pp. 3058, 3062]. Krebs did not wish to enter into a general cross-licensing agreement with the foreign associates of NL until it was reasonably certain that it would have no further difficulties with TR and Blumenfeld under their contract with CP [Pl. 843, 844].

205 83. Negotiations continued between DP, NL and its foreign associates for a general cross-licensing arrangement [Pl. 872; Tr. pp. 2355, 2368]. NL agreed as its part in these negotiations to pay any royalties which might be charged by DP for any licenses granted to foreign associates of NL in exchange for the right to receive

any royalties which might be charged DP on any United States patents of the foreign associates licensed to DP [Pl. 865-871].

206 84. DP and NL's foreign associates commenced the exchange of patent applications in 1938 [Pl. 487, 879]. Negotiations for a general exchange of patents continued between DP and NL's foreign associates in 1938 in which DP was represented by Rupprecht and Hancock, NL's foreign associates were represented by Kaegebehn, Jebsen and Rockwell [Pl. 871-875, 879, 880, 885, 886; Tr. p. 2369]. DP hesitated to make a written general agreement for the exchange of exclusive licenses on present and future patents between itself and NL's foreign associates because of the United States antitrust laws [Pl. 881, 887; Tr. pp. 2368, 2369]. An oral understanding was reached between DP and NL's foreign associates in June 1938 whereby each of said parties agreed to exchange such of its patents and applications as related to the manufacture and use of titanium pigments within the licensed field of Exhibit E with each other as might be desired by each from the other [Pl. 883, 887, 890, 892, 893; Tr. pp. 2343-2347, 2352, 2357, 2358, 2367, 2368, 2372, 2373]. Such of each other's patents and applications as were desired by DP and NL's foreign associates were to be licensed on a royalty free basis in separate annual license agreements [Pl. Q, R, S, 883, 888]. Licenses to granted by DP to NL's foreign associates were to

207 be non-exclusive on their face but were to be exclusive in fact [Pl. 84, 887]. All licenses granted DP by NL's foreign associates were subject to the approval of NL and were exclusive except as to NL [Pl. 884, 887, 889]. All expenses for filing and maintaining DP patents in territories of NL's foreign associates were paid for by the foreign associates in whose territory the patent applications were filed [Pl. 897].

208 85. The oral understanding covering the exchange of patents and patent applications and technical information was based on the understanding and assurances given by DP in 1933 and 1938 that it would not export into the exclusive territories and that said licenses granted by DP to NL's foreign associates would be exclusive in fact [Pl. 887, 883, 884; Tr. pp. 2345-2346, 2356]. Said oral understanding can be terminated only with the termination of Exhibit E-3 [Pl. 881, 887; Tr. p. 2356] and is still in effect subject only to the inability of the parties to exchange patents and patent applications because of

war imposed restrictions. DP observed said understanding and has not in fact exported into the exclusive territories of NL's foreign associates since the understanding of 1933 and has never competed with any of the associates of NL in their respective exclusive territories [Pl. 45, not pr., Pl. 891-944].

209 86. DP acting in accordance with said oral understanding of June 1938 granted royalty-free licenses to Titan Co., Inc., with the right to sublicense NL's foreign associates on June 20, 1938, April 21, 1939, May 10, 1940, and June 23, 1941 [Pl. N, Q, R, S], and continued to make available to NL's foreign associates on a royalty-free basis all patent applications filed by it in the United States relating to the manufacture and use of titanium pigments until a short time before the transmission of such applications was made dependent on the securing of governmental permission [Tr. pp. 2783-84; Pl. 896, 899, 906, 907, 908, 911, 916-934, 936-942, 946-951, 962-970, 971-974]. 35 per cent of DP's TiO_2 sales in 1941 were covered by licenses granted DP in Exhibit S [Pl. 945]. NL's foreign associates acting in accordance with said oral understanding of June 1938 made all of its United States patents and patent applications relating to the manufacture and use of titanium pigments available to DP and via Titan Co., Inc. entered into cross licensing agreements with DP in 1939, 1940 and 1941 [Tr. pp. 2784-85; Pl. Q, R, S, 891, 897, print 3086 at 3090]. No licenses of the patents or applications of NL's foreign associates were granted to any other producer in the United States, except NL and DP [Tr. pp. 2784-85]. All of said license agreements [Pl. Q, R, S] were granted with the consent
210 of NL [Pl. 889]. The exchange of DP patent applications with NL's foreign associates is suspended only during the present emergency and will be resumed upon its termination [Pl. 511, 512, 1216-1218].

211 87. DP deferred the inclusion of certain applications and patents in specific license agreements until it desired such application or patents to be included in certain cross licenses [Pl. 899, 903, 907, 908]. Such patents and applications so deferred were available to DP at all times for use after the understanding of June 1938 even though not licensed. Among such patents and applications so deferred, but available to DP, were the rutile pigment patent applications available to DP from

June 1938 but not licensed to DP until May 10, 1940 [Pl. R, 903, 893, 1229, Pats. 2,303,305; 2,303,306; 2,303,307].

212 88. DP assured NL and its foreign associates in November 1938 that before it filed its patent application relating to the manufacture of rutile pigment it would consult with the representative of NL's foreign associates in order to avoid interference proceedings with the rutile pigment application of NL's foreign associates [Pl. 893, print 3074 at 3079; 894, 895].

213 89. The filing of DP's foreign applications in the territory of NL's foreign associates is under the complete control of NL's foreign associates and all expenses incurred in filing and maintaining said patents are borne by NL's foreign associates who may abandon said patents or applications licensed to them by DP at will upon notifying DP of its intention to so abandon [Pl. Q, print 442 at 454; R, print 457 at 469; S, print 473 at 482; 847, 897, 916-943, 952-958, 967-970, 974, 975-979, 980-982, 983-992]. DP patents issued in the name of DP in the territory of NL's foreign associates can only be licensed if the sublicensees agree not to export from the territory of the foreign associate [Pl. 915].

214 90. No royalties were ever paid by DP to NL or by NL to DP (under the agreement made between NL and its foreign associates in 1937), and neither DP nor NL's foreign associates ever paid any royalties to each other for the use of the patents licensed by them in Exhibits M, N, Q, R, S, [Tr. pp. 3257, 3260].

215 91. The DP-Titan cross licensing agreement of 1940 and 1941 provided for and was intended to restrict the use and export of titanium pigments manufactured under any of said patents by purchasers of said pigments [Pl. 909, 912; R, print 457 at 466, 468; S, print 473 at 479, 480].

216 92. The amendment of Exhibit E on January 1, 1941 [Pl. E-3] did not affect the rights secured to NL's foreign associates under the 1933 agreement and oral understandings, except that mutual plant visits between DP and NL's foreign associates were to cease. Exhibit E-3 did not have any bearing on the important parts

of the agreements and understandings between DP and NL's foreign associates [Pl. 508, 510-512, 12-6-1218].

217. THE EFFECT OF THE COMBINATION AND CONSPIRACY

93. The agreements and understandings entered into between the defendants and the other corporations named in the complaint, have had the following intended effects.

1. The defendant DP has refrained from exporting any titanium pigments or compounds outside the Western Hemisphere in competition with the other titanium pigment producers of the world [Pl. 45, not pr., 1009, 1000]. The defendant NL has refrained from competing with the other titanium pigment producers of the world outside of the Western Hemisphere and has not exported any titanium pigments or compounds outside the Western Hemisphere unless requested so to do by its foreign associates [Pl. 993-1102; Tr. pp. 2592-2600].

2. All of the companies engaged in the manufacture of titanium pigments and compounds outside of the United States have refrained from importing such pigments or compounds into the United States and have refrained from competing with the defendants NL and DP in the United States [Tr. pp. 2618-2621].

3. The defendants NL, DP, and Titan Co., Inc. have imposed restrictions on exports by purchasers of
218 titanium pigments [Pl. 909-912, 993, 1001-1008, 1018-1023, 1073].

4. Prices of titanium pigments and compounds in the United States have been maintained at uniform and non-competitive levels and all competition in the manufacture and sale of titanium pigments and compounds in the United States has been eliminated [Pl. 24, not pr., Pl. 42, not pr., 1208; Tr. pp. 2807, 3097-3105, 3114].

5. The defendants NL and DP have controlled the resale of titanium pigments by purchasers by providing in their respective sales contracts that sales of such pigments are made only for the consumption of the purchaser [Pl. 25, not pr., Pl. 43, not pr.].

6. The defendant DP, has jointly with the defendant NL, restricted the production of titanium pigments by its licensees Zirconium and VC, to prevent said licensees from producing a sufficient amount of titanium pigments to enable them to compete in the United States market with DP or NL [Pl. 1215].

7. The defendants NL and DP control and dominate the

manufacture and sale of titanium pigments and compounds in the United States to the exclusion of all actual or potential competition from any other potential entrant into the titanium pigment business in the United States.

219 8. The defendants NL and DP have secured a monopoly on technical information relating to the manufacture and use of titanium pigments and certain apparatus and equipment necessary to the manufacture of certain titanium pigments to the exclusion and detriment of other producers now engaged in the titanium pigment business in the United States.

9. The defendants NL, DP and Titan Co., Inc. have utilized their patents which relate to the manufacture and use of titanium pigments to control and regulate the manufacture and sale of titanium pigments and compounds in the United States and throughout the rest of the world [Pl. E, E3, H, I, L, M, N, Q, R, S; Pl. 278].

10. The defendants NL and Titan Co., Inc. have controlled the production of titanium pigments and compounds throughout the rest of the world outside of the United States and refrained from competing with their associated companies in markets allocated to said companies after the outbreak of hostilities in Europe in 1939, serving said allocated markets only at the request of their foreign associates and holding any profits therefrom in the markets so served for the associate to which said exclusive territory was allocated.

220 94. The intended effect of the oral understanding between DP and NY's foreign associates in June 1938 has been to make available to DP all of the patents of NL's foreign associates in the United States which relate to the manufacture and use of titanium pigments on the same basis as such patents are licensed to NL and to make available to NL's foreign associates in their respective exclusive territories throughout the world such of DP's patents relating to the manufacture of titanium pigments as are desired by NL's foreign associates on the same basis as NL's patents are made available to its foreign associates. The licenses granted NL's foreign associates by DP on any patents issued in the name of DP in the territories of the foreign associates of NL [Pl. M, N, Q, R, S] were and are exclusive in fact and neither DP nor ICI ever made or attempted to make any use of said patents or applications in the territories of NL's foreign associates.

221 95. The intended effects of the acts of the defendants and the other members of the combination, will continue unless restrained by the court [Pl. 551, 610-614, 1030, 1042, 1044, 1047-1048, 1052, 1056-1057, 1061-1062, 1063-1065, 1076, 1141, 1103-1200, 1218; Tr. pp. 2872-2873, 2875].

Respectfully submitted,

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March 1, 1945.

222 In United States District Court

Proposed Finding as to Jurisdiction, Defendants, and Alleged Co-conspirators

This is an action by the United States to prevent and restrain alleged violations of Sections 1 and 2 of the Sherman Antitrust Act, 26 Stat. 209 (1890), 15 U. S. C. §§1, 2 (1940). The Court has jurisdiction of the subject matter and of the parties. The defendant National Lead Company is a New Jersey corporation. The defendants Titan Company, Inc. and E. I. du Pont de Nemours and Company are Delaware corporations. National Lead and Titanic have offices and are found and transact business in this District. du Pont has its office and principal place of business at Wilmington, Delaware, but is found and transacts business in this District. The business of the defendants and their connection with the activities and violations alleged are described in subsequent findings. The Titanium Pigment Company, Inc. and Krebs Pigment and Color Corporation, both domestic corporations, now dissolved, are named as co-conspirators but are not made defendants. The following foreign corporations are named as co-conspirators but are not made defendants:

Titan Co. A/S
I. G. Farbenindustrie Aktiengesellschaft
Titangesellschaft, m. b. H.
Société Industrielle due Titane
Imperial Chemical Industries, Limited

Goodlass Wall and Lead Industries, Limited
Imperial Smelting Corporation, Limited
British Titan Products Company, Limited
National Titanium Pigments, Limited
Canadian Industries, Limited
Canadian Titanium Pigments, Limited
Kokusan Kogyo Kabushiki Kaisha
Titan Kogyo Kabushiki Kaisha
Société de Produits Chimiques des Terres Rares
Fabriques de Produits Chimiques de Thann et de Mulhouse
223 Societa Anonima Titanium
Verein für Chemische und Metallurgische Produktion

The nationality of the alleged foreign co-conspirators and the business of all alleged co-conspirators, and their connection with the activities and offenses alleged, are described in subsequent findings.

BETHUEL M. WEBSTER
CLIFTON P. WILLIAMSON

224 In United States District Court

[Title omitted.]

Proposed Findings of Fact and Conclusions of Law

I. THE ORIGIN AND NATURE OF THE BUSINESS INVOLVED

1. Titanium is an element contained in ilmenite and other minerals. Sands and rock formations containing ilmenite are found in India, the United States, Norway, Brazil, and elsewhere throughout the world.

2. Before World War II the leading American manufacturers of titanium pigments, the defendants National Lead and du Pont, obtained their supplies of ilmenite from India. Since about August 1942, however, their supplies have come mainly from a New York deposit owned, opened up, and operated by National Lead pursuant to and in accordance with a directive of Office of Production Management approved by the Attorney General of the United States.

3. In and before 1920 there was no substantial trade or commerce in, and no commercial manufacture of, titanium pigments for use in paint, paper, rubber, or other products; pigments used for such purposes were lithopone, white lead, and zinc oxide. The use of metallic titanium in alloys was under development by Titanium Alloy

Manufacturing Company at Niagara Falls, N. Y., and chemists engaged in that work (principally Barton
225 and Rossi) were aware of the possibilities of titanium dioxide as a pigment; several important patents on processes and products had been taken out by them; and a subsidiary, Titanium Pigment Company, had been formed by Titanium Alloy to engage in further research, development, and promotion in the pigment field. Before 1920 tests and demonstrations conducted by Titanium Pigment had attracted the attention of large manufacturers of pigments and paints—Pittsburgh Plate Glass (paints), New Jersey Zinc (pigments), the defendant du Pont (pigments and paints), and the defendant National Lead (pigments),—who investigated Titanium Pigment's processes and products; and this led in 1920 to purchase by National Lead of 10% of the stock of Titanium Pigment, with an option to purchase up to 50%.

4. The feature of titanium dioxide that attracted the interest of chemists and paint manufacturers was its relatively high capacity to impart opacity and color (referred to as hiding power and tinting strength) to compositions treated. It was foreseen by Titanium Pigment and National before 1920 that if titanium pigments of good quality (that is, durable, and satisfactory as to color and texture, &c.) could be manufactured economically, a substantial market could be created, and that to a large extent titanium pigments would be used in place of lithopone, white lead, and zinc oxide. In less than twenty years this vision was realized.

5. The chemists employed by Titanium Pigment at Niagara Falls had made small quantities of relatively pure titanium dioxide (TiO_2) before 1920. They believed, however, that manufacture of the pure product on a commercial scale would be costly in relation to other pigments, and they endeavored to perfect processes for manufacture of "composite" pigments (that is, pigments containing titanium dioxide and relatively large quantities of the sulphates of barium and calcium and other less expensive materials) having hiding power and tinting strength per unit that, though not as high as titanium dioxide, would substantially exceed the hiding and tinting capacity of other pigments then in use. By 1920 process and product patents for titanium pigments developed by them had been granted in the United States, Norway, England, France, and in other countries.

226 6. While the research and experimental work described was going on in the United States, Gustav Jebsen, a Norwegian chemist and business man, was making a similar investigation, albeit along different lines, in Norway—this in connection with his search for means of putting to industrial use large deposits of Norwegian ilmenite-bearing ore. By 1920 Jebsen and his associates had perfected processes patented in Norway, the United States, England, Germany, and in other countries, an important feature of which was disclosure of means for producing relatively pure titanium dioxide pigments by direct application of relatively small quantities of sulphuric acid —a process much less costly than that then developed and in use experimentally at Niagara Falls. Though the Norwegian chemists were aware of the possibilities of composite pigments, they had not perfected processes for the manufacture of such products. In 1920 the process and product patents of Jebsen and his associates were held by Titan Company A/S, a Norwegian company.

7. As early as 1914 Titanium Pigment had some knowledge of the work of Jebsen and his associates, and the latter were aware that processes were being developed in the United States; and in 1914, while he was in the United States on other business, Jebsen conferred with the president of Titanium Alloy and Titanium Pigment with a view to the sale of Norwegian ilmenite and to exchange of patents and technical information. Owing to World War I, there was no further consideration of such exchange or cooperation until 1920; and during the war development work at Niagara Falls was at a standstill, though research and some experimental work and promotion were carried on.

II. A BRIEF SURVEY OF COMMERCIAL DEVELOPMENT IN THE UNITED STATES (1920-1944)

8. In 1920 Titanium Pigment and Titan A/S made an agreement (described in detail below) whereby the American company was exclusively licensed under the Norwegian-owned patents for North America, with the right
227 to grant sublicenses, and the Norwegian company was similarly licensed under the American-owned patents outside North America. On the basis of this agreement, and utilizing the Norwegian as well as its own United States patents, Titanium Pigment (then and thereafter financed and in 1936 fully acquired by National

Lead) undertook a program for the development and promotion of titanium pigments as an economical and otherwise desirable substitute for the pigments then on the market. That this program was commercially well conceived and executed is established by the fact that sales by Titanium Pigment (succeeded by National Lead in 1936) steadily increased from 500 tons (in terms of TiO_2 content) in 1920 to 76,788 tons in 1944, while the price steadily dropped from 40¢ a pound in 1927 for TiO_2 (and correspondingly lower for composite pigments) to 14½¢ in 1944, and by the fact that in 1943 sales of titanium pigments by National Lead alone exceeded sales of lithopone zinc oxide, and white lead by all companies.

9. Increasingly aware of the possibilities of titanium pigments, by 1933 du Pont had obtained rights under the Blumenfeld patents (hereinafter described), which disclosed processes having certain substantial advantages in respect of manufacture of pure titanium dioxide over the Barton-Jebsen patents, but were not sufficient to permit use of the economical direct sulphuric acid attack or for manufacture of composite pigments. After a period of negotiation,—and in view of genuine fear of prolonged, costly, and wasteful patent controversy,—du Pont and National Lead exchanged licenses. du Pont thereupon adopted an aggressive development and promotion program, which was so successful that the company enjoyed a steady growth in sales, and by 1935 it had captured about 50% of total United States sales of all titanium pigments (in terms of TiO_2).

10. Licensed by du Pont and National Lead, American Zirconium Company entered the field in 1935. In 1937 Virginia Chemical Company entered the business with a license from du Pont (but not from National).

11. At no time were there imports of any consequence from abroad. In and after 1922 the tariff applicable to titanium compounds was 30% ad valorem.

228 III. THE 1920 AGREEMENT

12. A minority stockholder of Titanium Pigment, with an option to purchase up to 50% of the stock, National Lead was unwilling to make further investments or commitments for development and promotion of titanium pigments unless and until it was satisfied that Titanium Pigment was in a position to use the Jebsen (as well as the Barton-Rossi) processes without risk of litigation; and,

accordingly, at the instance of National Lead, Jebsen came to the United States in 1920 for the purpose of negotiating an agreement under which National Lead would be free to practice the Jebsen inventions and Titan A/S would be free to make use of the inventions of Barton and Rossi. The two sets of processes and patents were regarded by the parties as essential to development and manufacture on a satisfactory commercial scale of a line of titanium pigments comparable in respect to possible uses, and superior in point of quality and economy, to the other pigments then on the market. Accordingly, an agreement negotiated by McCarty, a vice president of National Lead, now dead, and Jebsen was executed July 30, 1920, on behalf of Titanium Pigment and Titan A/S. (As stockholders in Titanium Pigment, National Lead and Titanium Alloy bound themselves in separate contracts with Titanium Pigment and Titan A/S to "respect" the principal agreement of July 30, 1920 and to communicate technical information and assign all patents, inventions, and improvements in the "licensed field" to Titanium Pigment.) The features of the 1920 agreement essential to understanding of the case may be summarized as follows:

(a) The field within which licenses were, and technical information was to be, exchanged was defined as including all substances containing above 2% of titanium (unless such substances contained by weight more than 5% of a metal other than titanium in its purely metallic state) and all apparatus, methods, and processes useful in obtaining or manufacturing such substances (except as stated). The intention was to cover processes, substances, and apparatus in the titanium compound field.

229 (b) Titanium Pigment received "a license exclusive of all others including" Titan A/S in and for North America (defined as including the continent of that name, Central America, and Panama) under all "existing or future" patents of the Norwegian company, and Titan A/S was granted the same rights outside North America under the patents of Titanium Pigment. The parties agreed not to sell outside their respective territories, except that reciprocal non-exclusive rights of sale were reserved for South America.

(c) Detailed provision was made for exchange of copies of applications for patents filed by the parties or their other licensees, and for the filing and payment of expenses

incidental to the prosecution of such applications and maintenance of patents in territories outside the territory of each; and there was provision for assignment by each company to the other in case either party elected not to prosecute applications or maintain patents outside its territory.

(d) To implement the exchange of exclusive licenses, Titan A/S made Titanium Pigment the exclusive agent of Titan A/S for sales by Titan A/S in North America, such sales to be at prices and on terms determined by the agent, and Titanium Pigment similarly made Titan A/S its sole agent for sales by Titanium Pigment outside North America and South America. (With a view to "the widest possible development of titanium products in the 'Licensed Field'", it was agreed that, notwithstanding the agencies provided for, importations of "finished articles"—that is, paint, paper, rubber, glass, &c.—containing titanium products of the principal, its licensees or sublicensees, would be permitted provided such products did not constitute such an important part of such finished articles that sales within the agent's territory would substantially interfere with the agent's sales of its own titanium products. Written in 1920, before there was any trade or commerce in titanium pigments, much less in articles containing such pigments, this anticipatory restriction on sales of finished articles has always been a dead letter; it has never been applied, and has never had any importance or effect whatever.)

230 (e) It was the purpose of the parties, and especially of McCarty and Jebsen, that the exchange of licenses should promote the maximum development and practice of the art; and to the end (i) that the licenses received by each company would be fully utilized, and (ii) that neither would be inclined or able to withhold information from the other, or make use of inventions or developments of the other for or in connection with further inventions or developments not fully shared with the other, it was agreed that each would impart semi-annually to the other full and accurate information in detail as to knowledge obtained in and applicable to the "licensed field", and would permit the other to inspect and study operations at its plants (exclusive of research laboratories).

(f) In line with the plans and purposes referred to, the parties agreed that the reciprocal grants of exclusive licenses would be for sixteen years (to December 31, 1936),

and thereafter for periods of ten years each, with provision for termination by notice to be given at least five years before the end of any such period; and it was agreed that upon such termination each would receive for itself and its licensees within its territory a non-exclusive license under inventions covered by existing patents or applications of the other, but that in other respects the obligations, liabilities, and benefits would cease. (Notice of termination has never been given.)

(g) In Article XIV of the 1920 agreement (mentioned by number because of its significance in connection with later agreements) it was provided that each company would have the right, so long as it held an exclusive license from the other under the 1920 agreement, to grant licenses under its own patents and sublicenses under the other's patents on condition, nevertheless, that every such licensee or sublicensee would (i) grant to the party to the 1920 agreement other than its licensor its patent rights in the "licensed field" identical in character, territorial scope, and duration to those given by its licensor to the other party to the 1920 agreement, (ii) would appoint such other party its sole agent as specified above in respect of its licensor, and (iii) would impart technical information to such other party in the same manner and to the same extent as its licensor.

231 13. The terms of the 1920 agreement reflect the desire of McCarty, on behalf of National Lead, to establish a sound technical foundation for a new American industry (i.e. secure the right of immediate use of processes and products patented by Jebsen and his associates, assure that further developments of Titan A/S and its European licensees would be available to National Lead, and avoid patent difficulties and litigation) and the desire of Jebsen, in the interest of Titan A/S, to secure the right to use the American inventions and to obtain the benefits of the vast technical experience, knowledge, and facilities of a large American company which had been engaged successfully for many years in the manufacture of pigments other than titanium pigments, without risking possible commercial competition by that company in areas outside North America in which Jebsen saw opportunities for development by his Norwegian company. The agreement, based on exchange of patents and technical information, thus was intended to establish a relationship analogous to partnership, in which, in the interest of the maximum development of a projected industry, the participants would cooperate,

would refrain from taking advantage of each other, and would guarantee that processes and information coming into the possession of one would be shared with the other.

14. Involving primarily the exchange of patent rights and technical information in an undeveloped industry, the grants of exclusive licenses and the territorial restrictions contained in the 1920 agreement were fairly calculated to, and did, foster research, invention, and technical and commercial development, and resulted, in a relatively short period, in the manufacture and sale in large and steadily increasing amounts, and at steadily decreasing prices, of an important commodity, namely, pigments used by manufacturers of paint, paper, rubber, &c.

15. Between 1920 and 1927 Titan A/S suffered business and financial difficulties which led in 1927 (when I. G. Farbenindustrie, the German Chemical Combine, was negotiating for the purchase of its stock, then controlled by Norwegian banks) to purchase by National Lead of 87% of the stock of Titan A/S (Jebsen retaining
232 13%). By 1932 National Lead had acquired all of the stock of Titanium Pigment, and in 1936 acquired its assets and assumed its obligations. Since 1929 the rights and obligations of Titan A/S under the 1920 agreement have been held by defendant Titan Company, Inc., called Titanine, a Delaware company in which National Lead now owns all the stock.

CONCLUSIONS OF LAW

C1. The material provisions of the 1920 agreement are not illegal per se.

[Exclusive restricted licenses: Bement v. National Harrow Company, 186 U. S. 70, 94. Cross-licenses, "licensed field", license under future patents, duration of agreement, fixing of terms under which licenses and sub-licenses were to be granted: Standard Oil Company (Indiana) et al. v. United States, 33 F. (2d) 617, 626 (N. D. Ill.), rev'd 283 U. S. 163. Exclusive agency: Schnerb et al. v. Caterpillar Tractor Co., 43 F. (2d) 920, 921 (C. C. A. 2d), cert. denied 282 U. S. 898; Baran v. Goodyear Tire & Rubber Co. et al., 256 Fed. 571, 572 (S. D. N. Y.). Exchange of information: Maple Flooring Manufacturers Assn. et al. v. United States, 268 U. S. 563. Allocation of territory: Phillips v. Iola Portland Cement Co., 125 Fed. 593, 595 (C. C. A. 8th), cert. denied 192 U. S. 606; Kentucky Natural Gas Corporation v. Indiana Gas & Chemical Corporation et al., 118 F. (2d) 831, 834 (C. C. A. 7th); Thoms v. Sutherland et al., 52 F. (2d) 592, 596 (C. C. A. 3rd).]

C2. A reasonable exercise of patent rights, the material provisions of the 1920 agreement do not violate the Sherman Act.

[Reasonable restrictions: General Talking Pictures Corp. v. Western Electric Co. et al., 304 U. S. 175, aff'd on rehearing 305 U. S. 124, 127, rehearing denied 305 U. S. 675; United States v. General Electric Company et al., 272 U. S. 476, 489-90; Bement v. National Harrow Company, 186 U. S. 70, 91, 92, 93; Vulcan Mfg. Co. v. Maytag Co., 73 F. (2d) 136, 138-9 (C. C. A. 8th), appeal dismissed 294 U. S. 734. Acquisition of information: Appalachian Coals, Inc., et al. v. United States, 288 U. S. 344, 374. Exchange of technical information: Bee Mach. Co., Inc. v. Freemen, 131 F. (2d) 190 (C. C. A. 1st), aff'd 319 U. S. 448, 223 rehearing denied 320 U. S. 809, and Bee Machine Co. v. Freeman et al., 40 F. Supp. 299 (S. D. Ohio), aff'd 121 F. (2d) 451 (C. C. A. 6th); L. L. Brown Paper Co. v. Hydroiloid Inc., et al., 32 F. Supp. 857, 860 (S. D. N. Y.), aff'd 118 F. (2d) 674 (C. C. A. 2d), cert. denied 314 U. S. 653. Unlicensed importation constitutes infringement: Boesch v. Gräff, 133 U. S. 697. Territorial restrictions: Becton, Dickinson & Co. v. Eisele & Co., 86 F. (2d) 267 (C. C. A. 6th), cert. denied 300 U. S. 667; Skee Ball Co. v. Cohen, 286 Fed. 275, 276 (E. D. N. Y.); Elliott Co. v. Lagonda Mfg. Co., 205 Fed. 152, 157-8 (W. D. Pa.), modified and aff'd 214 Fed. 578 (C. C. A. 3rd), cert. denied 235 U. S. 697; St. Louis Street Flushing Mach. Co. et al. v. Sanitary Street Flushing Mach. Co., 178 Fed. 923, 926-7 (C. C. A. 8th), cert. denied 219 U. S. 588; Edison Electric Light Co. et al. v. Goelet et al., 65 Fed. 613, 615 (S. D. N. Y.); see United States v. Standard Oil Co. (Indiana) et al., 33 F. (2d) 617, 629-30 (N. D. Ill.). Exclusive sales agents: Virtue v. Creamery Package &c., 227 U. S. 8, 32. The purpose and effect of the agreement were "To promote the Progress of Science and useful Arts" and to stimulate commercial development of the inventions licensed: Const. Art. I, Sec. 8; see Motion Picture Patents Company v. Universal Film &c., 243 U. S. 502, 511; Ethyl Gasoline Corporation et al. v. United States, 309 U. S. 436, 459; Whitwell v. Continental Tobacco Co. et al., 125 Fed. 454, 458 (C. C. A. 8th).]

C3. The restriction on the sale of finished articles did constitute a potential limitation not warranted by the Sherman Act as now understood; but the restriction, which was entirely anticipatory when drawn, has never been and never will be enforced, and is therefore moot and not subject to exercise of equity jurisdiction.

[United States v. Kryptok Co. et al., 11 F. (2d) 874 (S. D. N. Y.).]

C4. National Lead having succeeded to Titanium Pigment's rights and obligations, and having acquired 87% of Titan A/S,—and Titanine (owned by National Lead) having succeeded to the rights and obligations of Titan A/S under the 1920 agreement,—the agreement is a nullity except as hereafter stated.

234 IV. THE FRENCH AGREEMENT (1922-1927)

16. Between 1920 and 1927 commercial development was slow, even in the United States, where the resistance of manufacturers, painters, and other consumers to the new pigments was less marked than it was abroad. (In 1921 Titanium Pigment sold 500 tons, in terms of TiO_2 content; in 1927 it sold only about 2000 tons. In the latter year it was still selling at a loss, though prices were relatively high. This was possible only because National Lead was financing the development by advances and purchases of stock.) During the same period Jebsen faced serious difficulties in Europe. Using the Barton-Rossi processes, he introduced composite pigments, which were much less expensive than the titanium dioxide previously manufactured. But he endeavored with little success to establish markets in Norway and Sweden, England, France, Holland, and Belgium; and by 1927, when National Lead purchased 87% of Titan A/S, the capital of the Norwegian company was greatly reduced and it was heavily in debt to the banks.

17. In France, where there was a tariff on titanium, Jebsen endeavored to work with local interests. He negotiated with one group and then another with a view to manufacture in France under licenses similar to those held by Titanium Pigment and Titan A/S. It transpired that the first group was incapable of developing and promoting the new product; the second gave up because they thought it would take too long to establish a market. Finally, Titan A/S and National Lead purchased the second group's interest in Societe Industrielle, a French company, which had been and thereafter was used as the selling agency for pigments shipped from Norway or Germany. (Titan A/S owned about 20% of the French company; National Lead acquired an additional 58%, which in 1929 was transferred to Titanine; the remainder was held in France by members of the public.).

18. In a letter written to Societe Industrielle in March 1927 Jebsen confirmed on behalf of Titan A/S a "Protocol" of May 1925 under which there was an exchange of licenses consistent in material detail with the ex-
235 change by the 1920 agreement described above. Subject to mutual obligations and restrictions like those assumed and imposed by the 1920 agreement, the French company received rights at the disposal of the Norwegian company for France, its colonies and possessions. It was stipulated that the exclusive licenses would remain in force until December 31, 1941, and thereafter for ten year periods, subject to termination by notice given at least six years before December 31, 1941, or before the expiration of any subsequent ten year period. Notice of termination has not been given. In 1929 the rights of Titan A/S in the French agreement were transferred to Titaninc.

19. The hope that the French company would use its license from the Norwegian company to manufacture in France, and thus contribute to the fund of processes and technical information available to Titan A/S and Titanium Pigment, was not realized; Societe Industrielle served merely as a local selling agency for pigments produced elsewhere. Nothing more than an allocation by Titan A/S of part of its sales territory, the French agreement added nothing of substance to arrangements made in the 1920 agreement.

20. For all practical purposes the agreement and all business relations with the French company were terminated when Paris and the industrial area of France were occupied by the Nazis. The answer to the question whether business with the French company can be resumed,—and, if so, on what basis,—depends on the capacity of France to resume industrial and commercial operations after the war.

CONCLUSIONS OF LAW

C5. A means by which Titan A/S could enlarge its market for a new product, with a prospect of securing additional inventions and technical information (available also to Titanium Pigment), the French agreement did not restrain—it promoted—commerce in titanium pigments.

236 C6. Made in the interest of establishing a market in France, its colonies and possessions, for a new competitive product, the French agreement was not in-

tended to have an effect on prices in the United States or otherwise to deprive purchasers or consumers in the United States of the advantages of competition.

[Apex Hosiery Co. v. Leader et al., 310 U. S. 469, 500-2.]

C7. An arrangement with reference to Norwegian and French commerce, the French agreement did not directly and materially affect United States commerce and is not subject to regulation under the Sherman Act.

[United States v. Aluminum Co. of America et al., 44 F. Supp. 97, 246, 249, 283 (S. D. N. Y.).]

C8. In so far as the French agreement involved the extension or application of essential features of the 1920 agreement to areas within the territory of Titan A/S, it constituted a reasonable exercise of patent rights.

C9. The Court will not cancel or require cancellation of the French agreement for the following reasons:

(i) The agreement involves a French company not before the Court whose material interests would be adversely affected and whose future will be determined by decisions of the Allied Governments.

[Shields et al., v. Barrow, 17 How. 129; Consolidated Edison Co. et al. v. National Labor Relations Board et al., 305 U. S. 197, 232-3.]

(ii) The agreement related wholly to business in foreign countries.

[United States v. American Tobacco Company, 221 U. S. 106, 191 Fed. 371, 418 (S. D. N. Y.).]

237 (iii) The executory features of the agreement were terminated by act of war when parts of France were occupied.

[The William Bagaley, 5 Wall. 377, 407.]

(iv) As far as National Lead and Titanine may be involved, the agreement was terminated by act of war when United States forces invaded French territory in North Africa.

[United States v. Hamburg-Amerikanische &c., 239 U. S. 466; United States v. American-Asiatic Steamship Company et al., 242 U. S. 537.]

V. THE GERMAN AGREEMENTS (1925-1927)

21. After 1925 I.G. Farbenindustrie was the largest company in Germany,—one of the largest chemical companies in the world,—with vast interests and important connections throughout the world, and especially in Central Europe. Its manufacturing resources and facilities and its research and sales organizations were unsurpassed

anywhere. From Jebsen's point of view I.G. was, obviously, either a potentially invincible competitor or the most powerful ally in Europe. That is why he feared it when it sought to buy his small Norwegian company from the banks, why he was interested when it approached him with a view to a license. Jebsen knew that to succeed in his own enterprise he would have to come to terms with I.G.: Titan A/S was in distress and about to close down; German manufacturing conditions and costs were so favorable (e.g. sulphuric acid cost in Germany was one-half the cost in Norway or England) that Jebsen looked upon a connection with I.G. as affording a congeries of advantages, including vast research and development and sales facilities, capacity for cheap manufacture for all or most of Europe, a profitable market for large quantities of Norwegian ilmenite. So confident were the Germans of their manufacturing capacity and costs, that they offered in consideration of a license to buy Norwegian ilmenite at cost plus 30-50% and to supply Titan A/S with titanium pigments at cost. (In 1924 or 1925 Jebsen had investigated another German company
238 which had manufactured titanium pigments on a very small scale and which held certain patents, but had concluded that the company's prospects were not of sufficient interest to warrant an association. There was no other manufacturer in Germany, and there was no demand by paint manufacturers and other consumers, who were accustomed to other pigments including lithopone manufactured by I.G.)

22. Having saved his Norwegian company from purchase by the Germans, and having at the same time secured the backing of National Lead (which in 1927 had acquired 87% of Titan A/S), and believing that it would be impossible for him to undertake manufacture in Germany and sale in Germany and German-dominated territory without the cooperation of I.G., Jebsen proceeded to negotiate a series of agreements, as follows:

(a) For the purpose of cooperating in the manufacture and sale of titanium and titanium compounds in Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Serbia-Croatia-Slovenia, Bulgaria, Greece, Turkey, Japan, China, and Spain, Titan A/S and I.G. undertook to organize a German company, Titangesellschaft, to which each would contribute one-half the initial capital. The parties were to have an equal voice in the selection of the "managers", but responsibility for policy and

overall supervision was placed in the hands of Jebsen and a representative of I.G. It was stipulated by both parties that titanium compounds for sale in the countries referred to would be manufactured by Titangesellschaft, and that both would cover their total requirements in those areas from Titangesellschaft. It was agreed that Titangesellschaft could not be dissolved before the end of 1957, and then only on six months notice; thereafter it could be dissolved on such notice at the end of any successive ten year period.

(b) Further to secure the cooperation of I.G., it was agreed that I.G. would grant Titangesellschaft an exclusive license, with the right to grant sublicenses, under all patents, methods, and experience of I.G. in the "licensed field" and would supply Titangesellschaft with copies of applications for German patents and, at the request and expense of Titangesellschaft, would prosecute similar applications in countries designated by Titan-
239 gesellschaft; and it was agreed by Titan A/S and Titangesellschaft that they would exchange licenses and technical information, and conduct their operations in and with reference to Germany and the other countries referred to, in accordance with the principles of the 1920 agreement between Titanium Pigment and Titan A/S. (It was stipulated that Titan A/S might "substitute for itself" in these agreements another company or other companies in which Titan A/S and National Lead, or either of them, were "engaged" 100%; and, subject to immaterial exception, Titanic subsequently did take over the rights ond obligations of Titan A/S.)

(c) In a series of ancillary agreements I.G. undertook (i) to provide a factory site and building near its Leverkusen works (rent at 6% of the value of the building); (ii) to furnish steam, gas, water, and electricity (at cost), (iii) to supply transportation facilities (at reasonable prices), and (iv) to deliver raw material (at cost plus 10%, but not more than the competition charged, with provision for "most-favored" customer treatment). I.G. was appointed agent of Titangesellschaft for sales in the countries mentioned.

(d) Worthy of special reference as bearing on Jebsen's plan to advance as rapidly as possible the production and sale of high quality, economical titanium pigments,—that is, really to compete on the most favorable possible basis with other pigments,—and at the same time to build up a large and consistent market for Norwegian ilmenite, is (i)

the agreement of Titangesellschaft to satisfy its ore requirements by purchases from Titan A/S at cost plus 30-50% (stated in terms of Norwegian Gold Kroner, and favorable to Titan A/S because of exchange factors), and (ii) in view of Jebsen's high costs and his intention to close down his Fredrikstad plant, the agreement of Titangesellschaft giving Titan A/S the right to take 50% of the pigments produced at Leverkusen at cost (and quantities in excess of 50% at cost plus 10%).

23. Titangesellschaft was organized and did operate in accordance with the agreements described. It purchased large quantities of ore from Titan A/S at a satisfactory price. The conviction that it would be a fertile
240 source of inventions and technical information useful in the United States and England particularly, as well as in Germany, was confirmed. Thanks to I.G.'s 50% interest in the company, Titangesellschaft was able to make use of I.G.'s superb sales organization to push the sale of titanium pigments at the expense of other pigments (including lithopone made and sold by I.G.) in the market not accessible to National Lead or Titan A/S. Its costs and prices were low, its quality high. The far-sighted arrangement under which Titan A/S (Titaninc after 1929) was able to obtain pigments at cost proved to be of great value as soon as manufacture at Leverkusen was commenced, and especially in respect to sales in the British market, where Jebsen had been able to make limited headway with his high priced pigments, and where there was no manufacture until about 1934.

24. The nature of German industrial organization between 1920 and 1940,—under the Weimar Republic as well as under the Nazis after 1933,—was such that the means devised and applied by Jebsen to engage in business and promote titanium pigments in Germany and German dominated countries were well conceived and well executed, and so far as National Lead and Titaninc were concerned were the only practical means by which they could engage in the commerce involved.

25. All relations between National Lead or Titaninc and I.G. or Titangesellschaft were terminated by the declaration of war in December 1941. National Lead has written off its investment in Titangesellschaft; it will not resume or enter into agreements containing territorial restrictions; and its plans and ability to carry on business relations with the German companies after the war depend

entirely upon provision to be made for German industry and trade by the Allied Governments.

26. In 1933 I.G. was informed by Sachtleben, a German lithopone company affiliated with Mettalgesellschaft, the powerful German metal company, that Sachtleben intended to undertake the manufacture and sale of titanium pigments; and I.G. thereupon agreed to assign to Sachtleben a part of I.G.'s quota under the European Lithopone Convention (Cartel) in consideration of Sachtleben's agreement to stay out of the titanium business. After this arrangement had been made Jebsen was informed;
241 and I.G. demanded that it be reimbursed by Titangesellschaft for the loss of the lithopone business assigned to Sachtleben. Jebsen and National Lead did not approve of the arrangement or of the proposal for reimbursement, but acquiesced reluctantly and as a matter of expediency to accommodate the important representative of I.G. who had made the commitment to Sachtleben.

27. The German agreements and arrangements described above were shaped by political, economic, and legal considerations which may be stated as follows:

(a) The liberal governments of Germany during the post-World I era recognized the national problem that lay hidden in the cartel system. The first Kartellverordnung was issued in 1923. It gave cartels a well-defined legal status and placed them under government supervision.

(b) In all major German industries agreements existed, regulating competitive practices, allocating outputs and markets.

(c) After 1923 there were two factors that acted powerfully in the direction of increasing the economic concentration of German industry. One was the need for new capital for industrial reconstruction and modernization. The other was the disruption of the structure of both production and marketing that resulted from the First World War. With respect to the former, the shattered condition in which German industry emerged from the First World War was the major factor. Machinery was worn out, repairs had been neglected, and the financial position of most enterprises was unsound, owing to the rapid progress of inflation. Inflation itself and the ability to finance plant expansion with paper money promoted the process of physical reconstruction up to a point. It stimulated, however, an unplanned, widely competitive over-building of industrial plant, regardless of its post-inflation costs

of operation and future uses, merely as a matter of flight from the depreciating currency. Moreover, when stabilization came, the working capital position of the whole German economy was found to be woefully inadequate.

242 Both cash and inventories, especially inventories of imported raw materials, had been squandered during the war and inflation. Large new liquid capital resources had to be found. Especially in view of the heavy reparations burdens imposed on the German economy it was essential to attract new foreign capital investment. Such foreign capital was, however, only obtainable on well-founded prospects of profits and would not have been available to industries in which conditions of cut-throat competition prevailed. In the absence of legal obstacles to mergers and cartel agreements, these financial requirements were alone sufficient to give powerful impetus for a tight organization of German industry. Added to this there was a second, and, in the long run, probably even more important incentive—the disruption of production and marketing processes due to the loss of the First World War.

(d) International cartelization was thought to be the only effective solution of the problems so created. French economic interests were among the most powerful promoters of international cartelization in the interests of post-war international economic collaboration and a return to stable conditions required for a durable peace. They were largely responsible for convocation of the World Economic Conference held by the League of Nations in 1927. One of the objectives of this Conference was to attempt to create order out of chaos, to attempt systematic economic reconstruction by the coordination of European industries and the rational organization of their mutual trade. Even before the World Economic Conference French and German steel makers were able to conclude agreements. A large number of cartels sprang up also among the industries of the successor states, as well as between the successor state industries and German industries.

(e) In July 1930 the government issued a second executive order to regulate cartels, which revised and strengthened the ordinance of 1923 in the light of subsequent experience.

(f) The network of national and international cartels that was created during the 1920s was subjected to violent strain after Germany's foreign exchange difficulties in

1931. Since, however, the central position of the German economy on the Continent of Europe remained unaffected, all that was necessary, and indeed possible, was to
243 readjust the cartel agreements to the changed conditions. These readjustments, however, did not occur under the old Kartellverordnung any more. The depression washed away the foundations of the liberal capitalistic reconstruction of Europe that was attempted during the twenties.

(g) Much of the voluminous American literature on German industrial organization under the Nazis tends to project backwards the phenomena of Nazification. This obscures the revolutionary character of the Nazi movement and the revolutionary nature of the changes it has caused in German economic organization.

(h) The advent of the Nazis to power created a radically new situation. They first resorted to deficit spending, on a scale never previously attempted in peacetime, for the purpose of reemployment. Presently they converted their reemployment expenditures into rearmament expenditures, and proceeded to integrate the whole German economy in the service of this rearmament effort. On July 15, 1933, they issued a new cartel decree establishing the right of the Reich to compel cartelization wherever the authorities considered it desirable. By their law for the reorganization of the German economy, issued in February 1934, they gave themselves authority for the most far-reaching economic reorganization, which authority they then proceeded to use to the full.

(i) In November, 1934, a new cartel order reorganizing the whole German economy was issued. It compulsorily cartelized the whole of German industry, both horizontally and vertically. An industrial supercartel was created, called the Reichsgruppe Industrie, and a whole system of public cartels was fitted into it; previously existing private cartels had to fit into this system as best they could. Moreover, the approach of the Nazis towards industry was radically different from that of the liberal Republic which merely concerned itself with the question of how to police cartels. The German Government from 1934 on used German industry and German cartels as instruments of national policy, frequently against the wishes of the industries and industrialists involved, and thus created patterns of economic control that had previously been considered permissible or possible only in wartime.

244 (j) In the international sphere this use of German industry for the promotion of what the Nazi

Government considered to be Germany's national interest was further complicated by foreign exchange policies also aimed at the promotion of these genuine or supposed national interests of Germany. International trade by German industry was subjected to regulation not only from the viewpoint of overall national policy, but also from the specific angle of providing the national government with foreign exchange resources of the quantity and composition that they thought they required. As often as not, international cartel agreements of German industry had to be revised to meet this purpose, regardless whether the German companies affected and their managements considered these modifications to be in their or their associates' interests.

(k) Since about 1937 German industry has been wholly under the control of military requirements. What the post-war position of German industry will be, nobody can say; but it is self-evident that a freely competitive industrial structure cannot exist in Germany for decades to come, if ever.

(l) Subsequent to the hectic years immediately following the First World War foreign nations were able to import vast quantities of materials for reconstruction and development purposes, largely financed by loans from the United States. The resultant business activity provided a powerful stimulus to world recovery during the years 1924-29. Subsequent to 1929 there occurred a drastic reduction in the total supply of dollars available to foreigners. The reduction resulted from the cessation of foreign lending and the drop in imports into the United States that was caused partly by the beginning of the depression, partly by the Hawley-Smoot Tariff. Since dollars and sterling were the principal media for the financing of international trade, and sterling itself was endangered by the shortage of dollars that developed, the effects of this dollar shortage on international trade was catastrophic. In the United States the quantity of imports continued to be closely related to industrial production. Their value declined faster than national income only because of the greater price decline of internationally
245 trades commodities. The quantity of imports into foreign countries dropped disproportionately as compared to their industrial production; and their imports from the United States dropped much faster than their total imports. In other words, under the impact of the world-wide dollar shortage there was a drastic reduc-

tion in the ratio of world trade to world production, and a further reduction in the proportionate share of the United States in total international trade. The methods by which the use of dollars was restricted in foreign countries were numerous and sophisticated. Their primary objective in each case was to reduce total imports from the United States and to substitute for them either domestic production or at least imports from other sources. Helping to reduce both the dollar shortage and domestic unemployment in one fell swoop was usually the official policy.

(m) The collapse of the German banking system in the spring of 1931 was primarily the consequence of excessive short-term borrowing in London and New York, and to the freezing of the funds so borrowed in loans that became uncollectible after the onset of the world depression.

(n) On July 15, 1931, after all the banks had been closed, a presidential emergency decree was issued regulating commerce in foreign exchange. The basic principle of the allocation of import exchange was that every enterprise in Germany was entitled to spend on imports an amount of foreign exchange equal to its average monthly foreign exchange expenditures on imports during the period July 1, 1930, through June 30, 1931. This allocation of import exchange was already far below pre-depression levels, but still very liberal as compared to subsequent restrictions. The shortage of exchange of the German authorities became so serious after the depreciation of the pound sterling in September 1931 that in May 1932 this allocation of import exchange had to be reduced to 50% of the base period maximum.

(o) The depreciation of the dollar in 1933 caused major additional difficulties to the German export trades and thus reduced further the supply of foreign exchange. Moreover, the Nazi government was intent to build up the war potential of the German economy; the supply
246 of foreign exchange began increasingly to be diverted to the requirements of defense. As a result, beginning in February, 1934, drastic measures became necessary for the further curtailment of ordinary commercial imports. The import exchange quotas to which enterprises were entitled without special license were in very short order reduced from the previous 50% to 5% of the base period level; many imports were altogether prohibited except under license, and foreign trade became partly a tool, partly a weapon, of economic warfare.

(p) On the Continent of Europe and in the non-British world generally the dollar shortage remained acute throughout the nineteen thirties. In the ultimate analysis this dollar shortage was responsible for the abandonment of the gold standard by the three "rich" countries, Holland, Switzerland, and France in 1936, as well as for the maintenance, and (after 1937) renewed intensification of exchange restrictions, in all the "poor" countries. It was this dollar shortage that kept the share of the United States in total world trade lower than it had been in the previous decade. After a temporary alleviation of the dollar shortage in 1936-37 the slump at the end of 1937 once more intensified the world-wide dollar shortage, when solely due to a drop in our imports we rapidly changed from a small import surplus to a billion dollar a year export surplus.

(q) During the thirties the armaments race became an increasingly important factor in confining more and more to products of military necessity the imports to the Continent of Europe from the United States. The renewed dollar shortage in 1938 further increased the need to restrict the utilization of dollars to the purchase of military necessities.

(r) The import licensing systems and foreign exchange control systems that were in effect in most continental countries over most of the period strongly militated against American exports of products that were directly competitive with domestic products in those countries. Full employment policies as well as foreign exchange considerations both led to import restrictions. Even less good or more expensive domestic products were preferable as long as they did not require dollar exchange,
247 and as long as their domestic production provided additional employment.

(s) The Continental European countries were thoroughly cartelized. Exchange controls suited these cartels and entrenched their control over domestic and neighboring markets. The cumulative effect of reemployment and rearmament made the Continental European markets virtually impregnable to American products aimed for general consumption.

(t) In view of the factors described, any United States company starting an aggressive policy of exporting to the Continental markets would have faced major obstacles at this time if its products were not militarily useful. The total volume of exports that could have been sold would

have been negligible before restrictions would have been clamped down by these countries, based on considerations of foreign exchange and employment, strongly supported by domestic cartels. Thus there was little incentive for American companies to engage in an export trade whose total proceeds would have been trifling and whose net effect would have been the establishment of lasting bad relations with well-entrenched European interests.

CONCLUSIONS OF LAW

C10. A reasonable, if not the only, means by which Titan A/S could secure (i) a large and consistent market for its Norwegian ilmenite, (ii) participation on a practical, profitable basis in the manufacture and sale of titanium pigments in Germany and Central Europe, and (iii) the right to use I.G.'s inventions and to share fully in the benefits of I.G.'s vast technical and marketing facilities, experience, and knowledge, the German agreements did not restrain—they promoted—commerce in titanium pigments.

C11. Made for the purpose of establishing a business where none existed before,—of securing great technical and commercial advantages not otherwise available,—the German agreements were not intended to, and did not affect prices in the United States or otherwise de-
248 prive purchasers in the United States of the advantages of competition.

C12. An arrangement respecting Norwegian and German commerce, the German agreements did not directly and materially affect United States commerce, and they are not subject to regulation under the Sherman Act.

C13. In so far as the German agreements involved the extension or application, by or on behalf of National Lead or Titanine, of features of the 1920 agreement to areas within the territory of Titan A/S, they constituted a reasonable exercise of patent rights.

C14. The Court will not cancel or require cancellation of the German agreements for the following reasons:

(i) They involve German companies not before the Court whose material interests would be adversely affected and whose future will be determined by decisions of the Allied Governments.

(ii) The agreements related wholly to business in foreign countries.

(iii) The agreements were terminated by declaration of war in December 1941, if not before.

(iv) There is no such threat that the agreements or the restrictive features thereof will be resumed or reinstated as would warrant an injunction.

[United States v. Hamburg-Amerikanische &c., 239 U. S. 466, 475-6.]

VI. THE BRITISH AGREEMENTS (1933)

28. I.G. Farbenindustrie A.G. was organized in 1925 as a merger of the largest chemical and dye producers of Germany. These producers had operated under a "Community of Interest Agreement" (Interessengemeinschaft) since 1916 and under various cartel agreements since about 1900. After 1928 the merged enterprise had
249 capital in excess of $250,000,000 ($420,000,000 after devaluation of the dollar). By virtue of excellence of management and resources, I.G. was the leading chemical enterprise of the world. The weakness of the British (and Americans) in chemicals and dyestuffs had been demonstrated in World War I. Aware of this weakness and alert to what was going on in Germany, the British decided to act. In 1926 they organized Imperial Chemical Industries, Limited, as an amalgamation, sponsored by the British Government, of the leading British chemical companies. With assets exceeding £100,000,000, I.C.I. was the largest manufacturer of chemicals in the British Empire; it was intended to, and did, rival I.G. in respect of research, manufacture, and trade. I.C.I. was the agency by which the British chemical industry sought to, and did, secure self-sufficiency and dominance throughout the Empire.

29. Jebsen had attempted for years to establish a British market for his pigments, but with limited success. The traditional conservatism of the British manifested itself in the habits and attitude of paint manufacturers and master painters who were accustomed to pigments of domestic origin. "Buy British" was more than a slogan—it was a stubborn and formidable fact. Knowing from costly experience that he could not hope successfully to invade, much less to capture, the British market without a strong local alliance, Jebsen set out to obtain one. Though I.C.I. had never manufactured pigments, it was, obviously, the most desirable British partner; for it had resources in the way of technical and commercial facilities, raw materials, &c., not possessed by any other firm. Imperial Smelting Corporation, Limited, and Goodlass Wall and Lead Industries, Limited, were also natural allies.

I.S.C. was the largest British manufacturer of zinc and lithopone; it could supply sulphuric acid; it had important connections throughout the Empire; and it had strong management, friendly to National Lead. Goodlass Wall, a government sponsored amalgamation of lead companies, was brought in for similar reasons.

30. In February and March 1933 Titanine, I.C.I., I.S.C., and Goodlass Wall entered into a series of agreements, as follows:

250 (a) Based on factual premises as to patents and processes of Titanine and a record of successful commercial manufacture in Germany and the United States, and as to the 1920 agreement and the German agreements, the right of manufacture and sale of titanium compounds throughout the British Empire (excluding Canada, Newfoundland, and certain other areas) was vested in a new company, British Titan Products, Limited; and I.C.I., I.S.C., and Goodlass Wall agreed that they would not deal in or manufacture such compounds except through or at the request of British Titan. Subject to restrictions on transfer, the voting shares of British Titan were distributed among Titanine—49% (with the right to allot 5% to R. W. Greef & Co., Ltd., which had been the British sales agent of Titan A/S and, later, Titanine), I.C.I.—17%, I.S.C.—17%, and Goodlass Wall—17%. Titanine received the right to name three of the six directors, but it was stipulated that the chairman must be one of the directors, named by the British shareholders. The agreement was for thirty years, with severely limited provisions for retirement.

(b) It was agreed by Titanine and British Titan that they would exchange licenses, patent applications, and technical information, and conduct their operations in and with reference to the British Empire (excluding Canada, Newfoundland, and certain other areas), in accordance with the principles of the 1920 agreement above described.

(c) In order to vest in British Titan and Titanine (and its licensees) all the benefits of their research and development, I.C.I., I.S.C., and Goodlass Wall each gave British Titan an exclusive license in respect of I.C.I.'s, I.S.C.'s, and Goodlass Wall's patents, processes, and subject matter within the "licensed field" (limited in the case of I.C.I. to titanium oxide or titanium pigments) for the production of titanium compounds, with the right to manufacture, use, or sell compounds so produced, and with the right to grant sublicenses; and each such grantor agreed

that it would supply British Titan with copies of its applications for patents in the "licensed field" and, at the request and expense of British Titan, would prosecute similar applications in countries designated by British Titan.

251 (d) The 125,000 non-voting shares of £1 each of British Titan were allotted to Titanine in consideration of its existing business and good will in the British Empire and its agreement to make available to British Titan all technical knowledge and experience at its disposal in the manufacture of titanium products or relating to the marketing thereof in the British Empire.

(e) The right of Titan A/S to buy 50% of the German production at cost (and more at cost plus 10%) having been transferred to Titanine, the latter agreed until such time as British Titan commenced to manufacture, and for two years thereafter, to supply British Titan's requirements at cost.

31. Located near the I.C.I. factory at Billingham, and in charge of a former I.C.I. employee, the British Titan factory commenced operations in 1934, and has operated successfully ever since. Plans have been made for substantial increase of production after the war. The choice of partners was most fortunate. Apart from inventions and technical facilities and information of great value, I.C.I., I.S.C., and Goodlass Wall have supplied management and sales experience and advice of a high order.

32. In February, March, and April 1943 there were conversations between representatives of National Lead and members of the Antitrust Division, Department of Justice, relating to a proposed consent decree. The conversations were suggested by the Division's pending investigation of the titanium pigments industry and antedated the indictment against the defendants herein and Messrs. Rockwell, Garesche, and Jebsen of National Lead, and another, returned in this District June 28, 1943. It was impossible to find a basis of agreement and the conversations were terminated. Thereafter the indictment (No. 114-455) was returned. Following the consent decree discussions with the Antitrust Division in the spring of 1943, there were conferences between the attorneys for National Lead and the president of the company (Rockwell) at which the Division's objections to certain contracts were discussed and consideration was given to the position of the company in respect of performance of and compliance with the

252 contracts pending trial. Owing to the war production of the company, it was thought that no case

would be tried during the war. It was the position of the president that in view of the probable delay it would not be prudent, and he did not desire, so far as it was practicable to avoid it, to permit the company to continue to operate in accordance with provisions which had been criticized by the Government; and the attorneys for National Lead were instructed to protect the company against the possible charge that it had persisted in a course of action after the Government's objections had been made known and, if possible, to take steps to revise the contracts in such a way as to meet the objections and at the same time avoid unnecessary sacrifice of the company's investments and other interests. The basis of the Antitrust Division's criticism of National Lead, both in the indictment and in the complaint in this action (filed June 24, 1944), is the 1920 agreement between Titanium Pigment and Titan A/S. The agreement, containing certain restrictions objected to by the Antitrust Division, might have been terminated or relinquished in some way but for the fact that its terms had been carried over in part into contracts between National Lead and I.C.I., I.S.C., Goodlass Wall, and British Titan—and also into Canadian agreements described below,—and that in such agreements certain provisions had been conditioned on the 1920 agreement. Because of the foregoing, the attorneys for National Lead concluded that they could best serve their client by formulating, and endeavoring to have the parties approve, further agreements between National Lead and the British and Canadian companies which would remove features of the agreements criticized by the Antitrust Division and, in particular, provisions based upon the existence and terms of the 1920 agreement. Substantial progress in this direction has been made; and at a pre-trial conference in this case held October 30, 1944 counsel for National Lead tendered a form of contract agreed to, but not executed, by National Lead and the British companies. A copy of the proposed agreement was received in evidence at the trial. The parties are. I.C.I., I.S.C., Goodlass Wall, Titaninc, British Titan, and National Lead, and the agreement provides in substance as follows:

253 (a) Licenses exchanged by British Titan and National Lead (Titaninc) will be non-exclusive, and royalty free, with the right to grant non-exclusive sublicenses but only to parties who will license British Titan or National Lead, as the case may be, on a non-exclusive, royalty free basis under the patents and applications of such sublicensees.

(b) The licenses will be without restriction as to production, shipment, sale, or use of titanium compounds; and it is provided that neither the 1933 British agreements nor the 1920 agreement will preclude British Titan or National Lead (or Titaninc) from manufacturing, selling, or using in, or from shipping from or to, any place in the world, titanium compounds or any product, finished or unfinished, or from otherwise fully exercising the grants made by them.

(c) It is agreed that the holdings of voting shares in British Titan will be rearranged so as to insure that National Lead (or Titaninc), I.C.I., I.S.C., and Goodlass Wall will each hold the same number of shares.

(d) The right of National Lead to name three directors of British Titan is cancelled, and National Lead has agreed to refrain from taking any part in or exercising any influence in respect of deliberations or decisions of British Titan concerning any business of British Titan within, from, or to the United States.

(e) All restrictions on the disposition by National Lead of its shares of British Titan contained in the 1933 agreements are cancelled, and it is agreed that the Articles of Association will be amended to remove therefrom all such restrictions.

(f) The proposed agreement supersedes, in so far as inconsistent therewith, the 1933 agreements, and to the extent that any provision or provisions of the 1933 agreements are inconsistent therewith they are deemed to be amended.

(g) The license agreement between Titaninc and British Titan made in March 1933 is cancelled.

(h) The agreement for exchange of licenses under patent rights hereafter acquired may be terminated
254 by British Titan and National at the end of any year by three years previous notice in writing, or by National by notice given at any time pursuant to order of this Court, or by British Titan by notice given at any time pursuant to order of competent authority in Great Britain pursuant to the Defense Regulations 1941 or pursuant to the order of any competent court in Great Britain. The proposed agreement was negotiated and submitted in good faith as a means of meeting objections made by the Antitrust Division, and at the same time of avoiding litigation in England on claims that might be asserted against National Lead or Titaninc by the British companies, and of conserving National Lead's investment in British Titan.

33. British Titan was not the only manufacturer of titanium pigments in the British Empire. A small company, National Titanium Pigments, Limited, known as Laporte, having acquired rights under the so-called Tilden-Smith patents and under the Blumenfeld patents for the British Empire entered into agreements with British Titan fixing prices in the British market excluding Canada. Though National Lead was represented on the board of British Titan when these agreements were made, they were not made at the instance of Jebsen or National Lead (or Titaninc) but were made by British Titan, acting independently, with reference to business and legal considerations respecting which neither National Lead (or Titaninc) nor Jebsen had responsibility or influence. In view of war conditions existing in 1941, British Titan and Laporte at the instance of the British Government agreed upon a quota arrangement under which British Titan was assigned 80% and Laporte 20% of sales in the British market.

34. The British agreements and arrangements described above were shaped by political, economic, and legal considerations which may be stated as follows:

(a) By the late nineteenth century the combination movement had progressed considerably in England and was highly successful in a number of industries. Robert Liefmann in a study made in 1897 listed forty international cartels in which German companies participated, twenty-two of which were formed in combination with British enterprise. Moreover, as the competitive advantages of large size became more apparent, and especially as the financial success of monopolies resulting from the combination of a few powerful firms became obvious, a large number of huge industrial mergers took place. The control of the market exercised by the merged enterprises was further strengthened in many cases by cartel agreements with the companies that remained outside. Even in that most competitive and subsequently sickest of British industries, coal mining, a national monopoly was proposed as early as 1893. It was followed in 1896 by D. A. Thomas's proposal to cartelize the coal industry. World famous instances of the evolution of concentration can be found in banking, in soap manufacture, petroleum refining and distribution. The cartel movement penetrated many minor industries as well.

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(b) The basic source of information regarding industrial combination in England immediately after the First

World War is the Report of the Committee on Trusts, presented to Parliament in 1919. The following quotations are from the report (Cd. 9236, H. M. Stationery Office, 1919):

"We find that there is at the present time in every important branch of industry in the United Kingdom an increasing tendency to the formation of Trade Associations and Combinations, having for their purpose the restriction of competition and the control of prices." (p. 2)

". . . we are satisfied that Trade Associations and Combines are rapidly increasing in this country, and may within no distant period exercise a paramount control over all important branches of the British trade." (p. 11)

The Report was unanimous. The four "liberal" members, Mr. Ernest Bevin, Mr. J. A. Hobson, Mr. W. H. Watkins, and Mr. Sidney Webb wrote an Addendum, as follows:

"We have signed the above Report because we find nothing to disagree with in its recommendations; but we feel that it does not adequately express the gravity of the situation, . . ."

256 It continues in part as follows:

"The fact is that Free Competition no longer governs the business world. . . ."

• • • •

"We do not suggest that any action should be taken to prevent or obstruct combination or association in capitalist enterprise. Apart from the experience that no such interference can be made effective, we have to recognise that association and combination in production and distribution are steps in the greater efficiency, the increased economy, and the better organisation of industry. We regard this evolution as both inevitable and desirable . . ." (p. 13).

(c) The strong statements of the Committee on Trusts indicate the progress of cartelization and trustification of England during the decade of the First World War. The requirements of the war economy promoted the concentration of industry, for which conditions were propitious anyway. While after the war the purposes of the wartime combinations disappeared, the institutional changes remained. The big companies continued to grow bigger and the small companies continued to strive for agreements with competitors and for mergers in order not

to go under in the competitive struggle. This latter factor became of considerable importance after 1921, when England failed to recover from the post-war slump, and chronic unemployment appeared for the first time as an identified malady of modern industry. The transitional difficulties of the post-war period provided a powerful incentive for defensive measures on the part of industry. Many mergers and cartels were aimed at diversifying risks or controlling markets in times of depression. This was especially the case with many combinations in British industry, which was pervaded by a justified feeling that it was losing out in the international competitive race with the more modern industries of the United States, Germany, Japan, and even of the smaller European industrial countries like Belgium, Sweden, and Switzerland. Whatever the specific causes, the results were the same.

257 A large further growth of concentration in British industry occurred during the 1920s. Many enormous mergers took place, e. g., in the steel industry and in chemicals. Sometimes these mergers were government-sponsored, e. g. in communications and in railroads. In the field of chemicals, to quote Clapham, An Economic History of Modern Britain (Macmillan, N. Y., Cambridge University Press, 1938), Vol. III, pp. 535-6,

". . . The greatest of the new amalgamations, Imperial Chemical Industries, already had a half-public character, built up as it was with the good wishes and, so far as its inherited function of making the country independent of fine imported dyestuffs went the help, of the State. . . ."

In 1926 a Royal Commission on the Coal Industry recommended amalgamation as a cure for the ills of the coal industry. (Cd. 2600.) The Coal Mines Act of 1930 put a Coal Mines Reorganization Commission in operation. (Levy, The New Industrial System, London, 1936, p. 187.) The great mergers in banking continued apace, resulting eventually in a virtual merging of the entire general commercial banking system of Great Britain in five large institutions. (Report of the Treasury Committee on Bank Amalgamations, 1918; Clapham, op. cit., Volume III, pp. 537-8.) Both the mergers and cooperation between the merged institutions developed with the unofficial sanction of the Bank of England and the British Treasury. The first government-sponsored cartel appeared in 1922, when the notorious Stevenson plan for the control of rubber production was put into operation.

A brand new, subsidized beet sugar manufacturing industry was established in 1925 by special legislative enactment (British Sugar Subsidy Act of 1925).

(d) By 1926 the Liberal Party was thoroughly alarmed by the challenge to orthodox liberalism inherent in post-war developments. It appointed a committee to study the situation, including W. T. Layton, the editor of The Economist, Lloyd George, H. D. Henderson, Philip Kerr (subsequently Lord Lothian), J. M. Keynes, Sir Herbert Samuel, Sir John Simon, R. H. Brand, D. H. Robertson,
Sir *Josiah Stamp, and others less well known in* the
258 United States. These men constituted the intellectual leadership of the Liberal Party and in a large measure that of England. Their report was published after eighteen months of deliberations, entitled Britain's Industrial Future being the Report of the Liberal Industrial Inquiry. It commands great attention, reflecting the ideas of leading English liberals and academicians as to how much of the liberal ideology of the nineteenth century could be salvaged. Chapter VIII of the report is devoted to trusts and trade associations. The report states that

". . . this very proper objective [the protection of the public interest] is not to be secured in these days by mere attempts to restore the old conditions of competition, which often involve waste and effort, the uneconomic duplication of plant or equipment, and the impossibility of adopting the full advantages of large-scale production.

"In modern conditions a tendency towards some degree of monopoly in an increasing number of industries is, in our opinion, inevitable and even, quite often, desirable in the interests of efficiency. It is, therefore, no longer useful to treat trusts, cartels, combinations, holding companies, and trade associations as inexpedient abnormalities in the economic system to be prevented, checked, and harried. The progression from purely private individualistic enterprises to the Public Concern is one of endless gradations and intermediate stages. . . ." (pp. 93-4)

(e) By the end of the decade British industry was among the leaders of the world-wide concentration movement. It exercised a tight control over its domestic and imperial markets. In addition to the growing complexity of industrial production, marketing, and trade, the tariff protection of key industries, which was enacted after the World War, considerably assisted trustification and cartelization. The tariff protection of industries had begun

with the McKenna Duties of 1915—33⅓% on motor cars, cycles, clocks, watches, musical instruments, and a flat rate on films. The Key Industries Duties of 1921 applied the same rate of 33⅓% to many instruments and
259 chemicals, and 50% to optical instruments and magnetos. These were the first breaches in the free trade system of England, where the only duties previously known were a few levies raised for revenue (e. g. on tobacco). The profit possibilities to be derived from economic concentration were enhanced by the tariff which raised the delivered price of potentially competitive imports.

(f) The highly tolerant view British legislation and courts took with respect to restraints of trade, the narrowness of their interpretation of what was an unreasonable restraint, and their refusal to consider any but the most specific evidence, contributed to the development of highly restrictive practices throughout British industry. This meant that what would be considered competitive behavior in the United States was at a discount and would have tended to provoke violent retaliation by an entire industry against the aggressor enterprise. A tacit code of non-competitive industrial discipline was built up which was and is of the greatest effectiveness.

(g) Economic concentration developed during the 1920s largely in a haphazard manner. It developed as and when conditions permitted. During the 1930s two major changes occurred, both of which propelled industry further in the direction of concentration and coordination. First was the adoption of protectionist foreign trade policies. England adopted a fullfledged protectionist tariff in 1932. At the Ottawa Conference in the same year, moreover, a system of imperial preference was established which went far to guarantee the Imperial market for British manufactured products. Having become a protectionist country, England enabled a number of her industries, in which previously the absence of a tariff enforced some measure of competition, to reduce their competitive activities. The tariff rates imposed in 1932 were: a blanket 10% ad valorem on imports, excepting raw materials on the free list, and manufactures. The latter were mostly taxed at 20%, furs and jewelry at 30%, iron and steel products at 33⅓%. An Import Duties Advisory Committee was also formed to advise the Treasury on tariff questions. The Committee interpreted its task as essentially protective and has
260 advised the Treasury accordingly in most cases. The Treasury had tended to follow the advice it re-

ceived. The second major development was the growing conviction that cartels, trusts, and other forms of industrial agreements and mergers are helpful tools of British national policy. Compulsory cartelization was attempted in cotton spinning, coal, and steel, among others. The British Government took an active interest in the international steel cartel negotiations, it made tariff and quota protection of the industry conditional on rationalization and reorganization, it backed the numerous international commodity agreements that involved British Empire producers. The British Iron and Steel Federation was first organized in 1934. The Sugar Industry Reorganization Act of 1936 enacted a compulsory merger of all beet sugar manufacturing companies in the British Sugar Corporation, Ltd., which was to be privately owned and was allowed a maximum of 7% dividend on its common stock. It was also during this period that the Federation of British Industries became a major power in Great Britain. The Federation of British Industries published an undated pamphlet entitled "Industry and Action", in which the Federation boasted of its influence on British fiscal policy and commercial policy. The influence of the Federation on import duties, and its success as a channel of consultation with the government in commercial treaty negotiations, are particularly emphasized.

(h) With the German example before their eyes, British Government officials and corporation executives became increasingly aware of the advantages to the execution of national policies that could be derived from industrial organization. They saw that monopolistic agreements among raw materials producers were a very effective way to increase the total proceeds of exports, and the total revenues accruing therefrom both to the producing interests and to the national economy as a whole. These considerations were powerful in the formation of raw materials cartels throughout the British Empire, such as the rubber cartel, the tin cartel, and numerous other agreements among British Empire producers. They also became aware of the advantages of regulating trade and payments relations between England and foreign nations on a
261 comprehensive basis, in which regulations organized trade played a considerable part. Among the first of such English payments agreements was the one negotiated with Argentina in 1933, the so-called Roca-Runciman Agreement. There were a number of subsequent agreements before 1939. A whole network of them was put into operation quickly after the outbreak of the war.

(i) Current indications are unanimously in the direction of cartelization in the post-war organization of British industry. An article by Mr. Geoffrey Crowther, editor of The Economist, in the latest issue of the Yale Review, Winter 1945, points in that direction. The British delegation to the International Chamber of Commerce Conference at Rye, New York, in November 1944 clearly indicated that this was its position. As early as December 1942 the Commission to study the Organization of Peace published a study of British Business Associations on Post-war Reconstruction which even then strongly indicated this much. British Government action has hitherto not given any signs of reversing the previous trend towards government-encouraged cartelization of private industry. Indeed, all its actions towards post-war planning and reconversion planning indicate that it expects to pursue a vigorous policy of intervention in economic affairs. Integration of industries in cartel forms is an inevitable concomitant to such a policy, short of outright nationalization. In other words, tight organization of British industry, which has been forged for purposes of the war economy, is not likely to be abandoned in favor of a freely competitive system after the war. On the contrary, it seems that the British Government will take an active part in the leadership of the industrial combination movement. The policy will be one of active government participation in business, including participation in and cooperation with industrial combinations, rather than one of checking and controlling them from the outside.

(j) Subsequent to the hectic years immediately following the First World War foreign nations were able to import vast quantities of materials for reconstruction and development purposes, largely financed by loans from the United States. The resultant business activity pro-
262 vided a powerful stimulus to world recovery during the years 1924-29. Subsequent to 1929 there occurred a drastic reduction in the total supply of dollars available to foreigners. The reduction resulted from the cessation of foreign lending and the drop in imports into the United States that was caused partly by the beginning of the depression, partly by the Hawley-Smoot Tariff. Since dollars and sterling were the principal media for the financing of international trade, and sterling itself was endangered by the shortage of dollars that developed, the effects of this dollar shortage on international trade were catastrophic. In the United States the quantity of imports continued to be closely related to industrial production.

Their value declined faster than national income only because of the greater price decline of internationally traded commodities. The quantity of imports into foreign countries dropped disproportionately as compared to their industrial production; and their imports from the United States dropped much faster than their total imports. In other words, under the impact of the world-wide dollar shortage there was a drastic reduction in the ratio of world trade to world production, and a further reduction in the proportionate share of the United States in total international trade. The methods by which the use of dollars was restricted in foreign countries were numerous and sophisticated. Their primary objective in each case was to reduce total imports from the United States and to substitute for them either domestic production or at least imports from other sources. Helping to reduce both the dollar shortage and domestic unemployment in one fell swoop was usually the official policy.

(k) In the United Kingdom the abandonment of the gold standard in September, 1931, immediately made goods from the United States and Germany 33% more expensive and eventually 50% more expensive than they had been prior to the devaluation of the pound. This situation was rectified by the devaluation of the dollar in 1934, but in the meantime, in 1932, Great Britain established a new protective tariff and Imperial preference; she progressively strengthened her economy on bilateral and exclusive patterns, which tended to discriminate against American goods. "Buy British", by no means a new slogan, received added popularity. The Federation
263 of British Industries and lesser trade associations made determined efforts to organize British markets so as to present maximum resistance to foreign merchandise. Renewed impetus was given to cartelization among the exporting industries and raw material producers of the British Empire—whose best customer was the United States—so as to maximize the dollar proceeds of export sales by a monopolistic price policy.

(l) The dollar shortage ceased to be acute in England after 1934. The combined effect of the protective tariff, Imperial preference, and the raising of the price of gold in the United States which accrued largely to the benefit of the gold producers of the British Empire) was to ease considerably the foreign exchange situation. Sterling once more became a reasonably safe currency. By then, however, the damage was done. While imports from the

United States revived, they never attained previous totals. After 1937 new pressures developed on the dollar resources of England, partly as a result of the renewed slump in the United States, which cut down all our imports, and partly owing to rearmament needs.

CONCLUSIONS OF LAW

C15. A reasonable, if not the only, means by which Titaninc (National Lead) could participate on a practical, profitable basis in the manufacture and sale of titanium pigments in England and throughout the British Empire (except Canada, Newfoundland, and certain other areas), and at the same time secure the right to use British inventions and obtain the benefits of great technical and marketing facilities and experience,—particularly inventions, facilities, and experience of I.C.I.,—the British agreements did not restrain—they promoted—commerce in titanium pigments.

C16. Made for the purpose of establishing a new business on a sound basis,—of securing great technical and commercial advantages not otherwise available,—the British agreements were not intended to, and did not affect prices in the United States or otherwise deprive
264 purchasers in the United States of the advantages of competition.

C17. An arrangement respecting British commerce, the British agreements did not directly and materially affect United States commerce, and they are not subject to regulation under the Sherman Act.

C18. In so far as the British agreements involved the extension or application, by or on behalf of National Lead or Titaninc, of features of the 1920 agreement to areas within the territory of Titan A/S (Titaninc), they constituted a reasonable exercise of patent rights.

C19. The Court will not cancel or require cancellation of the British agreements for the following reasons:

(i) They involve British companies not before the Court whose material interests would be adversely affected.

(ii) They relate wholly to business in foreign countries.

(iii) The parties have agreed to revise the agreements so as to eliminate therefrom the territorial and other restrictions and do not intend to resume the same.

[United States v. United States Steel Corporation et al., 251 U. S. 417, 444-5; Standard Oil Company (Indiana) et al. v. United States, 283 U. S. 163, 181-2.]

VII. THE EUROPEAN AGREEMENTS (1933-1935)

35. Joseph Blumenfeld, a chemist and managing director of Societe de Produits Chemiques des Terres Rares, a French company which he owned stock, prior to 1922 obtained certain patents relating to the manufacture of titanium compounds which he assigned to Terres Rares. Between 1922 and 1933 Terres Rares granted exclusive licenses to Fabriques de Produits Chemiques de Thann et de Mulhouse, a French company, for France, its colonies, dependencies, protectorates, and mandated territories; to Societa Anonima Titanium (Montecatini), the largest chemical company in Italy, for Italy, and non-exclusive licenses for Belgium, Holland, Switzerland, Spain, Portugal, and South America, subject to rescission on three months' notice; to Verein für Chemische und Metallurgische Produktion Aussig, the largest chemical company in Central Europe, for Czechoslovakia, Austria, Hungary, Yugoslavia, Rumania, and, subject to certain obligations, Danzig and Denmark, and non-exclusive licenses for Poland and Russia; and to Laporte for the British Empire. Terres Rares sold its United States titanium patents to Commercial Pigments Company, a United States corporation; these patents were later acquired by du Pont.

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36. Jebsen, confronted with the economic and political problems indicated below, acting for Titanine, either made or approved agreements among the European producers of titanium as follows:

(a) In 1933 Aussig and Titangesellschaft entered into an agreement which established a sales quota of approximately 25% for Aussig and 75% for Titangesellschaft in Germany, Czechoslovakia, Poland, Austria, Hungary, Yugoslavia, Rumania, and Russia. Prices were to be fixed by mutual consent, but not so high as to impair sales, and were not required to be identical, so that each firm could compete with dealers in other pigments (lithopone, zinc oxide, white lead, &c.) as local conditions might permit. Each gave the other the right to use its product patents and agreed to support the other in protecting these rights. Aussig agreed to buy from Titangesellschaft at preferential prices any requirements of titanium pigments above Aussig's then production capacity, which Aussig might need to meet its quota. (This provision, made to enable Titangesellschaft to reduce costs through increased production and Aussig to buy at a favorable price, was

effective only until Titangesellchaft's capacity was fully utilized.) Responsibility for the quality of the products was to rest on the manufacturer.

(b) Sometime in 1935, but to take effect as of May 1, 1934, an agreement known as the Contrat a Quatre was made between Thann & Mulhouse and Terres Rares, on the one hand, and Societe Industrielle and Titaninc, on the other, which established a quota of 30% for Thann & Mulhouse and Terres Rares and 70% for Societe Industrielle and Titaninc in Belgium, Holland, and "various countries" (Esthonia, Latvia, Lithuania, Abyssinia, Liberia, Arabia, Afghanistan, Persia, and Siam) and a 50% quota for each group in France; prices for these territories were to be fixed by mutual consent; product patents of each party were to be made available to the other parties. This agreement could be terminated by a change of sales possibilities resulting from governmental measures, from "new competition", or from "any governmental or legislative measures making it partly or wholly illegal". Otherwise it could not be terminated before December 31, 1938, and then ony on six months' notice. Thereafter it was to continue for two-year periods unless notice was given six months before the expiration of any such period. This agreement was related to the Contrat a Six (see below) and could be terminated on three months' notice if that agreement was terminated.

(c) At the same time an agreement known as the Contrat de Livraisons (agreement concerning mutual deliveries) was made between the same parties and provided that each group would supply the other with any titanium pigments which it might have available after its own needs were satisfied, at certain fixed prices and on certain terms. It was agreed that goods delivered by one group to the other could not be reexported and that this obligation must be imposed on the customers of the parties.

(d) An agreement known as the Contrat a Six was also entered into at this time by Thann & Mulhouse, Terres Rares, Montecatini, Titaninc, Societe Industrielle, and Titangesellschaft, in which Titangesellschaft and Aussig were given exclusive rights of sale and delivery in Germany, Danzig, Czechoslovakia, and Russia; Titangesellschaft, Terres Rares, and Thann & Mulhouse in Spain, Portugal, Japan, Switzerland, Bulgaria, Greece, Turkey, China, and South America (subject to Titanium Pigment's rights in South America); Terres Rares, Thann & Mulhouse, and Societe Industrielle in France; Terres

Rares, Thann & Mulhouse, and Titanine in Belgium,
267 Holland, and "various countries" (as defined above); Montecatini in Italy; Titanine in Norway, Sweden, and Finland; and Titanine and Aussig in Denmark. Each party agreed to respect the others' exclusive rights. This agreement had the same termination provisions as the Contrat a Quatre, and was terminated by Montecatini on December 31, 1938.

37. The European agreements and arrangements described above were shaped by political, economic, and legal considerations which may be stated as follows: In 1927 a World Economic Conference was called by the League of Nations for the purpose of discussing and, if possible, taking steps to cure the economic ills of Europe caused by World War I. The war had created new frontiers; and industry fell within these new frontiers in a completely haphazard and unplanned way. For example, the industries of Bohemia, established for a market of 50 million people, found themselves with 13 million Czechoslovakians as their domestic market; they had to seek an outlet for excess production. Tariff barriers were erected and import license systems inaugurated to protect domestic manufacture; and countries with weak currency subsidized export industries in order to bolster their currency. These economic complications, characteristic of Europe in the 20's and 30's, led to cartelization to protect domestic industry, including the prevention of dumping by companies subsidized by their governments. Any company wishing to do business in Europe at the time was forced to come to terms with domestic industry.

CONCLUSIONS OF LAW

C20. Arrangements relating only to European commerce, these agreements did not directly and materially affect United States commerce and are not subject to regulation under the Sherman Act.

C21. In so far as these agreements involved the extension or application of features of the 1920 agreement to areas within the territory of Titan A/S, they constitute a reasonable exercise of patent rights.

268 C22. The Court will not cancel or require cancellation of the agreements for the following reasons:

(i) They involve European companies not before the Court whose interests would be adversely affected and whose future will be determined by decisions of the Allied Governments.

(ii) They related wholly to business in foreign countries.

(iii) The executory features of the agreements were terminated by the war.

(iv) So far as National Lead and Titanine may be involved, the agreements were terminated by act of war when the United States declared war on Germany and Japan.

C23. The agreements were made in accordance with European practices and laws.

VIII. THE JAPANESE AGREEMENTS (1936)

38. Because of increasing difficulty with Japanese tariffs and import licenses, and because of the probability of independent manufacture of titanium products in Japan and the dumping of the products on world markets, a pool agreement was made in 1936 by Terres Rares, Titanine, and I.G., under which Terres Rares and Titanine, together with the Japanese firm of Kokusan Kogyo, undertook to form a new company, Titan Kogyo, for the purpose of erecting a titanium factory in Japan. The Japanese firm was to own 50% of the new company, Terres Rares 30% and Titanine 70% of the remaining 50%. I.G. was to have an option on one-half of Titanine's shares. Terres Rares and Titanine authorized Doitsu (I. G.'s selling agency in Japan) to act as trustee for them in the new Japanese company. This agreement was to last as long as any of the parties owned stock in Titan Kogyo. (The proportionate interests of the parties in the Japanese market had been determined by the European agreements described above.)

269 39. Doitsu and Kokusan Kogyo agreed that Titan Kogyo would be licensed under Titangeschellschaft and Titanine Japanese patents in substantially the same manner and subject to the same terms as in the German and British agreements described above. Titan Kogyo was given an option on Blumenfeld's Japanese patents in exchange for certain rights to be given Terres Rares and Thann.

CONCLUSIONS OF LAW

C24. Arrangements relating only to Japanese commerce, the agreements did not directly and materially affect United States commerce and are not subject to regulation under the Sherman Act.

C25. In so far as the agreements involved the extension or application of features of the 1920 agreement to areas

within the territory of Titan A/S, they constitute a reasonable exercise of patent rights.

C26. The Court will not cancel or require cancellation of the agreements for the following reasons:

(i) They involve European and Japanese companies not before the Court whose interests would be adversely affected and whose future will be determined by the Allied Governments.

(ii) They related wholly to business in foreign countries.

(iii) The executory features of the agreements were terminated by the war.

(iv) So far as National and Titanine may be involved, the agreements were terminated when Japan declared war on the United States.

C27. The agreements were made in accordance with Japanese and European law.

IX. THE CANADIAN AGREEMENTS (1937)

40. National Lead owned certain Canadian patents and, by virtue of the 1920 agreement, had an exclusive license and the right to grant sublicenses under Titan A/S's
270 Canadian patents. Before 1937 National Lead supplied the Canadian market through Wilson, Paterson & Gifford, and permitted British Titan to sell through the same agency. Sales were small and the market undeveloped in relation to rival pigments, such as lithopone, white lead, and zinc oxide. Beginning in 1935, National Lead, realizing the need for a strong local alliance, began negotiating with Canadian Industries, Ltd. (C.I.L.), the largest chemical company in Canada, 90% of whose stock is owned by I.C.I. and duPont in equal shares, for the purpose of forming a company to manufacture and sell titanium pigments and compounds in Canada. As a result of these negotiations four agreements were made in 1937, as follows:

(a) There was an agreement between C.I.L. and National Lead under which a new company, Canadian Titanium Pigments, Ltd., was granted the sole right to manufacture and sell under C.I.L.'s and National Lead's titanium patents in Canada and Newfoundland. Canadian Titan was to be owned 49% by National Lead and 51% by C.I.L. In addition, National Lead was to receive 8000 shares of non-voting (except under certain conditions) $100 par value stock in consideration of its existing good will, patents, and technical information. National Lead and C.I.L. agreed to subscribe to bonds of Canadian Titan

for the purpose of erecting a factory; but because of World War II the bonds have not been issued and the factory has not been built. Canadian Titan was to have six directors, three nominated by National Lead and three by C.I.L.; one of the C.I.L. directors was to be president. Until the factory was built National Lead agreed to supply Canadian Titan at cost plus 10% and to use its best efforts to enable Canadian Titan to purchase from British Titan at cost plus 10%. The agreement was to remain in force for thirty years, and thereafter could be terminated on twelve months' notice by either party. If at the end of thirty years either party wished to withdraw from the agreement, it was required to offer its shares to the other party at book value. (In determining book value good will, patents, and future earnings were not to be considered.)

(b) It was agreed that National Lead and Canadian Titan would exchange licenses, patent applications,
271 and technical information in accordance with the principles of the 1920 agreement above described. No restrictions were placed on the sale of finished products by the customers of either party. Both National Lead and Canadian Titan could grant sublicenses; and in order to insure the widest development of the field, sublicensees were required to grant licenses under their present and future patents to the grantor.

(c) C.I.L. and Canadian Titan entered into a similar agreement.

41. In 1937 Canadian Titan entered into a contract with Laporte under which Laporte transferred to Canadian Titan all the Canadian titanium patents which it then owned, and further agreed to license Canadian Titan under any such patents which it might acquire during the life of the contract (fifteen years).

42. Negotiations are in progress among National Lead, C.I.L., and Canadian Titan to revise the Canadian agreements on lines similar to the revised British agreements.

CONCLUSIONS AT LAW

C28. A reasonable, if not the only, means by which National could participate on a practical and profitable basis in the manufacture and sale of titanium pigments in Canada and Newfoundland, and at the same time secure the right to use Canadian inventions and obtain the marketing facilities and experience of C.I.L., the Canadian agreements did not restrain—they promoted—commerce in titanium pigments.

C29. Made for the purpose of establishing a new business on a sound basis,—of securing commercial advantages not otherwise available,—the Canadian agreements were not intended to, and did not, affect prices in the United States or otherwise deprive purchasers in the United States of the advantages of competition.

C30. An arrangement respecting Canadian commerce, the Canadian agreements did not directly and
272 materially affect United States commerce, and they are not subject to regulation under the Sherman Act.

C31. The Court will not cancel or require cancellation of the Canadian agreements for the following reasons:

(i) They involve Canadian companies not before the Court whose material interests would be adversely affected.

(ii) They relate wholly to business in a foreign country.

(iii) The parties are negotiating a revision of the agreements so as to eliminate therefrom the territorial and other restrictions and do not intend to restore the same.

X. THE DU PONT AGREEMENTS (1931-1941)

43. Before 1931 United States rights under the Blumenfeld patents were held by Commercial Pigments; from 1931 to 1935 by Krebs Pigment and Color Corporation, a Delaware company owned 70% by du Pont; after 1935 by du Pont, to which manufacturing assets of Krebs were assigned in 1935. Krebs was dissolved in 1943, and since then du Pont has conducted all of its titanium pigments operations through its Pigments Department.

44. Between 1920 and 1931 sales of titanium pigments by National Lead slowly but steadily increased. In 1931 it sold 8000 tons (in terms of TiO_2 content). While sales of all pigments declined in the depression year 1932, sales of titanium pigments fell off relatively little, and sales by National Lead of titanium pigments exceeded total sales of white lead by all manufacturers. Titanium pigments were on the way to overtake zinc oxide and even lithopone. Engaged in the pigments and paint business on a large scale, du Pont saw the handwriting on the wall and set out to acquire patent rights and technical information necessary to manufacture efficiently and economically a full line of titanium pigments and thus to compete successfully in a potentially large domestic market.

273 45. Looking into the patent situation, du Pont found that the Blumenfeld patents, though important, were incomplete and inadequate. For example, the Barton-Rossi-Jebsen patents held or controlled by Titanium Pigment (National Lead) stood in the way of manufacture of composite pigments, for which there appeared to be a substantial potential demand, and of use by Krebs (du Pont) of the cheap sulphuric acid attack process disclosed by Jebsen. Indeed, du Pont found that Commercial Pigments was then infringing patents held or controlled by Titanium Pigment (National Lead), and that plans then under consideration for more extensive operations would, if carried out, entail further infringement. It was not all one way, however. Blumenfeld disclosed processes which were attractive to National Lead. (National Lead was particularly interested, for example, in processes by which Commercial Pigments and Krebs had been able to improve the quality of titanium dioxide.) And it was seriously claimed by du Pont that National Lead was infringing patents owned or controlled by Krebs (du Pont).

46. The record is replete with evidence of serious controversy between National and du Pont over patent rights, of the probability of protracted and costly litigation, and of a genuine desire on the part of the two companies to effect a reasonable settlement of their differences in order that both might safely go forward on a sound technical basis with the development, manufacture, and sale of a relatively new competitive product.

47. Having decided to settle their differences, and to release and expand the art, rather than to attempt to destroy each other, Titanium Pigment (National Lead) and Krebs (du Pont) entered into an agreement as of January 1, 1933 as follows:

(a) They exchanged irrevocable, non-exclusive licenses, within the United States, to use all processes, methods, and apparatus relating to or in the "licensed field", whether or not patented or subject to patent, then or thereafter owned by them or otherwise at their disposal, with the right to sell products resulting from the exercise of such licenses in the United States, its colonies and possessions, Mexico, Central America, the West Indies, and South America.

274 (b) They agreed to exchange technical information and experience.

(c) Each party agreed to assist the other to acquire

an irrevocable, non-exclusive license, for the territory above described, under any patent or applications owned by or otherwise at the disposal of other persons, under which such party itself was licensed; and Krebs (du Pont) agreed that it would offer to any foreign associate of Titanium Pigment (National Lead or Titaninc), before offering to any other person, the opportunity to acquire, upon mutually safisfactory terms and conditions, an irrevocable, non-exclusive license under any patent relating to the "licensed field" issued in any country of Europe or in Great Britain which then was or thereafter might be owned by or otherwise at the disposal of Krebs (du Pont).

(d) It was provided that the agreement might be terminated at any time after December 31, 1933 on three years notice, but not so as to affect licenses theretofore acquired.

(e) There was a mutual release of claims for infringement.

48. As of about May 1, 1940 the exchange of technical information between National and du Pont was discontinued; and the 1933 agreement between Titanium Pigment and Krebs, which had been assumed by National and du Pont, respectively, was, by an agreement between National and du Pont dated January 1, 1941, amended to eliminate provisions for exchange of technical information.

49. In each of the years 1937 to 1941, inclusive, du Pont and Titaninc entered into patent agreements involving specifically designated inventions under the terms of which du Pont granted to Titaninc exclusive licenses, with the right to grant sublicenses to one or more of the following, namely, Titangesellschaft, British Titan, Societe Industrielle, and, from 1939 to 1941 inclusive, to Titan Kogyo, under certain specified patents and patent applications of du Pont in certain specified countries other than the United States relating to the manufacture of titanium compounds useful as pigments. Each of said licenses was only for the particular countries in which the licensed patents and applications were issued or pending;
275 du Pont reserved the right to use the inventions covered by such patents; and Titaninc, with the consent of National Lead, granted du Pont non-exclusive licenses under certain specified United States patents and applications.

50. The 1933 agreement between Titanium Pigment (National Lead) and Krebs (du Pont) involved a substantial,

material deviation (by Titanium Pigment) from the principles and terms of the 1920 agreement between Titanium Pigment and Titan A/S, in that, in addition to granting licenses to Krebs (du Pont) under United States patents of Titanium Pigment (National Lead), the 1933 agreement granted sublicenses to Krebs (du Pont) under the United States patents of the parties to the French, German, and British agreements above described (other than Titan A/S or Titaninc) and their licensees, without at the same time securing for such parties and their licensees reciprocal rights in their respective territories under the patents of Krebs (du Pont) in such territories, and without securing the agreement of Krebs (du Pont) not to manufacture in or import into such territories. It was necessary, therefore, to secure the approval of the 1933 Krebs (du Pont) agreement by the parties (other than Titanium Pigme) to the French, German, and British agreements; and such approval was obtained.

51. The 1933 Krebs (du Pont) agreement was negotiated chiefly by Rupprecht for du Pont and by Beschorman for National Lead. Rupprecht is dead. Owing to his retirement, illness, and residence in California, Beschorman was not called to testify at the trial. Letters written by Rupprecht and Beschorman, however, indicate that, while Rupprecht informed Beschorman that in view of patent and commercial considerations du Pont was not likely to manufacture in or import into the foreign territories referred to above, du Pont would not, and was advised and believed that legally it could not, agree to refrain from such manufacture or importation.

52. While Jebsen had been notified by representatives of National Lead of the negotiations with du Pont, his office and residence were at Paris, his authority and responsibility were confined to European operations
276 in which Titaninc (National Lead) was interested, he did not participate in the negotiations with du Pont, and he was not asked to and did not approve of the form of agreement with Krebs (du Pont). Indeed, Jebsen regarded the proposed Krebs (du Pont) agreement as a radical and unfortunate departure from the principles and terms of the 1920 agreement, and he so advised National Lead.

53. After the 1933 Krebs (du Pont) agreement had been negotiated, however, Jebsen was instructed by National Lead to secure the approval thereto of the French, Ger-

man, and British companies with which the foreign agreements above described had been made; and, recognizing but not approving the deviation referred to, he proceeded to carry out the instruction. Jebsen did not receive, nor did he understand that National Lead had received, any assurance that notwithstanding the terms of the agreement Krebs (du Pont) had accepted the principles and terms of the 1920 agreement, or had agreed or would agree to refrain from manufacture in or importation into the territories referred to. Never at any time—not in 1933, or 1938, or at any other time—did Jebsen understand that du Pont had accepted the principles and terms of the 1920 agreement.

54. On the basis of the exchange of licenses and technical information between National Lead and du Pont, from 1933 on there was the most active competition between the two companies—resulting in great improvements in manufacturing processes, a vast increase in sales, and repeated reductions in the price of titanium pigments.

55. While for obvious business reasons National Lead and du Pont have endeavored to match each other's titanium products, such products have never been identical, and each manufactures certain titanium pigments having special applications not manufactured by the other.

56. There has never been any allocation of territory or customers between National Lead and du Pont; and, indeed, each maintains a large, highly trained technical sales force engaged in endeavoring to capture the market for titanium pigments. To a very large extent the
277 salesmen of the two companies are chemists whose contact with consumers (that is, manufacturers of paint, rubber, glass, &c.) consists in demonstrating that their products merit acceptance on the basis of technical superiority. The buyers of titanium pigments are mainly well-informed, experienced purchasing agents, whose orders are placed solely on the basis of service and technical considerations brought to their attention by chemists and other technicians employed by consuming companies.

57. While National Lead and du Pont have followed each other's price reductions on their commercially comparable products, such price following has been competitive and not collusive, and has resulted in repeated, substantial reductions of the price of titanium pigments to the purchaser.

CONCLUSIONS OF LAW

C32. None of the du Pont agreements is illegal per se.

C33. Made for the purpose of terminating a serious patent controversy, and of avoiding protracted, costly, and wasteful patent litigation, the 1933 Titanium Pigment (National Lead)-Krebs (du Pont) agreement did not restrain—it promoted—commerce in titanium pigments. [Standard Oil Company (Indiana) et al. v. United States, 283 U. S. 163, 171; United States v. Aluminum Co. of America et al., 44 F. Supp. 97, 113 (S. D. N. Y.).]

C34. A reasonable, if not the only, means by which du Pont could safely engage on a practical, profitable basis in the manufacture and sale of a full line of titanium pigments in competition with National Lead, the 1933 agreement enabled du Pont successfully to participate in and greatly to enlarge the market for titanium products, and thus to create and intensify competition.

C35. Made for the purpose, among others, of enabling National Lead to use du Pont's Blumenfeld processes, and of enabling du Pont to use National Lead's Barton-Rossi-Jebsen processes, in competition with each other
278 the 1933 agreement confirmed and strengthened the competitive position and capacity of National Lead, and it established and greatly increased the competitive position of du Pont, and thus enabled two large, successful companies to compete in the development of a relatively new industry.

C36. The du Pont agreements involved no allocation of markets or customers, or price fixing.

C37. The exchange of technical information by National Lead and du Pont between 1933 and 1941 tended to release and promote the development of the art, and thus did not constitute a violation of the Sherman Act.

C38. The separate agreements between du Pont and Titanine made between 1937 and 1944 in relation to foreign patents of du Pont involved a reasonable exercise of patent rights and did not constitute a violation or violations of the Sherman Act.

C39. Neither Krebs nor du Pont ever accepted the principles or terms of the 1920 agreement between Titanium Pigment and Titan A/S, or ever agreed not to manufacture in or import into foreign countries; and the statements of Rupprecht on behalf of Krebs (du Pont) did not constitute a representation or agreement that Krebs (du Pont) would not engage in such foreign manufacture or importation.

XI. AMERICAN ZIRCONIUM AGREEMENTS (1934-1944)

58. In or about 1934 American Zirconium Company, which was owned 50% by Glidden Company and 50% by Metal & Thermit Corporation, began to manufacture titanium dioxide. National Lead notified Zirconium that it was probably infringing patents owned or controlled by National Lead, and in consequence Zirconium requested and received from National Lead a license under all United States patents owned or controlled by National Lead. National Lead and Zirconium each granted the other a non-exclusive license under its existing and future patents in the "licensed field"; Zirconium agreed to
279 license National Lead, its licensees or sublicensees, under any present or future foreign patents of Zirconium; and in other respects the agreement conformed with the requirements of Article XIV of the 1920 agreement between Titanium Pigment and Titan A/S. At the request of Zirconium, National Lead accepted 10% of the common stock of Zirconium in lieu of royalties, and thereupon designated a representative to serve on the board of directors of Zirconium. National Lead exchanged technical information with Zirconium, it gave Zirconium engineering assistance in connection with the installation and use of its processes, and it licensed Zirconium to use pulverizing machinery available to National Lead and du Pont.

59. As a stockholder of Zirconium, National Lead gave Zirconium such advice and assistance as might reasonably have been expected; but National Lead lacked confidence in the management of Zirconium and from time to time endeavored to sell its Zirconium shares. Finally, in April 1944, at the request of Zirconium, the agreement was cancelled, the parties exchanged releases, and National Lead assigned its shares of Zirconium to Glidden.

CONCLUSIONS OF LAW

C40. Made for the purpose of enabling a new company to enter the titanium business in the United States, the Zirconium agreement did not restrain—it promoted—commerce in titanium pigments.

C41. In so far as the Zirconium agreement involved the application of features of the 1920 agreement, it constituted a reasonable exercise of patent rights.

C42. The agreement between National Lead and Zirconium having been terminated by mutual agreement, and

the parties having exchanged general releases, there is no issue, and the case is moot, in respect of Zirconium.

C43. National Lead did not restrain, or exclude, or attempt or conspire to restrain or exclude, Zirconium, and its relations with and relative to that company involved no violation of the Sherman Act.

280 XII. VIRGINIA CHEMICAL (1937)

60. Some time prior to 1937 Virginia Chemical Company began the manufacture of titanium dioxide. Believing that Virginia Chemical was probably infringing its patents, National Lead so notified Virginia Chemical, and in consequence there were several conferences attended by technical employees of the two companies to determine what infringements, if any, were taking place. When it was determined by National Lead that Virginia Chemical was in fact infringing, National Lead offered Virginia Chemical a license under all its patents in the "licensed field" on a 2% royalty basis. This offer was refused, and no agreement of any sort has ever been made between National Lead and Virginia Chemical, and no suit for infringement has been instituted by National Lead.

CONCLUSION OF LAW

C44. National Lead did not restrain or exclude, or attempt or conspire to restrain or exclude, Virginia Chemical, and its relations with and relative to that company involved no violation of the Sherman Act.

XIII. PULVERIZING MACHINERY LICENSES (1939)

61. In 1939 National Lead undertook to adapt a patented machine known as the Micronizer Reduction Mill for use in the manufacture of titanium pigments. Following developments and changes by National Lead, the machine proved of substantial value as a means of improving the texture of titanium pigments; and National Lead secured an exclusive license, with the right to grant sublicenses, for titanium pigments manufacture, from the patentee, International Pulverizing Corporation. National Lead licensed du Pont and Zirconium and was willing to license any other company which had licenses under its titanium pigment patents. In October 1944 National Lead relinquished its exclusive license and took a non-exclusive license.

281 XIV. NEW YORK ILMENITE MINING DEVELOPMENT (1941)

62. Owing to the impossibility of continuing to import ilmenite from India, in 1941 the Office of Production Management directed National Lead to open up a domestic source in Essex County, New York. National Lead was directed to, and did, offer participation in this project to each of the other producers of titanium pigments in the United States. The offer was accepted by du Pont. Thanks to the investment of more than $10,000,000 by National Lead, and to its management, since about July 1942 there has been a domestic source of ilmenite sufficient for the demands of World War II. The directive of the Office of Production Management was approved by the Attorney General of the United States.

XV. NATIONAL LEAD PATENTS

63. The record contains digests of all Titanium Pigment and National Lead United States patents, all Titan A/S United States patents under which Titanium Pigment (National Lead) was licensed, and all Krebs and du Pont United States patents under which Titanium Pigment and National Lead were licensed. It contains, in the form of an Answer to Interrogatories, full information as to United States and foreign patents and applications owned by or licensed to Titanium Pigment or National Lead, and as to United States patents and applications used (that is, commercially used) by Titanium Pigment and National Lead.

64. While all of the patents owned by Titanium Pigment and National Lead were not commercially used, many of them were so used, and all of them were within the "stream of development". All of them were applied for (a few were acquired) in the normal flow of invention and improvement of the companies' own processes. None of them was applied for to prevent others from obtaining patents on inventions or improvements.

65. While some of the patents owned by or licensed to Titanium Pigment and National Lead expired by
282 1936, a number of important patents did not expire by that date, and have not yet expired; and National Lead has been engaged continuously, and is now engaged, in research and development work leading to further inventions and improvements in its "stream of development".

66. Apart from United States patents owned by or

licensed to National Lead and du Pont, there are other United States patents and sets of patents relating to the manufacture of titanium pigments owned or controlled, and in use, or in process of development, by Pittsburgh Plate Glass and by Sherwin Williams, both large manufacturers of paint. National Lead declined opportunities to acquire the patents referred to.

67. National Lead has never refused to grant licenses under its titanium pigment patents.

XVI. CONCLUSION

There is no evidence that National Lead or Titaninc have been or are engaged in a combination in restraint of, or to monopolize, trade or commerce in titanium compounds among the several states of the United States or with foreign nations, or that they have been or are parties to contracts, agreements, or understandings in restraint of such trade or commerce, in violation of Sections 1 or 2 of the Sherman Antitrust Act, 26 Stat. 209 (1890), as amended 50 Stat. 693 (1937), 15 U. S. C. §§ 1, 2 (1940); and said defendants are entitled to a judgment dismissing the complaint as against them on the merits.

The foregoing Proposed Findings of Fact and Conclusions of Law are respectfully submitted on behalf of National Lead Company and Titan Company, Inc. While the suggested findings are intended to present a complete statement of the material ultimate facts, findings as to the Court's jurisdiction of the subject matter and of the parties and findings describing the defendants and alleged co-conspirators have been omitted in the interest of brevity on the assumption that appropriate proposed findings of this character will be submitted by counsel
283 for the plaintiff. Submitted in advance of oral argument and of an expression by the Court of its opinion concerning the facts and the law, the foregoing proposed findings and conclusions are necessarily tentative in the sense that it may seem desirable to suggest additional or alternative findings and conclusions, or to withdraw findings or conclusions herein suggested. For this reason, and otherwise to serve the convenience of the Court and counsel, the present proposals have been

printed in loose-leaf form so as readily to permit additions or substitutions.

March 1, 1945.

Respectfully submitted,

BETHUEL M. WEBSTER,
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EDWARD L. REA,
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Of Counsel

285 In United States District Court

[Title omitted.]

Proposed findings of fact and conclusions of law of defendant, E. I. du Pont de Nemours and Company

PROPOSED FINDINGS OF FACT

1. Du Pont entered the titanium pigment business in 1931, and since that date its plant capacity for manufacturing such pigments has been frequently expanded and the quantity of titanium dioxide produced by du Pont and the total quantity produced in the United States have substantially and steadily increased.

2. Du Pont prices for titanium pigments steadily and substantially declined in the period from 1931 to January 1, 1941.

3. Du Pont and National Lead have competed and do compete vigorously with each other and with others, including American Zirconium and Virginia Chemical, in the manufacture and sale of titanium pigments in the United States.

286 4. Du Pont has not exported titanium pigments in substantial quantities solely because of its own independent judgment as to the business undesirability of so doing made in the light of a number of economic, political and legal factors operating adversely to such exports.

5. Du Pont granted a license under its titanium pigment patents to each and every company which requested such a license.

6. Du Pont determined in 1931 to manufacture and sell titanium pigments as a development of its established white pigment business, by which time the titanium pigment art was already well developed, and patent positions had been established by both National Lead and Commercial Pigments, the only then existing titanium pigment manufacturers in the United States.

7. Du Pont did not assume the obligations or liabilities of Commercial Pigments toward the Blumenfeld Companies.

8. Du Pont was not substituted for Commercial Pigments in the negotiations Commercial Pigments was having in 1930 and 1931 in an effort to reach a world-wide agreement among titanium pigment manufacturers throughout the world.

9. Du Pont and Krebs never authorized or instructed Messrs. Ticknor or Chase to enter into any agreement on behalf of du Pont or Krebs with any titanium pigment manufacturer.

287 10. Du Pont did not agree, in July, 1933 or at any other time, with Joseph Blumenfeld, or any of the Blumenfeld Companies, that Krebs and du Pont, or either of them, would exchange technical information or would refrain from exporting titanium pigments outside the United States.

11. Du Pont did not subscribe to the Contract of 1920 or agree to accept its benefits and obligations.

12. Du Pont did not agree with National Lead prior to the execution of the Agreement of January 1, 1933, or at any other time, that it would refrain from exporting titanium pigments outside the United States.

13. Du Pont did not agree with National Lead prior to the execution of the 1933 Agreement, or at any other time, that the non-exclusive cross-licensing of patents therein provided for would in fact be on an exclusive basis.

14. Du Pont did not agree with National Lead or anyone else to prevent or attempt to prevent its customers from exporting titanium pigments outside the United States, Central or South America.

15. Du Pont and National Lead were engaged in a bona fide controversy concerning the validity and scope of the titanium patents respectively owned or controlled by them and whether such patents read on the operations of the other, and on August 28, 1933, du Pont entered into a written contract with National Lead, dated

as of January 1, 1933, to settle the mutual questions
288 of patent infringement which had arisen and which seemed likely to arise between them.

16. Du Pont was granted a non-exclusive license by the Agreement of January 1, 1933, under the patents owned by Titan A/S which National Lead was using and which it claimed du Pont was infringing in the patent controversy preceding the execution of such agreement; namely, United States Patent Nos. 1,288,863, 1,333,819, 1,333,849, 1,348,129 and 1,412,027.

17. Du Pont's exchange of technical information with National Lead pursuant to the provisions of the Agreement of January 1, 1933 progressively deteriorated until eliminated at du Pont's request as of May 1, 1940.

18. Du Pont entered into a written agreement with National Lead, dated as of January 1, 1941, which amended the agreement between the parties of January 1, 1933 in certain respects, and said agreement embodied the full and complete understanding between the parties.

19. Du Pont did not agree with Titan, Inc. in or about June, 1938, or at any other time, to give Titan, Inc., at its request, exclusive licenses to manufacture and sell under all patents which du Pont then owned or might thereafter acquire relating to the manufacture and sale of titanium pigments for the territory in which Titan, Inc. operated, or any of them.

20. Du Pont did not agree with Titan, Inc. in or about June, 1938, or at any other time, that du Pont
289 would not exercise rights reserved to it in licenses granted Titan, Inc.

21. Du Pont did not at any time agree to exchange technical information with the foreign associates of National Lead.

22. Du Pont did not agree with Titan, Inc. in or about June, 1938, or at any other time, to confine its operations in connection with the manufacture and sale of titanium pigments within the United States and Central and South America.

23. Du Pont did not agree with Titan, Inc. in or about June, 1938, or at any other time, to prevent its customers from exporting titanium pigments outside the United States and Central and South America.

24. Du Pont and National Lead did not agree to use the threat of infringement suits to compel either American Zirconium or Virginia Chemical to accept a license, and du Pont acted independently of National Lead in licensing

American Zirconium and Virginia Chemical under its titanium pigment patents and in negotiating adjustments and extensions of its license agreements with them dated January 1, 1935 and August 5, 1937, respectively.

25. Du Pont eliminated the quantity limitation provisions of the American Zirconium and Virginia Chemical licenses on November 10, 1944.

26. Du Pont did not enforce the quantity limitations formerly contained in the separate license agree-
290 ments made by it with American Zirconium and Virginia Chemical, and such provisions have not in fact limited the production of either of such companies or prevented them from engaging in the manufacture and sale of titanium pigments on a commercially profitable basis.

27. Du Pont has competed in the sale of titanium pigments to South America and has not participated in any allotment of customers in South America.

28. Du Pont's acquisition and later abandonment or disposition of patents originally belonging to Auergesellschaft were independent transactions and were not carried out in furtherance of the alleged combination or conspiracy.

29. Du Pont did not, and does not now, control the supply of ilmenite ore available in the United States for the manufacture of titanium pigments and has made such ore available to competitive pigment manufacturers.

PROPOSED CONCLUSIONS OF LAW

1. Du Pont did not contract, combine, or conspire, to restrain trade or commerce in titanium pigments or compounds among the several States, or with foreign nations, in violation of Section 1 of the Sherman Act (15 U.S.C. §1).

2. Du Pont did not monopolize, or attempt to monopolize, or combine or conspire with any other person or persons to monopolize, any part of the trade or commerce in titanium pigments or compounds among the several States or with foreign nations in violation of Section 2 of the Sherman Act (15 U.S.C. §2).

291 3. Alternatively, if it be concluded that at any time du Pont temporarily became a participant in, or illegally did any acts in furtherance of, any illegal contract, combination or conspiracy between any two or more of the other defendants or alleged co-conspirators, du Pont was disassociated therefrom and such participation and acts had ceased a substantial time prior to the filing of the complaint herein and prior to the commencement of

the Government's investigation, and there is therefore no ground upon which a court of equity may or should enter a decree herein.

Respectfully submitted,

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WM. DWIGHT WHITNEY,
GERHARD A. GESELL,
JOHN LOGAN O'DONNELL,
NESTOR SHEA FOLEY,
Of Counsel.

MARCH 1, 1945.

292 In United States District Court

[Title omitted.]

Plaintiff's proposed

FINAL DECREE

This cause came on to be heard upon the complaint and the answers thereto upon the evidence and upon argument of counsel. The Court having thereafter rendered and filed its opinion and having made and entered findings of fact and conclusions of law wherein the defendants have been found to have been engaged in a combination in restraint of trade and commerce in titanium pigments and compounds among the several states of the United States and of foreign nations, and that the defendants have been and now are parties to contracts, agreements and understandings in restraint of such trade and commerce in violation of Section 1 of the Sherman Act (26 Stat. 209, 15 U.S.C.A. §§1 and 2):

Now, therefore upon motion of plaintiff by Wendell Berge, Assistant Attorney General, Herbert Berman and William C. Dixon, Special Assistants to the Attorney General, Julian Caplan and Ephraim Jacobs, Special Attorneys, and John F. X. McGohey, United States Attorney, for relief in accordance with the prayer of the complaint

and the defendants having severally appeared by counsel, it is ORDERED, ADJUDGED and DECREED as follows:

293 1. The term titanium pigments or compounds as used herein shall be construed to mean any product containing 2% or more of the element titanium in a chemically, mechanically or physically combined state and mixtures thereof which can be used as pigments, whether or not adapted for other uses, and also extenders to be used in conjunction with such titanium compounds; and all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses, and also extenders to be used in conjunction with such titanium compounds.

2. The following abbreviations will be used to identify the defendants and co-conspirators:

NL	National Lead.
Tinc	Titan Company, Inc.
DP	E. I. du Pont de Nemours and Company, Inc.
TP	The Titanium Pigment Company, Inc.
Krebs	Krebs Pigment & Color Corporation.
TAS	Titan Co. A/S.
IG	Interessengemeinschaft Farbenindustrie Aktiengesellschaft.
TG	Titangesellschaft, g.m.b.h.
SIT	Societe Industrielle du Titane.
ICI	Imperial Chemical Industries, Ltd.
GW	Goodlass Wall and Lead Industries, Ltd.
ISC	Imperial Smelting Corporation.
BTP	British Titan Products, Ltd.
NTP or Laporte	National Titanium Pigments, Ltd.
CIL	Canadian Industries, Ltd.
CTP	Canadian Titanium Pigments, Ltd.
Kokusan or KK	Kokusan Kogyo Kabushiki Kaisha.
TK	Titan Kogyo Kabushiki Kaisha.
Terres Rares	Societe de Produits Chemiques des Terres Rares.
Thann	Fabriques de Produits Chemiques de Thann et de Mulhouse.
Montecatini	Societa Anonima Titanium.
Aussig	Verein fur Chemische und Metallurgische Produktion Aussig

3. The agreement dated July 30, 1920 between TP and TAS, (Exhibit A) thereafter assumed by the defendants NL and Tinc; the agreement between TP and Krebs dated January 1, 1933, thereafter assumed by the defendants NL and DP, and as amended by said
294 defendants on January 1, 1941 (Exhibits E and E3), are hereby adjudged to be unlawful under

Section 1 of the Sherman Act, and each of them is hereby cancelled and each of the defendants NL, Tinc, and DP, and all persons acting or claiming to act through, for or under them are hereby enjoined and restrained from the further performance of any of the provisions of said agreements.

4. The agreements dated July 30, 1920, between NL, TP, the Titanium Alloy Manufacturing Company and TAS (Exhibits A1 and A2), thereafter assumed by the defendant Tinc, are hereby adjudged to be unlawful under Section 1 of the Sherman Act, and the defendants NL and Tinc are hereby enjoined and restrained from the further performance of any of the provisions of said agreements.

5. The agreement between TAS and SIT dated March 3, 1927, (Exhibit B), assumed by defendant Tinc; the agreement between TAS and IG, (Exhibit C) dated October 3 and 20, 1927, assumed by defendant Tinc; the agreement between TAS and IG signed June 24 and October 20, 1927, (Exhibit C1), assumed by Tinc; the agreement between TAS and TG signed October 3 and 20, 1927, (Exhibit C3), assumed by Tinc; the agreement between TG and TAS dated October 3 and 20, 1927, (Exhibit C7), assumed by Tinc; the agreement between TG and TAS dated October 3 and 20, 1927, (Exhibit C8), assumed by Tinc; the agreement dated February 16, 1933 between ICI, ISC, GW and Tinc (Exhibit F); the agreements between Tinc, SIT, TR and Thann dated June 5 and 13, 1935, (Exhibits G1 and G2); the agreement between Tinc, TR, Thann, and IG; Tinc, TR, IG, Thann and DOITSU, both dated January 18, 1936, (Exhibits J and J2); the agreement between defendant NL and CIL dated January 1, 1937, (Exhibit K); the agreement between NL and CTP dated January 1, 1937 and as amended on February 27, 1939, (Exhibits K1 and K5)
295 are hereby adjudged to be unlawful under Section 1 of the Sherman Act and the defendants NL and Tinc are hereby enjoined and restrained from the further performance of any of the provisions of said agreements and of any agreements amendatory thereof or supplemental thereto.

6. The agreements between the defendant DP and Tinc dated July 27, 1937, June 20, 1938, April 21, 1939, May 10, 1940 and June 23, 1941, (Exhibits M, N, Q, R and S) are and each of them is hereby declared to be unlawful under Section 1 of the Sherman Act.

7. The agreements referred to in Paragraph 39 of the findings of fact heretofore filed, including the agreement between NL and Tinc dated March 28, 1939 (Exhibit O), and known as "license field extender agreements," entered into between the defendants NL, Tinc and other corporations found in the findings of fact to be co-conspirators and not within the jurisdiction of this Court, are hereby adjudged to be unlawful under Section 1 of the Sherman Act and the defendants NL and Tinc are hereby enjoined and restrained from the further performance of any of the provisions of said agreements or understandings referred to in said findings.

8. The defendants NL and Tinc are ordered to dispose of their stock holdings and to liquidate any and all financial interests, which either or both of said defendants NL and Tinc may have in any and all of the co-conspirator companies named in the findings of fact heretofore filed by this Court, within a period of six months from the date of this decree, said sale to be subject to the approval of this Court as to the person or corporation to whom said stock or financial interest is sold or transferred; provided, however, that no part of said stock or financial interest may be sold or otherwise transferred or disposed of to any of the defendant corporations, their successors or assigns, or to any other corporation in which
296 said defendants have any financial or stock interest of any kind, nature or description whatsoever.

The defendant NL is ordered to divest itself of any and all financial or stock interest in Tinc and to present to the Court for its approval, a plan for the dissolution of Tinc within one year from the date of this decree. Such plan of dissolution shall provide for the transfer to NL of all patents U. S. and foreign and all patent applications U. S. and foreign owned by or under the control of Tinc, which patents and patent applications shall be subject to the provisions of paragraph 9 of this decree. Such plan of dissolution shall further provide for the use, to the extent possible by the companies formed by NL pursuant to paragraph 9 herein, of such trade-marks and trade-names as are presently used by Tinc or any of its affiliated companies in the sale of titanium pigments or products by Tinc outside of the territorial limits of the United States.

9. The defendants NL and DP are each hereby ordered to take immediate action leading to the ultimate disposition and divestiture by each of said defendants of any

and all interest while each of said defendants may have in the physical plant, property, equipment and other assets owned by or under the control of each of said defendants and used by them in the manufacturing of titanium pigments or compounds, said divestiture and disposition of the physical plant, property, equipment and assets of each of said defendants, used by them in the manufacturing of titanium pigments or compounds shall be completed within one year from the date of this decree, unless extended by order of this Court after application properly made by said defendant or defendants. In accomplishing this divestiture, each of the defendants is ordered to
297 create two separate and distinct corporations to each of which they shall each transfer one of their plants engaged in the manufacturing of titanium pigments and compounds, together with any and all operating equipment and facilities, including technical and research personnel necessary to enable said separate corporation to function as a separate and complete competitive and operating unit in the titanium pigment business. (In the event the defendants NL and DP transfer all of their technical personnel to said corporations, the provisions of paragraph 11 herein shall be binding on the corporations created pursuant to this paragraph, it being the intention of the court, as provided in paragraph 11, to make all technical information referred to therein available to all persons or corporations desiring the same.) The establishment of said separate corporations shall be in accordance with a plan prepared by the defendants in accordance with the requirements of this paragraph and submitted to this Court for its approval within a period of six months from the date of this decree. All of the stock in each of said corporations so created by the defendants in accordance with the provisions of this paragraph, shall be disposed of by the defendant corporations owning the same within a period of one year from the date of this decree. The sale of this stock in said corporations created pursuant to this paragraph, shall be subject to the approval of this Court as to the purchaser thereof; provided, however, that no part of said stock may be sold or otherwise transferred or disposed of to any of the defendant corporations, their successors or assigns, or to any other corporation in which said defendants have any stock or financial interest. In the event the stock interests of the defendant corporations in the corporations created by the defendants pursuant to

this paragraph to accomplish the divestiture herein provided for, is not disposed of within a period of one
298 year from the date of this decree, this Court may, upon the application of the plaintiff, order said shares of stock to be sold at public auction on such terms and conditions as may be prescribed by this Court.

10. Defendants NL, Tinc and DP are hereby ordered to make available, for the duration of the patents, on a royalty free basis to any person or corporation desiring the use of the same, any and all U. S. patents or patent applications which relate to the manufacture or use of titanium pigments or compounds, together with any use patents or patent applications owned or controlled by said defendants outside the United States, which patents and patent applications are numbered and described in Exhibit A attached hereto and made a part hereof.

Said defendants are further ordered to grant licenses to such persons or corporations as may request them of all patents which relate to the manufacture or use of titanium pigments or compounds, which are issued to any of the defendants on any patent applications filed with the United States Commissioner of Patents after the date of this decree and on which patents are issued within a period of five years from the date of this decree, or of which the defendants are or become the exclusive licensee, during a period of five years from the date of this decree; said licenses to be granted to such persons or corporations as may request them on a reasonable royalty basis for the life of said patents, the reasonableness of said royalty to be determined by this Court in the event the defendant owner of such patent and the person or corporation requesting a license thereof, are unable to agree upon the royalty to be charged.

11. The defendant DP is enjoined from collecting any royalties from the American Zirconium Corporation, or its successors and assigns, under license agreement
299 dated January 1, 1935, (Exhibit I) entered into between Krebs Pigments and Color Corporation and American Zirconium Corporation, which agreement was assumed by defendant DP, and from Virginia Chemical Corporation, its successors or assigns, under the license agreement between defendant DP and Virginia Chemical Corporation, dated August 5, 1937 (Exhibit L). Defendants NL, Tinc and DP are hereby enjoined from bringing, or threatening to bring, any action against any person or corporation for the alleged use or alleged infringement

of any of the patents or patent applications, or any patents hereafter issued to said defendants from any such patent applications, described and numbered in Exhibit A attached hereto and made a part hereof.

12. Defendants Tinc, NL and DP are hereby ordered, subject to the provisions of paragraphs 7 and 8 respectively, to make available, without charge, to any and all persons or corporations desiring the same, for use in the manufacture of titanium pigments or compounds, any and all technical information or service relating to the practice or use of any of the patents described in Exhibit A, or to any technical problems relating to the manufacture or use of titanium pigments or compounds for a period of five years from the date of this decree or until further order of this Court, which ever is sooner. If the furnishing of such information or technical knowledge requires the personal service of an employee of any of the defendants away from the place of his employment, such defendant furnishing the services of such employee may make a reasonable charge for such service of the person or corporation requesting the same, provided, however, that any charges for such technical services herein ordered to be made available to any or all persons or corporations desiring the use of the same, shall be fixed by the Court upon complaint of any person or corporation availing or desiring to avail itself of such technical services where such charges are deemed excessive by the person or corporation making use or desiring to make use of the same.

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13. Each of the defendants and each of their directors, agents, employees and successors and all persons acting, or claiming to act, under, through or for them or any of them are hereby enjoined and restrained (1) from entering into, adhering to, maintaining or furthering directly or indirectly, or claiming any rights under any contract, agreement, understanding, plan or program among themselves, the corporations found to be co-conspirators herein, or with any other person, which has as its purpose or effect the continuing, reviving or renewing of any of the agreements, contracts or understandings described in the findings of fact or found in this decree to be in violation of the Sherman Antitrust Law; (2) from taking any action that might restrict or tend to restrict the export or sales for export from the United States of titanium pigments or compounds or products containing titanium pigments or compounds; (3) from taking any action or refraining

from taking any action that might restrict or tend to restrict the purchaser of titanium pigments or compounds from any of the defendants in the full and unrestricted use thereof.

14. Defendants are further ordered when provided for in this decree to give proper notice of any of the acts provided by them to be performed herein to the Attorney General of the United States or his proper representative who shall, for the purpose of securing compliance with this decree, be permitted (1) access, during the office hours of the defendants, to all books, ledgers, accounts, correspondence, memoranda, and other records and documents in the possession or under the control of the defendants, relating to any matters contained in this decree, (2) without restraint or interference from the defendants, to interview officers or employees of the defendants, who may have counsel present, regarding any such matters: Provided, however, That information obtained by the means permitted in this paragraph shall not be divulged by any representative of the Department of Justice to any person other than a duly authorized representative of the Department of Justice except in the course of legal proceedings for the purpose of securing compliance with this decree in which the United States is a party or as otherwise required by law.

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15. The motion of the defendant DP for dismissal of the complaint against it made at the close of the plaintiff's case in chief and renewed by the defendant DP at the close of all of the evidence in the case, is hereby overruled. The motion of the defendants NL and Tinc for dismissal of the complaint against said defendants is likewise overruled. Judgment is entered against the defendants for all costs incurred in this proceeding.

...., *Judge.*

Approved:

....., ...,
Attorneys for Plaintiff

....., ...,
Attorneys for Defendants
National Lead Company and Titan Co. Inc.

....., ...,
Attorneys for Defendant
E. I. du Pont de Nemours & Company

302 In United States District Court

[Title omitted.]

STIPULATION AS TO CERTAIN FACTS

It is stipulated by and between the Government and the defendant, E. I. du Pont de Nemours and Company, as follows:

Du Pont sold titanium pigments in Canada during the period 1932-1937. All of its sales were made to CIL with the exception of 120,000 pounds of pigments sold in 1937 to CTP. Du Pont did not make any sales in Canada in 1938 or thereafter. Du Pont sales to CIL were for its own use and not for resale. CIL did not resell any titanium pigments purchased from du Pont. The sales in 1937 to CTP were for resale.

The price to CIL charged by du Pont was based upon the American selling price. Prior to 1937 du Pont gave CIL a discount of 1¼¢ per pound carload lots and 1¾¢ per pound less than carload lots below the American price and assumed all freight charges for delivery to CIL. In 1937 the American price was charged without dis-
303 count on the only two sales made, both of which were less than carload lots. In all years CIL paid the 15% Canadian duty and the 3% Canadian excise tax. The resulting cost to CIL was 18.99¢ per pound for the years 1934-1936 inclusive, which compares with the British price reflected in Government Exhibit 669 of 18.4¢ per pound, which was approximately the British price.

The sales made by du Pont to CTP in 1937 were made on a discount basis of 7½% below the American selling price, du Pont assuming freight. CTP paid Canadian duties and excise tax. The resulting price to CTP was 17.6¢ per pound as compared to the British price reflected in Government Exhibit 669 of 18.4¢ per pound. CTP in turn resold charging the same price which it charged for pigments purchased from National Lead for resale. Du Pont's price to CTP was computed on a different basis and was higher than National Lead's price to CTP.

During the period 1932-1937, the Canadian duty for titanium pigments imported from the United States was

15%, while in the same period British titanium pigments were imported into Canada duty free.

WILLIAM C. DIXON,
Counsel for United States of America.

CRAVATH, SWAINE & MOORE,
Counsel for E. I. du Pont de Nemours and Company.

Dated October 1, 1945.

United States District Court

SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA, *Plaintiff,* *against* NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, *Defendants.*	Civ. 26-258

Appearances:

JOHN F. X. MCGOHEY, Esq.,
United States Attorney, for plaintiff;

HERBERT A. BERMAN, Esq.,
WILLIAM C. DIXON, Esq.,
Special Assistants to the Attorney General,

JULIAN CAPLAN, Esq. and
EPHRAIM JACOBS, Esq.,
Special Attorneys,
Of Counsel.

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RIFKIND, *D. J.*

By its complaint the United States alleges a cause of action under sections 1 and 2 of the Sherman Act. 26 Stat. 209, 15 U. S. C. A. §§ 1, 2. Its prayer is for an injunction to restrain the alleged violations of the statute and for ancillary remedies to make the court's mandate effective.

The defendants are National Lead Company and E. I. du Pont de Nemours & Company, Inc., the two principal producers of titanium pigments in the United States and the two largest producers thereof in the world; and Titan Company, Inc., wholly owned by NL and in turn the owner of substantial stock interests in the following corporations, producers of, dealers in titanium pigments: BTP, TG, SIT, TAS and TK.

The complaint charges that

> "Beginning on or about July 30, 1920, defendant National and co-conspirator Titan A/S, and the remaining defendants and co-conspirators, and others to plaintiff unknown, on various dates thereafter, continuing at all times thereafter to the date of the filing of this complaint [June 24, 1944], have been continuously engaged in a combination by the means and methods hereinafter set forth, in restraint of, and to monopolize, the aforesaid trade and commerce in titanium compounds among the several states of the United States and with foreign nations and have been and are now parties to contracts, agreements, and understandings in restraint of such trade and commerce, all in violation of Sections 1 and 2"

of the Sherman Act.

The evidence supports the allegation in every material respect.

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Titanium is a very abundant element. The principal ores which yield titanium in commercial concentration are ilmenite and rutile. Titanium compounds and particularly titanium dioxide possess the characteristics of opacity, great hiding power, high tinting strength and chemical inertness. These properties make it superlatively suitable for the manufacture of white paint and valuable in the production of rubber, glass, paper and several additional materials.

The commercial development of titanium compounds is founded largely upon the work of three groups of chemists working independently at and about the time of the first World War. In the United States, at Niagara Falls, New York, Messrs. Barton and Rossi developed a process for the manufacture of titanium compounds. Patents were issued to them; and these they assigned to TP, a corporation formed for the purpose. In Norway, Gustav Jebsen and his associates, interested in the utilization of a large ilmenite deposit, developed another process. The patents which were granted thereon were assigned to TAS, organized for the purpose of exploiting them.

In France, Joseph Blumenfeld invented and procured patents for a third process. Terres Rares acquired these patents.

In 1920 NL held 10% of the stock of TP and had an option to acquire up to 50% of its stock. NL thereupon negotiated an agreement with TAS which was executed and went into effect on July 30, 1920. This agreement became the basic charter for the world-wide regulation of production and commerce in titanium compounds.

It marked the birth of a new industry. In the course of the ensuing twenty years titanium pigments outstripped the production and sale of lithopone and white lead. In the

United States production rapidly mounted and by 1940 more than 100,000 tons of pure TiO_2, having a value in excess of $40,000,000 were manufactured and sold. In Europe and other parts of the world, too, the industry took serious hold and production mounted to approximately one third of the United States tonnage. By 1944 American production had risen to 133,000 tons of pure TiO_2. Most of the sales were not in the form of pure TiO_2 but in the form of extended pigments—that is, pigments composed of TiO_2 chemically united or mechanically mixed with other ingredients.

Throughout this period prices were repeatedly reduced and only once, in 1941, increased.

At or about the time of the outbreak of World War II [this point of time is taken arbitrarily] we find this industry predominantly occupied in the United States by two producers, NL and DP, who supplied, in 1939, 73,645 tons out of a total of 82,940 tons. The balance of 9,295 tons is produced by American Zirconium, a licensee of both NL and DP and by Virginia Chemical, a licensee of DP^2. We further find a complete absence of imports of titanium products from abroad, and complete absence of exports from the United States, except to the countries of the Western Hemisphere.

In order to understand how this condition of affairs came to be, it is necessary to review the provisions of the mentioned contract of 1920 and briefly to relate the history of the persistence of its principles in more than 60 agreements subsequently executed.

The 1920 agreement between TP and TAS provided:

The preamble recited that each of the parties owned and expected to own certain patents and that each desired to

obtain rights under the patents owned by the other, within the "licensed field".

"Licensed field" was defined to include all substances consisting of or containing above two per cent. of titanium, or a compound or compounds thereof, unless such substances contained by weight more than five per cent. of a metal other than titanium in its purely metallic state, and all apparatus, methods, and processes useful in the obtainment or manufacture or use of said substances.

TP agreed to grant to TAS and TAS accepted a license, exclusive of all others including TP, to manufacture, use, and sell each and every invention improvement, or subject matter in the licensed field, under existing or future letters patent; but only in or for territories outside of North America and South America.

TAS agreed to grant to TP and TP accepted a license, exclusive of all others, including TAS, identical in scope and extent except that it was limited to and for the territories within North America (defined to include Central America and Panama).

Each party granted the other a non-exclu ive license to use or sell, under patents issued by South American countries, but only in South America.

The parties agreed to make available to each other copies of patent applications; and detailed provision was made for the prosecution of patent applications and the maintenance of patents within the territory of each party respectively.

Each party agreed never to question the validity of the patents of the other.

TAS appointed TP its sole agent for the introduction into and sale in North America of *all products of TAS in*

the licensed field.. Such importation into the United States could take place only upon the order of the agent; and the sales in North America were to be made at prices and upon conditions fixed by the agent.

TP similarly appointed TAS its sole agent for introduction and sale, outside of North and South American of all TP products in the licensed field.

Each party was permitted to import into the territory of the other finished articles, such as point, glass, rubber, in which a titanium product had been used as a raw material—but only when the titanium product did not constitute such an important part of the finished article that its sale would substantially interfere with sales of its own products by the other party within its own territory.

Each party agreed to impart to the other full and accurate technological information relating to the licensed field, and to permit plant inspection (exclusive of research laboratories).

Article XIV of the agreement conferred upon each party the right to grant licenses under its own patents or sublicenses under the other's patents, on condition that every such licensee or sublicensee would

a) grant to the party to the 1920 agreement, other than its licensor, exclusive licenses under all its patents, present and future, in the licensed field, identical in character, territorial scope, and duration to the rights granted by the 1920 agreement by the parties thereto;

b) appoint such other party its sole agent on the same terms as obtained between the parties to the 1920 agreement;

c) would impart to such other party technological information to the same extent as obtained between the parties to the 1920 agreement;

d) would abide by the territorial allocation of the 1920 agreement.

The agreement of 1920 was to continue in effect until 1936, and was then to be automatically renewed for successive ten year periods, each party having the right to cause a termination by notice given at least five years before the end of such period.

By an agreement executed simultaneously with TP and TAS, NL bound itself to respect the contract of 1920, promptly to assign to TP all its then owned or thereafter acquired patents, inventions and improvements relating to the licensed field, throughout the world, and to communicate to TP all its technical information in the licensed field.

It is manifest that by the terms of this agreement the parties had divided the world into two trade areas or territories; that each party agreed not to trespass into the territory allotted to the other; and that all commerce between the two territories in titanium products was, as far as these parties were concerned, interdicted and could proceed only by the grace of their mutual consent. The suppression of this commerce was not limited to patented articles or to articles produced by patented processes but extended to all products within the "licensed field".

The objects of this arrangement have not been left unstated, to be ascertained by inference and deduction. They are disclosed by a large volume of written correspondence, unhibited by any respect for, or indeed any apparent awareness of the prohibitions of the anti-trust laws.

These explicitly stated objects are: 1, the elimination of competition; 2, the advancement of the art through the exchange of technology. It was the belief of the architects of this foundation of the industrial structure they hoped to build thereon, that the second object could not be attained except in a climate of cooperation engendered by the achievement of the first object. And it was their intention that the advance in the art, accelerated by the exchange of patents, patent applications and "know how", should as far as possible remain the private prize of the parties, and constitute their shield and weapon against outsiders.

This intention was carried into effect.

An examination of the evidence reveals the perpetuation of what the parties called the principles of the 1920 contract by a network of agreements which have confined the international trade in titanium products within the preordained channels where-through it moves only by the grace and under the regulation of NL and its foreign associates. It is unnecessary to rehearse the history and detail of that development. Both are recited in the Findings of Fact. A very brief summarization is all that will be attempted here.

In 1927 NL acquired 87% of the stock of TAS. Jebsen retained 13%.

In 1929 NL organized Tinc, which thereupon acquired the rights and assumed the liabilities of TAS under the 1920 Contract. Tinc became NL's corporate pocket for the deposit of its holdings in foreign titanium enterprises. By 1932 NL had acquired all of the stock of TP and in 1936 it acquired all its assets and assumed its obligations.

On May 1, 1925, by agreement between TAS and French interests, SIT, a French corporation, was estab-

lished to manufacture and distribute titanium products but only within the territory of France and its colonies (except those appurtenant to North and South America). Both TAS and NL acquired substantial interests in SIT. On March 3, 1927, the arrangements between TAS and SIT were confirmed and elaborated to give explicit expression to the provisions of the 1920 Contract relating to territory, competition and technological collaboration.

In 1927, by agreement between TAS (acting also in behalf of and in the interest of NL) and IG, a German corporation was established, called TG. IG and TAS became the joint owners of TG. IG agreed that it would not engage in the titanium business except through TG, to whom it assigned all its titanium patents and to whom it agreed to assign all its future titanium patents. To TG was assigned a territory consisting of Germany, Russia, Austria, Hungary, Czechoslavakia, Switzerland, Roumania, Serbia, Croatia, Slovenia, Bulgaria, Greece, Turkey, Japan, China, and Spain. TAS and TG simultaneously entered into an agreement which embodied the principles of the 1920 Contract.

NL was in good part motivated in bringing about these German agreements by the desire to be free of the potentially very dangerous competition of so powerful a producer as IG. The evidence is incapable of any other inference.

By 1933 NL was acting in the foreign field through Tinc. By a series of agreements entered into in February and March, 1933, production and distribution of titanium products within the British Empire (exclusive of North and South America) were brought within the orbit and subjected to the regulation of the principles of the 1920 Con-

tract. The agreements were among Tinc, ICI, ISC and GW. Pursuant to these agreements BTP was formed and became the assignee and licensee of existing and future titanium patents of the parties to the agreement; it also became subject to and beneficiary of the principles of exclusive territorial allocation and patent and technological collaboration of the 1920 Contract.

Meanwhile, significant events were taking place within the sphere of relations between the producers already mentioned and other producers, both American and foreign, whose processes stemmed from the inventions of Joseph Blumenfeld. But I shall depart from the chronological order in order to complete the recitation of events pertinent to the producers whose processes were rooted in the Jebsen-Barton and Rossi inventions.

Canada was NL's territory under the 1920 Contract. But danger of independent competition in that market developed from the plans of Laporte. In 1937, NL and CIL entered into agreements for the formation of CTP, to whom Canada was assigned as its exclusive territory. CTP became the beneficiary of all present and future titanium patents of both its founders. It was subjected to the restrictions and given the benefits of the principles of the 1920 Contract. The threat of Laporte's competition was eliminated by an agreement under which Laporte's Canadian business and patents were purchased and Laporte covenanted to stay out of the titanium business in Canada for 15 years.

In 1936, Tinc, IG and TG, a Blumenfeld company, TR and a Japanese company, KK, joined in the formation of TK to engage in the manufacture and sale of titanium products. The territory assigned to TK was the Japanese

Empire. This agreement departed in some respects from the principles of the 1920 Contract but it adhered strictly to the principles of exclusive territorial allocation and the elimination of competition between territories. In the new Japanese company ownership was divided as follows: 50% to KK; of the remaining 50%, TR got 30% and Tinc and IG 70%. This division of interest between Tinc and IG on one side and the Blumenfeld companies on the other was dictated by agreements previously entered into which need now to be briefly mentioned.

It has already been stated that Joseph Blumenfeld had assigned his titanium patents to TR. TR in turn assigned or licensed them to Aussig of Czechoslovakia, Montecatini of Italy, Thann of France, Laporte of Great Britain and Commercial Pigments of the United States, who severally were engaged in the production of titanium products and exploited various markets in competition with the producers, already mentioned, who utilized the Barton-Rossi and Jebsen processes. Beginning in 1933, a series of agreements were negotiated and executed, the object of which was to bring this competition under the control of the parties.

i. The first of these was the Aussig agreement, made in 1933, by TG and Aussig. This agreement regulated production, territory of sale, sales quotas, prices and patent exchange.

ii. The Contrat a Quatre was executed in 1935 to take effect as of May 1, 1934. The parties were Thann and TR on one hand, and SIT and Tinc on the other. It regulated sales quotas, prices and patent exchange.

iii. The Contrat de Livraisons was executed in 1935 by the same parties. To prevent the expansion of

producing capacity, the contract provided that each would supply the other with its surplus product to satisfy the other's deficiency.

iv. The Contrat a Six was executed at the same time. The parties were Thann, TR, Montecatini, Tinc, SIT, and TG. It regulated sales-territories and sales-quotas of each of the parties. All the parties agreed to give neither technical nor commercial assistance or assign any patent or grant any license to any outsider who intruded into the territories covered by the agreement. This agreement was renounced by Montecatini on December 31, 1938.

v. The British Empire was not embraced within the forementioned agreements. Sometime in 1936, BTP and Laporte entered into agreements whereby Laporte withdrew from the world market outside the British Empire and uniform prices were established in the British market. In 1941, BTP and Laporte entered into a quota arrangement with Laporte, establishing 80% as BTP's share and 20% as Laporte's share of the British market.

I return now to the United States and take up the thread of the story in 1931. Since this aspect of the case will require more detailed analysis, I shall but sketch its outlines to serve as a frame of reference for the discussion which is to follow. As already indicated, Commercial Pigments held the American rights under the Blumenfeld patents. Until 1931, the company engaged in manufacturing and selling pure TiO_2. In 1931, these rights were acquired by Krebs, a corporation organized by DP and Commercial Solvents Corporation. DP acquired 70% of the stock of Krebs.

Krebs manufactured and sold titanium compounds until 1935, when DP acquired all its assets. Thereafter and to date, DP engaged directly in manufacture of titanium compounds. After a protracted period of negotiation between NL and DP, their respective titanium subsidiaries TP and Krebs, entered into a written agreement, dated January 1, 1933, which was executed in July of 1933. By the terms of this agreement they

i. exchanged irrevocable, non exclusive licenses, within the United States, to use all processes, methods, and apparatus relating to or in the "licensed field"[3], whether or not patented or subject to patent, then or thereafter owned by them or otherwise at their disposal, with the right to sell products resulting from the exercise of such licenses in the United States, its colonies and possessions, Mexico, Central America, the West Indies and South America;

ii. agreed to exchange technical information and experience;

iii. agreed to assist each other to acquire an irrevocable, non-exclusive license, for the territory above described, under any patent or application owned by or otherwise at the disposal of third parties, under which one of them was itself licensed; and Krebs agreed that it would offer to any foreign associate of TP, before offering to any other person, the opportunity to acquire, upon mutually satisfactory terms, an irrevocable, non-exclusive license under any patent, then or thereafter owned or at the disposal of Krebs, relating to the "licensed field", issued in any country of Europe or in Great Britain;

iv. released each other from infringement claims;

v. agreed that the agreement might be terminated after December 31, 1933, on three years notice.

Before this agreement was executed there was an exchange of oral and written communications between NL and DP, of which more will be said hereafter. It is sufficient to indicate at this point that the DP agreement departed in several important respects from the requirements of Art. XIV of the 1920 Contract.

In each of the years 1937 to 1941, inclusive, DP and Tinc entered into agreements whereby DP granted to Tinc licenses, exclusive except as to DP, under specified titanium patents and applications of DP, in specified countries, with the right to grant sublicenses to TG, BTP, SIT and from 1939, to TK; and Tinc, with the consent of NL, granted DP non-exclusive licenses under specified United States patents and applications.

On or about May 1, 1940, the exchange of technical information between NL and DP was discontinued; and by agreement of January 1, 1941, the 1933 agreement was amended accordingly.

As already noted, there are in the United States only two other producers of titanium products, American Zirconium and Virginia Chemical.

American Zirconium began the manufacture of titanium compounds in 1934. NL and DP severally notified American Zirconium that it was probably infringing. On May 6, 1935, NL (through TP) entered into an agreement with American Zirconium for the cross-licensing of patents. The agreement in all material respects embodied the principles of the 1920 Contract. In lieu of royalties NL received 10% of the stock of American Zirconium.

In April, 1944, the agreement was cancelled and NL assigned its American Zirconium stock to the latter's parent corporation.

In July, 1935, DP and American Zirconium entered into an agreement dated January 1, 1935, whereby DP granted American Zirconium a non-exclusive license under specified patents, subject to a royalty on the "total quantity of titanium dioxide produced" and subject to a quantity limitation on the tonnage of "titanium dioxide made wholly or partly under the license". The quantity limitation was graduated from 3,000 tons at the inception of the contract to 9,000 tons in 1944 and thereafter. The limitation was from time to time somewhat relaxed and was cancelled on November 10, 1944, on recommendation of DP's Legal Department.

Virginia Chemical received a license from DP on August 5, 1937. Its terms were substantially similar to those of the American Zirconium license. The quantity limitations were eliminated at the same time and under the same circumstances as the corresponding change was made in the license to American Zirconium.

This concludes the barest outline of the history of the titanium industry. In detail, the elapsed quarter century is crowded with negotiations, conferences, correspondence and agreements. The men who participated in these were all articulate, literate and, with the exception of DP's Rupprecht, recorded what they saw, heard, said and thought with Boswellian fidelity. When the story is seen as a whole, there is no blinking the fact that there is no free commerce in titanium. Every pound of it is trammelled by privately imposed regulation. The channels of this commerce have not been formed by the winds and currents of competition.

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They are, in large measure, artificial canals privately constructed. The borders of the private domain in titanium are guarded by hundreds of patents, procured without opposition, and maintained without litigation. The accumulated power of this private empire, at the outbreak of World War II, was tremendous. It was more difficult for the independent outside to enter this business than for the camel to make its proverbial passage through the eye of a needle.

For the purpose of the discussion which follows, it is convenient to segregate DP's relations with NL and the foreign producers from NL's relations with the foreign producers.

I. The case against NL and Tinc.

At the outbreak of World War II we find that NL and Tinc are, by virtue of agreement, members of a world-wide combination. The more intimate members of that combination are NL, Tinc, TAS, SIT, TG, BTP, TK and CTP. Among these, the closest cooperation prevails. Territories are allocated; patents and patent applications are interchanged and cross licensed; technological information or "know-how" of one is promptly made available to the others (except TK). Each operates in its own exclusive territory. When there is suspicion that a customer of one is shipping into the territory of another, investigation is promptly made with a view to suppressing the "illicit" traffic. Competition among them is non-existent.

A less intimate bond unites the members of this Titan family with the Blumenfeld group. No member of the latter group exports into NL's exclusive territory. NL does not export outside of the Western Hemisphere. For

the territory beyond NL's frontiers, quota arrangements and price agreements assure the absence of competition between the Titan family and the Blumenfeld group. In Japan both groups unite in a common enterprise.

And all this is the product of agreements.

Clearly this combination affects the interstate and foreign commerce of the United States. No titanium pigments enter the United States except with the consent of NL. No foreign titanium pigments move in interstate commerce except with like approval. No titanium pigment produced by NL may leave the ports of the United States for points outside the Western Hemisphere.

One of the objects of the combination is to suppress competition.

On January 12, 1927, the president of NL writes to Evans McCarty, its vice-president, and one of the chief architects of the combination:

> "The titanium patents expire in 1936 unless extended in ways not at present known to us. . . . Therefore, with us in the United States and with the Norwegian Company, there is a common need to exploit titanium pigments and, at the same time, protect ourselves; so that after the expiration of patent rights, we may have the manufacture and sale thereof under our control so as to continue to reap the harvest from the seed we are now sowing. If you, therefore, could formulate a plan satisfactory to Dr. Jebsen, whereby we could arrange to pay a royalty to the Norwegian Company similar to that he proposed to ask from the German Company, under an agreement that the National Lead Company would endeavor to organize companies in Germany, England and such other European countries as it

desired—in each of which companies the National Lead Company should acquire and own at least one-half of the capital stock outstanding—I would personally look with favor upon such an arrangement". (Pl. Ex. 70).

On April 27, 1932, Jebsen writes to Major Barley, of Imperial Chemical Industries, Ltd., proposing the formation of a British company in keeping with the suggestion of NL's president. Therein he refers to the 1920 Contract and adds:

> "In order to avoid competition and friction, it was agreed that each company should confine its activity of manufacture and sales to a definite territory". (Pl. Ex. 112).

Prior thereto, on September 16, 1930, Jebsen reported to McCarty concerning the early conversations with Aussig:

> "I presented for discussion your suggestion of a pooling of the patents. It is not quite clear to me what is meant by this. We thought, however, that the idea was mutual cooperation and possible joint action to keep third parties out", (Pl. Ex. 522).

He pointed out a number of obstacles in the path of such a scheme—but these were in fact overcome.

In April, 1931, Cornish, president of NL, finds himself obliged to contribute to the correspondence by reason of McCarty's illness. The subject under discussion is apparently the proposed arrangement with the Blumenfeld companies:

> "May I call the proposed combination, for simplicity, a cartel?".

And he defines it.

> "The whole purpose of the cartel is to obtain a monopoly of patents so that no one can manufacture it excepting the members of the cartel, and so can raise the prices by reason of such monopoly to a point that would give us much more profit on our present tonnage, but also prevent a growth in tonnage that would interfere with their greater profits in lithopone". (Pl. Ex. 183).

He voices objections based on business, not legal, grounds. His objections, however, were apparently not pressed.

Such was the purpose for which, and such were the means by which, NL, McCarty and Jebsen built their closed system. To have access to the patents of the combination, the stranger must not only have the consent of the member of the combination in whose "territory" he would operate, but he must adhere to the principles of the combination. The cornerstone of the system was the private regulation of international trade. The suppression of competition was the cement which held the superstructure in place.

Whether the form of association they created be called a cartel,[5] an international cartel, a patent pool, or "a technical and commercial cooperation", is of little significance. It is a combination and conspiracy in restraint of trade; and the restraint is unreasonable. As such it is outlawed by Section 1 of the Sherman Act; and it is unimportant whether it also violates Section 2.

No citation of authority is any longer necessary to support the proposition that a combination of competitors, which by agreement divides the world into exclusive trade areas, and suppresses all competition among the members

of the combination, offends the Sherman Act. Hence we need only consider the adequacy of the defenses asserted against the case established by the plaintiff.

The system of territorial allocation and suppression of trans-Atlantic traffic in titanium compounds and pigments cannot be justified as ancillary to the grant of a license under a patent. True, the network of agreements did involve cross-licensing of patents—but it was not limited thereto. The agreements applied to patents not yet issued and to inventions not yet imagined. They applied to commerce beyond the scope of any patents. They extended to a time beyond the duration of any then-existing patent,

Ethyl Gasoline Corp. v. *U. S.*, 1940, 309 U. S. 436, 456.

They embraced acknowledgement of patent validity with respect to patents not yet issued, nor applied for, and concerning inventions not yet conceived,

Pope Mfg. Co. v. *Gormully*, 1892, 144 U. S. 224;
U. S. v. *Hartford-Empire Co.*, N. D. Ohio, 1942, 46 Fed. Supp. 541, 615.

They extended to countries, such as China, where no system of patent monopolies exists;

Interstate Circuit, Inc. v. *U. S.*, 1939, 306 U. S. 208.

They regulated the disposition of the products after sale by the licensees,

U. S. v. *Univis Lens Co.*, 1942, 316 U. S. 241;
U. S. v. *Bausch and Lomb Optical Co.*, 1944, 321 U. S. 707.

While it has been held that the owner of a patent may license whom he will or refuse to license,

Continental Paper Bag Co. v. *Eastern Paper Bag Co.*, 1908, 210 U. S. 405,

it is now well settled that a license may not be used to extend the patent monopoly beyond its terms,

Morton Salt Co. v. *Suppiger Co.*, 1942, 314 U. S. 488;
Ethyl Gasoline Corp. v. *U. S.*, supra, 456.

And where there is a refusal to license (or refusal to license except on specified conditions which would extend the patent monopoly) which is the product of agreement or conspiracy, on part of the owners of competing patents, I believe, the law is offended to the same extent as the law is violated when several combine and agree not to do business with a particular customer or class of customers.

U. S. v. *Colgate & Co.*, 1919, 250 U. S. 300;
U. S. v. *A. Schrader's Sons, Inc.*, 1920, 252 U. S. 85;
U. S. v. *Waltham Watch Co.*, S. D. N. Y. 1942, 47 Fed. Supp. 524, 531.

The agreements here involved offend in that respect, as well.

It is suggested that the 1920 Contract may escape the condemnation of the Sherman Act by recourse to the doctrine which validates covenants in restraint of trade when reasonably ancillary to a lawful principal purpose, such as the sale of a business;

U. S. v. *Addyston Pipe and Steel Co.*, C. C. A. 6, 1898, 85 Fed. 271, affd. 175 U. S. 211.

Such a principal purpose is, in the case at bar, supposed to be the sale by TAS of its American business to TP, accompanied by a license under its patents; and conversely, the sale by TP of its foreign business to TAS, accompanied by a license under its patents.

The shortest answer to this suggestion is that, in fact, TAS had no American business to sell, and that TP had no foreign business to dispose of. At best, each had an opportunity and a hope. Certainly the world wide territorial allocation was unreasonable in scope when measured against the business actualities. This is a case where if not the sole, at least one of the principal objects was "to restrain trade in order to avoid the competition which it has always been the policy of the common law to foster",

U. S. v. *Addyston Pipe and Steel Co.*, 1898, 85 Fed. 271, 282;

Greater New York Live Poultry Co. of C. v. *U. S.*, C. C. A. 2, 1931, 47 Fed. 2d 156, cert. den. 283 U. S. 837.

In each of the subsequent agreements which resulted in the creation of SIT, TG, BTP, CTP and TK, the same purpose, to restrain trade in order to avoid competition, was paramount.

It is suggested that this Court is without jurisdiction to consider conduct abroad, on part of foreign corporations, relating to the commerce of foreign nations. Unquestionably, if the gravamen of the complaint were to impeach the Aussig agreement as such, or the BTP-Laporte quota arrangement as such, the point would be well taken. But that is not the gist of the complaint. On the contrary, it has been alleged and proved that a conspiracy was entered into, in the United States, to restrain and control the com-

merce of the world, including the foreign commerce of the United States. The several agreements relating to manufacture and trade within the European markets are but some of the links in the chain which was designed to enthral the entire commerce in titanium. The object of the government's attack is a conspiracy in the United States affecting American commerce, by acts done in the United States as well as abroad. It follows that the Sisal case[6] rather than the Banana[7] case is the pertinent analogue.

The argument has been advanced that this court cannot invalidate contracts with parties who are not within the court's jurisdiction and amenable to its order.[8]

The absence of NL's foreign associates will, of course, place a practical limitation upon the scope of the court's decree; it does not prevent the court from finding a violation as the facts warrant, and from restraining those within the reach of its mandate from continuing a conspiracy in defiance of the Sherman Act.

It is suggested that plaintiff has failed to establish injury to the public interest,

Appalachian Coals, Inc. v. *U. S.*, 1933, 286 U. S. 344;

and that the defendants have proved substantial public benefit.[9] The latter proposition, defendants derive from two lines of evidence. The first is that during the regime of the combination, the art has rapidly advanced, production has increased enormously and prices have sharply declined. The evidence does show as much; but it does not follow that the public interest has not been abused. Indeed, the major premise of the Sherman Act is that the suppression of competition in international trade is in and of itself a public injury; or at any rate, that such suppression is a greater

price than we want to pay for the benefits it sometimes secures. Nor does it necessarily follow that the advance of the art, the rise in production and the decline of prices are attributable to the effects of the combination. *Post hoc, propter hoc,* is an invalid argument whether used by the plaintiff or the defendant. Anyone is free to speculate whether, in the absence of the arrangement, the stimulus of competition might not have produced far greater strides in these beneficial directions. The economic theory underlying the Sherman Act is that, in the long run, competition is a more effective prod to production and a more trustworthy regulator of prices than even an enlightened combination.

The second line of evidence is that American producers cannot do business successfully in a cartelized world except on cartel terms; and that, to abstain from such business, would amount to a greater restraint on trade than is involved in joining the cartel; see,

> Cartels: What Shall We Do About Them? Milo Perkins, Harper's Magazine, November, 1944.

The validity of this argument has been the subject of congressional inquiry: Temporary National Economic Committee, 76th Congress, Monograph No. 40; Economic and Political Aspects of International Cartels, Committee on Military Affairs, U. S. Senate, 78th Congress, 2d Session. That kind of inquiry, rather than a judicial one, is appropriate to the evaluation of the merits of the proposition. For the courts it is conclusive that Congress has not yet validated such a solution to the problem. Until it does, private agreement and combination and private regulation may not substitute for legislation. Only Congress, not the courts, may grant the required immunity.

It is suggested that the truly vital issues of this case have become moot by the intervention of war with Germany, Japan and Italy; and that the complaint should be dismissed. Reliance is placed upon *U. S.* v. *Hamburg-Amerikanische Packetfahrt A.G.*, 1916, 239 U. S. 466. Several reasons dictate the rejection of this argument.

(1) The Hamburg case rests upon its own peculiar facts. The offending contract had come to an end by its own terms; as far as the Germans were concerned, it had also terminated by reason of war; and as far as the others were concerned, by the withdrawal of the Germans;

> *U. S.* v. *Aluminum Company of America*, C.C.A. 2, March 12, 1945, slip opinion, p. 1256.
>
> "Besides, the contract was of such a kind that the exclusion of the German lines probably made impossible the realization of its purposes in any part;" ibid.

In the instant case, the contracts with the Germans had not expired by their terms; and, at least to the moment of America's entry into the war, the parties did not intend or expect that war should or would involve a permanent divorce.

(2) This case abounds with evidence that the parties foresaw the possibility of interruption *causa belli* and made provision for dealing with the interlude and for resumption thereafter. At least this can be said with complete assurance that until the entry of the United States into the war, the contracting parties regarded the war as a tempo-

rary interruption, for which they would, after cessation of hostilities, make adjustments in a spirit of fairness and amity.

Peculiarly revelatory in this connection is plaintiff's Exhibit 512. It is the draft of a letter preserved in the files of Finc, entitled, "Draft of letter from Titan Co., Inc. to be sent later, presumably after the war, to: I. G. Farbenindustrie, Titangesellschaft, British Titan Products Company and Ste. Inc. du Titane." The letter reports the amendment of January 1, 1941, to the NL-DP agreement of 1933, explains that war conditions rendered consultation with the addresses impractical and expresses a desire for their approval. When this was written, the United States was not at war; but England, France, Germany, and Italy were at war. One can not read Exhibit 512 without sensing the expectation, indeed the assumption, that the war may have interrupted the execution of the several agreements among the parties, it had not permanently disarranged the relations of the parties, and that the return of peace would bring a resumption of the established "cooperation". Much other evidence points in the same direction; and none of the evidentiary material created *ante litem motam* points in a conflicting direction. Upon the trial in the midst of war, the future resumption of relations with the Germans was emphatically repudiated.

The inference I draw is that there is a preponderant probability that the underlying combination or conspiracy persists and that, but for these proceedings, would resume the exercise of its restraining force on commerce to the extent that international conditions permitted.

(3) That some of the contracts have been terminated by war, it seems to me, is of relatively little significance.

For in a legal sense we mean no more thereby than that the contracts have become unenforcible. But these contracts, being in restraint of trade and violative of the anti-trust laws, were never enforcible. If the non-enforcibility of the contract were to render an action under the anti-trust laws moot, we would face the absurd result that only innocent combinations would remain available for judicial scrutiny.

It is suggested that the validity of the British and Canadian contracts has become moot by the application of the doctrine that cancellation or abandonment of provisions of a contract prior to final decree renders the question of the validity of such provisions moot.

> *Standard Oil Co.* v. *U. S.*, 1931, 283 U. S. 163;
> *U. S.* v. *U. S. Steel Corporation*, 1920, 251 U. S. 417, 445.

It should be noted that the authorities do not justify the statement of the rule in quite such broad terms.

> *U. S.* v. *Trans-Missouri Freight Assn.*, 1897, 166 U. S. 290;
> *U. S.* v. *Sugar Institute, Inc.*, S. D. N. Y. 1934, 15 Fed. Supp. 817, mod. 297 U. S. 553.

Injunctions, of course, relate to future conduct. The formal cancellation of a contract, or of a provision of a contract is a fact to be considered in determining whether, under all the circumstances, the unlawful action of the past is likely to recur in the future; the issue is the likelihood of continuance;

> *Swift & Co.* v. *U. S.*, 1905, 196 U. S. 375, 396.

The facts in the instant case with respect to the British and Canadian contracts are briefly these. At a pretrial conference held in this case on October 30, 1944, counsel for NL called attention to the existence of a new form of contract, then in a state of negotiation between NL and the British companies. At the trial, a copy of such a proposed agreement, not yet executed by the parties, was received in evidence. The named parties were ICI, ISC, GW, Tinc, BTP and NL. Similarly, there was testimony that negotiations were in progress among NL, CIL and CTP to revise the Canadian agreements.

This evidence shows that there is a disposition on part of defendants NL and Tinc to abandon illegal practices; it does not rise to the dignity of proof of abandonment. Nor is it necessary to recite here the precise changes which the parties are willing to introduce into their relations. To my mind these proposed agreements amount to little more than a statement of what defendants are willing to accept. Apparently, execution of the new agreements is awaiting some word of approval by the court. It seems, under the circumstances, that it would be more appropriate to examine them in connection with the framing of a decree, rather than as bearing on the question whether any decree is to be made for injunctive relief.

This branch of the case may be briefly summarized thus:

Agreements creating a world-wide patent pool of all present and future patents of the parties, covering an entire industry, and embracing a division of the world into exclusive territories within which each of the parties is to confine its business activities with respect to patent protected commodities, as well as unpatented, for the purpose

and with the effect of suppressing imports into and exports from the United States, are unlawful under the Sherman Act; they constitute an unreasonable restraint of trade.

II. DP's part in the international cartel.

As to DP, the facts are by no means as clear. Stoutly it denies any complicity in the combination; and much of the evidence supports its denial. It did not subscribe to the 1920 agreement; the agreement it did sign, in 1933, deviated sharply from the form and from the principles of the 1920 agreement. In 1940, it withdrew from the exchange of technological information with NL. It competed with NL for the American market. It was never regarded by the Titan group as a full fledged member of their family. Its anomalous position was the subject of frequent discussion and apprehension among the Titan members, and efforts were made to convert DP into a fully conforming member.

In sharp contrast with NL DP exhibited, from the very beginning of its interest in titanium, an alert consciousness of the anti-trust laws and moved cautiously and under the guidance of trained anti-trust lawyers. The question is whether it succeeded in avoiding not only the form but also the substance of transgression. I have concluded that it has not; and I arrive at that conclusion by the following analysis of the facts:

DP was manifestly eager to obtain access to NL's patents and skill in the titanium field. NL was equally eager to grant such access. NL's motives for this eagerness are not too important. It matters little whether it sought the reciprocal advantage of DP patents and re-

search; or whether it feared DP's hostile competition more than it feared its friendly, though competitive, collaboration; or whether it anticipated that NL and DP together would constitute an alliance so formidable as to preclude any other important competition. Whatever its motive, NL was willing; but its liberty of action was sharply circumscribed by the agreement of 1920. That required that, before NL could license DP under its patents, DP must adhere to the principles of the 1920 agreement. Such adherence, DP. refused. The reasons assigned by DP for its refusal were several, and varied from time to time, but always conspicuous among them was the claim that its adherence was forbidden by the anti-trust laws.[10] In this troubled atmosphere, the 1933 agreement was drawn, after long negotiation, by lawyers who were aware of the then recent decision in the Gasoline Cracking case. *Standard Oil Co.* v. *U. S.*, 1931, 283 U. S. 163.

Carefully, they cast the agreement into the form of a settlement of patent disputes. The disturbing fact about that instrument is that despite the high professional skill expended upon it, its terms are, in important respects, so vague that upon the trial, counsel for NL and counsel for DP did not agree upon its meaning. It is clear, and I believe not disputed, that the 1933 writing is far from the lawyer's ideal of clarity and precision. The only explanation which the record affords for this unexpected obscurity is contained in a letter from Mr. Beschorman to NL's English associates, that the vagueness in the writing is deliberate and the product of fear of the anti-trust laws.

That, of course, does not affirmatively show that the law was violated; moreover, it is true that no evidence is available that DP knew of Beschorman's letter. Conse-

quently, I draw no inference therefrom against DP; but I do draw an inference as to NL's frame of mind in its negotiations with DP.

To return to the negotiation: NL was not at liberty to enter into the 1933 agreement unless and until its foreign associates consented. TG objected. It was particularly concerned lest, as a result of this agreement, TG should find itself in competition, in its own "territory", with DP, the latter armed with TG's own skill, acquired by DP, via NL—a state of affairs which TG regarded as intolerable. To overcome the obstacle of TG's objection, conversations were had between Rupprecht, on behalf of DP, with Beschorman, on behalf of NL, and also between Rupprecht and Jebsen; and as a result of these conversations two letters were written, one by DP to NL with the intention that it be transmitted to TG; and the other by NL to TG to accompany DP's letter.

If DP is bound by the second letter, it unquestionably joined the conspiracy then in effect between NL and its foreign associates. The text of the two letters is set out in the margin.[11]

I believe that DP is bound by the second letter because (1) DP asked NL to persuade TG to consent. Rupprecht told Beschorman,

> "that it was a selling job for them [NL] to make I.G. realize that they were putting their interests in National Lead's hands, and that they would be well taken care of"; (Pl. Ex. 268).

(2) Rupprecht was shown the Beschorman letter before it was mailed; and a copy thereof was later sent to him "for your files".[12] There was no repudiation by Rupprecht; or at least, the record shows none; and at this point the

burden of going forward with proof of such repudiation shifted to DP;

Interstate Circuit, Inc. v. *U. S.*, 1939, 306 U. S. 208; 225.

Such quiescence on the part of DP can only be construed as ratification. It follows that the assurance that "Du Pont will loyally respect the territory of T.G." which TG discovered in the communications from Rupprecht and Beschorman was an assurance which must be attributed to DP, despite the painstaking efforts on its part to sever the line of imputation. At least then as to territorial delimitations of the titanium pigment business, DP joined the combination.[13]

U. S. v. *Masonite Corp.*, 1942, 316 U. S. 265.

It may well be, and I take it as a fact, that in giving the assurance not to manfuacture in or sell in TG's territory, DP was not making a promise; it was doing no more than giving expression to its then existing busines policy not to manufacture or sell in Germany and other TG territory; and it may well be that in any event, DP could not successfully compete in Germany. While much has been made of this point, it does not cover the whole issue either factually or legally. Factually it is inadequate, because TG's exclusive territory extended very considerably beyond Germany and included territories where DP might have competed. Legally it is insufficient, because concerted abstinence from commerce is proscribed even where there are valid unilateral reasons for abstaining;[14] and also because DP's assurance, in part, formed the consideration

for the continued abstinence of the European producers from exporting to the United States.

It is idle to speculate as to what might have happened had NL and DP insisted on making their agreement without regard to TG's objections. Presumably, had such an event occurred, TG would have been relieved of its promise not to export to the United States. In a very important way, DP's assurance closed the breach which was in the making in the wall built around the titanium business by NL and its foreign associates. It also removed the last obstacle to the establishment of a commercial collaboration between the Titan group and the Blumenfeld companies. True, Rupprecht did not go as far with Blumenfeld as he did with NL. Not as much was necessary. Indeed, no action on his part was necessary since he sought nothing from Blumenfeld. From the somewhat conflicting testimony as to the nature of Rupprecht's conversations with Blumenfeld, I conclude that Rupprecht made no promise; but that he did explain to Blumenfeld DP's policy with respect to the European market, a policy made unilaterally in many respects, but undoubtedly strengthened and territorially extended as a result of the assurances to NL.

This description of DP's position in 1933 is consistent with subsequent developments. To Jebsen, devotee of the precise covenant, advocate and practitioner of clarity and definition in language and obligation, such vague and Janus-faced language was a source of disquiet and apprehension. But he hoped for the best. He regarded Rupprecht as one who rarely descended from "sound to things". But he appraised DP as an organization that would not repudiate an unwritten obligation. Rupprecht, on the other hand, found the business of practicing one code, and writing another,

rather strenuous and emotionally confusing. No wonder that communication between DP and NL became somewhat difficult; and, at times, NL's and Tinc's representatives left a conference with very different impressions of what had been agreed to from those entertained by Mr. Rupprecht.

The point is made in behalf of DP that there is no evidence that its Executive Committee knew of Rupprecht's commitments. It is true that no direct evidence of such knowledge is in the record; and I need not trouble to decide whether the circumstances warrant an inference of knowledge. There is abundant evidence that Rupprecht's authority was broad enough to justify charging the corporation with his acts in its behalf.

My general summary of the evidence on this issue is that DP was a member of the combination—true, a special member, with a status, rights and obligations, different from that of the other members, but a member nonetheless.

At this point, DP advances the argument that it had no choice but to do business with the cartel unless it was content to stay out of the titanium field. To put it in the words of DP's counsel,

> "We respectfully submit in conclusion that it cannot be the law of the United States that it is the function of the Courts themselves to impose that form of restraint of competition which must result from a ruling that whenever a European company has a monopoly in its own country (and practically all of them do), and then has a relation in the nature of a common enterprise with some American company, it becomes the duty of all other American companies to renounce and forego access to the inventions and developments controlled by those foreign companies, and to leave them as the exclusive

property of its American competitor; the partner of those foreign companies".

Perhaps, the answer is that DP, having discovered the conspiracy, should have asked the Attorney General to break it up. Confessedly, the chances of DP getting NL's patents and know-how after such a hostile act would be, to say the least, dubious. But in any event the courts may not validate unlawful conduct because in a particular instance there may be social losses involved in enforcing the law. The paradox which DP discovers, even if it were a genuine one, would be of interest to Congress, not to the courts. But the paradox is not genuine. The conflict is a specious one. Judicial intervention to break up a combination in restraint of trade is not in itself a restraint of trade, although for a time the established channels of commerce may be disarranged. To prohibit adherence to conspiratorial trade restraints hampers trade in about the same way that the prohibition against the circulation of counterfeit money hampers it. It may prevent the consummation of a particular transaction but in the long run it frees business from private regimentation and secures it against those who would trammel it.

III. DP's relations to American Producers.

The case also presents the question whether the contract between NL and DP is offensive to the anti-trust laws independently of the relation of that contract and the parties thereto to the foreign producers.

Here are two competing producers who, at the time their agreement is made, between them control 100% of the commerce in titanium products in the United States.

They agree not only to settle their conflicting patent claims —which presumably they may do under the Gasoline Cracking case—but they agree to exchange all future patents, patent applications and know-how. Though these exchanges are not on an exclusive basis, is it not clear, however, that the capacity of such a combination to dominate the market is vastly increased, that the capacity for the exclusion of outsiders from the industry is multiplied? In other words, was not Mr. Ewing, DP's London manager, (whose disavowal of authority to make the following statement I accept) saying no more than the obvious when he wrote in 1933, concerning the NL-DP agreement:

> "We look upon this patent pool as a definite advance in cooperation and the strengthening of both parties' position to the exclusion of outsiders"?

I think so.

When the effect of an arrangement is obvious it is fair inference that the parties intended that effect. The accumulation of great power to restrain trade may in itself be an evil;

> *U. S. v. American Tobacco Co.*, 1911, 221 U. S. 106, 175.

When the power thus acquired is exerted to accomplish unreasonable restraints of trade, it is surely an evil. A pertinent question is, therefore, how did NL and DP exercise the great power they acquired.[15]

NL licensed one American producer, American Zirconium, and on conditions which required submission to the illegal 1920 contract. It never did license Virginia Chemical; and the evidence is rather persuasive that it did not achieve agreement on royalties and could not get from Virginia Chemical written adherence to the 1920 agreement

and that Virginia Chemical was not sufficiently well known to the Europeans to warrant acceptance of its oral assurance.

DP licensed both American Zirconium and Virginia Chemical. In both instances the licenses were subject to a severe tonnage limitation on the product made under the license and to a royalty on all titanium dioxide produced, whether under the licensed patents or not. DP makes much of the fact that the evidence shows that it never refused a license. It is also true, however, that until 1944, DP did refuse licenses unencumbered by tonnage limitations.

Another inevitable consequence of the NL-DP agreement has been the proliferation of patents. The chief spur to private resistance to the grant of patent monopolies has been withdrawn from the parties who, ordinarily, would be chiefly concerned. It is not without significance that, despite the jaundiced eye with which the courts have been examining and rejecting patents in recent years, not a single one of the hundreds of patents here involved has ever been litigated. The result of that is that the newcomer is confronted by a veritable jungle of patent claims through which only the very powerful and stouthearted would venture, having a regard for the large initial investment which this business requires. These patents, through the agreements in which they are enmeshed and the manner in which they have been used, have, in fact, been forged into instruments of domination of an entire industry. The net effect is that a business, originally founded upon patents which have long since expired, is today less accessible to free enterprise than when it was first launched.

The exchange of know-how between NL and DP was abandoned in 1940 when, as DP says, the industry matured. The exchange of patents and patent applications continues.

The tonnage limitations in the licenses of American Zirconium and Virginia Chemical was eliminated in 1944. The power of concerted action is still there.

I need not consider whether an exchange of patents, present and future, between competitors, is violative of the Sherman Act. I assume that such an exchange standing alone is innocent. But in the context of the present case,

Associated Press v. U. S., June 18, 1945, ... U. S. ....,

this exchange between two corporations, who between them controlled the entire market, becomes an instrument of restraint, available for use and used, to continue the mastery of the market which NL and DP achieved by means of the illegal international agreements.

In order to give effect to the Sherman Act, plaintiff is entitled to a decree which will restore titanium to the system of free competition; the means of preventing such a development must be destroyed and the power to prevent it must be shorn from those who, by combination, have acquired it.

It is, perhaps, not customary to express, in an opinion, the praise which the attorneys who tried this case deserve for the very high order of professional learning which they brought to it. Nothing, however, restrains me from commenting favorably upon the cooperative attitude exhibited by them which resulted in shortening the trial by many months.[16]

A decree will be entered for the plaintiff.

Dated: July 5th, 1945.

SIMON H. RIFKIND
U. S. D. J.

1) The following abbreviations will be used to identify the defendants and co-conspirators:

NL	National Lead
Tinc	Titan Company, Inc.
DP	E. I. du Pont de Nemours and Company, Inc.
TP	The Titanium Pigment Company, Inc.
Krebs	Krebs Pigment & Color Corporation
TAS	Titan Co. A/S
IG	Interessengemeinschaft Farbenindustrie Aktiengesellschaft
TG	Titangesellschaft, g.m.b.h.
SIT	Societe Industrielle du Titane
ICI	Imperial Chemical Industries, Ltd.
GW	Goodlass Wall and Lead Industries, Ltd.
ISC	Imperial Smelting Corporation
BTP	British Titan Products, Ltd.
NTP or Laporte	National Titanium Pigments, Ltd.
CIL	Canadian Industries, Ltd.
CTP	Canadian Titanium Pigments, Ltd.
Kokusan or KK	Kokusan Kogyo Kabushiki Kaisha
TK	Titan Kogyo Kabushiki Kaisha
Terres Rares	Societe de Produits Chemiques des Terres Rares
Thann	Fabriques de Produits Chemiques de Thann et de Mulhouse
Montecatini	Societa Anonima Titanium
Aussig	Verein fur Chemische und Metallurgische Produktion Aussig

2) American Zirconium and Virginia Chemical engaged in the production of only pure TiO_2. Of extended titanium pigments, NL and DP produced 100% of the amount consumed in the American market.

3) "Licensed field" was defined to mean "(1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds, containing two per cent. (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adapted for other uses, and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses".

4) Virginia Chemical also licensed DP under one of its patents and applications. TiO_2 produced by Virginia Chemical by the process disclosed in this patent and application was expressly exempted from the quantity and royalty provisions.

5). The attorney for the United States has suggested the following definition: "A combination of producers of any product joined together to control its production, sale and price, and to obtain a monopoly in any particular industry or commodity".

Words and Phrases (Permanent Edition) contains no definition of the word; neither does the Federal Digest. Bouvier's Law Dictionary defines cartel thus: Agreements between belligerents authorizing certain non-hostile intercourse between one another, which would otherwise be prevented by the state of war.

In Monograph No. 1, of the Subcommittee on War Mobilization of the Committee on Military Affairs, U. S. Senate, 78th Congress, 2d Session (commonly called the Kilgore Committee) the following is presented:

"Cartels have been defined by two of the foremost members and advocates of such bodies. In the words of Sir Alfred Mond, organizer of Imperial Chemical Industries:

'I use the word cartel to include fusion, pooling arrangement quota arrangement and price convention, because a cartel is protean in its form. * * * In an ultra-technical way, a cartel might be defined as a combination of producers for the purpose of regulating, as a rule, production, and, frequently, prices. That does not involve giving up the identity of the different firms. It is not usually made for a period lasting more than a limited time. It does not necessarily carry with it, though in some cases it does, joint selling agencies. Sometimes, too, it carries with it quotas of production. But all this is, perhaps, too narrow a definition. The Germans have a term *Interessen-gemeinschaft* * * * a union or similiarity of interest. The great German Dye Trust started with what they call *Interessen-gemeinschaft*. When first formed it was a fairly loose combination to regulate production and prices. It has been substituted since by an absolute and complete fusion and exchange of shares—what we should call a complete amalgamation—which is the final and most complete form of any kind of cartel which can be imagined.'

"In the words of Sir Felix J. C. Pole, chairman of Associated Electrical Industries, Ltd.:

'A cartel or association usually means an association by agreement of companies or sections of companies having common interests. It is designed to prevent extreme or unfair competition and allocate markets, and it may also extend to interchange of knowledge resulting from scientific and technical research, exchange of patent rights, standardization of products, etc. Competition is not eliminated, but it is regulated. Competition in quality, efficiency, and service takes the place of the crude method of price cutting.'

"These quotations both emphasize the central fact that cartel activities are arrangements among business

enterprises engaged in the same type of industry to avoid some or all forms of competition. Cartel activities are designed to maximize the profits of participants by directly or indirectly maintaining prices at the level of greatest net return.

"International cartels are, of course, cartels which include business enterprises domiciled under more than one government and doing business across national frontiers. A cartel of this type may include the major enterprises operating in a given industrial field throughout the world, and may determine trade policies in that field in most, if not all, of the world's principal markets."

6) *U. S.* v. *Sisal Sales Corporation*, 1927, 274 U. S. 268.

7) *American Banana Co.* v. *United Fruit Co.*, 1909, 213 U. S. 347.

8) *Shields* v. *Barrow*, 1854, 17 How. 129; *Minnesota* v. *Northern Securities Co.*, 1902, 184 U. S. 199; *Garzot* v. *De Rubio*, 1908, 209 U. S. 283; *U. S.* v. *Northern Pacific R. Co.*, C.C.A. 8, 1905, 134 Fed. 715; *Cf. United Shoe Machinery Corp.* v. *U. S.*, 1922, 258 U. S. 451.

Whatever may be the scope of this rule, it has not interfered with the action of the courts in striking down systems deemed violative of the anti-trust laws even though such systems included leases, licenses, and other forms of agreements, and the lessees, licensees, and other parties to the agreements were not before the court.

Paramount Famous Lasky Corp. 1930, 282 U. S. 30; *Interstate Circuit* v. *U. S.*, 1939, 306 U. S. 208; *Ethyl Gasoline Corp.* v. *U. S.*, 1940, 309 U. S. 436; *U. S.* v.

Univis Lens Co., 1942, 316 U. S. 241; *U. S. v. Hartford-Empire Co.*, April 21, 1945, ... U. S. .....

Nor were these all cases like United Shoe Machinery Corp. v. U. S., 1922, 258 U. S. 451, where the enjoined covenants were all for the benefit of the lessor, and the injunction did not adversely affect the lessees.

Paramount Famous Lasky Corp. v. *U. S., supra; Interstate Circuit* v. *U. S., supra; Ethyl Gasoline Corp.* v. *U. S., supra.*

Were the rule advocated by NL allowed to operate in the field of restraints upon the foreign commerce of the United States, it would paralyze the enforcement of the law in all cases where one or more of the parties to the conspiracy was an alien corporation over whom the court could acquire no personal jurisdiction. The courts do not so readily permit a frustration of valid national policy. The flexibility of the decree which the court can frame allows for a great degree of accommodation. An example of that is *J. I. Case Co. v. N. L. R. B.*, 1944, 321 U. S. 332.

9) This argument is distinct from the "good intention and noble motive" argument which was rejected in *Thomsen* v. *Cayser*, 1917, 243 U. S. 66, 85.

10) Jebsen, unfamiliar with American laws, would not credit this reason, for he could not understand how NL had undertaken to do that which the DP lawyers claimed was prohibited. But perhaps NL was right after all, since for twenty five years it proceeded unmolested and succeeded, with the aid of the unlawful conspiracy, to build a highly profitable business and to retain a dominant position in the industry.

11) KREBS PIGMENT & COLOR CORPORATION

June 28, 1933.

CONFIDENTIAL

W. C. BESCHORMAN, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:-

We have considered the various points raised by I. G. in their cable to you with the desire, if possible, to comply with its request.

As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article II of the Krebs-Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

The I. G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclusive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis. Since all licenses received from Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all par-

ties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally, we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of much care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Very truly yours,

C. H. RUPPRECHT,
President.

July 12, 1933

I. G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Gruneburgplats.

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, a copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you a copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to

create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subsequently to the points brought out in your letter of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both as to use, manufacture and selling to the territory granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good cooperation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outside of their territory which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licenses in case this may be found desirable by you. Under the practice as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in a position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these

respects, which are also our own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your interests than to complicate the situation with a separate contract.

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advice from you as to whether the Krebs letter and above make the whole matter satisfactory:

Very truly yours,

W. C. BESCHORMAN,
Executive Vice President.

Copy to—Dr. Kuhne
Dr. Jebsen
Mr. Rupprecht
Mr. Tasker, Vice Chairman, British T. P. Co.

This letter was sent on July 21, 1933.

12) The letter was not found in DP's files.

13) In view of this finding, I do not reach the question whether doing business with an illegal combination constitutes joining the combination; see *Virtue* v. *Creamery Package Mfg. Co.*, 1913, 227 U. S. 8; cf. *Direct Sales Co.* v. *U. S.*, 1943, 319 U. S. 703.

14) Compare, *U. S.* v. *Colgate & Co.*, 1919, 250 U. S. 300; *U. S.* v. *Schrader's Son, Inc.*, 1920, 252 U. S. 85.

15) "In the case at bar, the primary defendants own competing patented processes for manufacturing an unpatented product which is sold in interstate commerce; and agreements concerning such processes are likely to engender the evils to which the Sherman Act was directed." *Standard Oil Co.* v. *U. S.*, 1931, 283 U. S. 163, 175.

16) Over 1400 exhibits were received in evidence.

IN THE

District Court of the United States

FOR THE SOUTHERN DISTRICT OF NEW YORK

Civil No. 26-258

UNITED STATES OF AMERICA,

Plaintiff,

against

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY,

Defendants.

FINDINGS OF FACT AND CONCLUSIONS OF LAW

(Filed October 2, 1945)

SIMON H. RIFKIND
U. S. District Judge

IN THE

District Court of the United States

FOR THE SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA, *Plaintiff*, *against* NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, *Defendants.*	Civil No. 26-258

FINDINGS OF FACT AND CONCLUSIONS OF LAW

FINDINGS OF FACT

1. This is an action by the United States to prevent and restrain alleged violations of Sections 1 and 2 of the Sherman Antitrust Act, 26 Stat. 209 (1890), 15 U. S. C. §§ 1, 2 (1940). The Court has jurisdiction of the subject matter and of the parties. The defendant National Lead Company (NL) is a New Jersey corporation. The defendants Titan Company, Inc. (Tinc) and E. I. du Pont de Nemours and Company (DP) are Delaware corporations. NL and Tinc have offices and are found and transact business in this District. DP has its office and principal place of business at Wilmington, Delaware, but is found and

transacts business in this District. The business of the defendants and their connection with the activities and violations alleged are described in subsequent findings. The Titanium Pigment Company, Inc. (TP) and Krebs Pigment and Color Corporation (Krebs), both corporations, now dissolved, are co-conspirators but are not made defendants. The following foreign corporations are co-conspirators but are not made defendants:

Titan Co. A/S (TAS)
Interessengemeinschaft Farbenindustrie Aktiengesellschaft (IG)
Titangesellschaft, m.b. H. (TG)
Societe Industrielle du Titane (SIT)
Imperial Chemical Industries, Limited (ICI)
Goodlass Wall and Lead Industries, Limited (GW)
Imperial Smelting Corporation, Limited (ISC)
British Titan Products Company, Limited (BTP)
National Titanium Pigments, Limited (Laporte)
Canadian Industries, Limited (CIL)
Canadian Titanium Pigments, Limited (CTP)
Kokusan Kogyo Kabushiki Kaisha (KK)
Titan Kogyo Kabushiki Kaisha (TK)
Societe de Produits Chimiques des Terres Rares (Terres Rares)
Fabriques de Produits Chimiques de Thann et de Mulhouse (Thann)
Societa Anonima Titanium (Montecatini)
Verein fur Chemische und Metallurgische Produktion (Aussig)

2. The defendants DP and NL are engaged in the business of manufacturing, selling and transporting titanium pigments in commerce among the several states of the United States and between the United States and certain foreign nations.

3. The defendant NL has assets in excess of $100,000,000. It is the largest manufacturer of titanium pigments and compounds in the United States and the largest manufacturer of titanium pigments and compounds in the world, manufacturing and selling 76.5 per cent of composite and 46.4 per cent of pure TiO_2 in the United States in 1943. NL conducted all its activities relating to the manufacture and sale of titanium pigments and compounds through TP until the dissolution of the latter in 1936 and thereafter conducted such operations through its own Titanium Division.

4. The defendant NL owned after December 31, 1927, approximately 87 per cent of the stock of TAS and since January 1944 has owned or controlled approximately 99 per cent of said stock.

5. The defendant NL owned 87 per cent of the stock of Tinc from the date of its incorporation in 1929 to January 28, 1944, at which time it acquired and now owns 100 per cent of said stock.

6. The defendant Tinc since its incorporation in 1929 acquired and now owns the following percentages of voting stock in the following named corporations:

BTP—44%
TG —50%

SIT —57.638%
TK —18.5%

7. The defendant Tinc, in 1929, acquired some of the business assets of TAS and assumed all of the obligations of and was entitled to receive all the benfits of contracts Exhibits A, A-1, A-2, B, B-1, B-3, C, C-3, C-8 and other contracts of TAS.

8. The defendant Tinc, since its incorporation, has owned a number of patents and has held exclusive licenses, with the right to grant sublicenses, under patents pertaining to the manufacture and use of titanium pigments and compounds. A majority of Tinc's officers and directors are and since its organization have been officers and directors of defendant NL.

9. The defendant DP is one of the largest chemical companies in the United States with assets in excess of $1,000,000,000. The defendant DP is also one of the largest manufacturers of titanium pigments in the United States, manufacturing and selling approximately 23.5 per cent of the composite pigments made in the United States and 45.1 per cent of the pure TiO_2 made in the United States in 1943. It is also the second largest manufacturer of titanium pigments and compounds in the world. The defendant DP entered the titanium pigment business in July, 1931, and until January 1, 1936, conducted all its activities relating to the manufacture and sale of titanium pigments and compounds through Krebs, after which time it conducted its titanium pigment activities through the Krebs Division of DP.

10. Krebs was a Delaware corporation formed in July, 1931, by the defendant DP, the Grasselli Chemical Co., a wholly-owned subsidiary of DP, and the Commercial Solvents Corporation to acquire the business of Commercial Pigments Company (referred to herein as CP), the Krebs Pigment & Chemical Co. and the pigment business of the Grasselli Chemical Co. CP was the only one of the foregoing companies engaged in the manufacture and sale of titanium pigments and compounds prior to the acquisition of its business by Krebs. The defendant DP acquired a 70 per cent stock interest in Krebs at that time and committed itself to engage in the titanium pigment business only through Krebs. The defendant DP acquired the remaining 30 per cent of the stock of Krebs on December 31, 1934. On December 31, 1935, defendant DP acquired all the assets of Krebs and assumed all the obligations of Krebs, thereafter operating the titanium pigment and compound business of said Krebs directly through the Krebs Division of the defendant DP. Krebs continued to operate under the Blumenfeld United States patents and process after it acquired the assets of CP in July, 1931, as has the defendant DP at all times since December 31, 1935. In August, 1933, Krebs acquired by license the right to use all United States patents owned or thereafter acquired by TP or NL which related to the manufacture and use of titanium pigments; and subsequently, as will appear, it acquired by licenses additional United States patent rights from NL's foreign associates. C. H. Rupprecht was a director and president of Krebs from its incorporation until its dissolution and was in charge of the titanium pigment operations of the defendant DP from July, 1931, until his decease September 10, 1944. Krebs also owned a substan-

tial stock interest in Travancore Minerals Company, Ltd., which held rights in extensive ilmenite sand deposits in India. This stock was among the assets of CP acquired by Krebs.

11. TP was a Maine corporation organized in 1916 and was engaged in the manufacture of titanium pigments and compounds from 1920 until its dissolution in 1936. After 1920 the defendant NL acquired stock in said company until December 30, 1932, at which time NL owned all the stock of TP. NL controlled all the activities and policies of TP after 1920 until its dissolution in 1936, at which time all of the assets and liabilities of TP were taken over and its titanium business continued by the defendant NL as a division of NL. TP owned and was the exclusive licensee of many patents relating to the manufacture and use of titanium pigments and compounds, including the Barton-Rossi and Jebsen patents and processes. TP manufactured composite pigments principally; but it also began manufacturing a pure TiO_2 after 1928 in competition with CP.

12. CP was a corporation formed by Commercial Solvents Corporation in 1928. CP acquired the Blumenfeld and other patents in the United States relating to the manufacture and sale of titanium pigments and compounds and from 1928 was engaged in the manufacture of titanium pigments in the United States, operating a plant at Baltimore, Md. It manufactured a pure TiO_2 pigment only and sold it in competition with TP. All its assets were acquired and some of its obligations were assumed by Krebs in July, 1931.

13. TAS was a Norwegian Corporation with its principal place of business at Fredrikstad, Norway, and from

some time prior to 1920 until about 1929 was engaged in the manufacture of titanium pigments and compounds in Norway. Said TAS owned the Jebsen and other patents relating to the manufacture of titanium pigments and compounds and also controlled through A/S Titania large deposits of ilmenite in Norway. It was authorized by TP to use the Barton-Rossi and other patents and processes relating to the manufacture and use of titanium pigments and compounds in 1920. Its activities and policies have been controlled by the defendant NL since 1927. It ceased the manufacture of titanium pigments and compounds in 1929. Thereafter, substantially all titanium pigments and compounds sold by TAS were purchased from TG. TAS continued to function as selling agency for defendant Tinc in part of the territory reserved to Tinc after 1929.

14. IG is a German corporation with its principal place of business in Frankfurt, Germany, and is one of the largest corporations in Germany and one of the largest chemical companies in the world.

15. TG is a German corporation with its principal place of business at Leverkusen, Germany, and was organized in October, 1927, by TAS and IG and in 1939 was the largest producer of titanium pigments and compounds in Europe. TG was licensed to use the Barton-Rossi and Jebsen patents and processes and owns and is licensed to use other patents relating to the manufacture and use of titanium pigments. TG has a right to use some of the DP patents relating to the manufacture and use of titanium pigments and compounds.

16. SIT is a French corporation with its principal place of business at Paris, France. It received a license

from TAS in 1927 to manufacture titanium pigments and compounds in France under the Barton-Rossi and Jebsen patents. No factory was ever erected by the said company to manufacture titanium pigments or compounds in France. In 1927 defendant NL purchased a controlling interest in SIT. SIT has a right to use some of DP's patents relating to the manufacture and use of titanium pigments and compounds.

17. ICI is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at London, England, and is the largest manufacturer of chemicals in the British Empire with assets in excess of £100,000,000.

18. GW is a corporation organized under the laws of the United Kingdom with its principal office and place of business in London, England, and is the largest producer of lead and lead pigments in the British Empire.

19. ISC is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business in London, England, and is one of the largest producers of pigments in the British Empire.

20. BTP is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at Billingham, England, and was registered in August, 1930, by ISC with the knowledge and approval of the defendants NL and Tinc. BTP is the largest manufacturer of titanium pigments and compounds in the British Empire. BTP is licensed to use the Barton-Rossi and Jebsen patents and processes and owns and is licensed to use other patents relating to the manufacture of titanium pig

ments and compounds. BTP also has a right to use some of the DP patents relating to the manufacture and use of titanium pigments and compounds.

21. ICI, GW, and ISC subscribed to and each owns 17 per cent of the stock of BTP. Each acquired said stock on or about the time said BTP commenced active operations in the titanium pigment and compound business in the British Empire in February, 1933.

22. Laporte is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at Luton, England, and is the only other producer of titanium pigments and compounds in the British Empire and manufactures titanium pigments and compounds under the Blumenfeld patents and process in England.

23. CIL is a corporation organized and existing under the laws of the Dominion of Canada with its office and principal place of business at Montreal, Canada, and is the largest chemical manufacturer in Canada. Approximately 43 per cent of its stock is and has been owned by the defendant DP since 1928 and approximately 43 per cent of its stock is and has been owned by ICI since 1928.

24. CTP is a corporation organized in January, 1937, and existing under the laws of the Dominion of Canada with its office and principal place of business at Montreal, Canada. Defendant NL has since the incorporation of CTP owned 49 per cent of the voting stock of CTP. The balance of the voting stock is owned by CIL. CTP is the only company engaged in the titanium business in Canada

and owns and/or is licensed to manufacture titanium pigments under the Blumenfeld, Barton-Rossi, Jebsen and other patents in Canada. Said CTP is not now manufacturing titanium pigments and compounds in Canada; since 1939 it purchased all of its requirements for sale in the Dominion of Canada from NL and to a slight extent from DP. NL is required to supply the requirements of CTP on a cost plus basis until CTP commences the manufacture of titanium pigments or compounds.

25. KK is a Japanese organization and is the largest manufacturer of paints in Japan and is a subsidiary of Nippon Sangyo, one of the largest industrial enterprises in Japan.

26. TK is a Japanese organization existing under the laws of Japan with its office and principal place of business in Tokyo, Japan. TK was organized in 1936 by Tinc, IG, TG. Terres Rares, and Thann. Since its organization approximately 50 per cent of the stock of TK has been owned by KK, 18½ per cent by Tinc, 16½ per cent by IG, and 15 per cent by Terres Rares and Thann. TK is the largest manufacturer of titanium pigments and compounds in Japan, owns many patents relating to the manufacture and use of titanium pigments and compounds, and is licensed to use the Barton-Rossi, Jebsen and Blumenfeld patents and processes in the Japanese Empire. TK also has a right to use some of the DP patents relating to the manufacture and use of titanium pigments and compounds.

27. Terres Rares is a French corporation with its principal place of business at Paris, France; it acquired the Blumenfeld and other patents relating to the manufacture

and use of titanium pigments and compounds in or about the year 1920.

28. Thann is a French corporation with its office and principal place of business at Paris, France, and is the only manufacturer of titanium pigments and compounds in France. It manufactures such pigments and compounds under the Blumenfeld patents and process.

29. Montecatini is an Italian corporation with its office and principal place of business at Milan, Italy, and is a subsidiary of the largest manufacturer of chemicals in Italy. Montecatini is the only manufacturer of titanium pigments and compounds in Italy and is licensed to use the Blumenfeld patents and process.

30. Aussig is a corporation organized under the laws of Czechoslovakia with its office and principal place of business at Prague, Czechoslovakia. It is the largest chemical company in Central Europe and is the only manufacturer of titanium pigments and compounds in Czechoslovakia and is licensed to use the Blumenfeld patents and processes.

31. American Zirconium Corporation (referred to herein as Zirconium) is a subsidiary of the Glidden Co. and sells and ships TiO_2 from its Baltimore, Md., factory into other states in the United States. Zirconium owned certain patents relating to the manufacture of titanium pigments and compounds prior to 1934. It was first licensed to use certain TiO_2 patents by DP on August 19, 1935, by license agreement dated January 1, 1935. Zirconium was licensed by NL to use all of its patents relating to the manufacture of titanium pigments and compounds

on May 6, 1935. The license from the defendant NL to Zirconium was cancelled by agreement (Ex. NL 29) on March 9, 1944. Zirconium manufactures only pure TiO_2. It produced less than 5 per cent of the aggregate production of TiO_2 produced in the United States between 1935 and 1943.

32. Virginia Chemical Corporation (referred to herein as VC) is a subsidiary of American Cyanimid Company and formerly a subsidiary of Interchemical Company and sells and ships TiO_2 between some of the states of the United States. VC was organized in 1935 to manufacture titanium pigments. It owned certain patents relating to the manufacture and use of titanium pigments and compounds. The defendant DP first licensed VC to use certain of its TiO_2 patents on August 5, 1937. VC produces only pure TiO_2 and produced less than 5 per cent of the aggregate production of TiO_2 in the United States between 1936 and 1943.

33. Titanium pigments and compounds are manufactured from titanium which is the ninth most abundant element on the earth's surface. Titanium is contained in ilmenite and other minerals. Sands and rock formations containing ilmenite are found in India, the United States, Norway, Brazil, and elsewhere throughout the world. Titanium pigments are possessed of great opacity, hiding power and chemical inertness, and are largely displacing other pigments such as lithopone and white lead. Titanium pigments are used in the manufacture of paints and are also used in the manufacture of rubber, glass, paper, vitreous enamels, and many other products. Titanium pigments are sold in the United States and abroad in competition

with other forms of white pigments, notably lithopone and white lead, which are sold in the United States in substantial quantities by a number of commercial concerns other than the defendants and some of which are sold by the defendants.

In and before 1920 there was no substantial trade or commerce in, and no commercial manufacture of, titanium pigments for use in paint, paper, rubber, or other products; pigments used for such purposes were lithopone, white lead, and zinc oxide. The use of metallic titanium in alloys was under development by Titanium Alloy Manufacturing Company at Niagara Falls, N. Y., and chemists engaged in that work (principally Barton and Rossi) were aware of the possibilities of titanium dioxide as a pigment; several important patents on processes and products had been taken out by them, largely for the manufacture of composite titanium pigments; and a subsidiary, TP, had been formed by Titanium Alloy to engage in further research, development, and promotion in the pigment field. Before 1920 tests and demonstrations conducted by TP had attracted the attention of large manufacturers of pigments and paints,—Pittsburgh Plate Glass (paints), New Jersey Zinc (pigments), the defendant DP (pigments and paints), and the defendant NL (pigments),—who investigated TP's processes and products; and this led in 1920 to purchase by NL of 10% of the stock of TP, with an option to purchase up to 50%.

While the research and experimental work described was going on in the United States, Gustav Jebsen, a Norwegian chemist and business man, was making a similar investigation, albeit along different lines, in Norway—this in connection with his search for means of putting to industrial use large deposits of Norwegian ilmenite-bearing ore.

By 1920 Jebsen and his associates had perfected processes patented in Norway, the United States, England, Germany, and in other countries, an important feature of which was disclosure of means for producing relatively pure titanium dioxide pigments by direct application of relatively small quantities of sulphuric acid—a process much less costly than that then developed and in use experimentally at Niagara Falls. Though the Norwegian chemists were aware of the possibilities of composite pigments, they had not perfected processes for the manufacture of such products. In 1920 the process and product patents of Jebsen and his associates were held by TAS, a Norwegian Company.

34. Joseph Blumenfeld, a chemist and managing director of Terres Rares, in or about 1922 obtained patents relating to the manufacture of titanium compounds which he assigned to Terres Rares. Blumenfeld patents issued both in the United States and various foreign countries. While CP was entitled to receive rights under all Blumenfeld titanium pigment inventions patentable in the United States, it was not licensed under and did not own any Blumenfeld patents which issued in foreign countries.

35. The production of titanium pigments in the United States has risen from 100 tons (on the basis of pure TiO_2 content) in 1920 to approximately 110,000 tons in 1943 with a peak production of approximately 128,000 tons in the United States in 1941. The total production of titanium pigments and compounds outside of the United States has shown less growth, the estimated foreign production of titanium pigments and compounds being approximately 1,000 tons in 1920 and approximately 23,000 tons in 1938.

36. Before World War II the leading American manufacturers of titanium pigments, the defendants NL and DP, obtained their supplies of ilmenite from India. Since about August, 1942, however, their supplies have come mainly from a New York deposit owned by NL and operated by NL pursuant to and in accordance with a directive of Office of Production Management approved by the Attorney General of the United States. NL was directed to, and did, offer participation in this project to each of the other producers of titanium pigments in the United States. The offer was accepted by DP. NL invested more than $10,000,000 in this enterprise.

37. Prior to 1930 the principal producers and sellers of titanium pigments in the world were divided into two groups, the NL group and the Blumenfeld group. The NL group included TP, TAS, SIT, TG, and TINC and were using principally the Barton-Rossi and Jebsen patents and processes for the manufacture of titanium pigments. Each of the companies named had been allocated exclusive marketing territories throughout the world by agreements. The Barton-Rossi patents were and are owned either by TP or NL. The Jebsen patents were and are owned either by TAS or TINC. The patents upon which NL's titanium business was originally founded in 1920 were Barton-Rossi and Jebsen patents. DP and NL were of the opinion that these would expire by the end of 1934. The Blumenfeld group consisted of Terres Rares, Thann, Aussig, Montecatini, and CP to each of which companies Terres Rares had allocated exclusive territories throughout the world. A number of United States titanium pigment patents issued other than the Barton-Rossi and Jebsen patents, including the United States patents covering the Blumenfeld process,

some of which do not expire until 1948 or thereafter. All of the companies engaged in the manufacture of titanium pigments in the United States on a commercial basis use a sulfuric acid process based on the Barton-Rossi, Jebsen, and Blumenfeld patents. The patents relating to titanium pigments and compounds comprise considerably more process claims than product claims. The process claims, with the exception of those of the so-called Rutiox patents which relate to the production of rutile-type titanium pigments, cover for the most part improvements in manufacturing processes originally disclosed in the Barton-Rossi, Jebsen, and Blumenfeld patents, which improvements have led to the improved present-day commercial titanium pigments. The product claims cover practically all such improved titanium pigments; thus, of 23 different grades of titanium pigments (i.e. different products) sold by NL, 21 are covered by unexpired patents. The validity of none of these patents was ever passed upon by any court of record in the United States.

38. The Auer Company developed a process for the manufacture of titanium pigments and compounds in Germany in the early 1920's, was not successful, and ceased manufacturing in 1931. The Auer patents were acquired in November, 1932, by Krebs. They were not of much consequence.

39. TP, on January 1, 1933, owned approximately 67 United States patents and 22 patent applications relating to the manufacture and use of titanium pigments and compounds. It also had the right to use by exclusive license 34 United States patents and 13 patent applications of its foreign associates. TP owned 229 patents in 24 foreign

countries prior to January 1, 1933. TP commercially used only 25 patents and patent applications out of a total of 136 patents and patent applications (18 per cent) which it owned or had the right to use prior to January 1, 1933.

40. NL now owns or controls 75 United States patents and 28 patent applications relating to the manufacture and use of titanium pigments and compounds and has exclusive licenses on 2 TAS, 18 Tinc, 17 IG and 1 TG patents and 4 TG patent applications. It also owns 3 patents in Canada and has non-exclusive licenses on 7 patents in South and Central American countries. NL is also licensed to use 156 DP patents and 30 DP applications and is accordingly entitled to use approximately 269 United States patents and 63 applications. It commercially uses only 66 patents and applications out of a total of approximately 332 which it owns or has the right to use or approximately 20 per cent. There is no evidence that NL obtained patents for the purpose of "blocking" or "fencing".

41. Krebs owned approximately 30 United States patents and 24 applications relating to the manufacture and use of titanium pigments and compounds and owned no foreign patents or applications prior to January 1, 1933. Krebs commercially used a total of 18 such patents and applications or approximately 33 per cent of the total which it had the right to use. DP now owns approximately 174 United States patents and 32 applications. It also owns 48 patents and 14 applications in Canada, 13 patents and 9 applications in England, 20 other patents in 7 other countries including 8 in Japan. It is licensed to use 96 patents and 27 applications of NL or its foreign associates in the United States. It accordingly now owns or has the right to use approxi-

mately 270 United States patents and 59 applications. It uses commercially approximately 70 such patents and applications or about 20 per cent. There is no evidence that Krebs or DP obtained patents for the purpose of "blocking" or "fencing".

42. There are now four producers of titanium pigments in the United States: NL, DP, American Zirconium and VC. As will hereinafter appear, NL and DP have cross licensed each other under their respective patents. Zirconium entered the field in 1935 with licenses from both NL and DP; the NL license was cancelled by agreement in 1944. VC entered the field in 1937 with a license from DP.

43. At no time were there imports of any consequence from abroad. In and after 1922 the tariff applicable to titanium compounds was 30% ad valorem.

44. On July 30, 1920, TP and TAS entered into an agreement, in writing, Ex. A which is uncancelled. This agreement was negotiated on behalf of TP by McCarty, a vice president of NL, now dead, and on behalf of TAS, by Jebsen, who testified at the trial.

The essential features of the agreement are:

(a) The field to which the contract was to apply was defined as including all substances containing above 2% of titanium (unless such substances contained by weight more than 5% of a metal other than titanium in its purely metallic state) and all apparatus, methods, and processes useful in obtaining or manufacturing such substances (except as stated). The intention was to cover processes, substances, and apparatus in the titanium and titanium compound field.

(b) TAS agreed to grant to TP and the latter agreed to accept "a license exclusive of all others including" TAS under all "existing or future" patents of the Norwegian company; but only in or for territories within North America (defined as including the continent of that name, Central America, and Panama); and TP agreed to grant to TAS the correlative rights, but only outside North America, under the existing or future patents of TP. The parties agreed not to sell outside their respective territories, except that reciprocal non-exclusive rights of sale were reserved for South America.

(c) Detailed provision was made for exchange of copies of applications for patents filed by the parties or their other licensees, and for the filing and payment of expenses incidental to the prosecution of such applications and maintenance of patents in territories outside the territory of each; and there was provision for assignment by each company to the other in case either party elected not to prosecute applications or maintain patents outside its territory.

Neither party would ever question or contest the validity of any patent of the other under which it is licensed (within the licensed field).

(d) TAS made TP the exclusive agent of TAS for sales by TAS in North America, such sales to be at prices and on terms determined by the agent, and TP similarly made TAS its sole agent for sales by TP outside North America and South America. (With a view to "the widest possible development of titanium products in the 'Licensed Field' ", it was agreed that, notwithstanding the agencies provided for, importations of "finished articles"—that is, paint, paper, rubber, glass, etc.—containing titanium prod-

ucts of the principal, its licensees or sublicensees, would be permitted provided such products did not constitute such an important part of such finished articles that sales within the agent's territory would substantially interfere with the agent's sales of its own titanium products.)

(e) Each party would impart semi-annually to the other full and accurate information in detail as to knowledge obtained in and applicable to the "licensed field", and would permit the other to inspect and study operations at its plants (exclusive of research laboratories).

(f) The reciprocal grants of exclusive licenses would extend to December 31, 1936, and thereafter for periods of ten years each, with provision for termination by notice to be given at least five years before the end of any such period; and it was agreed that upon such termination each would receive for itself and its licensees within its territory a non-exclusive license under inventions covered by existing patents or applications of the other, but that in other respects the obligations, liabilities, and benefits would cease. (Notice of termination has never been given).

(g) In Article XIV of the 1920 agreement (mentioned by number because of its significance in connection with later agreements) it was provided that each company would have the right, so long as it held an exclusive license from the other under the 1920 agreement, to grant licenses under its own patents and sublicenses under the other's patents on condition, nevertheless, that every such licensee or sublicensee would (i) grant to the party to the 1920 agreement other than its licensor its patent rights in the "licensed field" identical in character, territorial scope, and duration

to those given by its licensor to the other party to the 1920 agreement, (ii) would appoint such other party its sole agent as specified above in respect of its licensor, and (iii) would impart technical information to such other party in the same manner and to the same extent as its licensor. The obligations of TP under this contract were assumed by NL in 1936. The obligations of TAS under this contract were assumed by Tinc in 1929.

45. Simultaneously with the execution of the contract Exhibit A, defendant NL entered into a contract with TAS and TP, Exhibit A-1, which has not been cancelled. NL agreed to respect the provisions of contract Exhibit A and to promptly assign to TP all patents, inventions and improvements relating to titanium pigments or compounds which it then used or might thereafter acquire or whichever should be at its disposal throughout the world. In a separate contract, Titanium Alloy, also a stockholder in TP, agreed with TP and TAS to assume the same obligations as NL.

46. Defendant NL and TAS had a three fold purpose in bringing about and entering into the aforementioned agreements of 1920. The first was to promote the more rapid development of the titanium business by securing to each the right immediately to use the processes and products covered by the patents held by the other, together with future developments and technological improvements and "know how", and consequently the licenses received by each company could be fully utilized, and neither would be inclined nor able to withhold information from the other, nor make use of inventions or developments of the other for or in connection with further inventions or developments not

fully shared with the other. The second was to keep these patent rights and technological know-how as the exclusive possession of the contracting parties and their respective sublicensees under Article XIV. The third was to prevent competition between the parties to the agreement and between their respective sublicensees and between each of the parties and the sublicensees of the other. The agreements had their intended effect.

47. Between 1920 and 1927 TAS suffered business and financial difficulties which led in 1927 (when IG was negotiating for the purchase of its stock, then controlled by Norwegian banks) to the purchase by NL of 87% of the stock of TAS (Jebsen retaining 13%). Since 1929 the rights and obligations of TAS under the 1920 agreement have been held by Tinc, a Delaware company in which NL now owns all the stock. The intended purpose of the acquisition of control of TAS by NL was to utilize TAS and the contract of 1920 to further control competition in the manufacture of titanium pigments and compounds in all markets of the world including the United States.

48. This purpose was accomplished. The defendant NL and TAS agreed to have TAS and subsequently defendant Tinc form in each of the important industrial countries of the world, in association with a local corporation or firm which contemplated the manufacture and sale of titanium pigments and compounds or which could contribute to the technical or commercial development or which threatened to be a serious competitor of NL and TAS, a new company in which NL or TAS were to have a part interest. Any new company so formed was to be given certain territory in which it would have the exclusive right

to manufacture and sell titanium pigments and compounds free from any exports into said territory by NL. The new company so organized was to refrain from competing with NL in its territory (the United States and other countries of North America) or in the territory of any other company associated with NL. TAS and subsequently defendant Tinc were to make said contracts providing for the formation of the new companies and NL was to be bound to adhere to all of the territorial restrictions placed on TAS and subsequently defendant Tinc in such contracts by virtue of contract Exhibit A. All the present and future patents belonging to NL or TAS or any of the companies associated with either in the formation of such new companies, as well as those of the new companies to be organized, were to be licensed exclusively to NL for North America and to the new companies to be organized for their respective exclusive territories and to TAS and subsequently defendant Tinc for the rest of the world.

49. On or about March 3, 1927, TAS entered into a written contract, Ex. B, under which TAS allocated France and its territories, except those appurtenant to the territories of North and South America, to SIT as its exclusive territory in which to engage in the titanium pigment business. SIT assumed all the obligations imposed upon TAS by Exhibit A for the territory allocated to SIT and was entitled to receive all of the benefits for this territory to which TAS was entitled by Exhibit A. This contract Exhibit B is still uncancelled and by its terms is not to be terminated before 1951. (TAS owned about 20% of the French company; NL acquired an additional 58%, which in 1929 was transferred to Tinc; the remainder was held in France by members of the public.)

50. The hope that the French company would use its license from the Norwegian company to manufacture in France; and thus contribute to the fund of processes and technical information available to TAS and TP, was not realized; SIT served merely as a local selling agency for titanium pigments produced elsewhere.

51. Prior to 1927, NL regarded IG as either a potentially invincible competitor or the most powerful ally. NL and TAS entered into negotiations with IG in 1927 and in or about October, 1927, nine separate contracts were entered into (Exs. C to C-8, inclusive). TAS entered into a contract with IG to create TG. IG agreed to engage in the titanium pigment business only through TG and TAS agreed not to engage in the titanium pigment business in the territory allocated to TG except through TG.

In a series of ancillary agreements IG undertook (i) to provide a factory site and building near its Leverkusen works (rent at 6% of the value of the building); (ii) to furnish steam, gas, water, and electricity (at cost), (iii) to supply transportation facilities (at reasonable prices), and (iv) to deliver raw materials (at cost plus 10%, but not more than the competition charged, with provision for "most-favored" customer treatment). IG was appointed agent of TG for sales in the territory allocated to TG. TG agreed to satisfy its ore requirements by purchases from TAS at cost plus 30-50%.

TG was to confine its manufacturing and selling operations to the exclusive territory allocated to it by TAS, to wit, Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Serbia, Croatia, Slovenia, Bulgaria, Greece, Turkey, Japan, China and Spain. TAS was granted the rest of the world as its territory.

IG agreed to grant exclusive licenses to TG on all patents it then owned or thereafter acquired, methods and experience relating in any way to the manufacture or use of titanium pigments or compounds, as defined within the limits of the licensed field in said contract (Ex. C-2). "Licensed field" was defined as "all methods and processes in the field of manufacture of titanium compounds containing two per cent (2%) or more of the element titanium as well as the titanium compounds themselves". TAS was given the right to acquire such titanium pigments and compounds as it desired for sale in its territory from TG at cost. Such pigments or compounds so purchased by TAS could only be sold outside TG's territory. TAS granted an exclusive license to TG of all its then owned or thereafter acquired patents, methods and experience relating in any way to the manufacture or use of titanium pigments or compounds, as defined within the limits of the licensed field in said contract, for use in the territory assigned to TG. TG granted to TAS for its territory (the rest of the world exclusive of the territory allocated to TG) an exclusive license of its then owned or thereafter acquired patents, methods and experiences relating in any way to the manufacture or use of titanium pigments or compounds as defined within the limits of the licensed field in said contract.

Both TG and TAS agreed not to export titanium pigments into the territory of the other party without its consent and to impose the same obligations upon their customers.

TG and TAS each agreed not to import into the territory of the other party finished articles (e.g. paint, rubber, glass) manufactured by it; but to permit the importation of finished articles by customers purchasing titanium pig-

ments or compounds from it, subject to the limitations on imports of finished articles into North and South America under the agreement of 1920, Ex. A.

Both TAS and TG were allowed to grant to others licenses of their own or licensed patents provided the licensee or sub-licensee agreed to grant to the other party to the contract an exclusive license under all such licensee's or sublicensee's present and future patents relating to the manufacture and sale of titanium pigments or compounds for the territory of such other party (TAS or TG) and to exchange all technological experience and information and provided further that such licensee or sublicensee agreed to respect the exclusive territory of such other party and to assume the same obligations imposed by contract Exhibit C-3 on both TAS and TG with respect to imports and sales into each other's territory.

These arrangements were to run until 1957 and are automatically renewable for 10-year periods thereafter. They have not been cancelled by the parties.

After the execution of the contract Exhibit C, TG erected a factory for the manufacture of titanium pigments at Leverkusen, Germany, and the business was conducted in accordance with the provisions of these contracts (Exs. C to C-7, inclusive).

52. Prior to 1933, NL and Tinc believed that ICI and GW were planning to engage in the manufacture of titanium pigments and compounds in Great Britain, and ICI had begun development work preparatory to engaging in the manufacture and sale of titanium pigments and compounds. NL and Tinc were apprehensive of their competition, especially as ICI was a very powerful corporation,

although it had never manufactured pigments. Defendant Tinc was engaged in selling titanium pigments in Great Britain since 1928 to a modest extent. NL and Tinc entered into negotiations with ICI, GW and ISC to create BTP through which NL, Tinc, ICI, GW, and ISC would jointly engage in the titanium pigment business in the British Empire (exclusive of North America). Defendant Tinc on or about March, 1933, entered into the contracts (Exs. F to F-6, inclusive). Tinc agreed that it would not conduct any operations relating to the manufacture and sale of titanium pigments and compounds within the British Empire as defined in said agreements except through BTP; and ICI, ISC, and GW agreed to conduct any of their operations, relating in any way to the manufacture and sale of titanium pigments and compounds, anywhere through BTP exclusively. Subject to restrictions on transfer, the voting shares of BTP were distributed among Tinc—49% (with the right to allot 5% to R. W. Greef & Co., Ltd., which had been the British sales agent of TAS and, later, Tinc), ICI—17%, ISC—17%, and GW—17%. Tinc received the right to name three of the six directors, but it was stipulated that the chairman must be one of the directors named by the British shareholders. The agreement was for thirty years, with severely limited provisions for retirement. BTP was to confine all its operations relating to the manufacture and sale of titanium pigments and compounds to the British Empire, exclusive of any portions thereof within or appurtentant to North and South America. ICI, ISC, and GW each granted and agreed to grant to BTP an exclusive license, or where it was not entitled to do so, a non-exclusive license, to all its present and future patents, processes and subject matter within

the licensed field, defined to mean "all methods and processes in the field of the manufacture of titanium compounds containing two per cent (2%) or more of the element titanium as well as the titanium compounds themselves" (but limited in case of ICI to titanium oxide and titanium pigments); with the right to grant sublicenses; and each grantor agreed that it would supply BTP with copies of its applications for patents in the "licensed field" and, at the request and expense of BTP, would prosecute similar applications in countries designated by BTP.

It was agreed by Tinc and BTP that they would exchange licenses, patent applications, and technical information, and conduct their operations in and with reference to the British Empire (excluding Canada, Newfoundland, and certain other areas), in accordance with the principles of the 1920 agreement above described.

Tinc granted and agreed to grant BTP an exclusive license for the manufacture and sale of titanium pigments and compounds, in the territory allocated to BTP, under all its then owned or thereafter acquired patents, processes and subject matter within the scope of the licensed field. BTP granted and agreed to grant Tinc for the territory of Tinc (the rest of the world) a similar exclusive license of its present and future patents and subject matter within the scope of the licensed field. Both BTP and Tinc agreed not to export any titanium pigments or compounds into the territory of the other without the latter's consent, and further agreed to impose the same obligation upon their customers. Each party agreed not to import into the territory of the other finished articles manufactured by the former; customers of each and of exclusive licensees and sublicensees were permitted to make such importations pro-

vided the importation of such finished articles did not interfere substantially with the sale of titanium pigments or compounds by the other party in its own territory. Each party was allowed to grant sublicenses within its territory provided that neither party could grant licenses under its own patents or under any patents licensed to it under contract Exhibit F-1 unless the licensee or sublicensee agreed to grant to the other party to the contract (BTP or Tinc) an exclusive license under all the present and future patents of such licensee or sublicensee relating to the manufacture and sale of titanium pigments or compounds for the territory of such other party (Tinc or BTP) and unless the licensor (BTP or Tinc) required the licensee or sublicensee to agree to respect the territory of the other party and to impose upon such licensee or sublicensee all of the obligations imposed upon the other party (BTP or Tinc) with respect to the territory of the other in its contract Exhibit F-1. Tinc transferred to BTP all of its British Empire titanium pigment business pursuant to said contract. The contract Exhibit F-1 is by its term to run until 1963 and is uncancelled. The right of TAS to buy 50% of the TG production at cost (and more at cost plus 10%) having been transferred to Tinc, the latter agreed until such time as BTP commenced to manufacture, and for two years thereafter, to supply BTP's requirements at cost. TG supplied BTP with titanium pigments for its markets until BTP constructed a factory. BTP erected a factory for the manufacture of titanium pigments at Billingham and BTP became the largest manufacturer of titanium pigments in the British Empire. The defendant DP had knowledge of the negotiations between ICI and Tinc which culminated in contracts Exhibits F to F-6, inclusive. Tita-

nium was excluded from the Patents and Process Agreement of 1929 between DP and ICI.

53. In February, March, and April, 1943, there were conversations between representatives of NL and members of the Antitrust Division, Department of Justice, relating to a proposed consent decree. The conversations were suggested by the Division's pending investigation of the titanium pigments industry and antedated the indictment against the defendants herein and Messrs. Rockwell, Garesche, and Jebsen of NL, and another, returned in this District June 28, 1943. At a pre-trial conference in this case held October 30, 1944, counsel for NL tendered a form of contract agreed to, but not executed, by NL and the British companies. A copy of the proposed agreement was received in evidence at the trial, NL Ex. 30. The parties are ICI, ISC, GW, Tinc, BTP, and NL, and the proposed agreement provides in substance as follows:

(a) Licenses exchanged by BTP and NL (Tinc) will be non-exclusive and royalty free, with the right to grant non-exclusive sublicenses but only to parties who will license BTP or NL, as the case may be, on a non-exclusive, royalty free basis under the patents and applications of such sublicensees.

(b) The licenses will be without restriction as to production, shipment, sale, or use of titanium compounds; and it is provided that neither the 1933 British agreements nor the 1920 agreement will preclude BTP or NL (or Tinc) from manufacturing, selling, or using in, or from shipping from or to, any place in the world, titanium compounds or any product, finished or unfinished, or from otherwise fully exercising the grants made by them.

(c) It is agreed that the holdings of voting shares in BTP will be rearranged so as to insure that NL (or Tinc), ICI, ISC, and GW will each hold the same number of shares.

(d) The right of NL to name three directors of BTP is cancelled, and NL has agreed to refrain from taking any part in or exercising any influence in respect of deliberations or decisions of BTP concerning any business of BTP within, from, or to the United States.

(e) All restrictions on the disposition by NL of its shares of BTP contained in the 1933 agreements are cancelled, and it is agreed that the Articles of Association will be amended to remove therefrom all such restrictions.

(f) The proposed agreement supersedes, in so far as inconsistent therewith, the 1933 agreements, and to the extent that any provision or provisions of the 1933 agreements are inconsistent therewith they are deemed to be amended.

(g) The license agreement (Ex. F-1) between Tinc and BTP made in March 1933 is cancelled.

(h) The agreement for exchange of licenses under patent rights hereafter acquired may be terminated by BTP and NL at the end of any year by three years previous notice in writing, or by NL by notice given at any time pursuant to order of this Court, or by BTP by notice given at any time pursuant to order of competent authority in Great Britain pursuant to the Defense Regulations 1941 or pursuant to the order of any competent court in Great Britain.

54. Prior to 1936 local Japanese companies were planning to manufacture and sell titanium pigments and com-

pounds in Japan. NL, Tinc, IG, and TG believed that such Japanese companies would engage in exports which would lead to competition in all the markets of the world including the United States. KK had been agent for TAS and subsequently for IG in Japan. Tinc, TG, IG, Terres Rares, Thann, KK and Doitsu as trustee for Tinc, IG, TG, Terres Rares, and Thann entered into agreements (Exs. J to J-4, inclusive, which are uncancelled). KK was to own 50% of a new company, and of the remaining 50% Terres Rares 30% and Tinc 70%. IG was to have an option on one-half of Tinc's shares. TK was the new company created as a result of these contracts for the exclusive purpose of engaging in the titanium pigment business in the Japanese Empire, TK was assigned the Japanse Empire as its territory and the rest of the world was assigned through Doitsu, as trustee, to Tinc, IG and Terres Rares. TK was granted an exclusive license for its territory to manufacture and sell titanium pigments and compounds under all Doitsu's then owned or thereafter acquired patents, processes, and subject matter relating in any way to the manufacture of or use of titanium pigments and compounds, as defined within the limits of the licensed field in said contracts; that is, all methods, processes and apparatus in the field of manufacture of all titanium compounds, containing two per cent (2%) or more of the element titanium in a chemically, mechanically or physically combined state and mixtures thereof, which can be used as pigments, whether or not adapted for other uses and all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses. TK granted Doitsu, as trustee for Tinc, IG, TG and Thann a similar exclusive license of its present and future titanium pigment patents,

processes and subject matter relating in any way to the manufacture or use of titanium pigments or compounds, as defined within the limits of the licensed field in said contract. TK and Doitsu each agreed not to import titanium pigments and compounds into the territory of the other without the consent of the other and agreed to impose the same obligations upon its customers. TK and Doitsu agreed not to import into the territory of the other finished articles manufactured by it; and agreed to prevent such importation by customers purchasing titanium pigments or compounds from it if the importation of such finished articles interfered with the sales of titanium pigments by the other party in its own territory. TK was prohibited from granting sublicenses. Doitsu was permitted to grant sublicenses under any patents licensed to it by TK provided the sublicensee of Doitsu agreed to grant to TK for its territory an exclusive license under all present and future patents of the licensee or sublicensee relating to the manufacture and sale of titanium pigments and compounds, and provided Doitsu required the licensee or sublicensee to agree to respect the exclusive territory of TK and to assume the same obligations with respect to TK's territory as were imposed on Doitsu. TK was given an option on Blumenfeld's Japanese patents in exchange for certain rights to be given Terres Rares and Thann. The contract Exhibit J-1 is to run until 1960 and has not been cancelled by the parties. TG supplied the Japanese market with titanium pigments until the Japanese factory commenced production.

55. Contract Exhibit A allocated the Canadian and North American markets to NL as part of its exclusive territory.

56. NL owned certain Canadian patents and, by virtue of the 1920 agreement, had an exclusive license and the right to grant sublicenses under TAS's Canadian patents. Prior to the year 1934 Laporte was interested in erecting a factory in Canada to manufacture titanium pigments. NL and DP were selling titanium pigments and compounds in the Canadian market at this time. DP had contractual relations with CIL conferring certain rights and imposing certain obligations upon CIL with respect to patents and processes. NL and CIL entered upon negotiations which resulted in the making of four contracts (Pl. Exs. K to K-3, inclusive, which are uncancelled). DP and ICI had knowledge of such negotiations. There is no direct evidence that DP either approved or disapproved these contracts. I infer that it acquiesced in them.

(a) There was an agreement between CIL and NL dated January 1, 1937, under which a new company, CTP was granted the sole right to manufacture and sell under CIL's and NL's titanium patents in Canada and Newfoundland. CTP was to be owned 49% by NL and 51% by CIL. In addition, NL was to receive 8000 shares of non-voting (except under certain conditions) $100 par value stock in consideration of its existing good will, patents and technical information. NL and CIL agreed to subscribe to bonds of CTP for the purpose of erecting a factory; but because of World War II the bonds have not been issued and the factory has not been built. CTP was to have six directors, three nominated by NL and three by CIL; one of the CIL directors was to be president. Until the factory was built NL agreed to supply CTP at cost plus 10% and to use its best efforts to enable CTP to purchase from BTP at cost plus 10%. The agreement was to remain in force for thirty

years, and thereafter could be terminated on twelve months' notice by either party. If at the end of thirty years either party wished to withdraw from the agreement, it was required to offer its shares to the other party at book value. (In determining book value good will, patents, and future earnings were not to be considered.) CTP was to confine its activities relating to the manufacture and sale of titanium pigments and compounds to Canada as its exclusive territory. NL agreed to conduct all of its operations relating to the manufacture and sale of titanium pigments and compounds in Canada through CTP and CIL agreed that it would not conduct any such operations anywhere in the world except through CTP.

(b) CIL agreed to grant an exclusive license, throughout the world, to CTP under all its then owned or thereafter acquired patents, processes and subject matter, relating to the manufacture or use of titanium pigments or compounds.

(c) NL agreed to transfer its Canadian titanium pigment business to CTP.

(d) NL entered into contract Exhibit K-1 with CTP and granted to CTP, for Canada, an exclusive license on all of NL's patents, then owned or thereafter acquired, processes and subject matter relating to the manufacture or use of titanium pigments or compounds. NL was allocated the rest of the world as its territory. CTP granted to NL an exclusive license for the world outside of Canada, in respect of then owned or thereafter acquired patents, processes and subject matter relating to the manufacture, sale and use of titanium pigments, provided that NL was to grant to DP a non-exclusive license for North and South America under

any such patents licensed to NL by CTP. NL and CTP agreed not to export titanium pigments or compounds into the territory of the other without the consent of the other party and agreed to impose the same obligation upon its customers. NL agreed not to export into CTP's territory any finished articles manufactured by NL, and CTP made the correlated agreement. No such restriction was put upon their customers. CTP could grant sublicenses but neither party could grant licenses under its own patents or under any patents licensed to it under Exhibit K-1, (except NL to DP) unless the licensee agreed to grant to the other party to the contract (NL or CTP) an exclusive license under all its present and future patents relating to the manufacture or use of titanium pigments or compounds for the territory of such other party (CTP or NL) and unless such licensor (CTP or NL) compelled the licensee or sublicensee to agree to respect the territory allocated to the parties to the contract (CTP or NL) in Exhibit K-1 with respect to each other's territory. The contract is to run until 1967.

57. In 1935 NL agreed with CIL, BTP and Laporte to maintain prices on American titanium pigments sold by NL in Canada, above the prices charged for titanium pigments manufactured by BTP or Laporte and sold by BTP and Laporte in the Canadian market. This facilitated a price agreement between BTP and Laporte for the British Empire market outside of Canada. There is no evidence as to how long this agreement endured.

58. CTP acquired all of the titanium pigment business of Laporte in Canada in 1937 and said Laporte agreed to

refrain from engaging in the titanium pigment business in Canada until 1952.

BTP (with consent of NL), NL and DP severally supplied the Canadian market until 1939. Since 1939 CTP has acquired its products from DP and NL and will continue to do so until it builds a factory. DP sold its titanium pigment products in Canada prior to the creation of CTP to CIL and since the creation of CTP entirely to CTP. Negotiations are in progress among NL, CIL and CTP to revise the Canadian agreements on lines similar to the revised British agreements.

59. The defendants NL and TINC and their foreign associates, SIT, TG, BTP and TK, agreed in 1939 that, should patents relating to the titanium pigment business but outside the license field be offered by one of the parties to the other, the offer would be subject to the terms and conditions defined in the various contracts under the license field. NL and CTP agreed to extend their obligations to exchange patents, present and future, which in any way related to the titanium pigment business and to other matters, outside the license field on a reciprocal basis.

60. Each and every patent application of NL and NL's foreign associates SIT, TG, BTP, TK, CTP, which related to the licensed field as defined in the various agreements, was immediately available to each other on an exclusive, royalty-free basis under their respective agreements for the respective territories in which the companies operated throughout the world. The expenses of filing and securing said applications and patents were shared equally by the exclusive licensee in whose territory the application was filed and the patent owner.

61. After the outbreak of the present war in 1939 NL, Tinc, and TG believed that if the United States should be at war with Germany and as a consequence the United States Alien Property Custodian should seize the United States patents owned by TG and the German equivalent of the Alien Property Custodian should seize the German patents owned by Tinc and that if such patents were licensed to outsiders there might be competition in the respective markets allocated to the parties to Agreements A and C. NL, Tinc, IG, and TG in order to prevent such potential competion decided that all of the United States patents owned by TG should be transferred to Tinc and the Tinc patents in the exclusive territory of TG as defined in Exhibit C-3 should be transferred to TG provided that none of the other provisions of the several contracts were to be affected in any way. Thereupon TG assigned to Tinc some of its United States patents and applications and Tinc endeavored to transfer all of its German patents and other patents in TG's territory to TG.

62. Defendants NL and Tinc and their foreign associates TG, BTP and TK exchanged complete technical information which in any way related to the manufacture or use of titanium pigments or compounds as defined within the limits of the licensed field in their various agreements. Such information was of inestimable value in developing the business of these associated companies to the exclusion of potential newcomers in competition in the industry.

63. The defendants NL and Tinc and their foreign associates TG, BTP and SIT exchanged full and complete information relating to the sales prices of titanium pig-

ments and the activities of any other companies and potential competitors engaged in the titanium business in any of the markets of the world. Prices for the various markets in Europe were frequently fixed for all titanium pigments below which none of these associated companies was to sell in its respective markets without immediate notice to Tinc.

64. Each and all of the various contracts (Exs. A to A-2 inclusive, B, C to C-8, inclusive, F to F-6, inclusive, J to J-4, inclusive, and K to K-4, inclusive) has had the intended effect of (1) preventing competition among the various parties to said contracts within the exclusive territories allocated to the parties in their respective contracts; (2) creating a world-wide patent pool of many of the patents of commercial value relating to the manufacture of titanium pigments and compounds within the licensed field, as defined in said agreements in which said patents are made available only to the parties to said contracts; (3) creating a world-wide pool of useful technical information, relating to the manufacture and use of titanium pigments, available only to any of the parties to said contracts within their respective exclusive territories; (4) enabling the parties to said contracts outside the United States to facilitate the control of production and prices of all titanium pigments and compounds produced within their respective exclusive territories; (5) completely preventing any patent litigation among the parties (there has been no patent litigation in the titanium pigment field anywhere in the world); and (6) accelerating the spread of improvement in the product and processes throughout the world.

It is a fact, but I am unable to find whether or not it has a causal relationship to these contracts, that production

of titanium pigments has increased both in the United States and abroad [NL alone increased production from a nominal 500-1000 tons in 1920 to 76,788 tons, in terms of TiO_2 content, in 1944 and increased its sales so that in 1943 its sales of titanium pigment exceeded sales in the U. S. of lithopone, zinc oxide and white lead by all producers] and that the price has declined from 40¢ a lb. in 1927 to 14½¢ in 1944.

65. Joseph Blumenfeld, a chemist and managing director of Terres Rares, a French company in which he owned stock, in or about 1922 obtained certain patents relating to the manufacture of titanium compounds which he assigned to Terres Rares. Between 1922 and 1933 Terres Rares granted exclusive licenses to Thann, a French company, for France, its colonies, dependencies, protectorates, and mandated territories; to Montecatini, the largest chemical company in Italy, for Italy, and non-exclusive licenses for Belgium, Holland, Switzerland, Spain, Portugal, and South America, subject to rescission on three months' notice; to Aussig, the largest chemical company in Central Europe, for Czechoslovakia, Austria, Hungary, Yugoslavia, Rumania, and, subject to certain obligations, Danzig and Denmark, and non-exclusive licenses for Poland and Russia; and to Laporte for the British Empire. These were the only companies other than TG producing titanium pigments in Europe in 1933. These companies in 1933 were in competition with TG and BTP in the markets allocated to them by contracts Exhibits B, C, F.

66. Jebsen, acting for Tinc, either made or approved agreements among the European producers of titanium as follows:

(a) On November 23, 1933, Aussig and TG entered into an agreement, Ex. G, which established a sales quota of approximately 25% for Aussig and 75% for TG in Germany, Czechoslovakia, Poland, Austria, Hungary, Yugoslavia, Rumania, and Russia. Prices were to be fixed by mutual consent, and were not required to be identical, so that each firm could compete with dealers in other pigments (lithopone, zinc oxide, white lead, etc.) as local conditions might permit. Each gave the other the right to use its product patents, royalty-free, and agreed to support the other in protecting these rights, and to refrain from giving any technical information or aid to potential competitors; and the parties contemplated an agreement on process patents and experience. Aussig agreed to buy from TG at preferential prices any requirements of titanium pigments, above Aussig's then production capacity, which Aussig might need to meet its quota. Said contract was in effect from July 1, 1933, and there is no evidence that it has been cancelled and the effect of the war on its operation is undetermined.

(b) In June, 1935, but to take effect as of May 1, 1934, an agreement known as the Contrat a Quatre (Ex. G-1), was made between Thann and Terres Rares, on the one hand, and SIT and Tinc, on the other, which established a quota of 30% for Thann and Terres Rares and 70% for SIT and Tinc in Belgium, Holland, and "various countries" (Esthonia, Latvia, Lithuania, Abyssinia, Liberia, Arabia, Afghanistan, Persia, and Siam) and a 50% quota for each group in France; prices for these territories were to be fixed by mutual consent; product patents of each party were to be made available to the other parties royalty free.

All parties were to refrain from giving any technical information or aid to potential competitors. No new factories were to be built in the countries of the agreement outside France without the mutual consent of all parties. This agreement could be terminated by a change of sales possibilities resulting from governmental measures, from "new competition", or from "any governmental or legislative measures making it partly or wholly illegal". Otherwise it could not be terminated before December 31, 1938, and then only on six months' notice. There is no evidence that such notice was ever given. Thereafter it was to continue for two-year periods unless notice was given six months before the expiration of any such period. This agreement was related to the Contrat a Six (see below) and could be terminated on three month's notice if that agreement was terminated. There is no evidence that Contrat a Quatre was ever cancelled.

(c) At the same time, in June, 1935, an agreement known as the Contrat de Livraisons (agreement concerning mutual deliveries) was made between the same parties and provided that each group would supply the other with any titanium pigments which it might have available after its own needs were satisfied, at certain fixed prices and on certain terms. It was agreed that goods delivered by one group to the other could not be reexported and that this obligation must be imposed on the customers of the parties.

(d) An agreement known as the Contrat a Six, Ex. G-3, was also entered into at this time by Thann, Terres Rares, Montecatini, Tinc, SIT, and TG, in which territories were allocated and sales allotted on a quota basis, retroactive to May 1, 1934, thus: TG and Aussig were recog-

nized as enjoying exclusive rights of sale and delivery in Germany, Danzig, Czechoslovakia, and Russia; TG, Terres Rares, and Thann in Spain, Portugal, Japan, Switzerland, Bulgaria, Greece, Turkey, China, and South America (subject to TP's rights in South America); Terres Rares, Thann, and SIT in France; Terres Rares, Thann, and Tinc in Belgium, Holland, and "various countries" (as defined above); Montecatini in Italy; Tinc in Norway, Sweden, and Finland; and Tinc and Aussig in Denmark. Each party agreed to respect the others' exclusive rights. Each of the parties to contract Exhibit G-3 agreed to assist each other in preventing third parties from entering the titanium pigment business within their respective territories, and each of the parties to contract Exhibit G-3 agreed not to reexport titanium pigments or products from the territories from which they had been ordered and delivered. Sales prices were to be fixed by mutual agreement. Use patent rights were exchanged between the parties on a royalty-free basis. Said contract Exhibit G-3 was in effect until December 31, 1938, when it was cancelled by Montecatini. The intention to continue to cooperate was expressed by the parties to contract Exhibit G-3 after its cancellation.

67. BTP entered into a price agreement with Laporte, in 1934, covering the sale of titanium pigments for the British Empire. Said price agreement is still in effect but has no application to the Canadian market from which Laporte withdrew in 1937. In 1941 BTP and Laporte entered into a quota agreement whereby a quota (Pl. Ex. F-8) of the titanium pigment business in the British market was allocated to each of the said parties. This agree-

ment is uncancelled. Laporte is obligated, by agreement with Blumenfeld, to refrain from exporting titanium pigments to any territory outside of the British Empire and has refrained from making such exports outside the British Empire since 1937.

68. Each and all of the said contracts, Exhibits G, G-1, G-2, G-3, F-8, has and have had the intended effect of helping Tinc and NL to prevent any exports of titanium pigments or compounds to the United States.

69. Defendants NL and Tinc and TG, represented by Jebsen, McCarty and Kuhne, commenced negotiations with CP and the other Blumenfeld companies represented by Blumenfeld, Ticknor, Chase and Burton, to eliminate competition and also to facilitate exchange of technical information and patent rights between the two groups producing titanium pigments in all markets of the world in 1930. The parties believed that no agreement eliminating competition between the two groups in markets outside of the United States and to achieve the other desired ends could be reached unless the parties thereto considered themselves secure against competition from American producers. A tentative understanding had been arrived at between NL's foreign associates and the Blumenfeld interests outside the United States in March, 1931, involving both a technical and commercial cooperation consummation of which required assent of NL in some respects. The negotiators were of the opinion that the making of such an agreement would be facilitated if there were an agreement for technical cooperation between NL and CP. The agreements mentioned in Findings 66 and 67 were essentially for commercial not technical cooperation.

70. By 1931 the titanium pigment art in the United States was already developed. Patent positions were claimed by both NL and CP, the then only existing manufacturers. DP's efforts initiated prior to that time to develop, through research, an independent patent process were still unsuccessful and substantial additional expenditures and time would have been required to complete the program and DP became convinced that if it were to enter the manufacture and sale of titanium pigments as a development of its white pigment business it would be necessary to get into the business as promptly as possible through the acquisition of the patents and the going business of CP.

71. After the purchase of CP by Krebs in July, 1931, defendant NL represented by Jebsen, McCarty, Thompson and Beschorman, and Ticknor and Chase, directors of Krebs until the end of 1934 (the latter two without authority from DP), continued negotiations to reach a world-wide agreement which would eliminate competition in the manufacture of titanium pigments and compounds. Blumenfeld continued to represent the Blumenfeld group exclusive of Krebs. The parties to these negotiations continued to seek means whereby the European producers could be secure against competition by DP or Krebs.

72. DP knew of plans to combine all the European titanium producers and was willing to give its aid to NL in bringing about a patent exchange among the European producers in order to secure one in the United States with NL. NL wished to pool with DP all their patents and technical information relating to the manufacture or use of titanium pigments in the United States in order to settle

its patent controversies with DP and to obtain access to DP's patents and technical facilities and jointly to control and dominate the manufacture and sale of titanium pigments and compounds; and DP had knowledge of this wish. NL had threatened but failed to file suit on any claims it may have had for any alleged infringements of patents owned or controlled by it against CP prior to July 1, 1931. The defendant DP knew at the time it acquired the business of CP in July, 1931, that NL had failed to enforce any claim it might have against CP for any alleged infringement of any patents relating to the manufacture and sale of titanium pigments or compounds which were owned and controlled by TP. Both NL and DP in good faith claimed that each infringed certain of the other's titanium pigment patents and both in good faith denied such infringement claiming, among other things, that the patents alleged to be infringed were of doubtful validity. NL and DP agreed in October, 1932, that the validity of the patents claimed to be infringed should not be questioned except as a last resort and that they should try to arrive at a general understanding. NL advised DP of its contracts with TAS in May of 1932 and of the restricted nature of said license agreements. TP did not own the legal title to 7 of the 9 patents it claimed were infringed by Krebs in 1932; but it held licenses thereunder with the right to grant sub-licenses thereunder subject to the contract of 1920. Krebs did not check the legal title to the patents NL alleged it infringed because it considered that under the agreement with NL (Ex. E) it was obtaining rights under all patents involved in the discussions of patent infringement between it and NL. Both TP and Krebs began to

exchange extensively technical information relating to the manufacture and use of titanium pigments in 1932 and the information so exchanged related to much more than any alleged claims of patent infringement by either company. Blumenfeld and his foreign associates furnished technical aid and assistance to Krebs at its instance from August 1931 until the approximate date at which TP and Krebs commenced the exchange of technical information in 1932. Krebs did not unequivocally notify Blumenfeld of its position that it intended to make no agreement with Blumenfeld or Terres Rares for exchange of patents or information until after contract Exhibit E had been approved by NL's foreign associates and executed by TP and Krebs. Krebs never exchanged patent or patent applications with Blumenfeld and did not furnish Blumenfeld with any technical information.

73. In 1933 TP and Krebs were the only producers of titanium pigments in the United States.

Contract Exhibit A by its terms prevented TP from entering into a contract with Krebs unless Krebs subscribed to the provisions of Article 14 of Contract Exhibit A and particularly unless Krebs agreed not to export into the territories of NL's foreign associates and unless Krebs agreed to grant exclusive licenses to NL's foreign associates under all its present and future patents for titanium pigments and compounds in the territories of the foreign associates.

After extensive negotiation NL and DP formulated an agreement in writing later executed on August 28, 1933, and dated as of January 1, 1933, which is in evidence as Exhibit E. The agreement Exhibit E provided:

1. The parties were TP and Krebs.

2. The licensed field was defined as

"(1) All methods, processes and apparatus in the field of manufacture and use of all titanium compounds, containing two per cent (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adapted for other uses, and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses".

3. TP granted Krebs (a) a non-exclusive license to use within the United States, its colonies and possessions, and for the licensed field, all processes and apparatus of manufacture, patented or not, which it then used or thereafter used during the term of the agreement, and as to which it was free to grant such license; (b) a non-exclusive license to exploit within the same territory and for the licensed field all U. S. patents then or thereafter owned by it during the term of the agreement; and (c) a non-exclusive license to sell the products resulting from such processes in the U. S., its colonies and possession , Mexico, Central America, West Indies and South America.

4, Krebs granted the identical rights to TP.

5. Both parties agreed to exchange technical information including patent applications and the aims and results of their research and development work.

6. Each party agreed to help the other obtain a non-exclusive license for the mentioned territory under any U. S. patent under which the other was licensed.

7. Krebs agreed to give TP's foreign associates the first opportunity to acquire from Krebs a non-exclusive license under any patent issued in Europe or Great Britain within the license field, at the disposal of Krebs.

8. The contract was subject to cancellation after December 31, 1933, on three years' notice.

9. The parties released each other from claims for infringement of the U. S. patents then owned or thereafter during the term of the agreement acquired with right to sue for past infringement. Each of the parties also released the customers of the other from past infringement claims.

10. Mutual royalties which could not exceed a total of $40,000 by either party were provided for and no royalties were to be paid by either party after 1936. (And such royalties were paid).

TG objected to this proposed agreement upon the grounds that it failed to provide that Krebs (a) shall not manufacture in TG's territory; (b) shall not sell in TG's territory; (c) shall require its customers not to sell in TG's territory; (d) shall not grant sub-licenses except to enterprises outside TG's territory and for use outside TG's territory; (e) shall not exchange experience except with the same limitations,

> "as otherwise the unbearable situation may arise for the T.G. that Krebs competed with T.G. in the latter's territory, with T.G.'s own patent rights and experiences which are transmitted to Krebs through T.P."

In an effort to overcome this obstacle to the making of the agreement of Exhibit E, C. H. Rupprecht, President of Krebs, now deceased, had conversations with W. C. Beschorman, Executive Vice-President of NL.

Rupprecht told Beschorman to make IG realize that they (IG and TG) were putting their interests in NL's hands and that they would be well taken care of; that the anti-trust laws made impossible the incorporation into the agreement of such provisions as IG desired. He also pointed out (a) that the license granted by Exhibit E contained a territorial limitation which excluded TG's territory from the scope of the license; (b) that DP was not then interested in the business of exporting to TG's territory or of manufacturing in TG's territory; (c) that DP had a general policy of not granting licenses which were exclusive as to DP.

In order to assist further in persuading IG to withdraw its objections, Krebs, on June 28, 1933, delivered a letter, drafted by its counsel, to NL for transmittal to IG. In that letter (Pl. Ex. 267)* DP (1) expressed its desire

*

Blind copies to
E. C. Thompson—Cleveland
Wm. Richter —Wil.
T. R. Hanley — "

June 28, 1933

CONFIDENTIAL

W. C. Beschorman, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

We have considered the various points raised by I. G. in their cable to you with the desire, if possible, to comply with its request.

to comply with IG's request if possible; (2) stated that the antitrust laws prevented DP from making any commitments respecting the territories of TG and Tinc; (3) called attention to the territorial limitation in the proposed license agreements and stated that with such limitation, "we think the result will be eminently satisfactory to your foreign associates"; (4) stated that legally and practically there was

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As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan, Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article II of the Krebs-Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

The I.G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclusive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis. Since all licenses received by Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally, we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of much care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Very truly yours,

CHR:s

President

great difficulty in controlling its customers in the disposition of its products; (5) refused to bind itself not to license others than TG in TG's territory; but expressed the belief that in the prospective negotiations for any foreign patents owned by DP a solution would be worked out which would be "acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates", and that exchange of experience would be treated in the same manner as patents.

On July 21, 1933, after further conversations between Rupprecht and Beschorman and also between Rupprecht and Jebsen, Beschorman sent a letter dated July 12, 1933, transmitting the Krebs letter of June 28th. In his letter of July 12th (Pl. Ex. 273)* Beschorman wrote (1) experience

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* July 12, 1933.

I. G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Grüneburgplatz

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to create a monopoly. Therefore, the use of this phrase, "non-exclusive license" is simply to comply with the United States Laws

will prove that Krebs is trying to meet your views; (2) the use of the phrase "non exclusive license" in Article V of

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and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subseqently to the points brought out in your letter of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both as to use, manufacture and selling to the territory granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good co-operation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outside of their territory which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licences in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these respects, which are also our own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your interests than to complicate the situation with a separate contract.

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point or this either in the cable or in your letter of June 20th.

the Agreement is simply to comply with the anti-trust laws and in practice the licenses will prove to be, to all intents and purposes, exclusive; (3) while the agreement does not specifically prevent Krebs from exporting into TG's territory products not manufactured under TP patents, it will be difficult to discriminate between such manufacture and manufacture under their own patents and maintain close and good cooperation, and the practical effect will be that Krebs will refrain from such export; (4) Krebs will use its efforts to prevent export by its customers; (5) NL will look after your interest in these respects—a method preferable to making a direct contract between Krebs and TG.

A copy of Beschorman's letter of July 12th was, before it was sent to IG, shown to Rupprecht and on July 17, 1933, a copy was sent to him for Krebs' records.

There is no evidence that Rupprecht remonstrated against the sending of Beschorman's letter to IG. Krebs and DP through Rupprecht acquiesced in and ratified the assurance made by Beschorman to IG as to territorial delimitations of the titanium pigment business. In acquiescing in such assurance that DP would not manufacture in or sell in TG's territory, DP was not making a promise; it

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May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advice from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours

Executive Vice President.

Copy to—Dr. Kuhne
Dr. Jebsen
Mr. Rupprecht
Mr. Tasker, Vice Chairman, British T.P.Co.

was doing no more than giving expression to its then existing policy not to manufacture or sell in Germany and other TG territory. DP's aforesaid assurance in part formed the consideration for continued abstinence of the European producers from exporting to the United States.

IG construed the communications to mean that Krebs "will loyally respect the territorial delimitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement" between Tinc and TG; and in reliance thereon, withdrew its objections to the agreement Exhibit E. There is no evidence that the aforesaid construction was communicated to DP.

DP did not agree with TP or NL that it would refrain from exporting titanium pigments into TG's territory; but it assured TP and NL that, as a practical matter, such exports would not take place.

DP did not agree with TP or NL that it would grant NL's foreign associates exclusive licenses under DP's foreign patents; but it gave assurances that the practical effect of its conduct would produce substantially identical results as if it did so agree.

Tinc and NL's other foreign associates approved the agreement between TP and Krebs on the basis of the DP assurances.

NL agreed with DP that all of NL's titanium pigment business would be done exclusively through TP, and DP agreed with NL that it would only engage in the titanium pigment business through Krebs. The conduct of DP of its titanium business after January 1, 1936, through the Krebs Division of DP did not breach or violate this agreement or any assurance previously given by DP through Krebs.

DP, through Rupprecht and Krebs, by these assurances and Exhibit E, joined the conspiracy found herein to exist between, NL and its foreign associates. DP's status rights and obligations were different from those of the other members of the combination. DP did not thereafter withdraw.

In July, 1933, Blumenfeld conferred with Rupprecht, President of Krebs, and the former requested Krebs to agree not to export into the territory of the European producers so as to facilitate the making of an agreement for commercial cooperation among the European producers. Rupprecht stated that he would make no such agreement but he explained to Blumenfeld that DP was not interested in the export business.

Neither Krebs nor DP exported any titanium pigments to the territory of TG, BTP, SIT, TK, Terres Rares, Thann, Aussig or Montecatini.

In 1936, DP received an order from BTP for 50 pounds of titanium pigment. Rupprecht telephoned the President of NL and advised that he was sending the requested merchandise as a free sample, "not wanting to have any question raised about * * * selling outside the United States".

74. Blumenfeld's foreign associates, Terres Rares, Aussig, Thann and Montecatini imported no titanium pigments or compounds into the United States.

75. DP and NL exchanged technical information relating in any manner to the manufacturing or use of titanium pigments or compounds from about April, 1932, until April, 1940.

As of about May 1, 1940, the exchange of technical information between NL and DP was discontinued; and the

1933 agreement between TP and Krebs, which had been assumed by NL and DP, respectively, was, by an agreement between NL and DP dated January 1, 1941, (Ex. E-3) amended to eliminate provisions for exchange of technical information.

76. The aforesaid agreement, Ex. E, was further amended to include extender pigments, theretofore included by implication and practice. The agreement, Ex. E, as thus amended has not been terminated.

77. From August, 1933, to January 1, 1941, all patents and patent applications owned or filed by TP, NL, Krebs or DP which in any way related to titanium pigments or compounds within the licensed field of contract Exhibit E, were immediately available to each other on acquisition or filing. From and after January 1, 1941, all United States patent applications of either NL or DP were made available and still are available for the use of the other company after six months from the date of the filing of applications. All United States patents issued to or acquired by either DP or NL within the licensed field from and after January 1, 1941, continued to be and still are available to either company on a royalty-free basis immediately on issue or acquisition.

78. From 1933 on there was active competition between NL and DP for customers. There has been a vast increase in sales; and repeated reductions in the price of titanium pigments have taken place and a very few increases. DP entered the titanium pigment business in 1931 and since that date it has made frequent plant expansions for the manufacture of pure and composite TiO_2

and its production increased from 20,027 tons in 1935 to 50,674 tons in 1941 and then decreased to 42,843 tons in 1943.

NL and DP have endeavored to match each other's titanium products; but each also manufactures certain titanium pigments having special applications not manufactured by the other.

There is no allocation of territory or customers between NL and DP; and each maintains a large, highly trained technical sales force engaged in endeavoring to sell titanium pigments. To a very large extent the salesmen of the two companies are chemists whose contact with consumers (that is, manufacturers of paint, rubber, glass, etc.) consists in endeavoring to demonstrate that their products merit acceptance on the basis of technical superiority. The buyers of titanium pigments are mainly well-informed, experienced purchasing agents. NL and DP sell for identical prices; there is no evidence that such price identity is the product of agreement or collusion.

79. In entering into the agreement, Ex. E, NL had several purposes:

1) For about a year prior to the making of Ex. E officials of NL had been concerned by the early expiration dates of many of the patents upon which NL relied. By exchanging patents and technology with DP, a large and powerful corporation, possessed of great research facilities, NL expected to strengthen the patent monopoly of NL and DP jointly, as against newcomers in the titanium pigment business.

2) NL intended by its agreement with DP to avoid the expense and the risks of patent litigation and to obtain

access to the Blumenfeld patents and DP's research capacity.

3) NL expected to obtain the benefits of a friendly and cooperative competitor rather than that of a hostile competitor.

4) From the assurances given by DP on the request of IG, NL expected to obtain freedom from interference by DP in the arrangement made with the European producers.

DP's purposes in entering into the agreement Ex. E were:

1) To avoid the expense and risks of patent litigation.

2) To avoid the research expense in trying to avoid infringement of NL valid patents.

3) To obtain access to NL's technical experience and patents in the titanium pigment field as well as the patents and the experience of NL's foreign associates.

4) To strengthen its own patent position in the titanium pigment field to the exclusion of others than NL by pooling its patents with NL.

The necessary effects of the agreement Ex. E. and of DP assurances have been

1) The achievement of NL purposes.

2) The achievement of DP's purposes.

3) To give NL and DP together domination and control over the titanium pigment business in the U. S.

4) To remove obstacles from the execution of the TG-Aussig agreement—Ex. G, the Blumenfeld agreements G-1, G-2, G-3, the Japanese agreement Ex. J, the Canadian agreement Ex. K and the price agreement between BTP and Laporte for the British Empire.

5) A proliferation of patents.

6) To restrict and obstruct exports from the U. S. outside of Western Hemisphere.

7) To restrict and obstruct imports into the U. S.

8) To settle the existing and potential patent disputes and to promote the more rapid development of the titanium business and a greater freedom of action for the parties under titanium pigment patents and developments.

80. In 1934 defendants NL and DP jointly purchased the Leuchs patent relating to the manufacture of titanium pigments each contributing one-half of the cost. Shortly thereafter DP acquired NL's half interest and granted NL a non-exclusive license thereunder royalty free. At time of purchase NL's technical director advised that in his opinion the patent was invalid but he thought it might anticipate a Blumenfeld patent. The patent was reissued with broader claims. Said patent was never used by either DP or NL. The patent was included among those licensed to VC and Zirconium.

81. In 1939 National Lead undertook to adapt a patented machine known as the Micronizer Reduction Mill for use in the manufacture of titanium pigments. Following developments and changes by NL, the machine proved of substantial value as a means of improving the texture of

titanium pigments; and NL secured an exclusive license (Ex. P), with the right to grant sublicenses, for titanium pigments manufacture, from the patentee, International Pulverizing Corporation. NL granted DP pursuant to Ex. E the non-exclusive right to use this apparatus on the same terms and conditions as those granted to NL under its exclusive license from International Pulverizing Corporation. The license from NL to DP was granted at about the same time NL secured an exclusive license from International Pulverizing Corporation to use this apparatus. DP regarded this apparatus essential to enable it to make a pigment comparable to one produced by NL, which was using the apparatus. At its request Zirconium was granted by NL the right to use this apparatus about eighteen months later on the same terms and conditions as DP. NL refused a license of the "Micronizing Apparatus" to VC and Sherwin-Williams Company, who also desired to use this apparatus. In October, 1944, NL relinquished its exclusive license and took a non-exclusive license.

82. DP's method of doing business was to sell titanium pigments to manufacturing consumers. The form of sales contract used by DP contained the phrase "for the buyer's own consumption." The evidence does not establish that this phrase was used pursuant to any agreement with NL, rather than that it was used to express a usual term of a requirements contract.

NL's form of sales contract in 1939, 1940, 1941 and 1942 contained an identical clause.

There is evidence that such a clause is common in the chemical industry and that DP had employed it before the 1933 contract.

83. The only licenses granted by DP of any of its titanium pigment patents were the licenses described herein. No other company or person ever requested such a license from DP.

84. Early in 1934 Zirconium, which was owned by Glidden Company and by Metal and Thermit Corporation in equal shares, began to manufacture titanium dioxide. It owned some patents relating to such manufacture which it had acquired from its parent corporations. On January 8, 1934, DP notified Zirconium that such manufacture might infringe patents owned by DP. Negotiations ensued which resulted in a license agreement from DP to Zirconium dated January 1, 1935, and signed on August 19, 1935, Ex. I. Thereby DP granted Zirconium a non-exclusive license under specified patents, for the life of the patents, subject to the payment of a royalty on *all* TiO_2 produced and subject to a limitation on tonnage of 3,000 tons in 1935, to 9,000 in 1944 and thereafter, of titanium dioxide produced under the license.

On March 7, 1943, DP licensed Zirconium under additional patents without additional royalty. On November 10, 1944, the tonnage limitations were cancelled. DP has collected in royalty from Zirconium $196,655.86 to July 1, 1944.

On May 17, 1934, NL sent a notice to Zirconium of probable infringement. Negotiations followed which resulted in an agreement dated May 6, 1935, Ex. H, whereby NL in lieu of royalties received 10% of the stock of Zirconium, had its president elected to Zirconium's Board of Directors and NL and Zirconium cross licensed each other under all patents in the titanium pigment field, then owned

or thereafter acquired, and both parties agreed to exchange technical information and experience. Zirconium assumed obligations substantially like those of Article XIV of the 1920 agreement, Ex. A, including restriction on its exports. The agreement was to endure until August 7, 1951.

NL became discontented with the management of Zirconium. Glidden and Zirconium were dissatisfied with NL's refusal to invest more money in the development of Zirconium.

In April, 1944, the agreement was cancelled, the parties exchanged releases and NL assigned its shares of Zirconium to Glidden.

Zirconium produced only pure TiO_2. From May 6, 1935, to July 1, 1944, its total production was 33,667 tons. NL did render some engineering assistance to Zirconium in connection with the installation and use of its processes and imparted some technical information but frequently it refused to convey such technology to Zirconium on the ground that it was prevented by other agreements from so doing.

In the Spring of 1935 there was a conversation between Rupprecht for DP and Beschorman for NL respecting Zirconium's patents. The evidence does not show what the conversation was.

On occasions before 1940 there was exchange of information between DP and NL relative to Zirconium's production. The evidence does not warrant the inference that the licenses granted by DP to Zirconium and the cross licensing agreement between NL and Zirconium were made pursuant to a common plan of NL and DP or as a result of concerted action by them.

The necessary effect of the two agreements was to restrict the domestic production and foreign exports of Zirconium.

85. VC was organized in 1935 to manufacture titanium pigments in the United States.

On November 19, 1936, DP notified VC of its patent holdings in the titanium field and suggested conference. Negotiations followed and resulted in an agreement, Ex L, executed August 5, 1937.

By this agreement DP granted VC a non exclusive license under a specified list of U. S. patents subject to royalty payment on all production of TiO_2 and subject to limitation on the quantity produced under the license ranging from 3000 tons of TiO_2 content for the year 1937-8 to 9,000 tons for 1946 and any year thereafter. VC granted DP a non exclusive, royalty free license under a named patent.

In November, 1940, DP granted VC a similar license under another patent in this field for an additional royalty.

On July 22, 1943, DP granted VC a similar license under its patents for rutile pigments, without additional royalty.

In November, 1944, DP cancelled the quantity limitations in the licenses.

VC paid DP in royalties to July 1, 1944, $193,875.24.

VC produced only pure TiO_2. VC's total tonnage from August 5, 1937 to June 30, 1944, was 36,576 tons.

The necessary effect of this license was to restrict the production of VC.

Early in 1937 NL and VC discussed the possibility of VC infringing NL patents in the titanium field.

Extensive negotiations ensued which did not result in agreement. During these negotiations which extended over several years, VC was willing in 1938 to make an agreement for a reciprocal exchange of licenses and ex-

perience on a royalty free basis. NL desired VC to pay a 2% royalty which VC refused. NL explained its obligations under Art. XIV of the Agreement Ex. A, and was concerned about "the manner of expressing" the obligation of VC not to compete with NL foreign associates, in view of the anti-trust laws.

In a communication to Jebsen on September 13, 1938, NL adverted to this problem and stated that "in this case" a purely verbal understanding was not desirable. Mr. Jebsen replied that the foreign associates would not welcome a verbal understanding, "in the present case".

NL has not instituted any action against VC to enforce its claim of infringement.

There is no evidence that the action of NL and DP with respect to VC was the result of agreement between NL and DP.

86. After the execution of Exhibit E, representatives of DP and NL's foreign associates enjoyed the privilege of visiting each other's titanium pigment plants and obtaining any and all technical information desired by either as regards plant operations and plant equipment from August, 1933, to September, 1938. This exchange was a matter of courtesy and not of agreement; but it was a courtesy DP and NL's foreign associates expected to receive. Similar courtesies were refused to a representative of Aussig.

An exchange of technical information was also agreed upon in principle between DP and NL's foreign associates on June 8, 1938, but not in detail, but this was repudiated by Rupprecht on September 16, 1938. No experience was ever exchanged pursuant thereto. DP continued agreeable to permit plant visits from the representatives of NL's for-

eign associates, but excluded all research and development information from said exchange arrangement. NL and DP were not exchanging this type of technical information at that time.

The 1933 agreement between TP and Krebs (Ex. E) and the evidence relating thereto does not distinctly disclose what rights and obligations Krebs acquired and assumed with respect to Tinc through TP; specifically whether Krebs acquired from TP a sublicense to Tinc U .S. patents, and the right to receive Tinc's experience (obtained from TG) conveyed to TP.

Upon the trial NL stated that Krebs obtained by the 1933 agreement sublicenses to all the U. S. patents available to NL, although in 1934 Jebsen claimed that this did not include the United States patents of TAS and Tinc. At the trial DP claimed that by virtue of the 1933 agreement Krebs acquired sublicenses to the U. S. patents of TAS and Tinc provided such patents were then "used" by TP.

The language of the 1933 agreement does not contain a restriction of the grants to patents "used".

The labelling of its products by Krebs immediately after the execution of Ex. E indicates the belief of Krebs that it did obtain sublicenses under at least some Tinc U. S. patents.

87. DP's first offer to NL's foreign associates of a license under Article V of Exhibit E covered the "Ti-Tint" patent application filed in the United States by DP in 1934. The royalties asked by DP of NL's foreign associates for its proposed license were unsatisfactory and no patent application covering this invention was ever filed in any foreign country by DP or NL's foreign associates. In 1935 DP filed applications for foreign patents on its Blended Pig-

ments invention, upon which various foreign patents issued. These were the only titanium pigment patents filed by DP in the territory of NL's foreign associates without their specific request for filing. DP granted royalty-free licenses to NL's foreign associates on such patents and applications exclusive except as to DP and ICI. All expenses for maintaining (but not for securing) such patents were paid by NL's foreign associates.

88. The foreign associates of NL desired a general arrangement covering the exchange of patents between DP and themselves in order to eliminate the details of negotiating licenses of specific patents in specific agreements as required by Article V of Exhibit E. The contract between Blumenfeld, Terres Rares and CP provided for the exchange of future patents and technical information relating to the manufacture and use of titanium pigments between CP, Terres Rares, and its associated companies engaged in the manufacture and sale of titanium pigments outside the United States. Before 1933 Krebs disclaimed any obligation to Terres Rares and Blumenfeld under the CP, Terres Rares, Blumenfeld contract. In 1935, Krebs stated that it did not wish to enter into a general cross-licensing agreement with the foreign associates of NL until it was reasonably certain that it would have no further difficulties with Terres Rares and Blumenfeld under their contract with CP.

89. Negotiations for a general exchange of patents continued between DP and NL's foreign associates in 1938. DP refused to make a written general agreement for the exchange of licenses on present and future patents between

itself and NL's foreign associates because of the United States anti-trust laws. An oral understanding was reached between DP and NL's foreign associates on June 8, 1938, whereby each of said parties agreed to exchange such of its patents and applications as related to the manufacture and use of titanium pigments within the licensed field of Exhibit E with each other as might be desired by each from the other. Such of each other's patents and applications as were desired by DP and NL's foreign associates were to be licensed on a royalty-free basis in separate annual license agreements. Licenses so granted by DP to NL's foreign associates were to be exclusive except as to DP and in England as to ICI. Rupprecht expressed to NL and Tinc the view that the reservation was in fact without practical importance. All licenses granted DP by NL's foreign associates were subject to the approval of NL and were non-exclusive. All expenses for filing and maintaining DP patents in territories of NL's foreign associates were paid for by the foreign associates in whose territory the patent applications were filed.

90. DP acting in accordance with said oral understanding of June, 1938, granted royalty-free licenses to Tinc with the right to sublicense NL's foreign associates on June 20, 1938, April 21, 1939, May 10, 1940, and June 23, 1941 (Pl. Exs. N, Q, R, S, which licenses are uncancelled), and continued to make available to NL's foreign associates on a royalty-free basis all patent applications filed by it in the United States relating to the manufacture and use of titanium pigments until a short time before the transmission of such applications was made dependent on the securing of governmental permission. NL's foreign associates act-

ing in accordance with said oral understanding of June, 1938, made all of their United States patents and patent applications relating to the manufacture and use of titanium pigments available to DP and via Tinc entered into cross licensing agreements with DP (Pl. Exs. Q, R and S) in 1939, 1940 and 1941. Certain patents and applications obtained under these agreements by DP were of significance to DP's operations. No licenses under the applications of NL's foreign associates were granted to any other producer in the United States, except NL and DP. No licenses under the patents of NL's foreign associates were granted to any producer in the United States, except NL, DP and Zirconium. All of said license agreements were granted with the consent of NL. The licenses granted to NL's foreign associates by DP in Exs. M, N, Q, R and S on any patents issued in the name of DP in the territories of the foreign associates of NL were and are exclusive except for a reservation in favor of DP and ICI. Neither DP nor ICI ever made or attempted to make any use of said patents or applications in the territories of NL's foreign associates. The exchange of DP patent applications with NL's foreign associates has been suspended since 1941 during the present emergency, and "until the present emergency terminates".

91. The filing of DP's foreign applications in the territory of NL's foreign associates is under the complete control of NL's foreign associates and all expenses incurred in filing and maintaining said patents are borne by NL's foreign associates who may abandon said patents or applications licensed to them by DP at will upon notifying DP of its intention to so abandon in which event DP may

elect to maintain the patent on its own account. There is no evidence that DP would have maintained the patent applications and patents abroad if NL's foreign associates had not carried the costs. DP patents issued in the name of DP in the territory of NL's foreign associates were sublicensed only if the sublicensees agreed not to export from the territory of the foreign associate.

92. No royalties were ever paid by DP to NL or by NL to DP (under the agreement made between NL and its foreign associates in 1937), and neither DP nor NL's foreign associates ever paid any royalties to each other for the use of the patents licensed by them in Exhibits M, N, Q, R, S.

93. The DP-Tinc licensing agreements of 1940 and 1941 did restrict and were intended to restrict the use and export of titanium pigments manufactured under any of said patents by purchasers of said pigments.

94. It is not claimed nor is there evidence that the defendants have controlled the supply of or restrained trade in ilmenite ore used in the commercial manufacture of titanium pigments in the United States.

95. The agreements and understandings entered into between the defendants and the other corporations herein named in Finding 1 have had the following necessary effects:

1. The defendant NL has refrained from competing with the other titanium pigment producers of the world outside of the Western Hemisphere and has not exported any titanium pigments or compounds outside

the Western Hemisphere unless requested so to do by its foreign associates.

2. DP has refrained from exporting titanium pigments or compounds outside the Western Hemisphere and has refrained from competing outside the Western Hemisphere with any of the co-conspirators in their respective exclusive territories.

3. All of the companies engaged in the manufacture of titanium pigments and compounds outside of the United States have refrained from importing such pigments or compounds into the United States and have refrained from competing with the defendants NL and DP in the United States.

4. The defendants NL, DP, and Tinc, have imposed restrictions on resales by purchasers of titanium pigments; but except to the extent found in Finding 93, the evidence does not establish as to DP that such restrictions were the result or effect of its agreements with NL or Tinc.

5. Prices of titanium pigments and compounds in the United States have been maintained at uniform levels and all competition with foreign producers in the manufacture and sale of titanium pigments and compounds in the United States has been eliminated.

6. The defendant DP has restricted the production of titanium pigments by its licensees Zirconium and VC to limit the competition of said licensees. Defendant NL has restricted the market of its licensee Zirconium.

7. The defendants NL and DP control and dominate the manufacture and sale of titanium pigments

and compounds in the United States to the exclusion of all actual or potential competition from any other potential entrant into the titanium pigment business in the United States.

8. The defendants NL and DP secured a monopoly on technical information relating to the manufacture and use of titanium pigments and certain apparatus and equipment necessary to the manufacture of certain titanium pigments to the exclusion and detriment of other producers now engaged in the titanium pigment business in the United States; when NL and DP ceased exchanging technical information, the titanium pigment business was a mature industry.

9. The defendants NL, DP and Tinc have utilized their patents which relate to the manufacture and use of titanium pigments to control and regulate the manufacture and sale of titanium pigments and compounds in the United States; and NL and Tinc with the cooperation of DP have done so throughout the rest of the world.

10. The defendants NL and Tinc, in cooperation with the European producers, have controlled the production of titanium pigments and compounds throughout the rest of the world outside of the United States and refrained from competing with their associated companies in markets allocated to said companies after the outbreak of hostilities in Europe in 1939, serving said allocated markets only at the request of their foreign associates and holding any profits therefrom in the markets so served for the associate to which said exclusive territory was allocated.

11. All of the patents and patent applications of NL's foreign associates in the United States which relate to the manufacture and use of titanium pigments have been and are available to DP on a royalty-free basis and similarly all of DP's patents and applications which relate to the manufacture and use of titanium pigments are available to NL's foreign associates in their respective exclusive territories throughout the rest of the world.

96. The intended effects of the acts of the defendants and the other members of the combination will probably continue to the extent that the post war conditions make possible.

CONCLUSIONS OF LAW

1. Beginning on or about July 30, 1920, NL and co-conspirator TAS and on various dates thereafter Tinc, DP and the others found herein to be co-conspirators continuing at all times thereafter to the date of these findings have been continuously engaged in a combination and conspiracy in restraint of trade and commerce in titanium pigments and compounds among the several states of the United States and with foreign nations and have been and are now parties to contracts, agreements and understandings in restraint of such trade and commerce.

2. Plaintiff is entitled to a decree.

SIMON H. RIFKIND,
U. S. District Judge.

IN THE

District Court of the United States

FOR THE SOUTHERN DISTRICT OF NEW YORK

Civil No. 26-258

UNITED STATES OF AMERICA,

Plaintiff,

against

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY,

Defendants.

FINAL DECREE

HON. SIMON H. RIFKIND,
United States District Judge.

Dated New York, October 11, 1945.

IN THE

District Court of the United States

FOR THE SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA, *Plaintiff,* *against* NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, *Defendants.*	Civil No. 26-258

FINAL DECREE

This cause came on to be heard upon the complaint and the answers thereto upon the evidence and upon argument of counsel. The Court having thereafter rendered and filed its opinion and having made and entered findings of fact and conclusions of law wherein the defendants have been found to have been engaged in a combination in restraint of trade and commerce in titanium pigments among the several states of the United States and of foreign nations, and that the defendants have been and now are parties to contracts, agreements, and understandings in restraint of such trade and commerce in violation of Section 1 of the Sherman Act (26 Stat. 209, 15 U. S. C. § 1);

Now, therefore, upon motion of plaintiff by Wendell Berge, Assistant Attorney General, Herbert Berman and William C. Dixon, Special Assistants to the Attorney General, Julian Caplan and Ephraim Jacobs, Special Attorneys,

and John F. X. McGohey, United States Attorney, for relief in accordance with the prayer of the complaint, and the defendants having severally appeared by counsel, it is ORDERED, ADJUDGED and DECREED as follows:

1. The term "titanium pigments" as used herein shall mean any product containing two percent (2%) or more of the element titanium in a chemically, mechanically or physically combined state and mixtures thereof which can be used as pigments, whether or not adapted for other uses, and also extenders to be used in conjunction with any such product.

2. The term "defendants" shall mean the corporations hereinafter listed who may be identified by the designated abbreviations:

NL	National Lead Company
Tinc	Titan Company, Inc.
DP	E. I. du Pont de Nemours and Company

3. The term "co-conspirators" shall mean the corporations hereinafter listed, who may be identified by the designated abbreviations:

TP	The Titanium Pigment Company, Inc.
Krebs	Krebs Pigment & Color Corporation
TAS	Titan Co. A/S
IG	Interessengemeinschaft Farbenindustrie Aktiengesellschaft
TG	Titangesellschaft m.b.H.
SIT	Société Industrielle du Titane
ICI	Imperial Chemical Industries, Ltd.
GW	Goodlass Wall and Lead Industries, Ltd.
ISC	Imperial Smelting Corporation, Ltd.
BTP	British Titan Products Company, Ltd.

NTP or Laporte	National Titanium Pigments, Ltd.
CIL	Canadian Industries, Ltd.
CTP	Canadian Titanium Pigments, Ltd.
Kokusan or KK	Kokusan Kogyo Kabushiki Kaisha
TK	Titan Kogyo Kabushiki Kaisha
Terres Rares	Société des Produits Chimiques des Terres Rares
Thann	Fabriques des Produits Chimiques de Thann et de Mulhouse
Montecatini	Societa Anonima Titanium
Aussig	Verein fur Chemische und Metallurgische Produktion.

4. The term "patents as herein defined" shall mean United States letters patent and applications as follows: (a) the letters patent and patent applications listed in Appendix A hereof; (b) all divisions, continuations or reissues of any of the foregoing patents and applications; (c) all patents issued upon such applications; (d) all patents which cover any titanium pigments or any process for the manufacture of titanium pigments issued to any of the defendants within five years from the date of this decree; and all such patents which any of the defendants acquires within such five years; and all such patents of which any of the defendants becomes the exclusive licensee within such five years with power to sublicense.

5. The following agreements are hereby adjudged to be unlawful under Section 1 of the Sherman Act and each of them is hereby cancelled and the defendants and each of them and all persons acting or claiming to act through, for or under them and all successors and subsidiaries of any

of the defendants are hereby enjoined and restrained from the further performance of any of the provisions of said agreements and of any agreements amendatory thereof or supplemental thereto:

Agreement dated July 30, 1920, between TP and TAS (Exhibit A);

Agreement between TP and Krebs dated January 1, 1933, as amended January 1, 1941 (Exhibits E and E-3);

Agreements dated July 30, 1920, between NL, TP, The Titanium Alloy Manufacturing Company and TAS (Exhibits A-1 and A-2);

Agreement between TAS and SIT dated March 3, 1927 (Exhibit B);

Agreement between TAS and IG dated October 3 and 20, 1927 (Exhibit C);

Agreement between TAS and IG signed June 24 and October 20, 1927 (Exhibit C-1);

Agreement between TAS and TG signed October 3 and 20, 1927 (Exhibit C-3);

Agreement between TG and TAS dated October 3 and 20, 1927 (Exhibit C-7);

Agreement between TG and TAS dated October 3 and 20, 1927 (Exhibit C-8);

Agreement dated February 16, 1933 between ICI, ISC, GW and TINC (Exhibit F);

Agreements between TINC, SIT, TERRES RARES, and Thann dated June 5 and 17, 1935 (Exhibits G-1 and G-2);

Agreements between TINC, TERRES RARES, and IG, and between TINC, Terres Rares, IG, TG, Thann, and Doitsu both dated January 18, 1936 (Exhibits J and J-2);

Agreement between NL and CIL dated January 1, 1937 (Exhibit K);

Agreement between NL and CTP dated January 1, 1937, as amended February 27, 1939. (Exhibits K-1 and K-5);

Agreements between DP and TINC dated July 27, 1937, June 20, 1938, April 21, 1939, May 10, 1940, and June 23, 1941 (Exhibits M, N, Q, R and S), and the

"License Field Extender" agreements to which NL or TINC were parties, including the agreement between NL and TINC dated March 28, 1939 (Exhibit O);

provided, however, that the provisions of this paragraph with respect to the agreements between TP and Krebs dated January 1, 1933, as amended January 1, 1941 (Exhibits E and E-3) shall not go into effect until the expiration of nine months from the date of this decree.

6. Each of the defendants and each of their directors, officers, agents, employees, successors and subsidiaries and all persons acting, or claiming to act under, through or for them or any of them are hereby enjoined and restrained (a) from entering into, adhering to, maintaining or furthering, directly or indirectly, or claiming any rights under any contract, agreement, understanding, plan or program among themselves, the co-conspirators, or with any other person, partnership or corporation, which has as its pur-

pose or effect the continuing or renewing of any of the agreements listed in paragraph 5 hereof; (b) from entering into, adhering to, maintaining or furthering, directly or indirectly, any contract, agreement, undertaking, plan or program with any other producer or dealer relating to titanium pigments which has as its purpose or effect (1) to divide sales or manufacturing territories, (2) to allocate markets, (3) to limit or prevent United States imports or exports, (4) to grant to any third party any market as its exclusive territory, (5) to keep any third party out of any market; provided, however, that nothing contained in this subdivision (b) of this paragraph 6 shall prohibit any normal and usual arrangements between any defendant and its directors, officers, employees, agents, subsidiaries, or any dealer or distributor, whether or not a co-conspirator; (c) from restricting any purchaser of titanium pigments in the use thereof.

7. Each of the defendants is ordered to grant to any applicant therefor, including any defendant or co-conspirator, a non-exclusive license under any or all of the patents as herein defined at a uniform, reasonable royalty. Such grant may, at the option of the licensor, be conditioned upon the reciprocal grant of a license by the applicant, at a reasonable royalty, under any and all patents covering titanium pigments or their manufacture, now issued or pending, or issued within five years from the date of this decree, if any, owned or controlled by such applicant. Such license or reciprocal license may, at the option of either party, contain a provision for the inspection of the books and records of the licensee by an independent auditor who shall report to the licensor only the amount of royalty due and

payable and no other information. During a period of three years from the date of this decree such license or reciprocal license may at the option of either party contain a provision for the imparting in writing at a reasonable charge, by the licensor to the licensee, of the methods and processes used by the former at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments. The Court reserves jurisdiction to pass upon the reasonableness of any royalty or charge herein directed to be reasonable. Defendants are restrained from attempting to enforce any rights under any foreign patents owned by them or under which they are the exclusive licensees to prevent the exportation of titanium pigments from the United States to any foreign country.

8. Within one year from the date of this decree, defendants NL and Tinc shall present to the Court for its approval a plan for divesting themselves of their stock holdings and other financial interests, direct and indirect, in BTP, CTP, TG and TK, or for the purchase of the entire stock holdings and other financial interests, direct and indirect, in said companies or any of them. Such plan of sale shall not provide for the transfer of such stock or interest to any other defendant or to any corporation in which any defendant will, upon consummation of the plan, have any interest, provided that this provision shall not preclude transfer of said defendants' stock holdings in BTP to ISC, GW, and ICI, or any of them, or preclude transfer of said defendants' stock holdings in CTP to CIL. The plan shall provide for its completion within two years from the date of this decree.

9. Either American Zirconium Corporation or Virginia Chemical Corporation, their successors or assigns, may at

their option, if exercised within six months from the date of this decree, apply for licenses from DP under the provisions of paragraph 7. In the event American Zirconium Corporation, Virginia Chemical Corporation or their respective successors or assigns exercise the foregoing option, DP is enjoined from collecting royalties under any existing license agreement relating to titanium pigments between it and the person exercising the option in respect of any period subsequent to such exercise. Defendants NL, Tinc and DP are hereby enjoined from bringing, or threatening to bring, any action against any person or corporation for the alleged infringement prior to the date of this decree of any patent as herein defined.

10. The Attorney General of the United States or his proper representative shall, for the purpose of securing compliance with this decree, be permitted (1) access, during the office hours of the defendants, to all books, ledgers, accounts, correspondence, memoranda, and other records and documents in the possession or under the control of the defendants, relating to any matters contained in this decree, (2) subject to any legally recognized privilege, without restraint or interference from the defendants, to interview officers or employees of the defendants, who may have counsel present, regarding any such matters; provided, however, that information obtained by the means permitted in this paragraph shall not be divulged by any representative of the Department of Justice to any person other than a duly authorized representative of the Department of Justice except in the course of legal proceedings for the purpose of securing compliance with this decree in which the United States is a party or as otherwise required by law.

11. Judgment is entered against the defendants for all costs to be taxed in this proceeding.

12. The cancellations, injunctions and all executory action provided for under this decree shall not become effective or operative until ninety days from the date of this decree.

13. Jurisdiction of this cause, and of the parties hereto, is retained by the Court for the purpose of enabling any of the parties to this decree, or any other person or corporation that may hereafter become bound, in whole or in part, thereby to apply to the Court at any time for such further orders, modifications, vacations or directions as may be necessary or appropriate

(1) for the construction or carrying out of this decree, and

(2) for the enforcement of compliance therewith and the punishment of violations thereof.

Dated at New York,
October 11, 1945.

SIMON H. RIFKIND,
District Judge.

APPENDIX A

I. *National Lead Company:*

A. Patents.

Patent No.	Date of Issue
1,695,270	Dec. 18, 1928
1,697,929	Jan. 8, 1929
1,738,765	Dec. 10, 1929
1,758,472	May 13, 1930
1,773,727	Aug. 26, 1930
1,820,987	Sept. 1, 1931
1,820,988	Sept. 1, 1931
1,831,852	Nov. 17, 1931
1,847,539	Mar. 1, 1932
1,856,565	May 3, 1932
1,889,027	Nov. 29, 1932
1,906,729	May 2, 1933
1,906,730	May 2, 1933
1,916,236	July 4, 1933
1,929,521	Oct. 10, 1933
1,957,528	May 8, 1934
1,969,061	Aug. 7, 1934
2,034,923	Mar. 24, 1936
2,039,432	May 5, 1936
2,055,222	Sept. 22, 1936
2,084,826	June 22, 1937
2,084,917	June 22, 1937
2,084,918	June 22, 1937
2,091,799	Aug. 31, 1937
2,098,278	Nov. 9, 1937
2,113,945	Apr. 12, 1938
2,113,946	Apr. 12, 1938
Re. 21,693	Jan. 14, 1941
2,130,560	Sept. 20, 1938

Patent No.	Date of Issue
2,130,565	Sept. 20, 1938
2,132,491	Oct. 11, 1938
2,133,251	Oct. 11, 1938
2,140,222	Dec. 13, 1938
2,148,283	Feb. 21, 1939
2,154,130	Apr. 11, 1939
2,166,082	July 11, 1939
2,167,626	Aug. 1, 1939
2,167,627	Aug. 1, 1939
2,167,628	Aug. 1, 1939
2,170,800	Aug. 29, 1939
2,170,940	Aug. 29, 1939
2,176,875	Oct. 24, 1939
2,176,876	Oct. 24, 1939
2,176,877	Oct. 24, 1939
2,184,938	Dec. 26, 1939
2,202,594	May 28, 1940
2,211,828	Aug. 20, 1940
2,212,629	Aug. 27, 1940
2,215,857	Sept. 24, 1940
2,215,866	Sept. 24, 1940
2,222,385	Nov. 19, 1940
2,227,239	Dec. 31, 1940
2,234,681	Mar. 11, 1941
2,244,258	June 3, 1941
2,246,062	June 17, 1941
2,278,709	Apr. 7, 1942
2,280,795	Apr. 28, 1942
2,285,485	June 9, 1942
2,285,486	June 9, 1942
2,285,894	June 9, 1942
2,290,539	July 21, 1942
2,291,091	July 28, 1942
2,291,082	July 28, 1942

Patent No.	Date of Issue
2,316,840	Apr. 20, 1943
2,316,841	Apr. 20, 1943
2,329,641	Sept. 14, 1943
2,334,663	Nov. 16, 1943
2,341,994	Feb. 15, 1944
2,344,265	Mar. 14, 1944
2,344,288	Mar. 14, 1944
2,344,319	Mar. 14, 1944
2,346,296	Apr. 11, 1944
2,346,320	Apr. 11, 1944
2,346,188	Apr. 11, 1944
2,346,322	Apr. 11, 1944
2,365,559	Dec. 19, 1944
2,365,560	Dec. 19, 1944
2,367,738	Jan. 9, 1945
2,368,591	Jan. 30, 1945
2,369,468	Feb. 13, 1945
2,378,675	June 19, 1945
2,378,790	June 19, 1945

B. Patent Applications.

Serial No.	Filing Date	Inventor
364,986	Nov. 9, 1940	S. W. Martin
441,990	May 6, 1942	W. Grave et al.
45[illegible],300	Aug. 1, 1942	J. L. Turner et al.
454,185	Aug. 8, 1942	H. V. Alessandroni
454,193	Aug. 8, 1942	S. S. Cole et al.
454,194	Aug. 8, 1942	W. Y. Agnew
459,026	Sept. 19, 1942	C. W. Rau et al.
489,576	June 3, 1943	F. L. Kingsbury
500,921	Sept. 2, 1943	W. Y. Agnew
505,082	Oct. 5, 1943	A. P. Honchar
522,845	Feb. 17, 1944	S. G. Tinsley
526,130	Mar. 11, 1944	F. L. Kingsbury et al.
538,549	June 2, 1944	A. P. Honchar

Serial No.	Filing Date	Inventor
539,332	June 8, 1944	J. M. O'Shaughnessy
546,903	July 27, 1944	J. Barksdale
555,902	Sept. 26, 1944	S. S. Cole
572,658	Jan. 13, 1945	J. L. Turner et al.
585,812	Mar. 30, 1945	W. F. Meister
599,129	June 12, 1945	S. S. Cole
605,627	July 17, 1945	R. W. Ancrum

II. *Titan Company Inc:*

A. Patents.

Patent No.	Date of Issue
2,055,221	Sept. 22, 1936
2,111,460	Mar. 15, 1938
*2,121,215	June 21, 1938
2,130,554	Sept. 30, 1938
2,139,686	Dec. 13, 1938
2,140,235	Dec. 13, 1938
2,140,236	Dec. 13, 1938
2,161,755	June 6, 1939
2,200,373	May 14, 1940
*2,224,987	Dec. 17, 1940
2,242,320	May 20, 1941
2,246,030	June 17, 1941
*2,260,177	Oct. 21, 1941
*2,303,305	Nov. 24, 1942
*2,303,306	Nov. 24, 1942
*2,303,307	Nov. 24, 1942
*2,339,793	Jan. 25, 1944
2,339,808	Jan. 25, 1944
2,365,135	Dec. 12, 1944

B. Patent Applications.

Serial No.	Filing Date	Inventor
495,946	July 23, 1943	R. W. Ancrum

*Vested in Alien Property Custodian.

III. *Titan Company A/S:* Exclusively licensed to National Lead Co.

A. Patents.

Patent No.	Date of Issue
*1,852,510	Apr. 5, 1932
*1,919,425	July 25, 1933

IV. *I. G. Farbenindustrie:* Exclusively licensed to National Lead Co.

A. Patents.

Patent No.	Date of Issue
*1,813,649	July 7, 1931
1,816,388	July 28, 1931
*1,849,153	Mar. 15, 1932
*1,850,154	Mar. 22, 1932
*1,850,286	Mar. 22, 1932
*1,878,013	Sept. 20, 1932
*1,891,210	Dec. 13, 1932
*1,891,911	Dec. 27, 1932
*1,934,778	Nov. 14, 1933
*1,941,285	Dec. 26, 1933
*1,995,580	Mar. 26, 1935
*2,068,294	Jan. 19, 1937
*2,118,916	May 31, 1938
*2,121,408	June 21, 1938
*2,122,180	June 28, 1938
*2,138,384	Nov. 29, 1938
*2,144,577	Jan. 17, 1939
*2,158,520	May 16, 1939
*2,161,975	June 13, 1939
*2,187,821	Jan. 23, 1940
*2,280,223	Apr. 21, 1942
*2,337,103	Dec. 21, 1943

*Vested in Alien Property Custodian.

V. *Titangesellschaft:* Exclusively licensed to National Lead Co.

Patent No.	Date of Issue
*2,275,856	Mar. 10, 1942
*2,367,118	Jan. 9, 1945

VI. *DuPont:*

A. Patents.

Patent No.	Date of Issue
1,707,248	Apr. 2, 1929
1,707,257	Apr. 2, 1929
1,709,999	Apr. 23, 1929
1,750,287	Mar. 11, 1930
Re. 18,790	Apr. 4, 1933
Re. 18,854	May 30, 1933
1,766,592	June 24, 1930
1,797,760	Mar. 24, 1931
1,827,691	Oct. 13, 1931
1,832,666	Nov. 17, 1931
1,836,275	Dec. 15, 1931
1,845,633	Feb. 16, 1932
1,846,188	Feb. 23, 1932
1,851,487	Mar. 29, 1932
Re. 19,594	May 28, 1935
1,864,504	June 21, 1932
1,885,187	Nov. 1, 1932
1,885,921	Nov. 1, 1932
1,885,934	Nov. 1, 1932
1,892,693	Jan. 3, 1933
1,899,572	Feb. 28, 1933
1,899,573	Feb. 28, 1933
1,899,574	Feb. 28, 1933
1,902,203	Mar. 21, 1933

*Vested in Alien Property Custodian.

Patent No.	Date of Issue
1,902,204	Mar. 21, 1933
1,915,393	June 27, 1933
1,922,816	Aug. 15, 1933
1,931,380	Oct. 17, 1933
1,931,381	Oct. 17, 1933
1,937,037	Nov. 28, 1933
1,943,497	Jan. 16, 1934
1,975,339	Oct. 2, 1934
1,977,577	Oct. 16, 1934
1,977,582	Oct. 16, 1934
2,006,342	July 2, 1935
2,018,955	Oct. 29, 1935
2,026,862	Jan. 7, 1936
2,031,750	Feb. 25, 1936
2,044,941	June 23, 1936
2,044,942	June 23, 1936
2,045,836	June 30, 1936
2,046,054	June 30, 1936
2,047,208	July 14, 1936
2,049,504	Aug. 4, 1936
2,062,133	Nov. 24, 1936
2,062,134	Nov. 24, 1936
Re. 21,427	Apr. 16, 1940
2,098,025	Nov. 2, 1937
2,098,026	Nov. 2, 1937
2,098,054	Nov. 2, 1937
2,098,055	Nov. 2, 1937
2,098,056	Nov. 2, 1937
2,111,236	Mar. 15, 1938
2,111,788	Mar. 22, 1938
2,112,966	Apr. 5, 1938
2,113,380	Apr. 5, 1938
2,125,340	Aug. 2, 1938
2,125,342	Aug. 2, 1938

Patent No.	Date of Issue
2,127,247	Aug. 16, 1938
2,136,313	Nov. 8, 1938
2,138,090	Nov. 29, 1938
2,138,118	Nov. 29, 1938
2,149,329	Mar. 7, 1939
2,149,370	Mar. 7, 1939
2,150,235	Mar. 14, 1939
2,150,236	Mar. 14, 1939
2,151,331	Mar. 21, 1939
2,151,339	Mar. 21, 1939
2,159,055	May 23, 1939
2,163,385	June 20, 1939
2,166,221	July 18, 1939
2,166,257	July 18, 1939
2,177,250	Oct. 24, 1939
2,177,254	Oct. 24, 1939
2,177,269	Oct. 24, 1939
2,180,961	Nov. 21, 1939
2,183,365	Dec. 12, 1939
2,187,050	Jan. 16, 1940
2,192,501	Mar. 5, 1940
2,192,687	Mar. 5, 1940
2,192,953	Mar. 12, 1940
2,192,954	Mar. 12, 1940
2,192,956	Mar. 12, 1940
2,193,559	Mar. 12, 1940
2,193,563	Mar. 12, 1940
2,197,953	Apr. 23, 1940
2,212,935	Aug. 27, 1940
2,213,542	Sept. 3, 1940
2,214,132	Sept. 10, 1940
2,214,815	Sept. 17, 1940
2,216,536	Oct. 1, 1940
2,216,879	Oct. 8, 1940

Patent No.	Date of Issue
2,216,889	Oct. 8, 1940
2,218,655	Oct. 22, 1940
2,218,704	Oct. 22, 1940
2,219,129	Oct. 22, 1940
2,220,952	Nov. 12, 1940
2,220,966	Nov. 12, 1940
2,224,777	Dec. 10, 1940
2,226,142	Dec. 24, 1940
2,226,147	Dec. 24, 1940
2,231,455	Feb. 11, 1941
2,231,456	Feb. 11, 1941
2,231,467	Feb. 11, 1941
2,231,468	Feb. 11, 1941
2,232,164	Feb. 18, 1941
2,232,168	Feb. 18, 1941
2,232,723	Feb. 25, 1941
2,233,358	Feb. 25, 1941
2,237,764	Apr. 8, 1941
2,253,551	Aug. 26, 1941
2,253,590	Aug. 26, 1941
2,253,595	Aug. 26, 1941
2,254,630	Sept. 2, 1941
2,257,278	Sept. 30, 1941
2,259,638	Oct. 21, 1941
2,260,826	Oct. 28, 1941
2,260,871	Oct. 28, 1941
2,265,386	Dec. 9, 1941
2,266,233	Dec. 16, 1941
2,266,260	Dec. 16, 1941
2,266,793	Dec. 23, 1941
2,269,139	Jan. 6, 1942
2,273,431	Feb. 17, 1942
2,274,521	Feb. 24, 1942
2,274,541	Feb. 24, 1942

Patent No.	Date of Issue
2,280,590	Apr. 21, 1942
2,280,619	Apr. 21, 1942
2,282,006	May 5, 1942
2,282,303	May 12, 1942
2,282,527	May 12, 1942
2,284,585	May 26, 1942
2,284,772	June 2, 1942
2,286,881	June 16, 1942
2,286,882	June 16, 1942
2,286,910	June 16, 1942
2,287,161	June 23, 1942
2,287,416	June 23, 1942
2,287,440	June 23, 1942
2,293,861	Aug. 25, 1942
2,294,381	Sept. 1, 1942
2,294,394	Sept. 1, 1942
2,296,066	Sept. 15, 1942
2,296,618	Sept. 22, 1942
2,296,636	Sept. 22, 1942
2,296,637	Sept. 22, 1942
2,296,639	Sept. 22, 1942
2,301,412	Nov. 10, 1942
2,304,110	Dec. 8, 1942
2,305,368	Dec. 15, 1942
2,307,048	Jan. 5, 1943
2,313,844	Mar. 16, 1943
2,319,824	May 25, 1943
2,321,490	June 8, 1943
2,326,592	Aug. 10, 1943
2,331,496	Oct. 12, 1943
2,331,515	Oct. 12, 1943
2,337,162	Dec. 21, 1943
2,337,215	Dec. 21, 1943
2,342,483	Feb. 22, 1944

Patent No.	Date of Issue
2,345,980	Apr. 4, 1944
2,345,985	Apr. 4, 1944
2,346,085	Apr. 4, 1944
2,346,091	Apr. 4, 1944
2,357,089	Aug. 29, 1944
2,357,101	Aug. 29, 1944
2,358,167	Sept. 12, 1944
2,361,986	Nov. 7, 1944
2,361,987	Nov. 7, 1944
2,366,047	Dec. 26, 1944
2,369,246	Feb. 13, 1945
2,369,262	Feb. 13, 1945
2,374,088	Apr. 17, 1945
2,374,114	Apr. 17, 1945
2,378,148	June 12, 1945

B. Patent Applications.

Serial No.	Filing Date	Inventor
391,309	Apr. 30, 1941	H. H. Schaumann
392,941	May 10, 1941	G. R. Seidel
426,247	Jan. 9, 1942	C. M. Olson
426,248	Jan. 9, 1942	Olson & Booge
426,250	Jan. 9, 1942	Keats & Peterson
426,251	Jan. 9, 1942	J. L. Keats
449,665	July 3, 1942	C. M. Olson
449,666	July 3, 1942	C. M. Olson
449,667	July 3, 1942	C. M. Olson
472,876	Jan. 19, 1943	Olson & Krchma
483,357	Apr. 16, 1943	I. J. Krchma
502,019	Sept. 11, 1943	R. M. McKinney
521,132	Feb. 4, 1944	Booge & Seidel
521,685	Feb. 9, 1944	J. H. Peterson
521,686	Feb. 9, 1944	J. H. Peterson
537,408	May 26, 1944	R. M. McAdam

Serial No.	Filing Date	Inventor
537,409	May 26, 1944	R. M. McAdam
538,339	June 1, 1944	C. M. Olson
541,844	June 23, 1944	R. W. Sullivan
557,381	Oct. 5, 1944	R. L. McCleary
565,567	Nov. 28, 1944	G. L. Lewis
567,327	Dec. 8, 1944	E. N. Kramer
571,534	Jan. 5, 1945	W. G. Vannoy
573,804	Jan. 20, 1945	R. L. McCleary
574,033	Jan. 22, 1945	R. L. McCleary
574,831	Jan. 26, 1945	R. W. Sullivan
588,973	Apr. 18, 1945	R. M. McKinney
590,584	Apr. 27, 1945	R. D. Nutting
596,075	May 26, 1945	H. C. Gulledge
604,303	July 10, 1945	F. W. Lane

448 In the United States District Court

[Title omitted.]

Petition for appeal

The United States of America, plaintiff in the above-entitled cause, considering itself aggrieved by the final order and decree of this Court entered on the 11th day of October, 1945, does hereby pray an appeal from said final order and decree to the Supreme Court of the United States. Pursuant to Rule 12 of the Rules of the Supreme Court the plaintiff presents to this Court herewith a statement showing the basis of jurisdiction of the Supreme Court to entertain an appeal in this cause.

The particulars wherein the plaintiff considers the order erroneous are set forth in the assignments of error and prayer for reversal accompanying this petition and to which reference is hereby made.

Plaintiff prays that its appeal may be allowed and that citation be issued as provided by law, and that a transcript of the record, proceedings, and documents upon which said final order and decree was based, duly authenticated, be sent to the Supreme Court of the United States under the rules of said Court in such cases made and provided.

Wendell Berge,
WENDELL BERGE,
Assistant Attorney General.

William C. Dixon,
WILLIAM C. DIXON,
Special Assistant to the Attorney General.

This 10th day of December, 1945.

449 In United States District Court

[Title omitted.]

Order allowing appeal

In the above-entitled cause the United States of America, plaintiff, having made and filed its petition praying an appeal to the Supreme Court of the United States from the final order and decree of this Court in this cause entered on the 11th day of October, 1945, and having also made and filed its petition and appeal, assignments of error and prayer for reversal, and state-

ment of jurisdiction, and having in all respects conformed to the statutes and rules in such cases made and provided.

It is therefore ordered and adjudged that the appeal be and the same is hereby allowed as prayed for.

ALFRED C. COXE,
U. S. District Judge.

Dated This 10th day of December, 1945.

451 In United States District Court

[Title omitted.]

Assignment of errors and prayer for reversal

The United States of America, plaintiff in the above-entitled cause, in connection with its petition for appeal to the Supreme Court of the United States, hereby assigns error to the record and proceedings and the entry of the final judgment of the District Court on October 11, 1945, in the above-entitled cause, and says that in the entry of the final judgment the District Court committed error to the prejudice of the plaintiff in the following particulars:

1. The court erred in failing to require each defendant to license its existing titanium pigment patents free of royalty until the court shall have determined, on application by any defendant, that the effects of the defendants' illegal combination, as set forth in the court's findings of fact and conclusions of law, have been fully dissipated.

2. The court erred in failing to require National Lead Company and E. I. du Pont de Nemours and Company each to submit, within a year from the date of the decree, a plan for transferring to a new corporation to be created by it one of its two principal titanium pigment plants and all physical property customarily used in connection therewith, and for the sale of the stock of said new cor-
452 poration to a person or persons other than the defendants herein and their co-conspirators.

3. The court erred in failing to require National Lead and E. I. du Pont de Nemours and Company to furnish to any applicant, at a reasonable charge, during a period of three years from the date of the decree as affirmed on mandate, technical information desired by the applicant relating to the methods and processes for manufacturing titanium pigments.

4. The court erred in conditioning the requirements as to licensing and as to imparting technical information, em-

bodied in paragraph 7 of its decree, upon the granting by the applicant for such license or technical information of a reciprocal patent license or technical information.

5. The court erred in requiring, in paragraph 9 of the decree, the licensees of E. I. du Pont de Nemours and Company to elect whether to continue under their present licenses from that company or to apply to it for licenses under paragraph 7 of the decree, within a period of only six months of the date of the decree.

6. The court erred in the limitations and qualifications of paragraph 7 of the decree.

7. The court erred in failing to grant to the plaintiff the relief to which it is entitled.

Wherefore, plaintiff prays that the final judgment of the District Court may be reversed to the extent that it is inconsistent with the errors herein assigned by the plaintiff, and for such other and fit relief as the court may deem just and proper.

Wendell Berge,
WENDELL BERGE,
Assistant Attorney General.

William C. Dixon,
WILLIAM C. DIXON,
Special Assistant to the Attorney General.

512 In the Supreme Court of the United States
No. 89

THE UNITED STATES OF AMERICA, APPELLANT

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DUPONT DE NEMOURS AND COMPANY, APPELLEES

Statement of points to be relied upon

Filed May 3, 1946

Now comes the appellant in the above entitled cause and for its statement of points upon which it intends to rely in its appeal to this Court adopts the points contained in its assignment of errors heretofore filed herein.

Dated this 30th day of April 1946.

J. HOWARD MCGRATH,
Solicitor General.

Service of the foregoing statement of points to be relied

upon and receipt of a copy thereof are hereby acknowledged this 1st day of May 1946.

WM. DWIGHT WHITNEY,
Counsel for E. I. duPont de Nemours and Company.

BETHUEL M. WEBSTER,
Counsel for National Lead Company and Titan Company, Inc.

514 Supreme Court of the United States
No. 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC., APPELLANTS

vs.

UNITED STATES OF AMERICA, APPELLEE

Statement of points to be relied upon, designation of parts of the record necessary for consideration thereof

Filed May 3, 1946

The appellants National Lead Company and Titan Company, Inc., for their statement of the points on which they intend to rely in their appeal to this Court adopt the points contained in their assignment of errors heretofore filed herein.

Said appellants respectfully refer to the stipulation dated April 30, 1946 and filed in this Court on May 3, 1946 for the parts of the record necessary for the consideration of the foregoing points and therefore designated as parts of the record to be printed by the Clerk of the Supreme Court of the United States.

BETHUEL M. WEBSTER,
Counsel for Appellants,
National Lead Company and Titan Company, Inc.

515 Service of the Foregoing Statement of Points to be Relied upon, Designation of Parts of Record Necessary for Consideration thereof is acknowledged this 2nd day of May, 1946.

WENDELL BERGE,
Attorney for Appellee,
United States of America.

517 In the Supreme Court of the United States
No. 91

E. I. DU PONT DE NEMOURS AND COMPANY, APPELLANT

v.

UNITED STATES OF AMERICA, APPELLEE

Statement of points

Filed May 3, 1946

Appellant, pursuant to the provisions of Paragraph 9 of Rule 13 of the Rules of the Supreme Court of the United States, states that the points upon which it intends to rely in said Court in this case are as follows:

1. Appellant hereby adopts its Assignment of Errors as and for its Statement of Points upon which it intends to rely in this case.

April 29, 1946.

Wm. Dwight Whitney,
WM. DWIGHT WHITNEY,
15 Broad Street, New York, N. Y.,

Gerhard A. Gesell,
GERHARD A. GESELL,
Union Trust Building, Washington, D. C.,
Counsel for Appellant.

ACKNOWLEDGMENT OF SERVICE

Service of the foregoing Statement of Points is hereby acknowledged this 30 day of April 1946.

J. HOWARD MCGRATH,
Solicitor General of the United States,
Counsel for Appellee.

519 In the Supreme Court of the United States

Stipulation designating parts of the record to be printed

Filed May 3, 1946

It is stipulated that the Clerk of this Court shall print all parts of the record heretofore filed except
520 Exhibits 1, 2, 3, 4, 5, 24, 25, 26, 42, 43, 44; 450 through 468, 473, 474, the last two attachments of Exhibit 177 (labeled on their face as "Exhibit S" and

"Exhibit T"), the last two attachments of Exhibit 600, 1229, NL Exhibits 8 through 22 and DP Exhibit 97.

April 30, 1946.

J. HOWARD MCGRATH,
Solicitor General of the United States.

CLIFTON P. WILLIAMSON,
BETHUEL M. WEBSTER,
Counsel for National Lead Company and Titan Company, Inc.

WM. DWIGHT WHITNEY,
GERHARD A. GESELL,
Counsel for E. I. du Pont de Nemours and Company.

521 Supreme Court of the United States
Nos. 89-90-91—October Term, 1946

THE UNITED STATES OF AMERICA, APPELLANT

vs.

NATIONAL LEAD COMPANY ET AL.;

NATIONAL LEAD COMPANY ET AL., APPELLANTS

vs.

THE UNITED STATES OF AMERICA; AND E. I. DU PONT DE NEMOURS AND COMPANY, INC., APPELLANT

vs.

THE UNITED STATES OF AMERICA

Order noting probable jurisdiction

May 20, 1946

The statements of jurisdiction in these cases having been submitted and considered by the Court, probable jurisdiction is noted.

Mr. Justice JACKSON took no part in the consideration or decision of this order.

453 In United States District Court

[Title omitted.]

Petition for appeal

National Lead Company and Titan Company, Inc., defendants in the above-entitled cause, considering them-

selves aggrieved by the Final Decree of this Court entered on October 11, 1945, do hereby pray an appeal from said Final Decree to the Supreme Court of the United States. Pursuant to Rule 12 of the Rules of the Supreme Court, these defendants present to this Court herewith a statement showing the basis of jurisdiction of the Supreme Court to entertain an appeal in this cause.

The particulars wherein these defendants consider the Final Decree erroneous are set forth in the Assignment of Errors and Prayer for Reversal accompanying this petition to which reference is hereby made.

These defendants pray that their appeal may be allowed and that citation be issued as provided by law, that a stay of the Final Decree appealed from be granted pending said appeal, that an appeal bond in the amount of Two Hundred Fifty Dollars ($250), which is hereby tendered by these defendants, be approved, and that
454 a transcript of the record, proceedings and documents upon which said Final Decree was based, duly authenticated, be sent to the Supreme Court of the United States under the rules of said Court in such cases made and provided.

Dated, December 10, 1945.

Bethuel M. Webster,
BETHUEL M. WEBSTER,
Clifton P. Williamson,
CLIFTON P. WILLIAMSON,
Attorneys for National Lead Company and Titan Company, Inc.

455 In United States District Court

[Title omitted.]

Order allowing appeal

The defendants-appellants, National Lead Company and Titan Company, Inc., and each of them, having prayed for the allowance of an appeal in this cause to the Supreme Court of the United States from the Final Decree of this Court entered on October 11, 1945, and having presented and filed their Petition for Appeal, Assignment of Errors, Prayer for Reversal, and Statement as to Jurisdiction, and having in all respects conformed to the statutes and rules in such cases made and provided;

It is ordered that an appeal be and it hereby is allowed

to the Supreme Court of the United States as prayed for; and

It is further ordered that the Clerk of this Court shall prepare and certify a transcript of the record, proceedings and Final Decree in this cause and transmit them to the Supreme Court of the United States so that they will be in said Court within forty (40) days of this date; and

456 It is further ordered that security for costs on this appeal be fixed in the sum of Two Hundred Fifty Dollars ($250), and that the bond in said amount tendered by these defendants-appellants be and hereby is approved.

ALFRED C. COXE,
District Judge of the United States for the Southern District of New York.

Dated December 10, 1945.

457 In United States District Court

[Title omitted.]

Assignment of errors and prayer for reversal

National Lead Company and Titan Company, Inc., defendants in the above-entitled cause, in connection with their Petition for Appeal to the Supreme Court of the United States, hereby assign error to the record and proceedings and the entry of the Final Decree of said District Court on October 11, 1945, and say that in the entry of the Final Decree the District Court committed error to the prejudice of these defendants in the following particulars:

1. The Court erred in holding and decreeing that the following agreements are unlawful under Section 1 of the Sherman Act, in canceling said agreements, and in enjoining these defendants, and all persons acting or claiming to act through or for them, from the further performance of any of the provisions of said agreements or of any agreements amendatory thereof or supplemental thereto:

Agreement dated July 30, 1920, between TP and TAS (Exhibit A);

Agreement between TP and Krebs dated January 1, 1933, as amended January 1, 1941 (Exhibits E and E-3);

458 Agreements dated July 30, 1920, between NL, TP, The Titanium Alloy Manufacturing Company and TAS (Exhibits A-1 and A-2):

Agreement between TAS and SIT dated March 3, 1927 (Exhibit B);

Agreement between TAS and IG dated October 3 and 20, 1927 (Exhibit C);

Agreement between TAS and IG signed June 24 and October 20, 1927 (Exhibit C-1);

Agreement between TAS and TG signed October 3 and 20, 1927 (Exhibit C-3);

Agreement between TG and TAS dated October 3 and 20, 1927 (Exhibit C-7);

Agreement between TG and TAS dated October 3 and 20, 1927 (Exhibit C-8);

Agreement dated February 16, 1933 between ICI, ISC, GW and TINC (Exhibit F);

Agreements between TINC, SIT, TERRES RARES, and Thann dated June 5 and 17, 1935 (Exhibits G-1 and G-2);

Agreements between TINC, TERRES RARES, and IG, and between TINC, Terres Rares, IG, TG, Thann, and Doitsu both dated January 18, 1936 (Exhibits J and J-2);

Agreements between NL and CIL dated January 1, 1937 (Exhibit K);

Agreement between NL and CIL dated January 1, 1937 as amended February 27, 1939 (Exhibits K-1 and K-5);

Agreements between DP and TINC dated July 27, 1937, June 20, 1938, April 21, 1939, May 10, 1940, and June 23, 1941 (Exhibits M, N, Q, R and S) and the "License Field Extender" agreements to which NL or TINC were parties including the agreement between NL and TINC dated March 28, 1929 (Exhibit O).

(See par. 5 of the Final Decree herein.)

2. The Court erred in enjoining and restraining these defendants and each of their directors, officers, agents, employees, successors and subsidiaries, and all persons acting, or claiming to act, under, through or for them:

459 (a) From entering into, adhering to, maintaining or furthering, directly or indirectly, or claiming any rights under, any contract, agreement, understanding, plan or program among themselves, the co-conspirators, or with any other person, partnership or corporation, which has as its purpose or effect the continuing or renewing of any of the agreements listed in paragraph 1 hereof;

(b) From entering into, adhering to, maintaining or furthering, directly or indirectly, any contract, agreement, undertaking, plan or program with any other producer or dealer relating to titanium pigments which has as its purpose or effect:

(1) to divide sales or manufacturing territories;

(2) to allocate markets;

(3) to limit or prevent United States imports and exports;

(4) to grant to any third party any market as its exclusive territory;

(5) to keep any third party out of any market;

(c) From restricting any purchaser of titanium pigments in the use thereof.

(See par. 6 of the Final Decree herein.)

3. The Court erred in ordering these defendants to grant to any applicant therefor a non-exclusive license, on a uniform, reasonable royalty basis, under:

(a) any or all of their existing United States patents and patent applications, and

460 (b) within a period of five years all patents which cover any titanium pigments or any process for the manufacture of titanium pigments, issued to these defendants or which they may acquire or under which they may become exclusive licensees with the right to grant sublicenses.

(See par. 7 of the Final Decree herein.)

4. The Court erred in holding and decreeing that these defendants may at their option or the option of the licensee impart in writing, at a reasonable charge by the licensor to the licensee, information as to the methods and processes used by the licensor at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments. (See par. 7 of the Final Decree herein.)

5. The Court erred in ordering these defendants to present for the Court's approval within one year from the date of the Final Decree a plan for divesting themselves of their stockholdings and other financial interests, direct or indirect, in BTP, CTP, TG and TK, or for the purchase of the entire stock holdings and other financial interests, direct or indirect, in said companies or any of them, and that the plan shall provide for its completion within two years from the date of the Final Decree. (See par. 8 of the Final Decree herein.)

6. The Court erred in enjoining these defendants from bringing or threatening to bring any action against any person or corporation for the alleged infringement, prior to the date of the Final Decree, of any patent or patent application owned by these defendants or under which they had an exclusive license or the right to grant sublicenses. (See par. 9 of the Final Decree herein.)

461 7. The Court erred in holding that the agreements were not justified as ancillary to the granting of a license under a patent. (See Opinion herein, p. 20.)

8. The Court erred in refusing to hold that the 1920 contract escaped the condemnation of the Sherman Act because it was reasonably ancillary to a lawful principal purpose, such as the sale of a business. (See Opinion herein, p. 21.)

9. The Court erred in holding that it could invalidate contracts with parties who were not within its jurisdiction. (See Opinion herein, p. 23.)

10. The Court erred in holding that the plaintiff need not show injury to the public. (See Opinion herein, p. 23.)

11. The Court erred in refusing to hold or find that American producers cannot do business in a cartelized world except on cartel terms and in holding that this subject was not a proper subject for its consideration. (See Opinion herein, p. 24.)

12. The Court erred in refusing to hold that certain issues in the case were moot because of the intervention of war with Germany, Japan and Italy. (See Opinion herein, p. 25.)

13. The Court erred in refusing to hold that the British and Canadian contracts had become moot because of proposed new agreements eliminating the objectionable features of the old agreements. (See Opinion herein, p. 27.)

14. The Court erred in refusing to hold that the agreement between DP and NL was a valid exchange of patents, present and future, between competitors and was not a violation of the Sherman Act. (See Opinion herein, p. 38.)

462 15. The Court erred in finding that a purpose of the 1920 agreement was to keep patent rights and technical know-how as the exclusive possession of the contracting parties and to prevent competition between the parties to the agreement. (See Finding of Fact No. 46 herein.)

16. The Court erred in finding that the intended purpose of the acquisition and control of TAS by NL was to utilize TAS and the contract of 1920 to further control competition in the manufacture of titanium pigments and compounds in all markets of the world, including the United States. (See Finding of Fact No. 47 herein.)

17. The Court erred in finding defendants NL and TAS agreed to have TAS, and subsequently defendant TINC, form in each of the important industrial countries of the world an association with a local corporation or firm which contemplated the manufacture and sale of titanium pigments and compounds, or which could contribute to the technical or commercial development, or which threatened to be a serious competitor of NL and TAS, a new company in which NL or TAS were to have a part interest. (See Finding of Fact No. 48 herein.)

18. The Court erred in finding that prior to 1933, NL and TINC believed that ICI and GW were planning to engage in the manufacture of titanium pigments and compounds in Great Britain, and that ICI had begun development work preparatory to engaging in the manufacture and sale of titanium pigments and compounds, and that NL and TINC were apprehensive of their competition especially as ICI was a very powerful corporation, although it had never manufactured pigments. (See Finding of Fact No. 52 herein.)

463 19. The Court erred in finding that prior to 1936 NL, TINC, IG and TG believed that local Japanese companies were planning to manufacture and sell titanium pigments and compounds and would engage in exports which would lead to competition in all markets of the world including the United States. (See Finding of Fact No. 54 herein.)

20. The Court erred in finding that in 1935 NL agreed with CIL, BTP and Laporte to maintain prices on American titanium pigments sold by NL in Canada, above the prices charged for titanium pigments manufactured by BTP or Laporte and sold by BTP and Laporte in the Canadian market. (See Finding of Fact No. 57 herein.)

21. The Court erred in finding that the defendants NL and TINC and their foreign associates, TG, BTP and SIT, exchanged full and complete information relating to sales prices of titanium pigments and the activities of any other companies and potential competitors engaged in the titanium business in any of the markets of the world. (See Finding of Fact No. 63 herein.)

22. The Court erred in finding that each and all of the various contracts (Exhibit A to A-2 inclusive, B, C to C-8 inclusive, F to F-6 inclusive, J to J-4 inclusive, and K to K-4 inclusive) has had the intended effect of

(1) preventing competition among the various parties

to said agreements within the exclusive territory allocated to the parties in their respective contracts.

(2) creating a world-wide patent pool of many of the patents of commercial value relating to the manufacture of titanium pigments and compounds within the li-
464 censed field, as defined in said agreements in which said patents have been made available only to the parties to said contracts;

(3) creating a world-wide pool of useful technical information relating to the manufacture and use of titanium pigments, available only to any of the parties to said contracts within their respective exclusive territories;

(4) enabling the parties to said contracts outside the United States to facilitate the control of production and prices of all titanium pigments and compounds produced within their respective exclusive territories;

(5) completely preventing any patent legislation among the parties; and

(6) accelerating the spread of improvement in the product and processes throughout the world.

(See Finding of Fact No. 64 herein.)

23. The Court erred in finding that each and all of the contracts, Exhibits G, G-1, G-2, G-3, F-8, has and have the intended effect of helping TINC and NL to prevent any exports of titanium pigments or compounds to the United States. (See Finding of Fact No. 68 herein.)

24. The Court erred in finding that NL entered into agreement Exhibit E to strengthen the patent monopoly of NL and DP jointly as against newcomers in the titanium pigment business. (See Finding of Fact No. 79-1 herein.)

25. The Court erred in finding that NL refused licenses of the "micronizing apparatus" to VC and Sherwin Williams Company, who desired to use this apparatus. (See Finding of Fact No. 81 herein.)

465 26. The Court erred in finding that the DP-TINC licensing agreements of 1940 and 1941 did restrict and were intended to restrict the use and export of titanium pigments manufactured under any of said patents by purchasers of said pigments. (See Finding of Fact No. 93 herein.)

27. The Court erred in finding that the agreements and understandings entered into between the defendants and other corporations have had the following necessary effect:

(1) The defendant NL has refrained from competing with other titanium pigment producers of the world out-

side the Western Hemisphere and has not exported any titanium pigments or compounds outside the Western Hemisphere unless requested so to do by its foreign associates.

(2) All of the companies engaged in the manufacture of titanium pigments and compounds outside the United States have refrained from importing such pigments or compounds into the United States and have refrained from competing with defendants NL and DP in the United States.

(3) Defendants NL, DP, and TINC, have imposed restrictions on resales by purchasers of titanium pigments.

(4) All competition with foreign producers in the manufacture and sale of titanium pigments and compounds in the United States has been eliminated.

(5) Defendants NL and DP control and dominate the manufacture and sale of titanium pigments and compounds in the United States to the exclusion of all actual or potential competition from any other potential entrant into the titanium pigment business in the United States.

466 (6) Defendants NL and DP secured a monopoly on technical information relating to the manufacture and use of titanium pigments and certain apparatus and equipment necessary to the manufacture of certain titanium pigments to the exclusion and detriment of other producers now engaged in the titanium pigment business in the United States.

(7) Defendants NL, DP and TINC have utilized their patents which relate to the manufacture and use of titanium pigments to control and regulate the manufacture and sale of titanium pigments and compounds in the United States; and NL and TINC with the cooperation of DP have done so throughout the rest of the world.

(8) Defendants NL and TINC in cooperation with the European producers have controlled the production of titanium pigments and compounds throughout the rest of the world outside the United States and refrained from competing with their associated companies in markets allocated to said companies after the outbreak of hostilities in Europe in 1939, serving said allocated markets only at the request of their foreign associates and holding any profits therefrom in the markets so served for the associate to which said exclusive territory was allocated.

(See Finding of Fact No. 95, 1-10 herein.)

28. The Court erred in finding that the intended effects of the acts of the defendants and the other members of the combination will probably continue to the extent that the post-war conditions make possible. (See Finding of Fact No. 96 herein.)

467 29. The Court erred in concluding that beginning on or about July 30, 1920, NL and co-conspirator TAS and on various dates thereafter TINC, DP, and others found herein to be co-conspirators continuing at all times thereafter to the date of these findings have been continuously engaged in a combination and conspiracy in restraint of trade and commerce in titanium pigments and compounds among the several states of the United States and with foreign nations and have been and are now parties to contracts, agreements and understandings in restraint of such trade and commerce. (See Conclusion of Law No. 1 herein.)

30. The Court erred in refusing to find that the contracts between NL or TINC and their foreign associates were a reasonable, if not the only, means by which these defendants could participate in foreign business.

WHEREFORE these defendants pray that the Final Decree of the District Court, canceling the agreements to which these defendants were parties, enjoining future acts of the character prescribed by said agreements, compelling these defendants to dispose of their stock holdings in certain foreign companies or, in the alternative, compelling the purchase by these defendants of the entire stock of said companies, and ordering the compulsory licensing of patents on a uniform, reasonable royalty basis, and the furnishing of technical information relating thereto, be reversed, and for such other and fit relief as the Court may deem just and proper.

Dated, December 10, 1945.

Bethuel M. Webster
BETHUEL M. WEBSTER,
Clifton P. Williamson
CLIFTON P. WILLIAMSON,
Attorneys for National Lead Company and Titan Company, Inc.

468 Bond on appeal for $250.00 omitted in printing.

471 In United States District Court

[Title omitted.]

Petition for appeal, assignment of errors, and prayer for reversal

To the Honorable ALFRED C. COXE, Judge of the District Court of the United States for the Southern District of New York:

Your petitioner, defendant E. I. du Pont de Nemours and Company (hereinafter referred to as du Pont), does hereby pray that it be permitted to take an appeal to the Supreme Court of the United States from the Final Decree of this Court, made and entered in the above-entitled cause on October 11, 1945, for the reasons specified in the Assignment of Errors accompanying this petition; that a proper order be made relating to the appeal bond to be given by said petitioner; that a citation issue as provided by law; and that the material parts of the record, proceedings and papers upon which such decree was based, duly authenticated, be sent to the Supreme Court of the United States in accordance with the rules in such case made and provided.

472 ASSIGNMENT OF ERRORS

Defendant du Pont complains that the District Court committed manifest error to the prejudice of said defendant in the above-entitled cause and assigns the following errors in the record and proceedings herein upon which it will rely on its appeal to the Supreme Court of the United States (each numbered paragraph being a separate Assignment of Error):

I. The District Court erred in refusing to dismiss the complaint herein as to said defendant.

II. The District Court erred in ordering, adjudging and decreeing as follows:

(1) That du Pont's agreements with defendants National Lead and Titan Company, Inc. are unlawful, that they be cancelled and that du Pont and all persons acting or claiming to act through or under it and all its successors and subsidiaries be enjoined and restrained from the furtherance of any of the provisions of said agreements and of any agreements amendatory thereof or supplemental thereto (Decree, par. 5).

(2) That du Pont and each of its directors, officers, agents, employees, successors and subsidiaries and all persons acting, or claiming to act under, through or for it or any of them be enjoined and restrained (a) from entering into, adhering to, maintaining or furthering, directly or indirectly, or claiming any rights under any contract, agreement, understanding, plan or pro-
473 gram which has as its purpose or effect the continuing or renewing of any of the agreements listed in paragraph 5 of the Decree; (b) from entering into, adhering to, maintaining or furthering, directly or indirectly, any contract, agreement, undertaking, plan or program with any other producer or dealer relating to titanium pigments which has as its purpose or effect (1) to divide sales or manufacturing territories, (2) to allocate markets, (3) to limit or prevent United States imports or exports, (4) to grant to any third party any market as its exclusive territory, (5) to keep any third party out of any market; and (c) from restricting any purchaser of titanium pigments in the use thereof (Decree, par. 6).

(3) That du Pont grant to any applicant therefor, including any defendant or co-conspirator, a non-exclusive license under any or all of the patents as defined in the decree at a uniform, reasonable royalty; that during a period of three years from the date of the decree such license may at the option of such applicant contain a provision for the imparting in writing, at a reasonable charge, by du Pont to the applicant, of the methods and processes used by du Pont at the date of its license in its commercial practice under the licensed patents in connection with the production of titanium pigments; and that du Pont be restrained from attempting to enforce any rights under any foreign patents owned by it or
474 under which it is the exclusive licensee to prevent the exportation of titanium pigments from the United States to any foreign country (Decree, par. 7).

(4) That American Zirconium Corporation and the Virginia Chemical Corporation, their successors or assigns, may at their option, if exercised within six months from the date of the Decree, apply for licenses from du Pont under the provisions of paragraph 7 of the Decree; that in the event American Zirconium Corporation and Virginia Chemical Corporation or their respective successors or assigns exercise the foregoing option, du Pont be enjoined from collecting royalties under any existing license agreement relating to titanium pigments between it and

the persons exercising the option in respect of any period subsequent to such exercise; and that du Pont be enjoined from bringing, or threatening to bring, any action against any person or corporation for the alleged infringement prior to the date of the Decree of any patent as defined in the Decree (Decree, par. 9).

(5) That the Attorney General of the United States or his proper representative, for the purpose of securing compliance with the Decree, be permitted (1) access, during du Pont's office hours, to all books, ledgers, accounts, correspondence, memoranda and other records and documents in the possession or under the control of du Pont, relating to any matters contained in the Decree,
475 and (2) subject to any legally recognized privilege, without restraint or interference from du Pont, to interview its officers or employees regarding any such matters (Decree, par. 10).

(6) That judgment be entered against du Pont for all costs to be taxed in the proceeding (Decree, par. 11).

(7) That jurisdiction of the cause and of du Pont be retained by the District Court for the purpose of enabling any of the parties to the Decree, or any other person or corporation that may hereafter become bound, in whole or in part, thereby to apply to the Court at any time for such further orders, modifications, vacations or directions as may be necessary or appropriate (1) for the construction or carrying out of the Decree and (2) for the enforcement of compliance therewith and the punishment for violations thereof (Decree, par. 15).

III. The District Court erred in making findings of fact as follows:

(1) Finding 56 in so far as it finds that DP had knowledge of negotiations between NL and CIL which resulted in the making of four contracts (Pl. Exs. K to K–3 inclusive) and in so far as it finds that du Pont acquiesced in such contracts.

(2) Finding 72 in so far as it finds that DP knew of plans to combine all the European titanium producers and was willing to give its aid to NL in bringing about
476 a patent exchange among the European producers in order to secure one in the United States with NL; that DP had knowledge of the alleged wish of NL to pool with DP all their patents and technical information relating to the manufacture or use of titanium pigments in the United States in order jointly to control and dominate the manufacture and sale of titanium pigments

and compounds; and that both TP and Krebs began to exchange extensively technical information relating to the manufacture and use of titanium pigments in 1932 and the information so exchanged related to much more than any alleged claims of patent infringement by either company.

(3) Finding 73 in so far as it finds that Krebs and DP, through Rupprecht acquiesced in and ratified the assurance made by Beschorman to IG as to territorial delimitations of the titanium pigment business; that DP's alleged assurance formed in part or otherwise the consideration for continued abstinence of the European producers from exporting to the United States; that DP assured TP and NL that, as a practical matter, such exports by it of titanium pigments into TG's territory would not take place; that DP gave assurances to TP or NL that its conduct would produce substantially identical results as if it agreed to grant NL's foreign associates exclusive licenses under DP's foreign patents; and that DP, through Rupp-
477 recht and Krebs, by these assurances and Exhibit E, joined the conspiracy found to exist between NL and its foreign associates.

(4) Finding 79 in so far as it finds that the alleged assurances given by DP were of the character found in Finding 73; that one of DP's purposes in entering into the agreement Ex. E was to strengthen its own patent position in the titanium pigment field to the exclusion of others than NL by pooling its patents with NL; and in so far as it finds that the necessary effects of said agreement and of DP's assurances have been (1) the achievement of NL's purposes, (2) the achievement of DP's purpose to strengthen its own patent position in the titanium pigment field to the exclusion of others than NL by pooling its patents with NL, (3) to give NL and DP together domination and control over the titanium pigment business in the U. S., (4) to remove obstacles from the execution of the TG-Aussig agreement—Ex. G, the Blumenfeld agreements G–1, G–2, G–3, the Japanese agreement Ex. J., the Canadian agreement Ex. K and the price agreement between BTP and Laporte for the British Empire, (5) a proliferation of patents, (6) to restrict and obstruct exports from the U. S. outside the Western Hemisphere, and (7) to restrict and obstruct imports into the U. S.

(5) Finding 84 in so far as it finds that the necessary, or any other, effect of the DP agreement with Zirconium

was to restrict the domestic production and foreign exports of Zirconium.

478 (6) Finding 85 in so far as it finds that the necessary effect of this license was to restrict the production of VC.

(7) Finding 86 in so far as it finds that after the execution of Exhibit E, representatives of DP and NL's foreign associates enjoyed the privilege of visiting each other's titanium pigment plants and obtaining any and all technical information desired by either as regards plant operations and plant equipment from August, 1933, to September, 1938; that this exchange was a courtesy DP and NL's foreign associates expected to receive; that an exchange of technical information was also agreed upon in principle between DP and NL's foreign associates on June 8, 1938; that DP continued agreeable to permit plant visits from the representatives of NL's foreign associates; and that the language of the 1933 agreement does not contain a restriction of the grants to patents 'used'.

(8) Finding 89 in so far as it finds that an oral understanding was reached between DP and NL's foreign associates on June 8, 1938, or any other time, whereby each of said parties agreed to exchange such of its patents and applications as related to the manufacture and use of titanium pigments within the licensed field of Exhibit E with each other as might be desired by each from the other; that such of each other's patents and applications as were desired by DP and NL's foreign associates were to

479 be licensed on a royalty-free basis in separate annual license agreements; that licenses so granted by DP to NL's foreign associates were to be exclusive except as to DP and in England as to ICI; and that Rupprecht expressed to NL and Tinc the view that the reservation was in fact without practical importance.

(9) Finding 90 in so far as it finds that there was an oral understanding of June, 1938, or that DP acted in accordance therewith.

(10) Finding 93.

(11) Findings 95 and 96 in so far as said findings refer to du Pont or ascribe the specified effects to any agreements, understandings, or other actions of DP.

IV. The District Court erred in failing and refusing to make findings of fact, as follows:

(1) That du Pont has not exported titanium pigments in substantial quantities solely because of its own independent judgment as to the business undesirability of so doing made

in the light of a number of economic, political and legal factors operating adversely to such exports.

(2) That du Pont did not assure National Lead Company prior to the execution of Exhibit E or at any other time, that it would not export titanium pigments outside the United States.

(3) That du Pont's exchange of technical information with National Lead Company pursuant to the provisions of Exhibit E progressively deteriorated until eliminated at du Pont's request as of May 1, 1940.

480

(4) That du Pont entered into a written agreement with National Lead Company (Exhibit E), dated as of January 1, 1933; that du Pont and National Lead Company by a written agreement (Exhibit E-3), dated as of January 1, 1941, amended the agreement between the parties of January 1, 1933, in certain respects; and that each of such written agreements embodied the full and complete understanding between the parties.

(5) That du Pont did not agree with National Lead Company or Titan Company, Inc. in or about June, 1938, or at any other time, to give Titan Company, Inc. at its request, exclusive licenses to manufacture and sell under all patents which du Pont then owned or might thereafter acquire relating to the manufacture and sale of titanium pigments for the territory in which Titan Company, Inc. operated, or any of them.

(6) That du Pont did not agree with National Lead Company or Titan Company, Inc. in or about June, 1938, or at any other time, that du Pont would not exercise rights reserved to it in licenses granted to the Titan Company, Inc.

(7) That du Pont did not at any time agree to exchange technical information with the foreign associates of National Lead.

(8) That du Pont did not enforce the quantity limitations formerly contained in the separate license agreements made by it with American Zirconium Corporation and Virginia Chemical Corporation and that such provisions have not in fact limited the production of either of such companies or prevented them from engaging in the manufacture and sale of titanium pigments on a commercially profitable basis.

481

V. The District Court erred in receiving in evidence, as against du Pont, and in refusing to strike, as not connected to du Pont:

(1) A letter, dated July 12, 1933, from W. C. Beschorman, Vice-President of National Lead Company, to I. G. Farbenindustrie. (Part of Plaintiff's Exhibit 273).

(2) All other written statements contained in any letters or memoranda which were not written by or on behalf of du Pont or in any agreements to which du Pont was not a party, and all oral statements made in any conversation at which du Pont was not represented.

VI. The District Court erred in holding and making conclusions of law as follows:

(1) That du Pont, among others, violated Section 1 of the Sherman Act (Conclusion 1).

(2) That plaintiff is entitled to a decree as to du Pont (Conclusion 2).

VII. The District Court erred in failing and refusing to hold and conclude as follows:

(1) That du Pont did not contract, combine, or conspire, to restrain trade or commerce in titanium pigments or compounds among the several States, or with foreign nations, in violation of Section 1 of the Sherman Act.

482 (2) That the complaint herein should be dismissed as to du Pont.

PRAYER FOR REVERSAL

Wherefore, your petitioner prays that the said decree of this Court, made and entered October 11, 1945, in the above-entitled cause, be reversed and that the complaint herein be dismissed as against said petitioner and for such other and further relief as to the Court may seem just and proper.

December 10, 1945.

CRAVATH, SWAINE & MOORE,
15 Broad Street, New York, N. Y.

COVINGTON, BURLING, RUBLEE,
ACHESON & SHORB,
701 Union Trust Building, Washington, D. C.
Attorneys for defendant,
E. I. du Pont de Nemours and Company.

ALBERT R. CONNELLY,
Of Counsel.

483 In United States District Court

[Title omitted.]

Order allowing appeal

Defendant E. I. du Pont de Nemours and Company having made and filed its Petition for Appeal, praying for

an appeal to the Supreme Court of the United States from the Final Decree of this Court, made and entered in the above-entitled cause on October 11, 1945, and having also made and filed its Assignment of Errors, Prayer for Reversal and its statement as to Jurisdiction, and having in all respects conformed to the statutes and rules of court in such cases made and provided, it is

Ordered that the appeal be, and the same hereby is, allowed as prayed for, and that an appeal bond in the sum of $500.00 be filed by or on behalf of said defendant, with good and sufficient surety.

Dated: December 10th, 1945.

ALFRED C. COXE,
U. S. District Judge.

484 Bond on appeal for $500 omitted in printing.

487 In United States District Court

[Title omitted.]

Præcipe for transcript of record

To the Clerk of the United States District Court for the Southern District of New York:

You are hereby requested to make a transcript of the record to be filed in the Supreme Court of the United States, pursuant to an appeal allowed in the above entitled cause on behalf of the United States of America, and to include in such transcript of record the following:

1. Plaintiff's complaint.

2. Answers of the defendants National Lead Company, Titan Company, Inc. and E. I. du Pont de Nemours and Company, Inc.

3. Plaintiff's exhibits A, A-1, A-2, B, C, C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, D, D-1, E, E-3, F, F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, G, G-1, G-2, G-3, H, I, J, J-1, J-2, J-3, J-4, J-5, J-6, K, K-1, K-2, K-3, K-4, K-5, K-6, L, M, N, O, P, P-1, P-2, Q, R, and S.

4. Draft of decree proposed by the Government and submitted to the Court on September 15, 1945.

5. That part of the transcript of the record beginning on page 82 and commencing with the words "Now
488 we come to the question of relief" and ending on the top of page 86 with the remark by the Court, "We will take a short recess."

6. That part of the transcript of the record beginning at the bottom of page 3745 with the remark of the Court, "Now we go to the decree," to the middle of page 3799 ending with the words "Somewhere in the Russian territory," and commencing with the words of Mr. Dixon in the middle of page 3845, "Yes, Your Honor," and ending with the words of the Court on page 3889 "which has crystalized a number of issues in my mind."

7. Opinion of the District Court filed on July 5, 1945.

8. Findings of Fact and Conclusions of Law filed by the District Court on October 2, 1945.

9. Final decree filed by the District Court on October 11, 1945.

10. Plaintiff-appellant's petition for appeal.

11. Plaintiff-appellant's assignment of errors.

12. Jurisdictional statement filed by plaintiff-appellant.

13. Order allowing appeal of plaintiff-appellant.

14. Citation on appeal of plaintiff-appellant.

15. Statement of plaintiff-appellant calling attention to the provisions of Supreme Court Rule 12(3).

16. Proof of service filed by plaintiff-appellant.

17. This praecipe and service thereof.

Said transcript is to be prepared as required by law and the Rules of this Court and Rules of the
489 Supreme Court of the United States, and is to be filed in the office of the Clerk of the Supreme Court.

Dated: December 29, 1945.

WILLIAM C. DIXON,
Attorney for Plaintiff.

WILLIAM C. DIXON,
Special Assistant to the Attorney General.

Service of the above praecipe is accepted and copy thereof received this 7th day of January 1946.

CLIFTON P. WILLIAMSON,
BETHUEL M. WEBSTER,
Attorneys for Defendants,
National Lead Company and Titan Company, Inc.

CRAVATH, SWAINE & MOORE,
Attorney for Defendant,
Du Pont de Nemours and Company, Inc.

490 In United States District Court

[Title omitted.]

COUNTER-PRAECIPE

To the Clerk of the United States District Court:

In addition to portions of the record indicated for incorporation into the transcript of record in defendant E. I. du Pont Nemours and Company's Counter Praecipe and Praecipe dated and served January 14, 1946, please incorporate into the transcript of record the following and certify the same to the Supreme Court of the United States:

1. That part of the transcript of the record beginning on page 2090 with "Mr. Dixon: Your Honor, I might say, etc.," through, "The Court: • • • you might say it is purely surplusage, perhaps, very likely," on page 2091.

2. That part of the transcript of the record beginning on page 2326 with "Mr. Dixon: • • • Your Honor, I think, etc.," through "Mr. Whitney: Right, your Honor. Then we have no further objection on the ground of competence," on page 2326.

3. That part of the transcript of the record beginning on page 2373 with "Mr. Dixon: Before I take that up, your Honor," etc., through "Mr. Whitney: Other than what you already took from our files," on page 2373.

491 4. This praecipe and proof of service thereof.

Date: January 24, 1946.

WILLIAM C. DIXON,
Attorney for Plaintiff.

WILLIAM C. DIXON,
Special Assistant to the Attorney General.

Service of the above counter-praecipe is accepted and copy thereof received this 24th day of January 1946.

CLIFTON P. WILLIAMSON,
BETHUEL M. WEBSTER,
Attorneys for Defendants,
National Lead Company and Titan Company, Inc.

CRAVATH, SWAINE & MOORE,
Attorney for Defendant,
E. I. du Pont de Nemours and Company, Inc.

492 In United States District Court

[Title omitted.]

Praecipe for transcript of record

To the Clerk of the United States District Court:

Please prepare a transcript of the record in the above entitled cause in the matter of the appeal of National Lead Company and Titan Company, Inc. herein, and include in said transcript the following papers:

1. Bill of Complaint.

2. Answer of each defendant to the Bill of Complaint.

3. Official record of the stenographic minutes before the Hon. Simon H. Rifkind, United States District Judge, Southern District of New York, containing the transcript of testimony of the following witnesses: Blumenfeld, pp. 2501-2591; Jebsen, pp. 2808-3067; Kaegebehn, pp. 133-177, 2601-2617, 2748-2807; Barton, pp. 2693-2747; Rockwell, pp. 3126-3187a; Corddry, pp. 2592-2600, 3067-3114; Daley, pp. 3343-3381; de Vegh, pp. 3188-3250.

4. The following exhibits:

[a] A, A-1, A-2, B, B-1, B-3, B-4, C, C-1, C-2, C-3, C-4, C-5, C-6, C-7, C-8, C-9, D, D-1, D-2, E, E-1, E-2, E-3, F, F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, G,
493 G-1, G-2, G-3, H, H-1, H-2, I, I-1, J, J-1, J-2, J-3, J-4, J-5, J-6, J-7, J-8, K, K-1, K-2, K-3, K-4, K-5, L, M, N, O, P, P-1, P-2, Q, R, S;

[b] NL2, NL3, NL4, NL5, NL6, NL7, NL33, NL34.

5. Proposed Findings of Fact and Conclusions of Law of defendants National Lead Company and Titan Company, Inc., dated March 1, 1945.

6. Opinion of Hon. Simon H. Rifkind, United States District Judge, Southern District of New York, dated July 5, 1945.

7. Findings of Fact and Conclusions of Law filed October 2, 1945.

8. Plaintiff's proposed Final Decree.

9. Official record of stenographic minutes containing transcript of proceedings before the Hon. Simon H. Rifkind, United States District Judge, Southern District of New York of October 1 and 2, 1945.

10. Final Decree dated October 11, 1945.

11. Appeal papers of National Lead Company and Titan Company, Inc.

(a) Petition for Appeal.

(b) Assignment of Errors and Prayer for Reversal.
(c) Order Allowing Appeal.
(d) Appeal Bond.
(e) Proof of Service.
(f) Statement required by Rule 12 of the Supreme Court Rules.
(g) Citation.
494 (h) Statement of Jurisdiction.
(i) This Praecipe.

Dated, January 5, 1946.

CLIFTON P. WILLIAMSON,
BETHUEL M. WEBSTER,
Attorneys for National Lead Company and Titan Company, Inc.

Copy received Jan. 5, 1946.

WILLIAM C. DIXON,
Special Asst. to Attorney General.

495 In United States District Court

[Title omitted.]

Counter praecipe

To the Clerk of the United States District Court:

In addition to portions of the record indicated for incorporation into the Transcript of Record in the Plaintiff-Appellants' Praecipe dated December 29, 1945 and served January 7, 1946, please incorporate into the Transcript of Record the following and certify the same to the Supreme Court of the United States.

1. Official record of the stenographic minutes before the Hon. Simon H. Rifkind, United States District Judge, Southern District of New York, containing the transcript of testimony of the following witnesses: Blumenfeld, pp. 2501-2591; Jebsen, pp. 2808-3067; Kaegebehn, pp. 133-177, 2308-2310, 2325-2326, 2343-2373, 2601-2617, 2748-2807; Barton, pp. 2693-2747; Rockwell, pp. 3126-3187a; Corddry, pp. 2592-2600, 3067-3114; Daley, pp. 3343-3381; de Vegh, pp. 3188-3250.

2. The following exhibits:

[a] B-1, B-3, B-4, D-2, E-1, E-2, H-1, H-2, I-1, J-7, J-8.

[b] NL2, NL3, NL4, NL5, NL6, NL7, NL33, NL34.

496 3. Proposed Findings of Fact and Conclusions of Law of defendants National Lead Company and Titan Company, Inc., dated March 1, 1945.

4. Official record of stenographic minutes containing entire transcript of proceedings before the Hon. Simon H. Rifkind, United States District Judge, Southern District of New York of October 1 and 2, 1945 (pp. 3713-3907).

5. Appeal papers of National Lead Company and Titan Company, Inc.

(a) Petition for Appeal.
(b) Assignment of Errors and Prayer for Reversal.
(c) Order Allowing Appeal.
(d) Appeal Bond.
(e) Proof of Service.
(f) Statement required by Rule 12 of the Supreme Court Rules.
(g) Citation.
(h) Statement of Jurisdiction.
(i) Praecipe.
(j) This Counter Praecipe.

Dated, January 15, 1946.

CLIFTON P. WILLIAMSON,
BETHUEL M. WEBSTER,
Attorneys for National Lead Company and Titan Company, Inc.

Copy received Jan. 15, 1946.

WILLIAM C. DIXON,
Special Asst. to Attorney General.

497 In United States District Court

[Title omitted.]

Counter praecipe and praecipe for transcript of record

To the Clerk of the above-named Court:

In connection with preparation of the transcript of record on the appeals herein, E. I. duPont de Nemours and Company (hereinafter referred to as duPont) requests that you prepare and include as part of such transcript the following and certify the same to the Supreme Court of the United States:

1. All pleadings, including specifically

(a) Complaint filed June 24, 1944,
(b) Answer of National Lead Company and Titan Company, Inc., dated September 15, 1944,
(c) Answer of du Pont, dated September 15, 1944,

(d) Supplemental Answer of du Pont, dated December 4, 1944.

2. All exhibits admitted at the trial, including
498 those marked as Plaintiff's Exhibits A through S and 1 through 1229; National Lead's Exhibits 1 through 34; and du Pont's Exhibits 1 through 97.

3. The following portions of the Stenographic Minutes of the trial:

A. Testimony of all witnesses, being:

(1) Kaegebehn, pp. 133-177, 2308-2310, 2325-2326, 2343-2373, 2601-2617, 2748-2807.
(2) Fowler, pp. 1503-1511 a.
(3) Ewing, pp. 1512-1528.
(4) Blumenfeld, pp. 2501-2591.
(5) Corddry, pp. 2592-2600, 3067-3114.
(6) Pitts, pp. 2618-2623.
(7) Barton, pp. 2693-2747.
(8) Jebsen, pp. 2808-3067.
(9) Rockwell, pp. 3126-3187 a.
(10) de Vegh, pp. 3188-3250.
(11) Daley, pp. 3343-3381.

B. All proceedings on the following days except as otherwise noted:

(1) December 4, 1944, pp. 1-121 other than opening statements of counsel appearing at pp. 12-120.
(2) December 5, 1944, pp. 122-228.
(3) December 6, 1944, pp. 229-338.
(4) December 7, 1944, pp. 339-465.
(5) December 11, 1944, pp. 466-577.
(6) December 12, 1944, pp. 578-697 a.
(7) December 13, 1944, pp. 698-816.

499 C. The following proceedings on the following days:

(1) December 14, 1944.

(a) Beginning with top of p. 817 through "The COURT. Very well. It will be so deemed" on p. 818.

(b) Beginning with "Exhibit 170" on p. 893 through "Mr. WEBSTER. Yes" on p. 894.

(c) Beginning with "Mr. WEBSTER. I understand, etc." on p. 903 through "The COURT. * * moving in behind a shield all the time" on p. 903.

(2) December 18, 1944.

(a) Beginning with "Mr. DIXON. We would now like etc." on p. 1076 through "The COURT. It is so stipulated" on p. 1076.

(3) December 19, 1944.

(a) Beginning with "The COURT. 226?" on p. 1208 through "Mr. WHITNEY. Correct" on p. 1209.

(4) December 21, 1944.

(a) Beginning with "The COURT. Why don't you etc." on p. 1429 through "Mr. WHITNEY. * * * so I will subside and come back to the other later for only a few minutes" on p. 1430.

500 (b) Beginning with "The COURT. Exhibit 271" on p. 1435 through "The COURT. I understand that" on p. 1436.

(1) Beginning with "The COURT. 278" on p. 1467 through "The COURT. The objection is good and it is sustained" on p. 1468.

(5) January 2, 1945.

(a) Beginning with "Mr. CAPLAN. The next group etc." on p. 1577 through "Mr. CAPLAN. Yes, that is right" on p. 1578.

(6) January 16, 1945.

(a) Beginning with "Mr. DIXON. This next Exhibit 710 etc." on p. 2086 through "The COURT. All right" on p. 2090.

(b) Beginning with "Mr. DIXON. Exhibit 828 etc." on p. 2124 through "The COURT. Mr. Dixon assents to that comment" on p. 2129.

(7) January 18, 1945.

(a) Beginning with "Mr. DIXON. Exhibit 882 etc." on p. 2319 through "Mr. WEBSTER. I think that is the solution and I hoped the Government would do that" on p. 2325.

(b) Beginning with "Mr. DIXON. Exhibit 887 is a memorandum etc." on p. 2342 through "Mr. DIXON.

501 Mr. Kaegebehn, will you give us the pleasure of your presence on the stand for a moment?" on p. 2343.

(8) January 26, 1945.

(a) Beginning with "Mr. WEBSTER. May I interrupt etc." on p. 3096 through "Mr. WEBSTER. That is all, your Honor" on p. 3097.

(9) January 30, 1945.

(a) Beginning with "Mr. WHITNEY. I think Mr. Dixon etc." on p. 3252 through "(21) The matters agreed to herein are for purposes of this action only" on p. 3262.

(10) February 5, 1945.

(a) Beginning with "The COURT. What page is Exhibit 1229 on?" on p. 3388 through "Mr. DIXON. Obviously, we

are not interested in having them printed in full" on p. 3393.

D. All proceedings on October 1 and 2, 1945, pp. 3712–3907.

4. Stipulation dated October 1, 1945, relating to sales of titanium pigments in Canada.

5. District Court's opinion filed July 5, 1945.

6. Plaintiff's proposed Findings of Fact dated March 1, 1945.

7. Proposed Findings of Fact and Conclusions of Law on behalf of du Pont dated March 1, 1945.

502 8. District Court's Findings of Fact and Conclusions of Law filed October 2, 1945.

9. Plaintiff's proposed Decree submitted on or about September 15, 1945.

10. District Court's Final Decree filed October 11, 1945.

11. Du Pont's appeal papers, all dated December 10, 1945, being:

(a) Petition for Appeal, Assignment of Errors and Prayer for Reversal,

(b) Statement as to Jurisdiction,

(c) Appeal Bond,

(d) Order Allowing Appeal,

(e) Citation on Appeal,

(f) Notice calling attention to the provisions of Supreme Court Rule 12(3),

(g) Proof of Service.

12. This Praecipe and proof of service thereof.

January 14, 1946.

CRAVATH, SWAINE & MOORE,
By WM. DWIGHT WHITNEY,
A member of said firm,
Attorneys for E. I. du Pont de Nemours and Company,
15 Broad Street, New York 5, N. Y.

ACKNOWLEDGMENT OF SERVICE

Service of copies of the foregoing Praecipe is acknowledged this 14th day of January 1946.

LAWRENCE S. APSEY,
United States of America.

503 [Citations in usual form, filed Dec. 10, 1945, omitted in printing.]

509 In United States District Court

[Title omitted.]

Stipulation as to record

It is hereby stipulated and agreed, that the foregoing is a true transcript of the record of the said District Court in the above-entitled matter as agreed on by the parties.

Dated April 17, 1946.

WILLIAM C. DIXON,
Attorney for the United States of America.

CLIFTON P. WILLIAMSON,
BETHUEL M. WEBSTER,
Attorneys for National Lead Company and Titan Company, Inc.

CRAVATH, SWAINE & MOORE,
Attorneys for E. I. du Pont de Nemours and Company.

510 [Clerk's certificate to foregoing transcript omitted in printing.]

511 In United States District Court

[Title omitted.]

Stipulation as to certain exhibits

Filed April 17, 1946

It is stipulated that Plaintiff's Exhibits 1, 2, 3, 4, 5, 24, 25, 26, 42, 43, 44, 450 through 468, 473, 474, the last two attachments of Exhibit 177 (labeled on their face as "Exhibit S" and "Exhibit T"), the last two attachments of Exhibit 600, 1229, NL Exhibits 8 through 22 and DP Exhibit 97 shall not be printed as a part of the record on the appeals to the Supreme Court of the United States. One copy of each of said Exhibits shall be available in, and on file at, the Office of the Clerk of said Court. They shall be a part of the record for all purposes.

Dated April 16, 1946.

WILLIAM C. DIXON,
Attorney for Plaintiff.

CLIFTON P. WILLIAMSON,
BETHUEL M. WEBSTER,
Attorneys for Defendants, National Lead Company and Titan Company, Inc.

CRAVATH, SWAINE & MOORE,
Attorneys for Defendant, E. I. du Pont de Nemours and Company.

1 In United States District Court, Southern District of New York

Civ. 26-258

UNITED STATES OF AMERICA, PLAINTIFF

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, DEFENDANTS

Before Hon. SIMON H. RIFKIND, District Judge

NEW YORK, *December 4, 1944, 10:30 a.m.*

Appearances

John F. X. McGohey, Esq., United States Attorney for the Government; Herbert A. Berman, Esq., William C. Dixon, Esq., Russell E. Locke, Esq., Special Assistants to the Attorney General, Julian Caplan, Esq., and Ephraim Jacobs, Esq., Special Attorneys, of Counsel. Bethuel M. Webster, Esq., and Clifton P. Williamson, Esq., Attorneys for National Lead Company and Titan Company, Inc.; Bethuel M. Webster, Esq., Clifton P. Williamson, Esq., Edward L. Rea, and Carolinda Waters, Esq., of Counsel. Cravath, Swaine & Moore, Esqrs., Attorneys for E. I. du Pont de Nemours and Company; William Dwight Whitney, Esq., John Logan O'Donnell, Esq., and Gerhard A. Gesell, Esq., of Counsel.

2 The COURT. There were some stipulations the clerk told me about that I have not looked at. Are they to be disposed of before the commencement of the trial?

Mr. DIXON. I believe counsel for the Government and the defendants have agreed upon a stipulation with regard to certain rules which might otherwise be applicable to the admission of documents, and subject to the approval of the Court we have agreed to this stipulation.

The COURT. Very well. As soon as we commence the actual receipt of evidence you will read it into the record or submit it for signature and we will pass on them at that time.

Mr. WHITNEY. I would like to move for leave to serve a supplemental answer. It is only one paragraph and recites an intervening occurrence, to wit, a modification of license agreements.

The COURT. Have you shown it to your adversary?

Mr. WHITNEY. I think we have.

Mr. DIXON. This is the first time I have seen it.

Mr. WHITNEY. We served it this morning. There is no hurry.

The COURT. Is there any objection to it?

Mr. DIXON. I think we have no objection to it.

3 The COURT. Is there any objection from any other parties?

Mr. WEBSTER. None.

The COURT. Very well. The supplemental answer will be received.

Mr. WHITNEY. If your Honor please, we have presumed to put up on your desk two printed documents, the first of which printed documents, your Honor, is a copy of the Government's complaint that the defendant reprinted for convenience, following the same page numbering as the typewritten copy and the same lining page for page and line for line, and also a copy of a brief trial memorandum on behalf of du Pont.

The COURT. Have you delivered a copy of your trial memorandum to your adversaries?

Mr. WHITNEY. Yes, indeed.

The COURT. I have also received a copy of a memorandum from the Government, entitled "Trial Memorandum No. 1." Has that been served upon the defendants?

Mr. WEBSTER. Yes, it has, your Honor.

The COURT. I ask the question, because although the rules of the court do not require it, I follow the practice of requiring the service of trial memoranda upon adversaries.

Now let me see if I can get myself introduced.

4 Who is going to actually try the case for the Government?

Mr. DIXON. Mr. Locke and myself will conduct principally the examination of witnesses and the trial for the Government.

The COURT. Now for the National Lead Company.

Mr. WEBSTER. If your Honor please, Mr. Williamson and I appear for the National Lead Company, and my associate, Mr. Rea, is not here just now, but will be shortly, and Miss Waters, who is associated with us.

The COURT. I want to know who is going to take the laboring oar.

Mr. WEBSTER. I am going to take the lead.

The COURT. Now for Cravath, Swaine & Moore.

Mr. WHITNEY. I expect the laboring oar will fall upon me, your Honor, and Mr. Gesell, who has come from Washington. May I move, your Honor, that he be admitted pro haec vice.

The COURT. I will be glad to grant that. Mr. Gesell is a member of the District of Columbia bar?

Mr. WHITNEY. Yes, your Honor.

Mr. WEBSTER. May it please the Court, there is one preliminary matter. On October 30th, at an informal conference with your Honor, I presented to the Court a statement on behalf of National Lead Company
4-A concerning certain contracts referred to in the complaint. Your Honor suggested that I bring it to his attention on the opening of the trial, and I now do that. I have a copy of it here with an endorsement concerning the conference with your Honor, and I ask to have that copied into the record.

The COURT. Very well. Is there any objection to that?

5 Mr. DIXON. Your Honor, we do object to it. We do not feel, from what we saw at that time, that it was at all competent as evidence to be considered by the Court.

The COURT. Well, I do not take it as evidence, and in view of the objection I will receive it as a trial memorandum or in the nature of a trial memorandum.

Mr. DIXON. That is all right.

The COURT. I will receive it therefore but it won't be incorporated into the record.

Mr. WEBSTER. May I have it marked, or can it be copied into the record for the purpose of convenience, so that we will have it before us?

The COURT. No, any more than you could have the complaint copied in the record.

Mr. WEBSTER. Perhaps I should have it marked for identification.

The COURT. If you want it marked for identification, of course there is no objection, and you can do it now, for that matter, if you wish.

Mr. WEBSTER. In view of the different defendants here it might be well for convenience to call this NL Exhibit 1 for identification.

The COURT. National Lead?

Mr. WEBSTER. National Lead.

The COURT. All right, the clerk will do that.

6 Mr. Webster. I think NL will take care of any exhibit relating to Titan Company and then there can be a separate identification for du Pont.

The Court. Then we will call that 1. We can mark the Government's exhibits with just a numeral.

(Marked Exhibit NL for identification.)

Mr. Dixon. I might say to your Honor with regard to exhibits that the Government has in mind introducing contracts under A, B and C, and all other exhibits will be numerical.

The Court. Now, Mr. Dixon, do you propose to open, or do you propose to proceed with the taking of testimony?

Mr. Webster. Your Honor, I had one other matter, if I may interrupt again.

We have prepared some informal memoranda of law. I had first intended to hand these up to your Honor one by one, but I see no reason why I should not give the ones that are now ready to your Honor at present and serve copies on my adversary.

The Court. Very well. I will take it.

Mr. Webster. These are not in the nature of briefs; they are rather simple statements of the law as we consider may arise in the trial in the case.

The Court. Am I correct, Mr. Webster, that I
7 can assume all of the memoranda for National Lead are also available for Titan?

Mr. Webster. Yes. You may assume that, your Honor, until the difference clearly appears, that is, until it is pointed out.

The Court. Very well. Let me say a word about the time schedule. I understand this case is going to be prolonged for quite a while. I had some impression upon that during the last conference we had. As far as daily schedules are concerned, we will begin at 10.30 and we will have a recess at 11.30; we will have a luncheon recess at 1 to 2.15, and we will have a short recess at 3.30, and adjourn at 4.30. I make the announcement so that you will know when you will be free to do whatever you may choose to do.

For a short while I may be able to run only on a four-day schedule, and I will submit it to you gentlemen to tell me whether you would rather have the lost day occur on Wednesday or Friday. It is all a matter of indifference to me. It is a question of doing some things that I have to dispose of.

Mr. WHITNEY. If your Honor please, I have so many associates from out of town that we would be agreeable if it could be Friday. The associates are from Washington and Wilmington.

8 Mr. DIXON. That will be agreeable to the Government, your Honor.

Mr. WEBSTER. That is agreeable to National Lead.

The COURT. Very well. In the event I have to notify you to the contrary I will give you several days' notice so that you will be aware of the change. I will operate on a four day schedule skipping Friday of each week, but I don't think that that should last beyond the Christmas season. It will probably stop this side of the Christmas season, I hope.

Mr. DIXON. Your Honor may recall that when we had an informal conference about a month or so ago in your chambers we suggested that subject to the approval of the Court we would appreciate having an extra day or so around the Christmas season. The reason for that, from my own point of view, is that we would like if possible to take those few days to be with our families. Subject to the approval of the Court at this time, I am wondering whether it would be agreeable to the Court and counsel to adjourn, I mean recess, during that period until at least Wednesday or Thursday of that week of Christmas week.

The COURT. What is the date you have in mind, so that you will be able to make your plans? Travel accommodations are scarce these days and you want to know in

9 advance of when that will be.

Mr. WHITNEY. Christmas Day is Monday, your Honor.

The COURT. When do you want to adjourn, Mr. Dixon?

Mr. DIXON. As I understand your Honor's schedule, we adjourn on Friday unless we are going by the previous schedule which means that it would be Thursday, prior to Christmas. So that personally, and speaking only for myself, I would appreciate not having to return until Thursday, if possible, of the following week. That will be the 28th, I believe.

The COURT. Have you any views on that?

Mr. WHITNEY. We support that enthusiastically, your Honor, in behalf of my Washington and Wilmington associates.

The COURT. Do you agree to that, Mr. Webster?

Mr. WEBSTER. Yes.

The COURT. Very well then. Let us make it definite now.

We will adjourn at the close of the day on Thursday, the 21st and resume on Thursday the 28th.

Now for my personal convenience I should like to make a suggestion, unless you gentlemen have worked out some other scheme. I read the pleadings, and on first reading one become a little overwhelmed with the large number of names, many of which are somewhat similar. So
10 I have worked out a numerical scheme for these various corporations named in the complaint, and I have adopted these numbers. Now, you don't have to write them down, for this reason: I have assigned to each corporation the paragraph number in the compluint in which that corporation is described. That gives you the first corporation as No. 2, and the last corporation as No. 24, but there is no number 20. So, I have found myself identifying them by number very conveniently, in having a printed index to the names of the corporations, by referring to the paragraph numbers of the complaint.

If you find that that is a convenient tool in avoiding confusion as to Titanium Products and Titanium Company and Japanese corporation whose names sound similar to me, you may use that. I am going to use that as far as I can, and I will try as the case goes on to actually identify them in my mind by these numerical symbols.

Mr. WEBSTER. Your Honor, there are come interesting possibilities when some of those numbers are put together.

The COURT: Yes. I also understood from the Government's brief, which I glanced at this morning that there were 11 contracts which would form the matrix of this controversy, and because of the order in which they
11 appear in Government's memorandum No. 1 I have numbered them 1 to 11 by Roman numerals, and I can readily see myself working out a chart in which I have Arabic-numbered corporations assigned to various Roman-numeral contracts. Perhaps we can do some numerology on that basis.

Mr. LOCKE. Could I offer a suggestion apropos of that?

The COURT. Yes.

Mr. LOCKE. In our exhibits and in references that we will make from time to time, as Mr. Dixon has pointed out, we have identified those contracts with letters, A, B, and C.

The COURT. Then I will switch to letters.

Mr. LOCKE. I think perhaps it would be more convenient and more efficient if the Court used letters instead of Roman numerals.

The COURT. Very good.

Mr. LOCKE. Might I also say that, if there are some methods of working with this, the Government has got in the habit of referring to these various corporations in abbreviated style. For instance, National Lead is NL and du Pont is DP.

The COURT. You may continue to do that. I have no objection to that.

Mr. LOCKE. We propose to give the Court a
12 schedule of those abbreviations with the proper names set opposite them. Now we will include the paragraph numbers so that the Court will have a model or scale.

The COURT. That will be very convenient.

Mr. Dixon, is it your intention to open or is it your intention to proceed with the taking of the testimony?

Mr. DIXON. It is our intention, your Honor, to make an opening statement.

The COURT. Very well, I will hear you.

82 Now we come to the question of the relief re-
83 quested by the Government in this case. It is the contention of the Government that all of the members of this combination who have engaged in it and a part of it, enjoyed the benefits of it, have been able to do so because of these agreements and understandings and the various reciprocal things which have been effected between the parties, and that as the result of those things in their territories, as in the United States, by reason of the pooling of the patents between the defendants du Pont and National Lead, not only present but future patents, they have been able to dominate the titanium pigment industry in the United States, and of course in all the other countries of the world where the co-conspirators are operating; and that everything which goes along with the domination, the evils of it, some of which we have referred to and others of which we will show during the course of the evidence, are present.

We feel, therefore, and have asked this Court in granting relief to the Government to provide for compulsory royalty-free licenses on existing patents which will be made available to anyone now in the industry or who may desire to enter the industry. In addition to that, we of course are asking for the cancellation of these contracts and the understandings.

The COURT. What is the difference between
84 compulsory licensing on a royalty-free basis and complete nullification of the patents themselves?

Mr. DIXON. The patents are still available to the patentee, your Honor, and we haven't any definite plan; we believe that should await the outcome of hearings to be had by the Court on all of the patents themselves.

The COURT. You misconstrue my question. I don't mean that you should tell me now why you want one or the other. I want to know what is the difference between one or the other.

Mr. DIXON. In effect we might say there is no difference. We contend that the defendants, the combination here in the United States, du Pont and National, have enjoyed the benefits of those patents by reason of the exchanges arising out of the agreement and that otherwise they might be paying a license to each other for them. They have been able to build up their business on a royalty-free license basis. By that I mean they have exchanged them. Under their license agreement they are obligated to do so. We are now asking, in considering the relief which may ultimately be granted in this case, that that same advantage be made available to others in the industry or to anyone who wants to enter the industry. However, that may be for a fixed time or
85 on such terms as the Court may determine.

We also ask this Court in considering relief to provide for the compulsory granting of technical information to anyone in the industry or anyone who may enter the industry of the kind and type that has been exchanged between the defendants and co-conspirators in this combination.

We also may ask the Court to consider the possibility of compulsory licensing or future patents for a limited time at a reasonable royalty and the possible divestiture of some of the manufacturing units of the defendants in this country. In other words, the final and ultimate relief which we will ask the Court to grant in this case will be based upon the consideration that the defendants not be permitted to enjoy the benefits of the fruits of their combination and that the present two other companies in the case and any new capital that may care to enter into this business can do so on a basis of an open, free and competitive market which cannot and is not dominated by the defendants as is shown or as we expect the evidence to show in this case.

And we would ask in closing, as far as relief is concerned, the right to present a plan which will be equitable and which will accomplish the purposes that we have

referred to, which are we believe the purposes
86 clearly stated by the provisions of the Sherman Antitrust Act which we charge the defendants with having violated in the instant case.

The COURT. We will take a short recess.

(Short recess.)

120 The COURT. One final word, gentlemen, and then I will keep to my contract and let you go at four-thirty. I have a habit occasionally of asking questions. I have been misunderstood a number of times in the motion part and other places and then I get a brief which says that I have held so and so or laid out the law to be so and so, frequently attributing to me propositions of law that I would never think of laying down. Asking questions is just a way of eliciting information. Maybe it is not the happiest way. Maybe there is some other way, but I do not pretend to indicate the law until I have had a chance to study it, or give my view of the facts or have had a chance to evaluate the facts,
121 and if by hypothesis I suggest a fact, don't let counsel go back and loosen his sleeves and let me have a memorandum to read the following day. It is only tentative and suggestive and designed to help me grasp all the facts.

Mr. DIXON. May it please the Court, in view of counsel's remarks about his position on the introduction of evidence, we have prepared and would like to submit to your Honor in case you care to read it at your convenience, a memorandum with regard to the conspiracy law generally and the principles applicable to it.

The COURT. I will take it if you give your adversaries a copy.

Mr. DIXON. I do not suggest necessarily that you read it now but we are giving it to you at this time.

The COURT. We will adjourn then until ten-thirty tomorrow.

(Adjourned until Tuesday, December 5, 1944, at 10:30 a.m.)

122 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, ET AL.

NEW YORK, *December 5, 1944, 10:30 a.m.*

Trial resumed.

Mr. WEBSTER. If the Court please, reference was made

yesterday afternoon to an article in Harper's Magazine. I have a copy of it here and I would like to give it to the clerk and ask him to please give it to the Court. I will also serve a copy on my adversary if there is any occasion to do so.

The COURT. No, you don't have to do that.

Mr. DIXON. May it please the Court, I wish to state at this time that counsel for the Government and each of the defendants have agreed upon having each one of the defendants represented by someone and someone from the Government to discuss and consider any possible corrections to the record each day, subject to the approval of the Court.

The COURT. All right. You may proceed.

Mr. LOCKE. If the Court please, the parties to this proceeding have after a number of conferences agreed on a stipulation that has to do with such documentary evidence as any of the parties will introduce or attempt to
123 introduce in this case. I should like to read this stipulation to the Court because we are going to ask the Court to approve it.

With respect to the defendant du Pont, this stipulation has been signed by the attorneys for the respective parties. It reads:

Stipulation

"It is hereby stipulated between plaintiff United States of America (hereinafter sometimes referred to as the Government) and defendant E. I. du Pont de Nemours and Company, Inc. (hereinafter sometimes referred to as du Pont), by their respective attorneys:

"1. The Government and du Pont each waives its right to object to the introduction into evidence of any contract, agreement, letter, memorandum or other document obtained or produced from or available in du Pont's office on the ground that a photostatic copy has been offered instead of the document contained in such files.

"2. The Government and du Pont each waives its right to object to the introduction into evidence of any agreement obtained or produced from or available in du Pont's files and listed in Paragraph 9 of the subpoena which the Government served on du Pont on October 30, 1944, on the grounds that it has not been shown that the signatures to such agreement were authentic or that it has not been shown that the individuals signing such agreement
124 had authority so to do.

"3. The Government and du Pont each waives

its right to object to the introduction into evidence of any original letter or other original communication obtained or produced from or available in du Pont's files on the grounds that it has not been shown that such original letter or other original communication was signed by the person whose signature appears thereon, or that it has not been shown that such original letter or other original communication was received by the person to whom it is addressed.

"4. Provided that the author of any unsigned copy of a letter, memorandum or other document obtained or produced from or available in du Pont's files has been established to the satisfaction of the Court, the Government and du Pont each waives its right to object to the introduction into evidence of such copy on the grounds that it has not been shown that the original was signed by its author, or that it has not been shown that such original was mailed or sent to the person to whom it is addressed, or that it has not been shown that such original was received by such person. This paragraph shall not apply where it appears to the satisfaction of the Court from the face of the copy or from other documentary evidence that it has been established that the original was never mailed or received.

125 "5. The Government and du Pont each waives its right to object to the introduction into evidence of any report, publication or other document issued by any branch, department or agency of the United States Government or by any foreign government on the ground that such report, publication or other document has not been certified or authenticated.

"6. The Government and du Pont each waives its right to object to the introduction into evidence of any schedule or other compilation on the ground that the source material of such schedule or other compilation is not available in Court provided that the identity and location of such source material is clearly indicated on such schedule or other compilation, that such source material consists entirely of reports, publications and documents of the character referred to in paragraph 5 hereof, and that a copy of such schedule or other compilation has been furnished the other party a reasonable time in advance of its offer into evidence.

"7. The Government and du Pont each waives its right to object to the introduction into evidence of any copy of a United States patent or foreign patent obtained from

the files of the United States Patent Office on the ground that the original has not been offered.

"8. The Government and du Pont each waives its
126 right to object to the introduction into evidence of quotations of any foreign patent laws taken from a plainly identified publication on the grounds that such publication has not been certified or authenticated.

"9. The Government and du Pont each may at any time during the pendency of this action (on reasonable notice to the other) make application to the Court to correct any error which may appear or subsequently be discovered in any copy of a document introduced into evidence as compared with the original of such document.

"10. This stipulation shall be deemed a full compliance by du Pont of the Request for Admission of Genuineness of Documents served on it by the Government on November 17, 1944.

"11. This stipulation is made for the purpose of saving the time of the Court and counsel on the trial of this case and it may be set aside or modified by agreement or by direction of the Court in the event that such action may by it be deemed necessary or desirable in the interest of justice.

"12. The matters agreed to herein are for purposes of this action only."

127 The Court. That is a stipulation of the United States and du Pont only?

Mr. Locke. And du Pont only, but I would like to explain that we have an identical stipulation between the Government and the National Lead and Titan Company. I should like, if the Court please, to offer these in evidence.

(Marked Plaintiff's Exhibits 1 and 2.)

Mr. Webster. If I may suggest, your Honor, I note the reporter was taking the stipulation down while Mr. Locke was reading it. It seems to me in the interest of complete accuracy it would be a good thing to have the reporter copy both stipulations in ex tenso into the record at this point, without following his notes.

The Court. My idea is the reporter is in the habit of doing that anyway.

Stipulation

"It is hereby stipulated between plaintiff United States of America (hereinafter sometimes referred to as the Government and defendants National Lead Company (hereinafter sometimes referred to as National) and Titan

Company, Inc. (hereinafter sometimes referred to as Titan), by their respective attorneys:

"1. The Government and National and Titan each waives its right to object to the introduction into evidence
128 of any contract, agreement, letter, memorandum or other document obtained or produced from or available in National's or Titan's files on the ground that a photostatic copy has been offered instead of the document contained in such files.

"2. The Government and National and Titan each waives its right to object to the introduction into evidence of any agreement obtained or produced from or available in National's or Titan's files and listed in Paragraph 9 of the subpoena served on National on October 30, 1944 and Paragraph 8 of the subpoena served on Titan on October 30, 1944, on the grounds that it has not been shown that the signatures to such agreement were authentic or that it has not been shown that the individuals signing such agreement had authority so to do.

"3. The Government and National and Titan each waives its right to object to the introduction into evidence of any original letter or other original communication obtained or produced from or available in National's or Titan's files on the grounds that it has not been shown that such original letter or other original communication was signed by the person whose signature appears thereon, or that it has not been shown that such original letter or other
129 original communication was received by the person to whom it is addressed.

"4. Provided that the author of any unsigned copy of a letter, memorandum or other document obtained or produced from or available in National's or Titan's files has been established to the satisfaction of the Court, the Government and National and Titan each waives its right to object to the introduction into evidence of such copy on the grounds that it has not been shown that the original was signed by its author, or that it has not been shown that such original was mailed or sent to the person to whom it is addressed, or that it has not been shown that such original was received by such person. This paragraph shall not apply where it appears to the satisfaction of the Court from the face of the copy or from other documentary evidence that it has been established that the original was never mailed or received.

"5. The Government and National and Titan each waives its right to object to the introduction into evidence of any

report, publication or other document issued by any branch, department or agency of the United States Government or by any foreign government on the ground that such report, publication or other document has not been certified or authenticated.

130 "6. The Government and National and Titan each waives its right to object to the introduction into evidence of any schedule or other compilation on the ground that the source material of such schedule or other compilation is not available in Court provided that the identity and location of such source material is clearly indicated on such schedule or other compilation, that such source material consists entirely of reports, publications and documents of the character referred to in paragraph 5 hereof, and that a copy of such schedule or other compilation has been furnished the other party a reasonable time in advance of its offer into evidence.

"7. The Government and National and Titan each waives its right to object to the introduction into evidence of any copy of a United States patent or foreign patent obtained from the files of the United States Patent Office or from the files of the New York Public Library on the ground that the original has not been offered.

"8. The Government and National and Titan each waives its right to object to the introduction into evidence of quotations of any foreign patent laws taken from a plainly identified publication on the grounds that such publication has not been certified or authenticated.

"9. The Government and National and Titan each may at any time during the pendency of this action
131 (on reasonable notice to the other party) make application to the Court to correct any error which may appear to subsequently be discovered in any copy of a document introduced into evidence as compared with the original of such document.

"10. This stipulation shall be deemed a full compliance by National and Titan with the Requests for Admission of Genuineness of Documents served on them by the Government on November 17, 1944.

"11. This stipulation is made for the purpose of saving the time of the Court and counsel on the trial of this case and it may be set aside or modified by agreement or by direction of the Court in the event that such action may be deemed necessary or desirable in the interest of justice.

"12. The matters agreed to herein are for purposes of this action only.

(Signed) WILLIAM C. DIXON,
Attorneys for Plaintiff,
United States of America.

(Signed) BETHUEL M. WEBSTER,
(Signed) CLIFTON P. WILLIAMSON,
Attorneys for Defendants National,
Lead Company and Titan Company, Inc."

132. The COURT. I think these stipulations have been very well conceived and I think should facilitate the trial.

Mr. LOCKE. I should like to say that we had the fullest cooperation from the other side in arriving at the various provisions of the stipulation.

The COURT. I take it this followed the conference we had at the pretrial?

Mr. LOCKE. Yes, if the Court please.

May we proceed, your Honor?

The COURT. Please do.

Mr. LOCKE. We had a subpoena issued, and I am informed by the marshal's office that service was effected. The subpoena was issued for Mr. Charles Kaegebehn and service was accepted by Mr. John Hendricks whom I understand is a National Lead Company secretary. If Mr. Kaegebehn is here I would like to have him take the witness stand.

Mr. WEBSTER. Mr. Kaegebehn is here and he is ready to take the stand.

133 CHARLES F. KAEGEBEHN, called as a witness on behalf of the Government, being first duly sworn, testified as follows:

Direct examination by Mr. LOCKE:

Q. Mr. Kaegebehn, where do you live?—A. In Hoboken, New Jersey.

Q. And your street address there is?—A. 935 Bloomfield Street.

Q. What is your occupation?—A. I am a patent attorney.

Q. And your present employment is by whom?—A. National Lead Company.

Q. How long have you been employed by the National Lead Company?—A. Since September 1, 1930.

Q. Have you had any other employment in the interim?—A. No, that has been continuous.

Q. Will you please tell us the nature of your employment from period to period as the nature of your occupation changed from the time you first went with National Lead Company?—A. From September 1, 1930, until about March 1, 1934, I was research chemist employed on special investigations.

Q. Before we go on from there, can you detail the nature of your employment just a little so that we might have a fuller understanding of what that means?—A. I was employed originally to investigate the compatibility
134 of the National Lead Company pigments with oil soluble synthetic resins, and that engaged my time for about three years. Thereafter I undertook a special investigation to determine what were the causes for the decline in the sale of litharge to rubber manufacturers.

Q. May I interrupt. Will you give the definition of litharge?—A. Litharge is a lead oxide.

Q. And its principal use?—A. One of its principal uses is for storage batteries.

Q. Is it in any way related to, or does it have any connection with, the pigment business?—A. Ordinarily, no, sir.

Q. Please continue.—A. After reporting on the results of that investigation I was transferred to the Titanium Pigment Company to handle the details of the conduct of their patent matters.

Q. That was in 1934?—A. That was about March 1, 1934.

Q. That was then a separate corporate identify, was it, as distinguished from National Lead?—A. It was.

Q. And did you then become an employee of Titanium Pigments?—A. I did.

Q. Continue, please?—A. From about March 1, 1934, until about March 1, 1937, I was exclusively engaged with the patent matters of the Titanium Pigment Com-
135 pany, and subsequently, from October, 1936, until March, 1937, the Titanium Division of the National Lead Company.

Q. Now will you explain the nature of your work. You say you were concerned with that. Will you tell us what you did—not in too minute detail.—A. Well, the evaluation of inventions; preparation, filing and prosecution of patent applications. I should say that was the primary function of my work at that time.

Q. You were then not an officer of Titanium Pigments, were you?—A. No, I was not.

Q. Please continue.—A. From about March 1, 1937, I have been in charge of the patent department of National Lead Company as manager.

Q. And your duties as manager were what?—A. To have general supervision over the patent matters of the company.

Q. Are you now an officer of either National Lead or Titanium Pigments?—A. No, sir.

Q. Are you familiar with the corporation known as Titan, Inc.?—A. Yes, sir.

Q. Are you an officer of that corporation?—A. I am.

Q. What is the office you hold with that company?—A. I am secretary.

Q. And as secretary what are your duties? Any special duties?—A. Well, I have the custody of the minute-

136 book. I attend meetings of the board, report deliberations and enter them in the book and discharge what is ordinarily considered to be the duties of a secretary.

Q. Do you have any duties outside of those that come within your supervision as secretary of the company; that is, Titan Company, Inc.?—A. I supervise and handle their patent activities in the United States on this side.

The Court. When you say "Titan, Inc." you mean Titan Company, Inc.?

Mr. Locke. That is right.

Q. How long have you been secretary of Titan Company, Inc.?—A. Within the year.

Q. Now, Mr. Kaegebehn, in the discharge of your duties you have become familiar, have you not, with the various contracts that Titan, Inc. has?

Mr. Locke. I will refer to it as "Titan, Inc.", if I may, if the Court please.

A. Yes.

Q. Mr. Kaegebehn, are you familiar with the product that is the principal job, so to speak, of Titanium Pigment; that is, TiO_2?—A. Yes.

Q. Was that their principal product while they were a corporate entity, and what is the principal product now of National Lead?—A. What corporate entity?

Q. Titanium Pigment?—A. Yes.

136a Q. Will you tell us what TiO_2 is?—A. It is the oxide of the element titanium, variously referred to as titanium dioxide and titanium oxide.

Q. TiO_2 is the end product, is it not, considering the process of manufacture of these pigments?—A. Yes.

137 Q. What is its principal use?—A. As a pigment in surface coating compositions.

Q. In addition to TiO_2 used in that particular way, there are combinations, are there not, that are described as extenders?—A. They are described as composite pigments.

Q. What is the distinction between a composite pigment and an extender pigment?—A. The composite pigment consists of two or more pigmentary materials intimately mixed, at least one of which has pigmentary properties of greater value and potency than the other. That which is the lesser is generally referred to as an extender.

Q. What is the source, the original source of TiO_2?—A. Some mineral which contains titanium.

Q. And is there a particular mineral that contains a high degree of the element and that is used commercially in the process of making TiO_2?—A. There are several.

Q. Will you name them, please, and describe them?—A. Rutile has perhaps the highest content of titanium of the naturally occurring minerals with which I am familiar. It is essentially naturally occurring titanium dioxide containing varying amounts of iron compounds as impurities. Ilmenite——

Q. Before you leave rutile, is that used commercially today in the production of TiO_2?—A. No, sir.

138 Q. Where are there deposits of that mineral?—A. There are some in the United States.

Q. Will you explain to the Court why that is not used?—A. It is rather refractory and does not lend itself very readily to chemical processes for placing the titanium in work.

Q. Name another one, another mineral?—A. Ilmenite.

Q. Will you describe that for us and tell us where it comes from?—A. Ilmenite is generally regarded as a chemical combination of iron, titanium and oxygen. It is sometimes considered by the chemists as ferrous titanate, by the physicists or metallurgists as a solid solution of iron oxide and titanium dioxide. Its content of titanium dioxide will vary, depending upon the quantity of impurities and other minerals with which the ilmenite is usually found in nature.

Q. Where is this ilmenite found?—A. It is found quite widely throughout the world.

Q. And in more than one form?—A. Yes.

Q. What are the forms, please?—A. The most common

forms as I know them are the so-called massive deposits in which the ilmenite is present in rock form. Such deposits as are found in Norway are massive deposits. It also is found in the form of sands. The Travancore deposit is a well-known sand deposit.

139 The COURT. Travancore is in India?

The WITNESS. Yes, sir. It is a principality—Travancore.

Q. The solid form of ilmenite that is found in Norway, is that form found in any other countries, any other place in the world?—A. Yes.

Q. Name some of them, please.—A. Well, I can name New York State, the Adirondacks.

Q. As you name these various places will you compare the extent of the deposit, if it has been determined, with the deposit in Norway?—A. I am not familiar with that, sir.

Q. Any other place except New York State?—A. Ilmenite has been found in the Carolinas, Virginia, Florida, and some of the Western States.

Q. It has also been found in South America, has it not?—A. Yes, I believe it has.

Q. Now, as distinguishing from the rock form, you said there was a sand form which was found in India. Is that sand form found in any other place?—A. The Florida deposits, in the United States, are sand.

Q. Any other places that you place of?—A. Those are the two with which I am familiar now.

Q. Isn't there a deposit of ilmenite some place in Portugal?—A. I don't know that.

140 Q. Well, now, that is two forms of minerals, so to speak, that contain ilmenite. What other forms are there?—A. Well, ilmenite is the form.

Q. It is the principal one?—A. No, I didn't—you asked me what other forms of minerals contain ilmenite.

Q. No, I did not mean that. I am sorry. TiO_2.—A. There are others.

Q. Name them, please?—A. Sphene.

Q. Tell us what sphene is?—A. It is the combination of titanium with calcium, silica, oxygen, principally.

Q. Is that in solid form?—A. I can't tell you very much about that. I don't know much about that.

Q. Is that mineral used commercially in the production of TiO_2?—A. No, sir.

Q. Name another.—A. Perovskite.

Q. What form is that found in?—A. It generally, as I

understand it, resembles sphene in its constitution. It has calcium along with the titanium, some silica, aluminum.

Q. Is that mineral used in the production of TiO_2 for commercial purposes?—A. Not in the processes with which I am familiar, but I have heard that the Soviets have experimented with it and have had some success.

Q. Can you name another?—A. No, sir.

Q. There are four then. And of those four only
141 one is used, for all practical purposes, in the production of TiO_2 for commercial purposes, is that right?—A. As far as I know.

Q. That is ilmenite. I take it you have observed the process of producing TiO_2 from the minerals?—A. I have

Q. You are familiar with the process of production in the National Lead Company, for instance?—A. In a general way, sir.

Q. Will you describe in a general way just what treatment is given to the original minerals, so to speak?

Mr. Webster. Your Honor, I hesitate to interrupt for in many respects this witness is very competent, but I don't think he would want to give the impression that he is an expert either in research or manufacturing, and I therefore suggest to my friend that he confine his questions to subjects that the witness is concerned with professionally.

Mr. Locke. I am only concerned to this extent, that I want the Court to have some idea of the process of the manufacture——

The Court. I can take his description now, not as an expert at all but as a witness who has observed certain things.

Mr. Locke. That is right.

142 Mr. Webster. There will be witnesses here before the trial is closed who are qualified to give your Honor authoritative testimony concerning those matters.

Mr. Locke. I shan't go into any of the technical details.

The Court. Very well, I will leave it to your judgment. Mr. Witness, you won't testify to anything that you don't know, of course; you should tell us what you have seen.

Mr. Locke. That is all.

A. The processes that I have seen depend upon the reaction between sulfuric acid and ilmenite. The purpose of that initial reaction is to render the titanium soluble and capable of further processing. That step is often referred to as the attack or digestion step. After the reaction there is obtained a more or less solid mass con-

taining principally the sulfates of titanium and iron. These are dissolved to form a solution of iron and titanium sulfates. That solution is then clarified and subjected to certain treatments which render it capable of being subjected to a boiling treatment which induces a chemical reaction. From the solution, as a result of which chemical reaction the titanium is precipitated, as an oxide of titanium chemically and physically associated with water. That product is variously referred to as
143 hydrated titanium dioxide or hydrous titanium oxide; and after washing treatments is subjected to a rather intense heat treatment called calcination, which dehydrates the hydrated oxide, eliminates certain impurities and produces the product which we call the calcined titanium dioxide. This product is subjected to some pulverizing and milling treatments in order to render it useful as a pigment material.

Q. You use the word calcination. What is the connotation of the word, calcination?—A. Roasting.

Mr. LOCKE. Now there is reference again and again in the documents and some of the letters that we propose to introduce, if the Court please, to various terms. I should like to have this witness—I should like to anticipate those just for the purpose of getting a definition at this time.

The COURT. If he is able to give them.

Q. The expression "chemically and physically combined state" is referred to again and again. What does that mean?—A. As a term, sir?

Q. As a term, yes; as a term applied to the titanium pigments. It describes the peculiar qualities of it, does it not?—A. The chemical combination connotes a union, chemical union between two elements, two or more elements. For instance, the rusting of iron is a chem-
144 ical combination of iron with the oxygen of air and other elements. Physical combination to my mind is mixing, without the various components losing their chemical identity.

Q. Is it possible to have an end product which is physically and chemically combined?—A. I don't know of any such.

The COURT. Let me ask a question.

By the COURT:

Q. Suppose you had more of one of the elements than is necessary to enter into combination with the other element in its proper chemical combination, and you there-

fore have some of that element left over, it might still be in physical combination in the sense of the mixture, might it not?—A. Yes, sir.

Q. So theoretically, you could have oxygen and iron, as you say, and have more iron in the combination. You could, for instance, have two solids?—A. Yes, in that case, sir, I should regard the rust and the metallic iron as in physical combination and the rust itself a chemical combination with iron and oxygen.

Q. It would be easier to visualize liquids than gases.—A. It would be easier to visualize the solids.

Q. Supposing you had two elements forming a gas, two gases form a third gas, and you had more of one than the other sufficient to form that gas, there might be a
145 physical mixture there too?—A. Yes, sir.

The COURT. All right.

By Mr. LOCKE:

Q. The expression "titanium white" is used. What is the connotation of titanium white?—A. It is the expression used abroad, particularly in Europe, for titanium pigment.

Q. TiO_2 pigment?—A. I don't know whether it is TiO_2 or an extended pigment.

Q. What is lithopone?—A. It is a pigment consisting of zinc sulfide and barium sulfate.

Q. What commercial uses does lithopone have?—A. In the manufacture of surface coating compositions.

Q. Does it serve the same purpose as TiO_2?—A. Not TiO_2, no, sir.

Q. I mean the pigment.—A. No, sir.

Q. What is the difference between the two?—A. It does not possess sufficient coloring power to compete with pigmentary titanium dioxide.

Q. Essentially they are both used as titanium pigments are used, that is, in the manufacture of paint, isn't that right?—A. That is correct.

Q. What is blanc fixe?—A. Artificially prepared barium sulfate.

Q. What commercial uses does it have—A. It is
146 used as an extended pigment, for one.

Q. You said that lithopone and TiO_2 pigments were both used in the making or manufacture of paints. Have you any idea of their comparative values as a pigment?

The COURT. In what sense, commercially?

Mr. LOCKE. Commercially, yes.

The COURT. You mean a pound of one as compared with a pound of the other?

Mr. LOCKE. Yes.

A. What is your standard of reference there?

Mr. LOCKE. I will withdraw the question for a moment.

Mr. WEBSTER. Just a moment, I do not like to leave the record in a confused state. I thought the witness testified just a moment ago that there was no commercial comparison between lithopone and TiO_2.

The COURT. The question is withdrawn, so we will take no note of it at all.

Q. Will you tell us what basic lead sulfate is?—A. It is commonly known as white lead.

Q. That is used in the manufacture of paint, is it not?—A. That is correct.

Q. Tell us what basic lead carbonate is?—A. It is also used as a pigment.

147. Q. Is that true about zinc oxide?—A. Yes, sir.

Q. And you said it was true of lithopone?—A. Yes.

Q. What is titanated lithopone?—A. It is lithopone containing a certain percentage of titanium dioxide.

Q. And is that used in the manufacture of paint?—A. Yes.

Q. National Lead produces a product which they describe as Titanox-B, is that true?—A. Yes.

The COURT. How do you spell that?

Mr. LOCKE. T-i-t-a-n-o-x-"B", with the "B" in quotation marks. I am wrong, "Titanox" is in quotation marks.

Q. Is that the way it is used?—A. It is a trademark. We write it all capitals, sometimes in quotes and sometimes not; we separate the B by a hyphen.

Q. What is the combination of Titanox-B?—A. It has between 25 and 30 per cent titanium dioxide and the remainder barium sulfate.

Q. And that is used, is it, in the manufacture of paint?—A. Yes.

Q. National Lead also produces a product which they describe as Titanox-C, do they not?—A. Yes, sir.

Q. Will you describe what Titanox-C as so produced is?—A. It is a mixture containing some of our 25 to 30 per cent—different grades contain perhaps a little more titanium dioxide than others, and the balance calcium sulfate.

148 Q. And is that product used in the manufacture of paint?—A. Yes, sir.

Q. What is zinc sulfide?—A. The chemical combination of the element zinc and the element sulfur.

Q. And that is used in the manufacture of paint, is it?—A. It has been.

Q. What is lead titanate?—A. It is the chemical compound resulting from the roasting together of lead oxide and titanium dioxide.

Q. That is used, is it not, in the manufacture of paint?—A. It has been.

Q. National Lead also produces a product which they describe under the trade name Titanox A, is that correct?—A. Yes, sir.

Q. Will you tell us what that is?—A. That is the pigmentary relatively pure titanium dioxide.

Q. And that too is used, is it, in the manufacture of pa[illegible]?—A. Yes, sir.

Q. [illegible]. Kaegebehn, do you know Walter W. Plechner?—A. Yes, sir.

Q. Do you know where and by whom he is presently employed?—A. Unfortunately Dr. Plechner was killed in North Africa in March, 1943. He was a colonel in the United States Army at the time.

149 Q. Was he ever employed by National Lead Company or any of its associate companies?—A. Yes, sir.

Q. When he was last employed as far as you know what was the nature of his employment there?—A. He was assistant director of research of the Titanium Division of National Lead Company.

(Paper marked Plaintiff's Exhibit 3 for identification.)

Q. Is the difference between Titanox B and C and Titanox A, that the first two are what you described as extended pigments?—A. Composite pigments.

Q. Titanox A is not a composite pigment, is that right?—A. That is correct.

Q. That is a pure titanium dioxide?—A. Yes, sir.

Q. I have asked you questions with reference to various products which are used in the manufacture of paint. The value of those various products is determined by certain characteristics of them such as tinting strength, is that right?—A. Yes.

Q. And hiding power?—A. Yes, sir.

Q. Will you describe to the Court what the tinting

strength is.—A. It is the power to tint or impart color to a composition with which the pigment is associated.

Q. And what is meant by hiding power?—A. The capacity to impart opacity to a composition in which it is incorporated.

150 Q. Have you any knowledge with respect to the comparative tinting strength of the different material that you described; that is basic lead sulfate and so on?—A. Yes, sir.

Q. And do you have any knowledge with respect to their respective hiding powers?—A. Yes, sir. Hiding power and tinging strength are related. The higher the tinting strength generally the higher the hiding power.

Q. I show you a document which has been marked Plaintiff's Exhibit 3 for identification. Will you look at that, please, and particularly what appears to be a table on the page marked 6 in yellow pencil at the bottom of the page.—A. Yes, sir.

Q. Have you ever seen either this photostatic copy or the original of that document or any copy of it?—A. I have seen the original.

Q. And where was that original?—A. In the files of the National Lead Company.

Q. Do you know who the author of the document was?—A. Yes.

Q. Now, as far as you can determine that photostatic copy is a complete photostatic copy, is it not, of the pages in the succession that they appear in the exhibit?—A. As far as I can determine, yes.

Mr. Whitney. I only want to suggest to Mr.
151 Locke that that is covered by the stipulation, and if you want to get the benefits of the stipulation you might start now.

The Court. Except that he has not established before that it came from the files of the National Lead Company.

Mr. Whitney. Paragraph 1 provided that a photostat is admissible.

The Court. Providing it came from the files.

Mr. Whitney. I mean very last or next to the last question.

Mr. Webster. I do not know that it appears from anything that the witness says that it is complete. He would have to look at the original.

The Witness. That is correct. I could not say that that is the entire article.

Mr. LOCKE. He did say that these seven pages were identical with the seven pages of the original.

Mr. WEBSTER. I may say I have not had a copy of it and have not seen it before and I do not raise any question but that it may be complete, but one cannot tell.

The COURT. All right. That will be subject to the so-called correction clause in your stipulation. I assume you want to offer all of the pages.

152 Mr. LOCKE. If there are any additional, I want to have them.

The COURT. And you want them included, and that would be subject to the so-called errors and omission clause in your stipulation.

Mr. LOCKE. But I should like at this time to offer Plaintiff's Exhibit 3 for identification in evidence.

Mr. WEBSTER. This is not a document of which we have a copy. I think in most cases it will appear that the defendants have copies of papers that are offered in evidence, but for that reason I have got to concede, somewhat humbly, that I have never looked at it before. It covers a great many subjects and it appears to relate to bank notes and shoes and slippers and paint and wall sash and all sorts of things with a great deal of textual treatment which I confess I have not had a chance to review this morning.

The COURT. You have no objection to the competence? Your objection is to relevance, is that right?

Mr. WEBSTER. My question is relevance, and I am not too certain that it has been established that Dr. Plechner was an authority in all of the subjects that are purported to be covered in here. Perhaps if it is taken subject to the further objection on my part——

The COURT. We will receive it, subject to a
153 motion, as against National Lead. What about du Pont?

Mr. WHITNEY. If your Honor please, my objection is that I have not seen it, and it is not written by a du Pont official or any other employee of du Pont, and I want to add, your Honor, that had I been shown it I would bet 100 to 1 that I would have no objection, but I would ask the Government if we cannot accelerate the trial by having them show us in advance the documents which they are going to offer, but if they are unwilling to do so and want the benefit of what is sometimes called surprise, then I have to press what are sometimes called technical objections. I do not know what this says about my company. It is seven pages of print out of a magazine, and I object to it on the ground

of competence. It is an article by a deceased former official of National Lead that none of us have ever seen, and I have not been able to read it and I object.

The COURT. On what ground do you offer it against du Pont? It is not covered by the stipulation.

Mr. LOCKE. I should like to say to the Court that I propose at this time only to make inquiry of this witness with reference to matters that appear in this document that have to do with the nature of titanium and titanium pigments, its uses and its comparative value as compared to other pigments, and perhaps a little history
154 of the development of patents and so on that are referred to in there which I think apply equally to du Pont.

Mr. WHITNEY. Your Honor, it is nearly 11.30. Perhaps we could clear it up in a few minutes if we could have the opportunity now.

The COURT. All right. We will take a recess and adjourn the disposition of that objection until after the recess.

Mr. WHITNEY. I would like to request that the Government, if it wants to get on with the trial would show us all papers the night before, and we probably could clear them almost all up immediately.

The COURT. I won't make that direction. That is a matter that I leave entirely to the judgment of counsel.

Mr. LOCKE. I should like to avoid the implications of Mr. Whitney's remarks which might be left with the Court. This is the only document, the only photostatic copy, we have in our possession of which we do not have at least another copy. I have already discussed with counsel on the other side, and have told them that I would, as far as I could, notify them in advance of the documents that we propose to offer the succeeding day.

Mr. WHITNEY. That is splendid. Then will the Government give us a copy of this?

155 Mr. LOCKE. I do not know what facilities we have.

The COURT. You will have to adjust that during the recess.

(Short recess.)

Mr. WHITNEY. Your Honor, we have had an opportunity to examine the document and I am quite contented to have Mr. Locke ask questions along the lines of it, leading questions or anything else he likes, but I have to object to it on the ground of competence as an exhibit.

Mr. WEBSTER. If the Court please, my friend, Mr. Whitney, was so charmed with it that he took it into his

chambers and I have not examined it, but I understand Mr. Locke only proposes to use it to bring out from the witness, if he knows, certain facts concerning the uses of titanium, and on page 6 he calls to the attention of the witness and asks him certain questions concerning the tinting strength and hiding power, and to that extent I have no objection to it.

The COURT. It will be received against National Lead and Titan Company, and excluded as against du Pont Company.

(Plaintiff's Exhibit 3 received in evidence as limited.)

Mr. WEBSTER. This is something that would relate
156 to other matters that would come up, and while I do not state it in connection with this question of the offer, I assume that under the rules it is no longer necessary to ask your Honor to give us an exception whenever you make a ruling that we regard as adverse.

The COURT. Whether that be the rule or not I will give you an exception anyhow to whatever ruling I make, and thus save time.

By Mr. LOCKE:

Q. Will you glance again at the exhibit, and particularly the two tables that appear in the lower lefthand corner of the page marked 6?—A. Yes. I would like to make a correction in what I believe I testified to before. You asked me what was the basic lead sulfate, and I believe I said that was white lead. I should have said it is a pigmentary material. Basic lead carbonate is white lead.

Q. And what is basic lead sulfate?—A. It is a pigment material, sir.

Q. But not white lead?—A. That is right. The basic carbonate is commonly known as white lead.

The COURT. Very well.

Q. On page 6 of two tables you referred to, the table marked 2 and the table marked 3, the table marked 2 deals with tinting strength and hiding power of basic
157 lead sulfate and the other materials that I asked you about. Do you have any knowledge—I don't remember whether you testified that you did or did not—with regard to the tinting strength and hiding power of these various materials?—A. Yes, sir.

Q. Will you look at table 2 and tell me whether or not you think that is a correct representation of their respective qualities; that is the qualities of those various materials?—A. I believe that to be correct with this notation, that the

titanium dioxide is the anatase form.

Q. Anatase as distinguished from what other form?—A. Rutile.

Q. Will you describe the two forms.—A. (Continuing) And I do believe that this figure for the titanium dioxide, even the anatase, is a little low.

Q. Will you keep that in mind. I am going to read that table in a moment so that you can make the correction when you arrived at that particular line?—A. Yes, sir.

Q. Will you describe the difference between anatase and rutile.—A. Titanium dioxide is what the scientists refer to as a polymorphic substance, meaning that it exists in more than one crystalline variety. Anatase is one chrystalline variety of titanium dioxide. Rutile is another.

158 Q. Will you give us their distinguishing forms?—A. I cannot give you their crystallographic constants. They differ in external form of the crystal and internal lattice or structure. They possess different properties, for instance pigment properties.

Q. Anything further?—A. Rutile has a higher index of refraction and higher tinting strength and higher hiding power, potentially if you could develop the optimum properties of each.

Q. Have you finished?—A. Yes, sir.

Q. Now the anatase form, that is being produced commercially at the present time? A. Yes, sir.

Q. Is that true with respect to the rutile form?—A. Some is being produced commercially.

Q. What is the comparison between the amounts produced of each of them?—A. Anatase is being produced in substantially greater amounts than rutile at the present time.

Q. Earlier in the examination you said that the end product was derived from a mineral that you described as rutile.—A. Not the end product.

Q. You said that one of the minerals from which TiO_2 was derived was ilmenite and another was rutile.—A. I do not recall saying that titanium dioxide was derived from rutile.

159 Q. The mineral rutile you already described?—A. Yes, sir.

Q. What is produced from that?—A. It has a use, the only use for it that I know of, in coatings for electrodes in arc welding.

Q. There is a difference between the rutile mineral and the rutile pigment, is that not so?—A. Very much.

Q. The rutile pigment is an end product?—A. Yes, sir.

Q. And the rutile mineral, that is a mineral that is found on the surface of the earth before it has been processed, is that right?—A. It is found on the surface of the earth.

Q. And before it has been processed for any commercial use?—A. I do not know of any processes that depend upon rutile.

Q. Now will you refer to the exhibit and read table 2——

The COURT. That would be an unusual procedure, but we now having accepted table 2 with a correction I will receive that table in evidence against du Pont if you offer it.

Mr. LOCKE. That is what I want to accomplish.

The COURT. All right. Table 2 of Exhibit 3 is now received in evidence against du Pont.

160 (Table 2 of Plaintiff's Exhibit 3 considered marked.)

Q. Will you look at table 3 and read the heading to that table.—A. The heading reads "Hiding Power Cost to Cover 1000 Square Feet Over a Black Surface."

Q. Now you have studied that table?—A. I see what it says.

Q. And if the question were asked you would you say that the representations made in that chart are true?

Mr. WEBSTER. I object to the form of the question.

The COURT. The objection is sustained. Ask him the question. If you put it hypothetically as to what he would answer if you asked him it is objectionable.

Q. If you look at table 3, are the representations made in that table true to the best of your knowledge?—A. To the best of my knowledge.

Mr. LOCKE. I offer that as against du Pont.

Mr. WHITNEY. I object to that as against du Pont. This article from National Lead in a magazine four years ago could not possibly have any evidentiary bearing on the cost of production by the du Pont Company.

The COURT. That is quite true, but the witness's present testimony can have.

161 Mr. WHITNEY. But at most only against National Lead. Maybe our costs are utterly different. They may be higher or they may be lower.

Mr. LOCKE. I should like to explain this: I am not offering it to establish the cost of any product produced either by du Pont or National Lead. I am offering it merely to establish the comparative costs.

The COURT. Let me find out one thing: Does the table

indicate costs in the sense of cost of manufacture or market price?

The WITNESS. It is a table which purports to show how much a user would pay in terms of hiding power to cover a black surface.

The COURT. And that would depend, of course, and would have to be translated out of the market price of the product?

The WITNESS. Yes.

The COURT. And not on the cost of manufacture?

The WITNESS. Yes.

The COURT. I will receive it against du Pont.

Mr. WEBSTER. May I state my objection; that the witness is not qualified to deal with questions of cost. He is not here as an economist. He is not concerned in his professional capacity with matters of cost or relative cost.

The COURT. That may be true, but he is an officer of the company that sells this product, and if he says he knows it, I will take his word.

Mr. WEBSTER. He is not an officer of the company that sells the product. He is an employee of the patent department.

The COURT. He is also secretary of the Titan Company.

Mr. WHITNEY. Let him describe what he did. He says he kept the minutebook.

Mr. WEBSTER. The Titan Company, Inc., of which he said he had been secretary since sometime last summer is a company concerned with very different matters from the manufacture and sale of titanium pigments. The company that manufactures and sells titanium pigments is the National Lead Company, the Titanium Division of the National Lead Company.

The COURT. Will you establish his opportunity and capacity to testify with respect to the field in which you are now inquiring?

Mr. LOCKE. I will withdraw the question to save a lot or argument, if the Court please. It is not that important.

The COURT. All right.

(Paper marked Plaintiff's Exhibit 5 for identification.)

163 Mr. WHITNEY. You admitted table 3 against du Pont?

The COURT. Table 2.

Mr. WHITNEY. And evidently the clerk has marked that 4, but I suppose that will be all right.

The COURT. If you want a separate number for the table all right.

Mr. WHITNEY. We might as well have it, because that is a small part of the article.

The COURT. All right. We will call table 2 Exhibit 4.

(Table 2 of Plaintiff's Exhibit 3 marked Plaintiff's Exhibit 4.)

164 Q. Mr. Kaegebehn, you stated that titanium dioxide pigment as well as these other materials that were found in table 2, are used in the manufacture of paint. Is that correct?—A. May I see that again?

Q. (Hands to witness)—A. Yes, sir.

Q. Titanium dioxide pigment has other uses, has it not?—A. Has what?

Q. Than the limited use in the manufacture of paint?—A. Yes, sir.

Q. Will you name some of the other products in which it is used?—A. Well, in each of the uses it is functioning as a pigmentary material generally. As such it is incorporated in a number of other compositions: paper, to impart whiteness and opacity; and rubber; in white shoe dressings; inks.

Q. It is sometimes used in leather?—A. As far as I know, to a very limited extent.

Q. Is it used in cosmetics, in the manufacture of cosmetics?—A. I have heard of it being used in that connection.

Q. Is it used in the manufacture of rayons?—A. Yes.

Q. Can you think of any other uses that it has?—A. Well, I mentioned that one of incorporation in cuttings of welding rods where it does not exactly function as a pigment material, but as a sort of arc building material,

165 as they call it.

Q. I will ask you to look at two photostatic copies bound together, marked Plaintiff's Exhibit 5 for identification. Have you ever seen that photostatic copy or the original of which that is a copy, before?—A. I have.

Q. There is a legend at the bottom of the page to the effect "Prepared by C. F. Kaegebehn, Manager Patent Department, National Lead Co., June 1st, 1942." Did you prepare these two documents?—A. Yes, sir.

Q. What was the source of the information that is reflected in these two documents?—A. Various documents in my files, in the files of the company; and my own knowledge acquired in the conduct of my work.

Q. As to National Lead Company, one of the defendants here, do you know where it is incorporated?—A. In the State of New Jersey.

Q. Where is its principal place of business?—

The COURT. Aren't those elements admitted in the answer?

Mr. WEBSTER. They are, your Honor.

The COURT. If you want to call it to my attention I will take it, but you do not have to prove it.

Mr. LOCKE. The admissions in the answer are in some instances rather specious.

Mr. WEBSTER. This could hardly be said to be
166 specious, which is a characterization I don't care for. This is admitted, the facts that my friend is now referring to, by a failure on our part to make a denial, which is rather a conventional and not a specious form of pleading.

The COURT. If you want to call it to my attention I will take it, but you don't have to prove things that are admitted in the answer.

Mr. LOCKE. Very well, your Honor.

The COURT. I haven't a set of marked pleadings, consequenty I can't do it for you.

Mr. LOCKE. I would like to call the Court's attention then to the fact that, as far as paragraph 2, dealing with the National Lead Company——

The COURT. Just give me the fact which you understand is admitted.

Mr. LOCKE. I understand that National Lead Company admits all of the allegations in paragraph 2 from the fact that they do not make any mention of it in their answer.

The COURT. Yes. But disregard that statement and just tell me the fact which is admitted. You say it is admitted that the defendant National Lead is incorporated in such-and-such a State or that it has its principal place in
167 such-and-such a place; anything of that kind, and just state the facts. I don't want to have to go to the pleading to see what it is you are referring to.

Mr. LOCKE. It is admitted by both parties that National Lead Company is a corporation organized under the laws of the State of New Jersey, with its principal place of business at 111 Broadway; that it is one of the largest manufacturers of pigments in the United States; it is also the largest manufacturer of compounds in the world.

Mr. WEBSTER. Titanium compounds.

Mr. LOCKE. Titanium compounds. Manufacturing at least 50 per cent of such compounds produced in the United States. That much has been admitted by both defendants.

National Lead Company and Titan admits that the assets of National Lead Company are in excess of a hundred million dollars.

With respect to Titan Company, Inc., it is admitted by both parties that it is a corporation organized——

The COURT. By both parties, you mean——

Mr. LOCKE. All three parties, I should say, if the Court please.

Organized under the laws of the State of Delaware its principal place of business at 111 Broadway.

168 Defendant National Lead admits, and so Titan Company admits, that 100 per cent of the stock of Titan Company is owned by defendant National.

Mr. WEBSTER. That is the Titan Company, Inc.

The COURT. Yes. You had better distinguish them.

Mr. WEBSTER. I think we have to keep them distinguished.

The COURT. Your abbreviation is Tinc.

Mr. LOCKE. Right.

Mr. WEBSTER. Titan, Inc.

Mr. LOCKE. It is admitted by all three parties that Titan, Inc. now owns and for some time during the period covered by the conspiracy alleged has owned large numbers of patents and licenses.

Mr. WEBSTER. Well, I am not going to quarrel with my friend about the exact form of what he says—well, go ahead. I will try not to find fault with little things.

The COURT. All right.

Mr. LOCKE. With the right to grant sub-licenses, all relating to the manufacture and use of titanium compounds.

Mr. WHITNEY. We don't know anything about the sub-licenses. Mr. Locke is correct in the main. There

169 is no admission in our answer about sub-licenses. We are without knowledge or information on the subject.

Mr. LOCKE. I did not mean to read sub-licenses but to read "licenses" only.

Mr. WHITNEY. We all thought you said "sub-licenses." we now apologize to you.

Mr. LOCKE. Defendant National admits that Titan, Inc., had the right to grant sub-licenses.

Defendant National admits that Titan, Inc., also owns the following percentages of the voting stock of the following named foreign companies:

As to BTP, 44 per cent.

As to TG, 50 per cent.

As to SIC, 57 per cent——

Mr. WEBSTER. SIT.

The COURT. SIT? I have no such abbreviation in my list.

Mr. WEBSTER. The French Company that is. It is all in the answer. That is Societe Industrielle, your Honor.

The COURT. Oh, well, it is listed here as SIC. Do you want me to change that to SIT?

Mr. LOCKE. If you will, please. (Continuing) 57.638 per cent. As to Titan, A/S—was that a hundred per cent?

170 Mr. WEBSTER. I don't at the moment see it in the answer, but the fact is that National Lead owns 87 per cent of Titan A/S, and having read the report of yesterday, the reporter has very naturally made a mistake about the designation for that. When we refer to Titan A/S we refer to Titan A diagonal S. And that is the Norwegian company, of which we own 87 per cent. That is admitted in paragraph 4.

Mr. LOCKE. As to TK, 18½ per cent.

Defendant National admits that since its formation in 1929 Titan, Inc. and all of its policies and activities have been controlled by defendant National and a majority of Titan, Inc.'s officers and directors are and at all times have been officers——

Mr. WEBSTER. Excuse me. From what paragraph are you reading?

Mr. LOCKE. Paragraph 3 of the complaint. That is your paragraph 1, I think.

As to E. I. du Pont, that is DP, all defendants admit that Du Pont is a corporation organized and existing under the laws of the State of Delaware.

Mr. WHITNEY. Are you going through this whole complaint now and reading into the record all we admitted in our answer? Because we have all filed printed documents and you could mark the pleadings. I am only

171 thinking of the interest of time.

The COURT. There are some facts which, by having counsel call it to the Court's attention, might facilitate matters; otherwise the usual practice is to submit a set of marked pleadings.

Mr. WHITNEY. It will take all day to do this.

The COURT. Is it much more?

Mr. LOCKE. It has to do with all the defendants, your Honor.

Mr. WHITNEY. Paragraph 3. And there are about 77 paragraphs.

Mr. LOCKE. My only purpose was to give the Court a picture of the background.

The COURT. Well, I would suggest that you limit yourself to some outstanding fact which you believe I should keep in mind as the case proceeds, and for the rest you rely upon the marked pleadings.

Mr. LOCKE. Well, we will call those to your Honor's attention——

The COURT. You call it to my attention in a brief or in any other manner. But in view of what Mr. Whitney says denial of knowledge and information, where a fact is admitted by National Lead and there is no other proof on the subject, I will consider that as evidence which if relevant would be against du Pont as well. Do you
172 follow me?

Mr. WHITNEY. I don't understand.

The COURT. Suppose there was one item wherein you said that your answer denies knowledge or information. That may be a fact which was admitted by National. The admission by National I will regard as evidence in the case, and if there be nothing else in the case why I will take that for all parties if relevant to all parties.

Mr. WHITNEY. Would your Honor permit me to request your Honor to reserve ruling on evidence until I can be heard on it? And in that particular case I will submit, and I think your Honor will want to see, the decisions of the Supreme Court of the United States which are unanimous to the effect that the only admissions by one party that are admissible against the other are admissions in furtherance of the object of the conspiracy if the conspiracy has been established.

The COURT. Mr. Whitney, I am not addressing myself to that rule of evidence at all. I am aware of the rule that you are now adverting to. But I am calling your attention to a thought that is running through my mind so that if I am in error you can correct me.

Supposing it appears that there is an allegation in the complaint that National Lead is incorporated in the
173 State of Delaware. National Lead admits that. You deny knowledge or information. At the close of the trial nothing further appears in the record on that question. I say to you that on the strength of that admission by National Lead, I would feel justified in making a find-

ing that National Lead was incorporated in the State of Delaware, and such a finding if relevant as against du Pont, I would make as against du Pont as well, although there was no affirmative proof of that fact other than the fact of admission by the defendant National Lead. That has nothing to do with the law of conspiracy. Am I in error about that?

Mr. WHITNEY. Your Honor, with great respect to you, you are. A finding has to be made upon evidence. Your Honor cannot make a finding except upon valid evidence. And the rule to which I have referred is a rule of evidence which your Honor——.

The COURT. Let me put it to you this way. Suppose Mr. Locke calls the president of National Lead to the stand and he asks him, "Where are you incorporated?" and he says "Delaware." That is an admission and it is also evidence. Now I would certainly be justified if nothing further appeared in the record, that National Lead was incorporated in Delaware; and make that finding as against du Pont if relevant against du Pont.

Mr. WHITNEY. To that I agree, because I would
174 then have my opportunity either to object to the question when asked or to call to your Honor's attention that that line of testimony was not binding on du Pont. Alternatively, I would have the opportunity to cross-examine and to bring out that it was a false statement or to submit my evidence to that effect. But I have no opportunity to cross-examine the pleading submitted by National Lead. And, with great respect to your Honor, the only findings that you can make against one defendant where there is no evidence on the subject are the findings based upon the answer and admission of that defendant. You can't make a finding based upon an admission by National Lead where no further evidence has been submitted against du Pont. Otherwise these rules would be meaningless.

Mr. WEBSTER. I venture to suggest that your Honor has set up a straw man and that Mr. Whitney has knocked it down. I think that all of the critical issues of fact as well as the law in the case will appear in the form of testimony or evidence in the usual form, and the question of the admission by one defendant in his answer of a statement with reference to the other two will not become so critical.

The COURT. That may well be. I was wondering whether, in view of what Mr. Whitney says, and in view

of the fact that there are some eighty or ninety
175 paragraphs in this complaint, if Mr. Locke was then going to proceed to prove a lot of purely mechanical propositions such as the place of incorporation, whether we couldn't avoid that necessity. Apparently I may be in error. It may be, it is true, that Mr. Whitney would be entitled to cross-examine with respect to that, in which case I can't make such a finding as he speaks of.

Very well, we will withdraw any such intimation and rule on the situations as they arise.

Mr. LOCKE. Then, your Honor, I am going to have to take paragraph by paragraph to get what proof I think is necessary where there isn't an admission by both parties.

The COURT. Well, you will have to consider that.

Mr. WHITNEY. Your Honor, that is a suggestion that it would be advisable in the course of the conduct of the trial for Mr. Locke at this stage to again make an opening to your Honor, supplementing Mr. Dixon's, in this case opening the pleadings by describing to your Honor in detail what the issues are as shown by reading off to your Honor what each party admits or denies. That is what he is suggesting. My r ing was only as a matter of convenience, to ask whether it was necessary that that be done. It is not evidence; we are not taking
176 evidence now, we are having a little reopening.

Mr. LOCKE. No. We are taking evidence, if the Court please, as to what we think is in support of material allegations that have neither been admitted nor denied.

Mr. WHITNEY. Well, let us go on to take evidence.

The COURT. Very well.

Mr. WHITNEY. You can't do it by reading pleadings.

The COURT. If there be some allegation in the complaint which you deem admitted, which you think is of sufficient significance so that I ought to have it in mind as the case proceeds, call it to my attention. Otherwise I will examine the pleadings or you can give me a set of marked pleadings, or you can refer to the admissions in your argument or your brief, in any way at all.

Mr. WEBSTER. I think your Honor's suggestion about marked pleadings is the practical one.

The COURT. That is the usual course.

Mr. WEBSTER. If copies were served on us we could make suggestions for corrections and I think it would be quite clear and we would not take two or three days reading the complaint and answer.

The COURT. All right.

Mr. LOCKE. May I suggest, then, if your Honor please, for the purpose of expediting this, that I reserve
177 the right to come back to any problems of proof in support of any of these allegations that have to do with the corporate organization and the intercompany interests?

The COURT. Certainly.

Mr. LOCKE. With that reservation we surrender the witness.

The COURT. All right, Mr. Webster. Are you going to proceed in that order usually, Mr. Webster and Mr. Whitney?

Mr. WHITNEY. Yes, sir.

The COURT. Very well.

Mr. WEBSTER. We have no questions to ask Mr. Kaegebehn at this time.

Mr. WHITNEY. No questions.

The COURT. You are excused.

Offers in evidence

Mr. LOCKE. Now, if the Court please, the Court will remember that in the stipulation I read this morning some reference was made to the service of a subpoena on the various parties, and pursuant to our understanding with counsel for the other side we have advised the parties of the documents that we want them to produce at this time under that subpoena.

I should like to ask National Lead to produce
178 the document called for in paragraph 3 of the subpoena served on National Lead.

Mr. REA. I hand you, Mr. Locke, material prepared from the records of National Lead Company in response to item No. 3 of the National Lead subpoena.

(Plaintiff's Exhibit 6 marked for identification.)

Mr. LOCKE. This document, if the Court please, marked Plaintiff's Exhibit 6 for identification, consists of three pages, and it purports to be a schedule showing the extent of stock holdings and other financial interest of National Lead Company in any of the companies named in paragraph 1 of the subpoena. I won't bother to read them now but they constitute all of the co-conspirators—not all of them, but all of these mentioned in paragraph 1.

Mr. WHITNEY. He hasn't a copy for me and it is four pages of statistics. I just can't read it. It will take me

until two o'clock to read it, and, if your Honor please, it would take me a week to check it. I don't know whether we can check it.

The COURT. It is not necessary to check it in order to object to its admissibility.

Mr. WHITNEY. Thank you, your Honor.

Mr. LOCKE. I now offer this document in evidence and ask that it be admitted, if your Honor please.

179 The COURT. Is there objection?

Mr. WHITNEY. Yes, your Honor, I object to it as to du Pont.

The COURT. On what ground?

Mr. WHITNEY. Incompetent, irrelevant and immaterial. Incompetent because it is a paper prepared by National Lead, giving their own stockholdings, and we have no knowledge about that. Relevance and materiality, because the stockholdings of National Lead and its various subsidiaries could only be of interest if we and they were in a so-called conspiracy, and that is not being connected. And third and last, because the declarations by National Lead, of which I take it this would be one, are only binding against us if they are made in furtherance of the conspiracy, and giving evidence to the Government is not in furtherance of the conspiracy.

The COURT. Any objection by Mr. Webster?

Mr. WEBSTER. I have an objection, your Honor. Of course this was prepared by us, and carefully prepared, and so I make no objection on any ground except materiality. I do not think it is going to prove to be material here whether we owned shares in Associated Lead Manufacturers, Ltd., Imperial Smelting Corporation, Ltd., Goodlass Wall and Lead Industries, and various other companies named in here, including the American

180 Zirconium Company, in which at one time we did own a few shares of stock. I assume that the case relates to a combination and conspiracy, an alleged combination and conspiracy to restrain or monopolize trade, and I do not believe these facts will ever become material to prove any such conspiracy. That is the ground of my objection.

The COURT. Objection overruled as to National Lead. Sustained as to du Pont.

(Plaintiff's Exhibit 6 for identification received in evidence as limited.)

The COURT. And when I say National Lead, let the record indicate that I always include Titan.

Mr. LOCKE. Now, if your Honor please, National Lead has asked us to indicate on the face of the exhibit the particular paragraph number of the subpoena under which this is produced. I haven't had these documents until now and we will mark them after they have been introduced in evidence, if the Court has no objection.

Mr. WEBSTER. I am sorry, we can't hear Mr. Locke.

The COURT. I am not interested in that. I am not in any way interested under what paragraph——

Mr. LOCKE. I just did not want to change the face of the exhibit after it had been introduced. (To counsel:) You asked that we mark each exhibit with the paragraph, the subpoena paragraph number, did you not?

181 The COURT. I am not interested in that.

Mr. LOCKE. I now ask National Lead to produce a schedule giving the names and positions of offices held by the persons so named, of the officers, directors and members of any executive or other official department of the company or associations named in paragraph one of the subpoena.

Mr. REA. What number is this?

Mr. LOCKE. Number 6.

Mr. REA. I now hand you, Mr. Locke, material prepared from the records of National Lead Company and from Titan Company, Inc., in response to items 6 of both subpoenas, so that this material will be in response to item 6 of the National Lead subpoena and in response to item number 6 of the Titan Company, Inc. subpoena.

(Plaintiff's Exhibits 7 to 20 inclusive marked for identification.)

Mr. LOCKE. I offer these documents in evidence, if the Court please, numbered for identification from 7 to 20 inclusive.

The COURT. Any objection, Mr. Webster?

Mr. WEBSTER. May we form those in some way so that——

The COURT. You will have an opportunity.

Mr. WEBSTER. He is now offering everything that

182 has been produced pursuant to item 6 of the subpoena?

Mr. LOCKE. That is right.

Mr. WEBSTER. Well, I hate to seem captious.

The COURT. State your objection.

Mr. WEBSTER. This contains a good deal of information, the materiality of which is not certainly apparent—

things about the United Lead Company which was not mentioned in the opening and does not seem to have any connection with the case; things about Societa Industrielle, which is a French Company, and not present here, and so forth.

The COURT. Does it give the officers of these various companies?

Mr. WEBSTER. It gives the officers and directors. I suppose in the interest of avoiding loss of time I won't make any very firm objection.

The COURT. Mr. Whitney.

Mr. WHITNEY. If your Honor please, during these few moments I had an opportunity to look through Exhibit 6, and I have now looked through 7 to 20, and may I just say to your Honor that on authenticity, the fact that they are produced from National Lead files, will satisfy us. On relevance and materiality, after going through them, it has occurred to me that perhaps they are relevant and material because when your Honor comes to sum up
183 in your own mind as to whether there is a conspiracy between us and National Lead, it doubtless would be material and relevant to that question for you to know who the respective officers and directors were and what the respective stock holdings were, to see what, if any, intermingling there is. I believe there is none; trivial. And therefore it does occur that they are relevant and material. So, with your Honor's permission I will withdraw the objection to 6 and I will consent to 7 through 20.

The COURT. 6 is admitted as against all defendants, and 7 to 20 are admitted as against all defendants. I had excluded it before on the ground of competence. I hadn't given any consideration to the question of relevance and materiality, it not having been necessary for me to reach that question.

Mr. WHITNEY. As I thought it over, I did not want to be in the position of arguing to your Honor what I do not believe. And I think I was wrong, on seeing the papers.

The COURT. Very well.

(Plaintiff's Exhibit 6 now received as to all defendants; Plaintiff's Exhibits 7 to 20 for identification received in evidence.)

Mr. LOCKE. I now ask National Lead Company to
184 produce lists indicating the various offices of employment held in any of the companies or associa-

tions named in paragraph one of the subpoena by any director or official of National Lead Company, from January 1st to the present date. That is under paragraph 7 of the subpoena.

Mr. REA. I now hand you, Mr. Locke, material compiled from the files of National Lead Company and records from the National Lead Company, in response to item number 7 of the National Lead subpoena.

(Marked Plaintiff's Exhibit 21 for identification.)

Mr. LOCKE. Now I shall offer the document which has been marked Plaintiff's Exhibit 21 for identification in evidence.

The COURT. No objection. It will be received.

(Plaintiff's Exhibit 21 for identification received in evidence.)

Mr. LOCKE. I now ask National Lead to produce a schedule showing the official title and the office held, connection or employment, by the National Lead or by any of the companies named in paragraph one, of certain persons whose names are listed in the subpoena. That is requested under paragraph 8 of the subpoena.

Mr. REA. I hand you Mr. Locke, material prepared in response to item No. 8 of the National Lead subpoena from the records of the National Lead Company.

(Marked Plaintiff's Exhibit 22 for identification.)

185 Mr. LOCKE. Now, if the Court please, it appears from the face of this document that this is not in compliance with the request that we made in paragraph 8. The subpoena reads: "A schedule prepared from the original records showing the official title, office held, if any, connection or employment." The schedule that we have been given carries the names of various persons who are identified only by the word "Retired." It was our construction of the language of that particular paragraph that it would give us information with respect to the employment at any time from 1920 up to the present time of the various individuals mentioned, and I should like to have the document corrected accordingly.

Mr. REA. Your Honor, if you look at the subpoena—I do not know whether you have a copy——

The COURT. I have heard it. It is capable of both constructions. "Office held" may mean presently or historically.

Mr. REA. It said nothing whatever about 1920 to date, and each paragraph prior to that specifically says "1920". We interpreted that paragraph to mean currently.

The COURT. All right. What you want to do is have counsel prepare a new schedule along the lines indicated.

186 Mr. LOCKE. Yes, your Honor.

The COURT. The request has been made. How much time would you need to do that?

Mr. REA. It is a pretty long job.

The COURT. Did he give you a list of names?

Mr. LOCKE. Yes. He gave a list of names.

The COURT. What period do you want covered?

Mr. LOCKE. 1920 to the present time.

Mr. REA. That is a huge job.

Mr. WEBSTER. A terrible job.

The COURT. Well, take a week?

Mr. WEBSTER. We will do the best we can. If you do not want it we will take it back.

Mr. LOCKE. It has been identified.

Mr. WEBSTER. He is returning it to us. He does not accept it in compliance with the subpoena.

The COURT. All right.

Mr. LOCKE. I now request the National Lead Company to produce pursuant to the demand in the subpoena either the original record books or schedules made therefrom containing a complete trade price list of TiO_2 and composite pigments or compounds, including trade price lists for TiO_2 and composite pigments or compounds sold in Canada by National Lead Company or any of its controlled subsidiaries from January 1, 1920 to and

187 including the date of the service of this subpoena, together with records showing the manner and method of arriving at said price lists pursuant to paragraph 19 of the subpoena.

Mr. WEBSTER. Now, where we could we have compiled the schedules in the interest of convenience and to speed the trial of the case. In some cases it has not been possible to do that and we have produced original documents. Now in the case of that portion of Mr. Locke's request he calls for price lists for Canada. We have produced a letter from the sales manager of the Canadian Pigment Company to Mr. Coudry, the sales manager of the Titanium Pigment Corporation, attached to which are a number of schedules. These are the only ones we have.

Now with reference to the price lists for the United States there are a great number of them. They are the original documents. They are the only documents in the possession of the National Lead Company, and we produce

the originals and we have no copies. I think with this remark it will probably lead your Honor, or Mr. Locke to suggest to your Honor, that something be done to enable them to take possession of these at least temporarily for the purpose of examination, and anticipating that request I suggest that it be impounded here in the court-
188 room in the exhibit file, and that Mr. Locke indicate to us what portions of it he would like to make copies of, and that he and Mr. Henrick, who is assistant secretary of the Lead Company and also a member of the bar of this Court, together examine these impounded documents, all of which is tentatively helpful.

Mr. WHITNEY. Except to us.

Mr. LOCKE. We accept the suggestion, if the Court please, and we defer consideration of that until we get back to considering the other documents.

The COURT. Is it produced meanwhile?

Mr. WEBSTER. It is here and it is produced in court. It is here in our possession.

Mr. LOCKE. May I have it identified?

The COURT. You may have it marked for identification, yes.

(Marked Plaintiff's Exhibits 23 and 24 for identification.)

Mr. WHITNEY. I would like to ask Mr. Webster again on the record whether we are going to be given access to this or not?

The COURT. It has not been offered in evidence as yet. Are you going to offer it?

Mr. LOCKE. Yes.

The COURT. As soon as it is offered in evidence Mr. Whitney will have an opportunity to look at it.

189 Mr. WHITNEY. By that time I will have to go off and study it a bit.

The COURT. Has Exhibit 23 for identification been offered?

Mr. LOCKE. No. 23 and 24 have not been offered in evidence.

The COURT. Are you going to offer them?

Mr. LOCKE. Yes, if the Court please.

The COURT. All right. Show them to your adversary.

Mr. LOCKE. I am not going to offer them at this time.

Mr. WEBSTER. He is giving them back to us and we are glad to have them.

Mr. LOCKE. I now ask National Lead Company to produce copies of all sales contract forms used by National

Lead or any of its controlled subsidiaries covering the sales of all grades of titanium products manufactured by National Lead or any of its controlled subsidiaries from the date of January 1, 1920, to and including the date of the service of this subpoena. That is under paragraph 20.

Mr. REA. I hand you the sales contract forms pursuant to paragraph 20 of the subpoena.

(Marked Plaintiff's Exhibit 25 for identification.)

190 Mr. LOCKE. I offer this document, Plaintiff's Exhibit 25 for identification, in evidence.

Mr. WHITNEY. If your Honor please, I object to this on the ground of relevance. There is no charge in the complaint of any agreement about sales forms. That is a well known form of problem under the antitrust laws and was in the Paramount, First National, and other cases, and there is no charge in the complaint on any such issue.

Mr. LOCKE. There is a charge in the complaint, if the Court please, that the parties attempted to control exports; control the disposition of the goods sold to their customers. We want to know whether or not there was any such provision in any of their contracts of sales and the only way we have to prove that is to use the forms.

The COURT. Are these export sales forms?

Mr. REA. They are sales forms. I don't know how we use them. We will discover that or you will discover that when you examine them.

Mr. WHITNEY. There is no charge that the defendants agreed among themselves on the terms of export sales. There is a charge that they divided territories, but as to the terms upon which they would make their sales

191 there is no charge that they are not competitive. It is not part of the conspiracy charged. It is vitally important to us to have the case operate within the issues we have to meet.

Paragraph 39 where the conspiracy is described, and paragraph 77 where the effects of it are described, say nothing about agreement as to forms of contracts or terms of sales; nothing of that kind appears within either of those paragraphs. I have always found in these antitrust cases that the most useful thing to do in submitting them to the Court is to seek to confine the evidence within the conspiracy that is charged so that we know what we are talking about.

The COURT. Mr. Webster, have you any objection?

Mr. WEBSTER. I have no objection.

The COURT. Mr. Locke, what have you to say as to Mr. Whitney's objection?

Mr. LOCKE. If the Court please, we charge one of the means to accomplish one of the ends set out in the complaint, and one of the elements of the conspiracy, was the attempt to restrict both the import and export of the product.

The COURT. For resale?

Mr. LOCKE. For resale.

Mr. WHITNEY. Could I ask where the paragraph is, because I am not conscious of anything of the sort.

192 Mr. LOCKE. Paragraph 40 of the complaint, if the Court please, alleges the execution of what we described in our statement as the 1920 contract. And a charge in the complaint that Mr. Dixon points out, paragraph 39(c), is that defendants National and du Pont and customers purchasing from them were not to export titanium compounds from the United States except to South and Central America.

The COURT. There being no objection to competence the objection is overruled.

Mr. WHITNEY. May I see that last paragraph? What he read is precisely what I said to your Honor in my earlier suggestion; that it was charged that there had been an agreement not to export. That is paragraph 39(c) at the bottom of page 13 to which he refers, and that is what I said before. There is no charge——

The COURT. The allegation is that du Pont, National and their respective customers who purchased from them, —and he wants to prove, presumably, that these contracts will show such restriction on their face or that they do not, but in any event the documents become relevant on that issue. Maybe it won't throw much light on it, but it becomes relevant.

Mr. WHITNEY. Thank you, your Honor. That is a help to me. I had not observed that point.

193 The COURT. Exhibit 25 for identification is received in evidence against all defendants.

(Plaintiff's Exhibit 25 for identification received in evidence.)

Mr. LOCKE. I now ask for the National Lead Company, if the Court please, to produce either the original or schedules made therefrom, containing the names and addresses of the ten largest customers of National Lead Company, or any of its controlled subsidiaries purchasing TiO_2 and composite pigments in the United States, from January 1, 1930, to and including the date of service of this subpoena, giving the annual amount in tons of such

titanium products delivered to the customers so named.

Mr. Rea. I now hand you, Mr. Locke, in response to request No. 21 of the National Lead subpoena a list of the ten largest customers from January 1, 1930, to October 31, 1944, broken down in terms of tons, taken from the records of the National Lead Company.

(Marked Plaintiff's Exhibit 26 for identification.)

Mr. Locke. We will not offer that at this time, if the Court please.

Mr. Webster. May we have it back, please?

Mr. Dixon. We would like to keep it for a while.

193A Mr. Locke. We want to examine it. If we do not introduce it we will give it back to you.

The Court. If you insist I will direct its return, but if you do not I think it might be convenient to let them look at it.

Mr. Webster. I am quite content to have them look at it, of course.

The Court. We have reached a point where it might be well to stop. We will resume at 2.15.

(Recess to 2.15 p.m.)

194 *Afternoon Session*

Mr. Locke. If the Court please, with the hope of expediting the progress of this trial I have thought we would change our plan of developing the case, subject to the Court's approval, by calling for these various documents, having them identified, and then at the end of the day submit them to counsel for their study before we offer them in evidence. We will probably make a little better progress that way.

The Court. It is possible. If you want to do that I certainly have no objection. Is there any objection?

Mr. Webster. I have no objection to their doing it any way they please. It takes a certain amount of time anyway with reference to these matters.

Mr. Locke. My only purpose in doing it that way was I thought we might expedite it. If not I am content to go along as we are.

The Court. Suppose you go along as you were and reflect upon it. I will not direct counsel how to try the case. Your adversaries are going to have the same privilege, of conducting their side of the case any way they please providing they are within the rules. I have

195 discovered that there is more than one way of salvation and more than one way of trying a case.

Mr. LOCKE. I now ask counsel for National Lead Company to produce originals or copies of all memoranda relating to sales meetings and conferences held between any of the officials or employees of the companies named in paragraph 1 of the subpoena, including E. I. du Pont, Commercial Pigments, Krebs Pigment & Color Company, from January 1, 1920 to and including the date of the service of the subpoena, where said meetings or conferences related in any way to the titanium business of National Lead Company or any of its controlled subsidiaries.

The COURT. What paragraph is that?

Mr. LOCKE. That is paragraph 23.

Mr. REA. In response to that paragraph, we have no such records.

Mr. LOCKE. I now ask National Lead Company to produce any and all books, records or schedules made therefrom in the possession or under the control of National Lead Company showing annual production and sales of Titan Company, Inc. and Titan A/S of TiO_2 and composite titanium pigments or compounds from January 1, 1920 to and including the date of the service of this subpoena, pursuant to paragraph 22 of the subpoena.

Mr. REA. I hand you, Mr. Locke, material in
196 answer to paragraph 22 of the National Lead subpoena, and this same material is produced in answer to paragraphs 12, 18, 19 and 21 of the Titan Company, Inc. subpoena. This material consists of original records of the National Lead Company. It is the only set of records we have. They are Dr. Jebsen's reports. We need these reports ourselves to work on our own case and I suggest that we do the same thing with these reports that we did with the price lists.

Mr. LOCKE. I will ask that they be marked for identification.

Mr. WEBSTER. If Mr. Locke is through his present examination of these I would like to renew the suggestions I made this morning that the best way to handle original papers of this sort would be to have them impounded and, subject to an arrangement or an order under which a representative of the Government and a representative of the National Lead Company and, if they desire to be present, a representative of the du Pont Company would look at them and copies could be made of such portions as the government may wish.

Mr. LOCKE. I have no objection to such an arrangement, if the Court please.

The COURT. Very well.

(Marked Plaintiff's Exhibits 27 to 36 inclusive for identification.

197 Mr. LOCKE. For the Court's information these seem to be annual reports of the Titan Company, Inc. from 1930 to 1939, inclusive.

The COURT. Do you offer them in evidence? I have no curiosity about them.

Mr. LOCKE. I think, considering the suggestion of Mr. Webster, that we will not offer them at this time but will wait and select such parts therefrom as I think are appropriate.

The COURT. Very well.

Mr. LOCKE. I now ask National Lead Company to produce the original books or schedules made therefrom showing the annual exports of TiO_2 and titanium composite pigments or compounds by National Lead Company or any of its controlled subsidiaries from the United States from January 1, 1920 to and including the date of the service of this subpoena, together with the country or countries and the name of consignee to whom such exports were sent. That is under paragraph 24 of the subpoena.

Mr. REA. I hand you, Mr. Locke, the original records of the National Lead Company showing all foreign sales with all the information that we have as to what those sales were and where the material was sent. This is given to you in answer to question No. 24 of the National Lead subpoena. Here again these are the original

198 records of the National Lead Company. They are records that are in daily use by the company and I suggest that we handle these in the same way that we handled the just prior item and you will be allowed to take anything you want from those records in your case.

Mr. LOCKE. Mark them with one exhibit number, please.

(Marked Plaintiff's Exhibit 37 for identification.)

Mr. LOCKE. I now ask the National Lead Company to produce the amount of royalties paid by American Zirconium Company from May 6, 1935 to the date of the service of this subpoena to Titanium Pigment Company, Inc. or National Lead Company under the agreement between Titanium Pigment Company and American Zirconium Corporation dated May 6, 1935, pursuant to paragraph 26 of the subpoena.

Mr. REA. Pursuant to paragraph 26 of the subpoena not only are there no records showing any payment from American Zirconium Company to National Lead Com-

pany of royalties, but no royalties were ever paid by the American Zirconium Company to National Lead Company.

The COURT. I don't take that as proof, you understand. I assume that you gentlemen understand that the statement of counsel, if it becomes material, is to be proved one way or the other.

199 Mr. LOCKE. We understand that.

I now ask National Lead Company to produce the originals in possession or control of the National Lead Company, or copies thereof of (1) letter from L. E. Barton to G. W. Thompson dated February 15, 1932, (2) a study of Titanium Pigment Company, Inc.'s patent pertinent to American Zirconium processes made by Kaegebehn dated June 21, 1934 and (3) a letter from E. McCarty to George A. Martin, Sherwin, Williams & Company, dated February 11, 1934, all these pursuant to paragraph 28 of the subpoena.

Mr. REA. I hand you, Mr. Locke, pursuant to paragraph 28 of the National Lead subpoena the first item, a letter from L. E. Barton to G. W. Thompson dated February 15, 1932; second a study of the Titanium Pigment Company, Inc.'s patents pertinent to American Zirconium Company processes made by Mr. Kaegebehn, but I wish to state that this study is dated June 13th and not June 21st. That is the only report we can find of that date or any date near it, so I assume this is the paper you request. And, finally, a letter from E. McCarty to George A. Martin, Sherwin, Williams Company, dated February 11, 1930.

Mr. LOCKE. I now ask National Lead to produce
200 the original records in possession or in control of National Lead Company indicating the title and case number of any lawsuits brought by National Lead Company, any of its controlled subsidiaries or any of its properly authorized licensees mentioned in paragraph 9 or 14 of the subpoena for the alleged infringement of any of the patents or licenses of any patents of National Lead Company named in any schedule prepared pursuant to the request made in paragraph 13 of this subpoena. That under paragraph 17 of the subpoena.

Mr. REA. That is not on the list that you gave me.

Mr. LOCKE. You remember we discussed that one time.

Mr. REA. Even so, it is not on this list. The answer is that there were no such lawsuits.

Mr. LOCKE. I now ask counsel for Titan, Inc. to produce any record book or schedule showing the extent of stock

holdings or any other financial interest of Titan Company, Inc. in any of the companies named in paragraph 1 of the subpoena, together with the original books or schedules prepared therefrom showing the date or dates of the acquisition and, if sold or disposed of, the disposition of such stock of financial interest of Titan Company, Inc. in any of the companies named in paragraph 1 of the
201 subpoena and, if sold or disposed of, the consideration received for such stock or financial interest by Titan Company, Inc.

Mr. REA. This in response to paragraph 3 of the Titan subpoena?

Mr. LOCKE. Yes.

Mr. REA. I hand you, Mr. Locke, material prepared from Titan Company, Inc.'s records in response to question No. 3 of the Titan subpoena.

(Marked Plaintiff's Exhibit 38 for identification.)

Mr. LOCKE. We wish at this time, if the Court please, to offer in evidence Plaintiff's Exhibit 38 for identification.

The COURT. Any objection? No objection. It will be received.

(Plaintiff's Exhibit 38 for identification received in evidence.)

Mr. LOCKE. I now ask Titan Company, Inc. to produce the books, records or schedules prepared therefrom giving the names and positions of officers by the persons so named of the officers, directors and members of any executive or other official committee of the companies or associations named in paragraph 1 from January 1, 1920 or the date of the incorporation or formation of such corpora-
202 tion or association, whichever is later, to and including the date of the subpoena.

Mr. REA. That is in response to question 7?

Mr. LOCKE. No. 6. If I am not mistaken, you made some statement to the effect that it was produced under paragraph 6 of the National Lead subpoena, containing the information called for in paragraph 6 of the Titan Company, Inc. subpoena.

Mr. REA. That is correct. And I believe that those exhibits were marked in evidence 7 to 20.

Mr. LOCKE. I now ask Titan Company, Inc. to produce the originals or lists prepared therefrom indicating the various officers or employment held in any of the companies or associations named in paragraph 1 of this subpoena, including National Lead Company, or any director or official of the Titan Company, Inc. from the date of its

incorporation to the date of service of this subpoena, including the date of the termination, if terminated, of their official connection or employment with any of the said companies named in paragraph 1, including the National Lead Company, under paragraph 7 of the subpoena.

Mr. Rea. I hand you Mr. Locke, a list compiled from the records of Titan Company, Inc., supplying the material requested in answer to question No. 7 of the Titan Company subpoena.

(Marked Plaintiff's Exhibit 39 for identification.)

203 Mr. Locke. We wish to offer Plaintiff's Exhibit 39 for identification in evidence at this time.

The Court. Without objection it will be received.

(Plaintiff's Exhibit 39 for identification received in evidence.)

Mr. Locke. Certain documents were called for from Titan Company, Inc. under paragraphs 12, 18, 19 and 21 of the subpoena, and I understood you to say that those various paragraphs, the demands there, had been complied with under your production under paragraph 22 of the National Lead Company subpoena.

Mr. Rea. That is right.

Mr. Locke. I ask Titan Company, Inc. to produce at this time copies of any and all sales contract forms used by Titan Company, Inc. covering the sale of all grades of titanium products manufactured or sold by Titan Company, Inc. or any of the companies named in paragraph 1 of this subpoena from January 1, 1920 to and including the date of the service of this subpoena.

Mr. Rea. That is called for by paragraph 20?

Mr. Locke. Paragraph 20, that is correct.

Mr. Rea. We have no such sales contract.

204 Mr. Locke. I ask Titan Company, Inc. to produce the original of any and all notes or copies thereof of any and all notes and memoranda relating to sales meetings or conferences held between any of the officials or employees of the Titan Company, Inc. and the companies named in paragraph 1 of this subpoena, from January 1, 1920 to and including the date of service of this subpoena. That is called for under paragraph 22 of the subpoena.

Mr. Rea. In answer to paragraph 22 of the Titan Company subpoena, we have four files of material in our room out here, 1502, and rather than bring those files into the courtroom—they are bulky filing drawers—we will be glad to arrange with the Government to do exactly what we ar-

ranged to do under other paragraphs, and that is we will make them available, you can look at them and take whatever material you wish out of those files, provided it is done when our representative is present.

Mr. LOCKE. That is acceptable, if the Court please.

The COURT. Very well.

Mr. WHITNEY. Could I look at the Titan subpoena, which I have not seen, so that I can know what this colloquy is about?

(Mr. Locke hands to Mr. Whitney.)

Mr. WHITNEY. I just wanted to observe, your
204-A Honor, that du Pont is not in that paragraph 1.

The COURT. I really pay no attention at all to documents marked for identification. As far as I am concerned, you can arrange that with the clerk at lunch. To me it is just a process of hanging tags on papers. When you get to offering them in evidence, then I will look at them.

205 Mr. LOCKE. I now ask Titan Company, Inc. to produce the originals or schedules made therefrom showing annual imports of TiO_2 and titanium composite pigments or compounds by Titan Company, Inc., or any of the companies named in paragraph 1 of the subpoena from January 1, 1920, to and including the date of service of the subpoena, together with the name and address of the consignee to whom such import was sent, pursuant to paragraph 23 of the subpoena.

Mr. REA. I hand you, Mr. Locke, material compiled from the records of Titan Company, Inc. in response to paragraph 23 of the Titan subpoena. I would like to state for the record here that I understand that that paragraph was to be read so that we could put into it importations into the United States. Is that correct?

Mr. LOCKE. Yes. We had that understanding.

(Marked Plaintiff's Exhibit 40 for identification.)

Mr. LOCKE. I now ask Titan Company, Inc. to produce the original records or schedules made therefrom showing the amount of royalties paid by E. I. du Pont for the use of Titan Company patents or patents licensed to E. I. du Pont appearing in items 13, 14, 16, 17 and 18 of paragraph 8 of this subpoena, pursuant to paragraph 26 of the subpoena.

206 Mr. REA. I would like to point out, Mr. Locke, that that was not on the list you gave me either.

Mr. LOCKE. Well, that was an oversight on my part. Will you produce it at the earliest date?

Mr. REA. Certainly. I will have it for you tomorrow morning.

Mr. LOCKE. I now ask the Titan Company, Inc. to produce the original records indicating the title and case number of any lawsuit brought by Titan Company or any of its controlled subsidiaries or any of its properly authorized licensees mentioned in paragraphs 9 or 14 of this subpoena for the alleged infringement of any patents or licenses under any patents to Titan Company, Inc. And this may be in any schedule prepared and made pursuant to the request in paragraph 13 of this subpoena.

Mr. REA. That is not on my list.

Mr. LOCKE. But you and I discussed that and you said you would make certain representations in respect to it

Mr. REA. I am sorry. I was busy when you were maki ng that statement.

Mr. LOCKE. It has to do with suits for patent infringement.

Mr. REA. The answer to that is there were no
207 such suits.

Mr. LOCKE. If the Court please, we served a subpoena on E. I. du Pont as was set out in the stipulation, and I should like now to call for the documents of which I have given notice that we would want from du Pont. I should like first the stock record books or schedules prepared therefrom, showing the extent of stock holdings or any other financial interest of du Pont in any of the companies named in paragraph 1 of the subpoena from January 1, 1928, to the date of the service of the subpoena.

Mr. WHITNEY. We are preparing that. We have not quite finished it. We are checking it.

Mr. LOCKE. I should like du Pont to produce the books or records in the possession or control of du Pont, or schedules prepared therefrom, giving the names and positions of offices held by the persons so named of officers, directors and members of the board of directors or other officials or committees of the companies named in paragraph 1 from January 1, 1928, to the date of the service of this subpoena.

Mr. WHITNEY. As to that, and also 7 and 8, we are in the same position. We are far advanced and we are just checking the list we prepared.

208 Mr. LOCKE. I should like the du Pont to produce the original books or schedules prepared therefrom showing the annual production of TiO_2 and composite titanium pigments and compounds by E. I. du Pont or any of its subsidiaries in the United States engaged in the manu-

facture of TiO_2 and composite titanium pigment from January 1, 1928, to and including the date of the service of the subpoena, pursuant to paragraph 18.

Mr. WHITNEY. Herewith produced. That document also covers 22.

Mr. LOCKE. That is right.

(Marked Plaintiff's Exhibit 41 for identification.)

Mr. LOCKE. I wish to offer this in evidence, if the Court please.

Mr. WEBSTER. No objection.

Mr. LOCKE. Mr. Whitney has requested that the record show the markings on the exhibit in red pencil shall be disregarded.

(Plaintiff's Exhibit 41 for identification received in evidence.)

Mr. LOCKE. I now ask du Pont to produce the original books, or schedules made therefrom, containing a complete price list of TiO_2 and composite pigments or compounds sold by du Pont or any of its controlled subsidiaries
209 from January 1, 1928, to and including the date of the service of this subpoena, together with the original records or books of du Pont showing the manner and method of arriving at said price lists.

Mr. WHITNEY. These are the price lists, Mr. Locke. We do not have records and books showing the manner and method of arriving at them. Here they are. There is no such a record.

(Marked Plaintiff's Exhibit 42 for identification.)

Mr. LOCKE. I wish now, if the Court please, to offer Plaintiff's Exhibit 42 for identification in evidence.

(Plaintiff's Exhibit 42 for identification received in evidence.)

Mr. LOCKE. We request du Pont to furnish a copy of any and all sales contract forms used by du Pont or any of its controlled subsidiaries covering the sale of all grades of titanium products manufactured by du Pont or any of its controlled subsidiaries from January 1, 1928, to and including the date of the service of this subpoena.

Mr. WHITNEY. Produced herewith. Unlike the National Lead set these are photostats of actual contracts, but as they are in the past we are not making any point on that.

(Marked Plaintiff's Exhibit 43 for identification.)

210 Mr. LOCKE. I wish to offer this in evidence, if the Court please.

Mr. WEBSTER. No objection to those. I assume, though, that the data with reference to particular transactions is not offered, but just the form of the contract.

The COURT. I understand it so. They are offered as forms.

Mr. LOCKE. That is correct.

(Plaintiff's Exhibit 43 for identification received in evidence.)

Mr. LOCKE. I ask du Pont to produce the original books, or schedules made therefrom, containing the names and addresses of the ten largest customers of du Pont or any of its controlled subsidiaries purchasing TiO_2 and titanium composite pigments or compounds from January 1, 1932, to and including the date of the service of this subpoena, giving the annual amount in tons of such titanium products delivered to the customer so named.

Mr. WHITNEY. Schedule herewith. In some cases we did not have ten, and in that case they are all there are.

(Marked Plaintiff's Exhibit 44 for identification.)

Mr. LOCKE. I now ask du Pont to produce the original books, or schedules made therefrom showing the
211 annual exports of TiO_2 and titanium composite pigments or compounds by du Pont or any of its controlled subsidiaries from the United States from January 1, 1928, to and including the date of the service of this subpoena, together with the country or countries and the name of the consignee to whom such exports were consigned.

Mr. WHITNEY. Schedule herewith [handing].

(Marked Plaintiff's Exhibit 45 for identification.)

Mr. LOCKE. I now ask du Pont to produce the original records showing the amount of royalties paid by American Zirconium Corporation and Krebs Pigment & Color Corporation or E. I. du Pont from January 1, 1935, to and including the date of the service of this subpoena under the license agreement dated January 1, 1935, between Krebs Pigment & Color Corporation and American Zirconium Corporation. We are making a similar request with respect to royalties paid by Virginia Chemical Corporation and also a similar one with respect to royalties paid by National Lead Company or Titan Company, Inc. That is pursuant to paragraphs 26, 27 and 28 of the subpoena.

Mr. WHITNEY. We have three schedules here. May I suggest three numbers?

(Marked Plaintiff's Exhibits 46, 47 and 48 for identification.)

Mr. LOCKE. I now wish to offer Plaintiff's
212 Exhibits 46, 47 and 48 for identification in evidence.

Mr. WEBSTER. May I have the exhibits before they are marked in evidence so I can state an objection?

The COURT. I assumed you had already seen them.

Mr. WEBSTER. I have, but these are different.

Exhibits 46 and 47, which show royalties paid by American Zirconium and Virginia Chemical respectively to du Pont are objected to as immaterial and incompetent as regards National Lead.

The COURT. Wait a minute now. Incompetent——

Mr. WEBSTER. Well, as immaterial.

The COURT. I wish you would keep distinct objections on the ground of competency and relevancy and on the ground of materiality.

Mr. WEBSTER. I have tried to do that.

The COURT. I gather that competence is almost out of this case by reason of your stipulation, not entirely but almost.

Mr. WEBSTER. Well, it is. This objection is merely on the ground of materiality to these two, Exhibits 46 and 47. Now, Exhibit 48 appears to show payments by Krebs to Titanium Pigment Company, and as to that I make no such objection.

The COURT. Any other objection?

There being none, the objections made are
213 overruled and they will be received in evidence and marked Exhibits 46, 47 and 48.

(Plaintiff's Exhibits 46, 47 and 48 for identification received in evidence.)

Mr. WHITNEY. Your Honor, just so that there will be no misunderstanding, I fear we may have some competence again, particularly the hearsay rule, about some of the miscellaneous correspondence.

The COURT. Oh, of course. I was referring to authenticity and things of that character covered by the stipulation.

Mr. WHITNEY. Yes, sir.

Mr. LOCKE. Now, if the Court please, we have also asked du Pont to produce certain other documents. We have asked them to produce under paragraph 3 of the subpoena a statement indicating when du Pont bought Commercial Solvents' interest, stock interest, in Krebs Pigment Company. We have also asked for a copy of the minutes approving what we describe as the 1937 agreement between du Pont and Titan Company. We have also asked for a copy of the minutes approving what we describe as the 1937 agreement between du Pont and Titan Company, Inc. We have also asked for copies of minutes of either the boards of directors or executive committees of Grasselli and du Pont approving what we describe as the 1933 agree-

ment, and also a statement with respect to lawsuits that have been filed having to do with patent infringements.

214 Mr. WHITNEY. As to the items other than lawsuits, they were requested today and we will supply them. As to lawsuits, there have been none.

Mr. LOCKE. I am going to ask counsel for du Pont to give us some indication as to when we may expect these documents.

Mr. WHITNEY. As soon as we can reasonably prepare them. There was a request made today and we will prepare them as soon as we can.

The COURT. Very well. I will accept that statement, and if you find that an unreasonable period has gone by, you may call it to my attention and we will speak about it then.

Mr. LOCKE. Very well.

Mr. DIXON. Directing our attention now to the National Lead subpoena, we ask it to produce item 1 under paragraph 9, the same being the agreement between the Titanium Pigment Company, Inc. and Titan Company A/S, dated July 30, 1920.

I might state to your Honor that counsel for the Government and defendants have agreed that compliance with the subpoena or the request for the production of that particular item or any of the subsequent items may be met by the introduction or the use of photostatic copies of that document where they are already in the possession

215 of the Government. But we want the record to show that we are calling for the original of the document so that if the other defendant du Pont wishes to examine the original, it may be available for their examination.

Mr. WEBSTER. I think in every case, certainly in every case unless it is called to our attention otherwise, the Government has received from the files of National Lead and has been supplied with photostatic copies, and we would like an opportunity, of course, to make as rapid a comparison as we can with our own copies to be sure there is no confusion. But otherwise I think that is true of all cases.

The COURT. What is the present situation? Do you want the original or do you want simply the record to show that you asked for it?

Mr. DIXON. Well, the only thing we can do is ask for the original, your Honor, unless counsel for the defendant du Pont are willing to agree that the copies which we have——

The COURT. That is not when the problem comes up. It is when you offer it in evidence that the question comes up, and then it can come up on one of many grounds, one of them being that it is a photostat and not the original. If they desire to object on that ground then we have that objection.

216 Mr. WHITNEY. To save time, your Honor, we won't make that objection. If both the Government and the National Lead are satisfied that is a true copy that is all right for us. That is, on that one issue, the best evidence rule.

The COURT. Very well.

Mr. DIXON. I might say, your Honor, we are making available to counsel for defendant du Pont copies of all the agreements and the exhibits which we expect to offer in evidence for their inspection, with the hope that we will be able to keep the exhibits moving as quickly and as fast as possible in the interest of proceeding with the trial.

Mr. WEBSTER. I don't think there could be any delay in this respect. We have here what we think is a full set of the exhibits listed in the subpoena duces tecum and we have examined them, and all that is required is a quick comparison to be sure we have the same paper in mind when it goes into evidence or is offered.

Mr. WHITNEY. I thought he was referring to us. Could we have these copies?

Mr. DIXON. Yes, you may, Mr. Whitney. I told Mr. O'Donnell this morning that we have arranged a file here in the courtroom where you may examine all of the documents which the Government expects to offer in evi-

217 dence, prior to the time that we expect to offer them in evidence.

Mr. WHITNEY. Your Honor, with great respect, that won't suit us at all. There are documents that the Government has had in its possession for years, as evidenced by the writings that have emerged on the subject. We have never seen them. If he gives us a copy we will take it out and most carefully study it, but we certainly can't be satisfied with going to that file cabinet when this courtroom is locked, and studying it. These documents have been described as epoch-making and world-shaking textbooks. Surely he can give us one copy. I am perfectly happy either way. If I don't have a copy I can't make waivers of the laws of evidence.

The COURT. The only directions I can give are those that the F. R. C. P. authorizes. There is no obligation on a

party to supply in advance copies of evidence unless there has been an examination before trial or a bill of particulars or interrogatories or some one of the many deviations that the rules now prescribe to prevent surprise at a trial. If you gentlemen can't work it out amicably amongst yourselves we will be here until next Christmas, I suppose, but we will be here. I have no other place to go.

Mr. WHITNEY. Your Honor, you are dead right
218 if I may say so respectfully. The Court is always right. It is a most extraordinary situation. Here is a case in which they charge the du Pont de Nemours with being engaged in a world-wide cartel, and they say it is based on agreements that have been in existence since 1920.

Now the practical way to dispose of it is to give us copies of the agreements, otherwise we just have to sit here and practice law in a technical and dull way, and it is not going to do anybody any good. I wish this could be put in some of these publications.

Mr. DIXON. May it please the Court, I thought we had expressed our desire to give consideration to counsel for du Pont in giving them an opportunity in advance of the introduction of these documents to examine what we have in the interest of expediting this trial. As your Honor has stated, we have nothing else to do either except to sit here, if necessary, but we do not, however, desire, nor do we care to prolong this trial unduly. We recognize fully that defendants may not be entitled to inspect a document until we offer it in evidence. However, some of these documents, particularly the contracts, may be lengthy, as has been already indicated, and for that reason we have made them available for counsel for du Pont; and
219 the same privilege will be accorded counsel for National Lead with reference to any of du Pont's documents that may not be available.

The COURT. Let me ask you a simple question. Maybe I misconceive the situation. These contracts were alleged in the complaint, were they not?

Mr. DIXON. Correct, your Honor.

The COURT. Isn't there some rule under which parties could have had an opportunity to examine them before trial?

Mr. DIXON. The defendant du Pont could undoubtedly have filed a formal request to examine these documents.

The COURT. Did they ask for a bill of particulars and ask for the originals or the copies of these contracts annexed to them? They are probably not in the answer.

Mr. DIXON. That was not done.

Mr. WHITNEY. No, your Honor.

Will Mr. Dixon, so we could have it orderly, kindly sit down for a moment? This is very important. Then I will say my say. I have been sitting down during his. Then we will go ahead in an orderly way. Mr. Dixon, please do that. I am simply stating this——

The COURT. Will you please give Mr. Dixon a chance to conclude his remarks?

Mr. WHITNEY. Oh, I beg your pardon; certainly.

220 Mr. DIXON. Well, to get back to the subject that I was discussing, we are willing, as I suggested, and agreeable to making these copies available in advance of introduction to counsel for du Pont. Now we made those arrangements with Mr. O'Donnell and we still stand by that arrangement if they care to make use of it. If, however, they do not care to make use of it, why then of course we have no alternative except to proceed in the regular and usual manner—call for the original documents, mark them for identification, submit them to counsel for du Pont and then offer them in evidence under the stipulation as National Lead documents which we are prepared to do.

The COURT. Does the stipulation on the part of du Pont as to photostats extend to National Lead documents.

Mr. DIXON. No, it does not.

The COURT. It applies each one to his own then.

Mr. DIXON. Correct, your Honor.

The COURT. So that practically du Pont could object to a photostat of a contract made by National Lead or to a letter, if there is no proof of signature, and so on and so forth.

221 Mr. DIXON. Well, it was our understanding that there would be no objection made by either defendant to any documents from the other party's files on that ground alone.

The COURT. The stipulation does not cover that.

Mr. DIXON. That is right.

The COURT. The stipulation applies only on the part of each defendant with his own document. Well, it looks like negotiation is in order.

All right now, Mr. Whitney.

Mr. WHITNEY. Now, if your Honor please, the reason I asked Mr. Dixon if he would be so kind as to be seated while I say this is that I think there is perhaps a misunderstanding arising due to counsel's standing up on their feet and dickering with each other.

Mr. DIXON. I assure your Honor that I had no intention of that, if that were the case.

Mr. WHITNEY. Then I was the dickerer.

Now I am asking as a practical common sense matter that we look at it with some sense of proportion. We heard yesterday a very able three-hour opening and we were repeatedly told that the foundation of the whole charge of a gigantic world-wide conspiracy was the only agreement that we are now properly talking about, what was called Agreement A of 1920. And your Honor
222 knows how much attention has been given to it before.

I am simply asking on the record whether the Government does not agree that, with some sense of proportion in this, apart from technicalities, they are prepared to hand us a copy. Alternatively, I am asking whether National Lead or Titan are prepared to hand us a copy.

It just doesn't make any sense at all to come into this court, in equity, in this year, in this great antitrust case, and play these technicalities that Mr. Dixon has been talking about, about the fundamental contract that we have never seen.

The COURT. All right, we will take a short recess now. I will see trial counsel in the robing room.

(Short recess.)

223 Mr. DIXON. May it please the Court, we would like to mark for identification as Plaintiff's Exhibit A contract entered into between the Titanium Pigment Company, Inc., and Titan Company A/S dated July 30, 1920.

(Marked Plaintiff's Exhibit A for identification.)

Mr. DIXON. We would like to mark for identification as Government's Exhibit A-1 contract entered into between National Lead Company and the Titanium Alloy Manufacturing Company and the Titan Company A/S dated July 30, 1920.

Mr. WEBSTER. May we look at that just for purposes of comparison?

The COURT. All he is really doing is marking a piece of paper with a number on it. It has no effect whatever. You will get a chance to look at it.

(Marked Plaintiff's Exhibit A-1 for identification.)

Mr. DIXON. We would like to mark for identification as Plaintiff's Exhibit A-2 contract between the Titanium Alloy Manufacturing Company and Titan Company A/S dated July 30, 1920.

(Marked Plaintiff's Exhibit A–2 for identification.)

Mr. DIXON. We would like to mark for identification as Plaintiff's Exhibit B contract entered into between Titan Company A/S and Societe Industrielle du Titane, dated March 3, 1927.

Mr. WEBSTER. Is that a letter?

224 Mr. DIXON. It is in the form of a contract.

(Marked Plaintiff's Exhibit B for identification.)

Mr. DIXON. We wish to mark for identification as Plaintiff's Exhibit C same being a contract between Titan Company A/S and I. G. Farbenindustrie Aktiengesellschaft dated October 3 and 20, 1927.

(Marked Plaintiff's Exhibit C for identification.)

Mr. DIXON. We wish to mark for identification Plaintiff's Exhibit C–1 same being a contract entitled "Partnership Contract B" between Titan Company A/S and I. G. Farbenindustrie Aktiengesellschaft signed June 24 and October 20, 1927.

(Marked Plaintiff's Exhibit C–1 for identification.)

Mr. DIXON. We wish to have marked for identification as Plaintiff's Exhibit C–2 contract marked "C" between the I. G. Farbenindustrie Aktiengesellschaft, g.m.b.h. signed October 3, 1927.

(Marked Plaintiff's Exhibit C–2 for identification.)

Mr. DIXON. We wish to have marked for identification as Plaintiff's Exhibit C–3 contract marked "D", license agreement between Titan Company A/S and Titangesellschaft, g.m.b.h., dated October 3 and 30, 1927.

(Marked Plaintiff's Exhibit C–3 for identification.)

Mr. DIXON. We wish to have marked for identification as Plaintiff's Exhibit C–4 contract lettered

225 "E", an agreement between Titangesellschaft, g.m.b.h., and the I. G. Farbenindustrie Aktiengesellschaft dated October 3, 1927.

(Marked Plaintiff's Exhibit C–4 for identification.)

Mr. DIXON. We wish to have marked for identification as Plaintiff's Exhibit C–5 contract lettered "F", the same being an agreement between Titangesellschaft, g.m.b.h., and I. G. Farbenindustrie Company dated October 3, 1927.

(Marked Plaintiff's Exhibit C–5 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit C–6 contract lettered "G", an agreement between Titangesellschaft, g.m.b.h., and I. G. Farbenindustrie Company signed October 3, 1927.

(Marked Plaintiff's Exhibit C-6 for identification.)

Mr. DIXON. We wish to mark for purposes of identification as Plaintiff's Exhibit C-7 contract lettered "H", an agreement between Titangesellschaft, g.m.b.h., and the Titan Company A/S dated 3 and 20, 1927.

(Marked Plaintiff's Exhibit C-7 for identification.)

Mr. DIXON. We wish to mark for purposes of identification as Plaintiff's Exhibit C-8 contract lettered "J", an agreement between Titangesellschaft, g.m.b.h. and the Titan Company A/S dated October 3 and 20, 1927.

226

(Marked Plaintiff's Exhibit C-8 for identification.)

Mr. DIXON. We wish to mark for purposes of identification Plaintiff's Exhibit C-9, the same being an agreement extending the license field as defined in Plaintiff's Exhibit A for identification executed on or about January 15, 1939.

Mr. WEBSTER. I am not certain about the date and I am not so certain about the characterization, but all I can say is we have a copy.

The COURT. It does not make any difference.

(Marked Plaintiff's Exhibit C-9 for identification.)

Mr. DIXON. We wish to mark for purposes of identification Plaintiff's Exhibit D, the same being an agreement dated March 23, 1929 between Titan Company, Inc. and Titan Company A/S.

(Marked Plaintiff's Exhibit D for identification.)

Mr. DIXON. We wish to mark for identification as Plaintiff's Exhibit E, agreement dated January 1, 1933 between the Titanium Pigment Company, Inc. and the Krebs Pigment & Color Corporation.

Mr. WHITNEY. That is admitted in the answer. It is set forth verbatim.

The COURT. Well, it might be one and not the other. I will receive it. Anyway, it has not been

227

offered in evidence, only for identification.

(Marked Plaintiff's Exhibit E for identification.)

Mr. DIXON. We wish to mark for purposes of identification as Plaintiff's Exhibit E-1, the same being an agreement dated January 1, 1936 between Titanium Pigment Company, Inc. and Krebs Pigment & Color Corporation.

(Marked Plaintiff's Exhibit E-1 for identification.)

Mr. WEBSTER. That appears to be a du Pont document of which we have no copy.

Mr. WHITNEY. I don't know whether your Honor recalls.

but that is the year affiliated returns were eliminated, when all the corporations eliminated these subsidiaries so as not to pay a double tax on dividends. That is why you have all these 1936 payments.

Mr. DIXON. We wish to mark for purposes of identification Plaintiff's Exhibit E–2, the same being a contract dated October 31, 1936 between Titanium Pigment Company, Inc. and the National Lead Company.

(Marked Plaintiff's Exhibit E–2 for identification.)

Mr. WEBSTER. Did you read all the parties to that?

Mr. DIXON. E. I. du Pont Nemours and Company is a party to that document also.

We wish to mark——

Mr. WEBSTER. Will you wait just a second?

228 Mr. DIXON. Yes. That is the agreement whereby National took over the assets of Titanium Pigment Company approved by du Pont.

Mr. WEBSTER. The only reason for confusion is that we arranged our papers in accordance with the items in the subpoena and it is just holding us up a little. We will try to find those documents.

The COURT. We have reached the hour of 4.30. We will recess until tomorrow morning.

(Adjourned to December 6, 1944, at 10.30 a.m.)

229 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, ET AL.

NEW YORK, *December 6, 1944, 10:30 a.m.*

Trial resumed.

Mr. DIXON. May it please the Court, I believe when we adjourned yesterday we had introduced for purposes of identification Plaintiff's Exhibit E–2.

We now wish to have marked for purposes of identification Plaintiff's Exhibit E–3, the same being a contract between National Lead Company and the defendant du Pont de Nemours & Company, dated January 1, 1941, an amendment to the 1933 agreement.

(Marked Plaintiff's Exhibit E–3 for identification.)

Mr. DIXON. We wish to have marked as Plaintiff's Exhibit F an agreement between Imperial Chemical Industries, Ltd., Imperial Smelting Corporation, Ltd., Goodlass Wall & Lead Industries, Ltd., and Titan Company, Inc., dated February 16, 1933.

(Marked Plaintiff's Exhibit F for identification.)

Mr. Dixon. We wish to have marked for identification as Plaintiff's Exhibit F-1 license agreement dated March 10, 1933, between Titan Company, Inc. and British Titan Products, Ltd.

230 (Marked Plaintiff's Exhibit F-1 for identification.)

Mr. Dixon. We wish to have marked for purposes of identification Plaintiff's Exhibit F-2, the same being license agreement dated March 10, 1933, between ICI, ISC, Goodlass Wall, GW, and British Titan Company, Inc.

(Marked Plaintiff's Exhibit F-2 for identification.)

Mr. Dixon. We wish to have marked for purposes of identification as Plaintiff's Exhibit F-3 an agreement dated March 10, 1933, between Titan Company, Inc. and Brifish Titan Products Company, Ltd.

(Marked Plaintiff's Exhibit F-3 for identification.)

Mr. Dixon. We wish to have marked for purposes of identification as Plaintiff's Exhibit F-4 agreement dated March 10, 1933, between Titan Company, Inc. and British Titan Products Company, Ltd.

(Marked Plaintiff's Exhibit F-4 for identification.)

Mr. Dixon. We wish to have marked for purposes of identification as Plaintiff's Exhibit F-5 agreement dated March 10, 1933, between British Titan Products Company, Ltd. and R. W. Greeff & Company, Ltd.

(Marked Plaintiff's Exhibit F-5 for identifica-

231 tion.)

Mr. Dixon. We wish to have marked for purposes of identification as Plaintiff's Exhibit F-6 agreement dated March 10, 1933, between Titan Company, Inc. and British Titan Products Company, Ltd.

(Marked Plaintiff's Exhibit F-6 for identification.)

Mr. Dixon. We wish to have marked for purposes of identification as Plaintiff's Exhibit F-7 agreement dated February 17, 1939, between British Titan Company, Inc. and Titan Company, Inc.

(Marked Plaintiff's Exhibit F-7 for identification.)

Mr. Dixon. We wish to have marked for purposes of identification Plaintiff's Exhibit G, the same being an agreement between Titan Gesellschaft and Aussig. I am using there the shorter names. It is dated November 23rd and December 2, 1933.

(Marked Plaintiff's Exhibit G for identification.)

Mr. Dixon. We wish to have marked for purposes of identification as Plaintiff's Exhibit G-1, the same being a

contract entitled "Contract No. 4" between Titan Company, Inc., Thann & Mulhouse, Terres Rares and Societe Industrielle, dated June 5th and June 7, 1935.

(Marked Plaintiff's Exhibit G-1 for identification.)

232 Mr. DIXON. I wish to have marked for purposes of identification Plaintiff's Exhibit G-2, the same being contract entitled "Delivery Contract," between Societe Industrielle, Terres Rares, Thann & Mulhouse, and Titan Company, Inc., dated June 5 and 17, 1935?

(Marked Plaintiff's Exhibit G-2 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit G-3, contract number 6, same being an agreement between Titan Company, Inc., Thann & Mulhouse, Terres Rares, Titangesellschaft, Societe Industrielle and Montecatini, dated June 5 and October 26, 1935.

(Marked Plaintiff's Exhibit G-3 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit H, an agreement between Titan Pigment Company, Inc., and American Zirconium Corporation, dated May 6, 1935.

(Marked Plaintiff's Exhibit H for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit H-1, an agreement dated May 6, 1935, between Titanium Pigment Company, Inc., American Zirconium Corporation, the Glidden Company, and Metal & Thermit Corporation.

(Marked Plaintiff's Exhibit H-1 for identification.)

Mr. DIXON. We wish to have marked for pur-

233 poses of identification Plaintiff's Exhibit H-2, contract dated May 6, 1935, between National Lead Company, Titanium Pigment Company, Inc., the Glidden Company, Metal & Thermit Corporation and American Zirconium Corporation.

(Marked Plaintiff's Exhibit H-2 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit I, agreement dated January 1, 1935, between Krebs Pigment and Color Corporation, and American Zirconium Corporation.

(Marked Plaintiff's Exhibit I for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit J, a pool agreement between Titan Company, Inc., Terres Rares, the I. G. Farbenindustrie Company, dated January 18, 1936.

(Marked Plaintiff's Exhibit J for identification.)

Mr. DIXON. On this exhibit we regret we seem to have

only one copy here, so we will have to ask counsel to use the one we are marking.

We wish to have marked for purposes of identification as Plaintiff's Exhibit J-1, Agreement B, dated January 18, 1936, between Messrs. Kokusan Kogyo and Doitsu.

(Marked Plaintiff's Exhibit J-1 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit J-2, guarantee agreement between Doitsu, Titan Company, Inc., I. G.
234 Farbenindustrie, Titan Gesellschaft, Terres Rares and Thann & Mullhouse, dated January 18, 1936.

(Marked Plaintiff's Exhibit J-2 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit J-3, license contract C between Kokusan Kogyo and Titan Kogyo. This agreement is dated January 6, 1936, although that may not be quite the accurate date of this contract, but that is what it appears to have been.

(Marked Plaintiff's Exhibit J-3 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit J-4, license agreement D, between Doitsu as Trustee for Titan, Inc., I. G. Farbenindustrie and Titangesellschaft. This agreement is dated June 1, 1936.

(Marked Plaintiff's Exhibit J-4 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit J-5, minutes of agreement between Titan Kogyo and Kokusan Kogyo, marked E. There is no date on this particular document.

(Marked Plaintiff's Exhibit J-5 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit J-6, agreement or minutes marked F, the same being minutes for agreement between Titan Kogyo and Kokusan Kogyo K.K., also undated.

235 (Marked Plaintiff's Exhibit K-6 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit J-7, letter by Mr. J. Blumenfeld to Titan Company, Inc., dated January 20, 1936, and as Plaintiff's Exhibit J-8, an acknowledgment of this letter from Mr. Blumenfeld by Titan Company, Inc., dated February 4, 1936.

(Marked Plaintiff's Exhibits J-7 and J-8 for identification.)

Mr. DIXON. We wish to have marked for purposes of

identification as Plaintiff's Exhibit K, agreement dated January 1, between Canadian Industries, Ltd., and National Lead Company.

(Marked Plaintiff's Exhibit K for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit K-1, an agreement between National Lead Company and Canadian Titanium Pigments Company, dated January 1, 1937.

(Marked Plaintiff's Exhibit K-1 for identification.)

236 Mr. DIXON. We wish to have marked for purposes of identification Plaintiff's Exhibit K-2, an agreement between Canadian Industries, Ltd. and Canadian Titanium Pigments, Ltd. dated January 1, 1937.

(Marked Plaintiff's Exhibit K-2 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification Plaintiff's Exhibit K-3, an agreement between National Lead Company and Canadian Titanium Pigments Company, Ltd., dated January 1, 1937.

(Marked Plaintiff's Exhibit K-3 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification Plaintiff's Exhibit K-4, the same being an agreement between Canadian Titanium Pigments Company, Ltd. and British Laport, Ltd., dated January 4, 1937.

(Marked Plaintiff's Exhibit K-4 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit K-5 an agreement between National Lead Company and Canadian Titanium Pigments, Ltd., dated February 27, 1939.

(Marked Plaintiff's Exhibit K-5 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit L an agreement dated August 5, 1937 between du Pont de Nemours and Company and Virginia Chemical Corporation.

(Marked Plaintiff's Exhibit L for identification.)

237 Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit M an agreement between du Pont de Nemours and Company and Titan Company, Inc., dated July 27, 1937.

(Marked Plaintiff's Exhibit M for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit N a license agreement between du Pont de Nemours and Company and Titan Company, Inc., dated June 20, 1938.

(Marked Plaintiff's Exhibit N for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit O an agreement be-

tween National Lead Company and Titan Company, Inc., dated March 28, 1939.

(Marked Plaintiff's Exhibit O for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit P a license agreement from International Pulverizing Corporation to National Lead Company, dated April 10, 1939.

(Marked Plaintiff's Exhibit P for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit P–1 an agreement between National Lead Company and du Pont de Nemours and Company, dated April 14, 1939.

(Marked Plaintiff's Exhibit P–1 for identification.)

238 Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit P–2 an agreement between National Lead Company and American Zirconium Corporation, dated December 19, 1940.

(Marked Plaintiff's Exhibit P–2 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit Q, the same being a cross-license agreement, dated April 21, 1939, between du Pont de Nemours and Company and Titan Company, Inc.

(Marked Plaintiff's Exhibit Q for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit R a cross-license agreement between du Pont de Nemours and Titan Company, Inc., dated May 10, 1940.

(Marked Plaintiff's Exhibit R for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit S a cross-license agreement between du Pont de Nemours and Company and Titan Company, Inc., dated June 23, 1941.

(Marked Plaintiff's Exhibit S for identification.)

Mr. DIXON. Pursuant to the stipulation, your Honor, between the parties in this case we now propose to offer as part of the Government's case Plaintiff's Exhibit A for identification in evidence and to offer it against defendants Titan Company, Inc., National Lead

239 Company and the defendant du Pont de Nemours and Company.

Mr. WEBSTER. The National Lead Company does not object to the receipt in evidence of the 1920 agreement marked Government's Exhibit A for identification. However, if and when the document is received in evidence I should like to make two brief observations which I think will be in the interest of precision.

The COURT. Very well. Any objection, Mr. Whitney?

Mr. WHITNEY. If your Honor please, if you will allow me a few moments: We greatly appreciate the efficiency this morning, we covered an enormous amount of ground here, and we also appreciate receiving those contracts last evening, on your Honor's suggestion, and we did go immediately to considerable expense—we immediately got the printer over and we printed the whole lot, and that enabled the six of us to read them last evening. We will hand copies to your Honor and the Government and Mr. Webster in case you want to use them.

Now as to Exhibit A, there is a small point—I merely call it to the attention of the parties—and that is there seemed to be schedules to it, there seemed to be three schedules, and they are not annexed. And I should think that under what is sometimes called the complete evidence rule
240 it will be necessary to have those schedules annexed. They seem to be of some importance as, among other things, they are lists of patents.

Now as to du Pont's position on that contract, we raise no point about relevance. That contract appears to deal with what might be called worldwide relations, and I take it that is the subject matter of this case.

We make no point of materiality because it is a basic contract between the other two defendants, and of course if later we come into whatever relationship there was that was cause by that contract, it would be highly material. It is the relationship of course that the Government described as a conspiracy, a violation of Section 1, and Mr. Webster I take it says it is a reasonable agreement.

Now also, your Honor, we make no objection on the grounds of the best evidence rule or other authenticity. We make only one objection and we do object to it on one ground, and one ground only, and that is that there is no connection with du Pont. And I could state it in two ways —on the face of the contract du Pont does not appear and no evidence has been offered to in any way connect du Pont to that contract. So we object to it.

The COURT. What about the schedules, Mr. Dixon.

Mr. DIXON. May it please the Court, it is entirely
241 possible that the copy which was offered in evidence inadvertently or otherwise did not include the schedules. I believe there was one of the copies, a list of some patents attached to it, and we will recheck with what we have and if that be the case we will see that those schedules are attached to the copy which has been offered so that it will be as complete a document as we have.

The COURT. In other words, you do not intend to withhold from the proof those schedules?

Mr. DIXON. Certainly not.

The COURT. Your explanation is that if there are schedules you want to offer them.

Mr. DIXON. Absolutely.

The COURT. And with that understanding I understand this is subject to the omissions rule.

Mr. WEBSTER. If the Government does not have them, and I believe they have them, if they have not them available we will supply them.

The COURT. As to the other objection of du Pont, of course that undoubtedly will be repeated, and repeatable if not repeated, with respect to a great deal of this material until we get to fairly recent times. I have not reflected
242 the thing through, but it occurs to me as a practical matter the objection which is taken in the form of an objection to evidence really is also an objection of substance to the whole theory of the case. I think we will get nowhere as a practical matter if I say now that it is ruled out subject to a motion to make it applicable when, as and if the conspiracy is proved or the connection is proved with du Pont. I think it would be simpler if I let it in, reserving to du Pont a motion to strike out or in any event to argue, as undoubtedly will be argued when the case is concluded, that the Government's case has not been established because no connection has been shown between the 1920 agreement and du Pont.

I say that for the reason (a) I am going to let it in as against National Lead and Titan, no objection having been taken, (b) under the rules even if both parties objected and even if I sustain the objection the Government could ask to have it marked in the case for the purposes of being available for review purposes. All in all, I think the balance of convenience as it strikes me lies in favor of letting this material in as it goes along and to treat the question of materiality and relevance and relationship to the parties subsequently either by a motion to strike or argument on the merits. I think either one can raise the question.

So with that comment, merely tentative and
243 preliminary and something with respect to which I might change my mind in the course of the trial, because it sometimes happened that we give a plaintiff in a conspiracy case considerable leeway on the general understanding that he will connect, yet sometimes in the course of the trial the Court feels that the opportunity has been had and should have been embraced and having not

been embraced no further opportunity should be afforded; but at this stage I think I shall overrule your objection subject to the provisions I have indicated.

Mr. WHITNEY. Thank you, your Honor. I think I understand. I think that same point would run from A through D, with their respective sub-numbers.

The COURT. As a matter of fact you need not state your objection in each case because I will reserve you an objection to strike all of this material and, for that matter, even if you had no objection and the evidence goes in without objection, if at a later time it appears that it is not material and not relevant you can then move to strike. Because it seems to me that here exclusion and merit are very much on the same character, especially since you are not dealing with a jury. I will have to pass upon the relevance of these contracts by passing on the substantive question and
244 evidentiary question as to whether one or the other of the parties ever did become a party to this scheme. It is simply another handle to the same door, it seems to me. So that the only effect of my not excluding it of course is that you will want to take advantage of the opportunity to cross examine with respect thereto which otherwise you would of course not be entitled to if the evidence was excluded as against you. I think it would be better if you were given that opportunity if there should be occasion for cross examination or to introduce evidence in contravention of it, such as conceivably the introduction of another copy of the agreement which you profess to be a more accurate copy or a different translation. Different issues of that character may arise which you would not have an opportunity to deal with if the evidence was excluded as against you, but which you would have an opportunity to present material when I treat the matter in the way I am now treating it.

Plaintiff's Exhibit A in evidence.

(Plaintiff's Exhibit A for identification received in evidence.)

245 Mr. WEBSTER. Your Honor, I said I had two brief observations about the exhibit just received in evidence. The first is to recall now the fact, which has been referred to rather loosely before, namely, that this is a contract between the Titanium Pigment Company and the Norwegian Company, Titan A/S. The Titanium Pigment Company has now been completely absorbed by the National Lead Company and has been dissolved. 87 per cent of the stock of Titan Company A/S is owned by the

National Lead Company, and all of the stock of Titan Company, Inc., a Delaware company, is owned by the National Lead Company. It will appear here that the rights, certain rights, of the Norwegian company under these contracts, or under certain of these contracts, were transferred subsequently to Titan Company, Inc., including rights under this so-called 1920 contract. So that this is really a case of the Lead Company now having been in the position of having a contract with itself, and to that extent the contract has long since ceased to have any executory force.

Now I am aware of the fact that the Government will maintain there is a certain pattern established by the contract, Article XIV of the contract, which has been carried over into other agreements, and that will develop as
246 the evidence comes in, but I just thought it be helpful to make it clear that with that exception I believe your Honor will find that that contract is at least dormant, if not extinguished.

The second point is this: that on page 10 of the exhibit, under paragraph 2, there is a note. I might say first that in paragraph 2 there is a provision, the general purpose of which is to carry out the territorial features of the contract by providing that each party nominates the other as agent in respect of any shipments into the territory, so-called, of the other party. And in connection with that there is this note:

"N. B. Inasmuch as it is the purpose of this agreement to provide for the widest possible development of titanium products, it is understood and agreed that notwithstanding the agencies created by this Clause C importations into the territory of the agent may be made of finished articles in the manufacture of which titanium products produced by the principal or a licensee or sub-licensee thereof have been used as raw material, provided, however, that the same shall not constitute such an important part of such finished article that its sale within the agent's territory will substantially interfere with said agent's sales of its own said titanium products in its said territory, and
247 each party principal agrees that it will upon receiving notice from the other party's agent that such importation into its territory of such finished articles does does interfere with the agent's sale of its own product endeavor to prevent such importation, and each party agrees that it will not sue the other or any purchaser from or customer of, direct or indirect, of the other on account of the importation into, or sale and use, in its territory of

any such finished articles until after six months from the time such notice shall have been given to the other."

Now a provision somewhat similar to that appears in some of the other contracts that the Government has indicated that it may offer, and I want to say just this about that provision: It will appear here that that provision has never had any force or effect; that it has never been enforced, and I now, in the name of the National Lead Company and Titan Company, Inc., to the extent that it may be said that this provision has potential force or capacity for execution in the future, relinquish and disclaim any such effect.

The COURT. Very well.

(Plaintiff's Exhibit A for identification received in evidence.)

Mr. DIXON. I might say, your Honor, that I have
248 here a little better copy. I don't know whether the one you have is clear.

The COURT. Let us arrive at an understanding. If you want me to have the originals of the exhibits, then I would rather keep the originals though they may be bad. Or, if you are going to supply me with a copy of the exhibits, supply me with a set of copies and keep the originals yourselves. Otherwise you will find yourself, as I know from that provision: It will appear here that that provision has sad personal experience, on a constant hunt for exhibits, and not knowing where they may be located, it becomes a very troublesome problem. Therefore I suggest to you that I will suffer such inconvenience that may result of the first procedure, or I will follow the other method, whichever you prefer.

Mr. DIXON. May I suggest that it is the Government's intention to permit all the documents introduced in evidence to remain available to the Court at all times. In other words, we have our own working copies, so that these contracts and other exhibits that are offered will be made available and you may keep them and do whatever other things you may care to do with them.

Mr. WEBSTER. May I make a suggestion on that: The du Pont Company has gone to the trouble of having these documents printed. Now I have not taken up the
249 question with my client about sharing in this enterprise, but I am sure I am authorized to say that we will share in it.

Furthermore, it seems to me that if that is to be done, an arrangement can be made whereby the proof as it comes

from the printer is compared by someone representing du Pont, and say Mr. Hendricks representing National Lead, and Mr. Caplan and Mr. Jacobs, with the documents put in evidence, the originals, that that can then be formed as the official copy for purposes of discussion and examination, and the time of all of us will be greatly saved and the case will be advanced.

The COURT. Very Well. That is very satisfactory, and if you will undertake in addition to what you said you would do, to mark the printed text with the exhibit number, then I can refer to it from the record.

Mr. WEBSTER. I think it ought to be perfectly clear that the printed copy is an exact copy of the original exhibit received in evidence.

The COURT. What I mean is so far as this document I have received from Mr. Whitney is concerned of course it was printed before numbers were assigned, so it does not bear the exhibit number.

Mr. WEBSTER. That is right. The next proof, I think, will be an exact copy of the exhibit, showing the
250 number.

Mr. WHITNEY. I think I might say a couple of little things that may help first of all to you and Mr. Dixon and Mr. Webster; that in our checking with another text, checking on the reading of several documents, we found things that must be misprints, apparently, but they were that way in the original. The printer called them to our attention after midnight, but we found they were in the original. I can say that we are very grateful to be asked to participate in that proof reading, but we will decline. I do not want to. We will accept anything that National Lead and the Government say about the authenticity of these documents. We do not really mean to mingle in it and they can do it in their own way and we will accept it.

The COURT. I suppose you expect to have that done only with respect to your principal exhibits. You do not propose to print every scrap of paper that is offered?

Mr. WEBSTER. I think we had better wait and see how this works out.

Mr. WHITNEY. As to the other exhibits, your Honor, I suppose that Mr. Dixon will, and we will be grateful, if he can give us copies. I know he will wherever he can. Where he cannot if he will just let us have the
251 originals we will copy them, either in type or printing as we think fit, but we would like to have the other exhibits.

The COURT. Is there going to be a further proof of this, Mr. Whitney? If there is not I will just keep this.

Mr. WHITNEY. Yes, we will have them today. I just did not take the time yesterday.

The COURT. Do you intend to annex the exhibit numbers to them?

Mr. WEBSTER. I think the numbers ought to be attached to them so they can readily be identified.

The COURT. Yes. Otherwise you will find yourself using cross-indexes and it becomes troublesome. In other words, the utility of these documents will be enhanced if you have the exhibit numbers.

We will take a short recess.

(Short recess.)

252 Mr. WHITNEY. Your Honor, I mentioned to Mr. Dixon that we just received one of the answers to the subpoena. Your Honor will remember we did not have them all yesterday, and in answer to paragraph 3——

Mr. LOCKE. May I interrupt and suggest that we continue to develop the contracts and then we will get all of these things together.

Mr. WHITNEY. I apologize to you, Mr. Locke. I spoke to Mr. Dixon and I said I would do this.

Mr. LOCKE. I just talked to Mr. Dixon and we think it would be more orderly if we waited and get all of these things in together.

Mr. DIXON. May it please the Court, I have a few more of these exhibits connected with the contracts that we wish to identify. We did not have available any copies when they were being offered in order. So that at this time I wish to have marked for purposes of identification as Plaintiff's Exhibit B-3, a letter dated March 22, 1939, from Titan Company, Inc., to Charles F. Kaegebehn, Esq.

(Marked Plaintiff's Exhibit B-3 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit B-4, letter dated February 17, 1939, from Titan Company, Inc., to Societe Industrielle, a letter dated March 10, 1939, attached

253 thereto, as one exhibit.

(Marked Plaintiff's Exhibit B-4 for identification.)

Mr. DIXON. We wish to have marked for purposes of identification as Plaintiff's Exhibit D-1, letter to Evans McCarty from Jebsen, dated August 9, 1929, with letters attached thereto from TG to Titan A/S, dated June 15, 1929, and from IG to Titan A/S, dated June 15, 1929.

(Marked Plaintiff's Exhibit D-1 for identification.)

Mr. WEBSTER. We have a great many documents outside but not here presently. If Mr. Dixon could just indicate to us in advance the subpoena numbers of the papers he wants us to have here ready for examination, it would facilitate matters.

Mr. DIXON. There are very very few of these, your Honor.

The COURT. I am sure you will try to work it out to the best convenience of all parties.

Mr. DIXON. While we were on the contracts I thought we would identify all the pertinent exhibits connected therewith at the moment.

We wish to have marked for purposes of identification as Plaintiff's Exhibit D-2, subject to securing the correct date on it from the production of the document, a draft of a letter from Titan, Inc., to Titan A/S.

254 (Marked Plaintiff's Exhibit D-2 for identification.)

Mr. WHITNEY. Just before we leave D-2, the subpoena refers to it as a letter from Titan, Inc. to Titan A/S, and it is a blank page.

Mr. DIXON. I understand. We have not subpoenaed it yet. We are perhaps a little out of order. This is just our file copy.

There is just one more item, your Honor, under that that we will put in at a later date and which will complete that portion of i

255 Mr. DIXON. I now wish to refer to Plaintiff's Exhibit A, which was described on the chart No. 4 as the 1920 agreement between Titanium Pigment Company, Inc., and Titan Company A/S. Your Honor will recall that Titan Company A/S was the Norwegian company owning patents in Norway and the United States relating to the production of titanium pigments; that in the United States Titanium Pigment Company was the American company, a subsidiary of National Lead, engaged in the same business; that this contract was entered into between the two companies on July 30, 1920.

There are many provisions in this contract that I wish to refer to and to point out and to bring to the attention of the Court, for they appear in substance in many of the other contracts which we will subsequently present in evidence and which we will again discuss at that time. We have heretofore submitted to your Honor and counsel for the defendants in a general way a brief summary of some of the provisions of this contract which, we point out in this memorandum, appear in the other exhibits which we

will subsequently introduce. In other words, it is one of the contentions of the Government that this contract is a pattern or shows in future contracts what the parties intended in carrying out the conspiracy and com-
256 bination in just a few ways referred to in this contract.

I will therefore endeavor to analyze it from that point of view and will refer at the outset to paragraph 1 of the contract which describes the Licensed Field in which the parties were to operate. In other words, that describes in substance the scope of the combination by referring to and describing that which is covered in substance by the combination, and particularly in this agreement.

The Licensed Field in definition (a) under paragraph 1 of "Definitions", your Honor will note is a broad one and includes "all substances, materials, or compositions consisting of or containing above two per cent of titanium, or a compound, or compounds thereof?"

The COURT. "Two per cent or titanium," is that a misprint?

Mr. DIXON. That is a misprint. It should be "two per cent of titanium."

Mr. WHITNEY. I beg your pardon. That is not so. I believe it is just that way in the original.

Mr. DIXON. Well, I can see, your Honor, that we will have to——

Mr. WEBSTER. I have "or" in my copy. I must say, to make sense——

The COURT. It says "or". It probably should
257 be "of".

Mr. WEBSTER. To make sense, the word should be read "of." I don't think we ought to quibble about it.

The COURT. There is another verbal difficulty a few lines down, but I suppose that is just the way it was written. It says "and processes useful in the obtainment or manufacture or use of said substances, materials, or compositions in so far as said substances, materials, or compositions in so far as said apparatus"——

Mr. WEBSTER. I think your Honor will find a great many verbal infelicities, and even more so later when we start to deal with some rather liberal translations.

The COURT. Was this agreement originally in another one?

Mr. WEBSTER. No. So far as I know this is the form in which it was signed.

The COURT. All right. Go ahead. The agreement says "or" but it means "of". All right.

Mr. DIXON. "unless such substances, materials or compositions contain by weight more than 5 per cent of a metal other than titanium in its purely metallic"—as described in this contract it means "chemically uncombined state, and also to be included all apparatus, methods, and processes useful in the obtainment or manu-
258 facture or use of said substances, materials, or compositions in so far as said apparatus, methods, and processes may be employed in the production of said substances, materials or compositions excepting as aforesaid."

Mr. WEBSTER. That does not conform.

The COURT. You skipped a line.

Mr. WEBSTER. You see, our friend is reading from a copy which he seems to have had buried in his files yesterday that he didn't know he had, and it does not conform with the copy that has been put in evidence. I don't think this is——

Mr. DIXON. Now just a moment. I do not know just what counsel for the defendant means when he says "buried" in our files. We have endeavored to cooperate with counsel——

The COURT. Well, gentlemen, we can waste a lot of time with byplay. In a short two-day trial a little of it helps, but in a long trial of this character I think we should forget about the byplay and forego some opportunities for repartee. I think it would be better. Even the Court will restrain itself.

Mr. DIXON. What I was endeavoring to say was that perhaps these copies should be compared with the original.

259 The COURT. Why not read from the exhibit? Have you the exhibit?

Mr. DIXON. I thought your Honor had that. I intended that you should have.

The COURT. You take it.

Mr. DIXON. What I wanted to point out to your Honor with reference to this paragraph was the broad definition of the Licensed Field. That is material in one sense, because, as we shall point out in subsequent contracts and agreements, that was extended even beyond the definition of the Licensed Field here in 1939, in an effort to provide a uniformity in definition, and also for other reasons which we will indicate.

The COURT. These are supplemental openings and I do not treat them as evidence.

Mr. WEBSTER. Your Honor, I thought my friend had made his opening the other day.

Mr. DIXON. If the Court please, I may have occasion however to say this several times during the trial. Obviously, your Honor knows that it is not evidence until it is produced. I am merely stating this so that your Honor can have before you the development of this case from the Government's point of view, and if we do not produce evidence to sustain what I state, why then we are
260 properly subject to criticism. But I think this being a court of equity that it certainly can and perhaps may be helpful, and it is only with that thought in mind, that we will make any comments or remarks with regard to any provision in any of these contracts.

Mr. WHITNEY. If we want to comment in turn it is my understanding that that will be acceptable, as if it were direct examination and cross-examination.

The COURT. I think I already indicated that. I indicated yesterday that if you gentlemen desire you may comment or call the Court's attention to specific provisions in these exhibits, not because that is the usual course of a trial but because of the number of exhibits here, and I thought it might be helpful. That, I said, meant that the Government can do so and immediately although not in the course of defendants' case, but immediately, counsel for the other side may make a comment or call the Court's attention to other and additional paragraphs in the exhibit so that I can follow it from day to day. If we find after a little experimentation that that slows us down, undoubtedly we will stop it.

Go ahead.

Mr. DIXON. Also in paragraph 1 the territory of the respective parties to the agreement is defined and that allocated to co-conspirator Titanium Pigment Company
261 is North America, which is then defined specifically to include the entire continent, the Dominion of Canada, Newfoundland, and all Central American states. Then South America is defined in sub-paragraph (c) as including all countries located to the south of Panama,—in other words, a generally understood designation I believe for what we call South America.

Then the definition is given of "Finished Article", which is referred to throughout these contracts as including "any artificially produced article, or composition, within the 'Licensed Field' which has been manufactured by aid of any process, or apparatus, or both, so as to constitute

a cohesive intermixture of titanic material with other material with which such titanic material was not previously intermixed, or associated, as for example, in paint, rubber, glass."

And that, as we pointed out yesterday shows in substance the use, among other things, to which titanium pigments may be put.

Paragraph 2 of the contract then gives to Titan from Titanium Pigment Company an exclusive license of all patents which the Titanium Pigment Company may have or acquire to manufacture and to use or sell under said patents in any territory outside of North America, but Titan—that is Titan A/S—is prevented in this
262 paragraph from making any sales either directly or indirectly in the territory of Titanium Pigment Company. There is a subsequent qualification of that as we will point out in a moment, with regard to where such sales are made they are made under the exclusive agency provision of the contract.

In paragraph III Titan Company gives to the Titanium Pigment Company the same privileges.

The COURT. By Titan Company, you mean Titan A/S?

Mr. DIXON. That is right, your Honor.

The COURT. Let us call it that.

Mr. DIXON. Titan A/S. (Continuing.) Gives to the Titanium Pigment Company an exclusive license to use, manufacture or sell under any patents which Titan A/S has or may acquire. But that license is limited to North America, as defined in the contract. And the Titanium Pigment Company obligates itself not to make any sale either directly or indirectly outside of North America or South America.

Now, paragraph IV then proceeds to give to each party, I mean by reciprocal arrangement non-exclusive licenses under any patents then owned or which might thereafter be acquired in South America. But in exercising the license in South America neither party is permitted
263 to make any sales directly or indirectly in or for any territory outside of South America.

Paragraph V relates to the matter of handling patent applications and the filing of those applications. In other words, this was a cross-license agreement of present and future patents, and each party was obligated to give to the other licenses on any patents that they may acquire in the future, and of course that would involve the filing of patent applications. So that this section of the con-

tract—there was a slight amendment on March 15, 1928—covers the manner in which the patent applications shall be handled by the parties on future patents. Now, as amended in 1928——

The COURT. That is not in evidence yet.

Mr. DIXON. Well, we wanted the whole contract in, your Honor. And again I say if it develops, we want you to have the full contract, and I assumed that it was, I am frank to say.

The COURT. Have you offered more than Exhibit A in evidence?

Mr. DIXON. No, your Honor. But Exhibit A as we intended to offer it was intended to be complete which included the amendments.

The COURT. Have you a separate exhibit number for identification on it?

264 Mr. DIXON. No. It was attached.

The COURT. But it is all part of the same instrument?

Mr. DIXON. That is right.

The Court. All right.

Mr. DIXON. And there again I am not certain whether we have——

Mr. WEBSTER. Where does that amendment appear?

Mr. WHITNEY. It is not here.

Mr. DIXON. We will indicate that it is not particularly material——

The COURT. For the present, since you are talking from an exhibit in evidence I would like you to limit yourself to the exhibit in evidence.

Mr. DIXON. I will do so, your Honor.

The COURT. Very well.

Mr. DIXON. We will therefore proceed to paragraph 6 of the contract. In this paragraph both parties agreed not to question the validity of any patents secured by either party, and there is also in this paragraph the royalty provision which provided for royalties which were to be paid to each of the parties under the contract. But also in paragraph 6 the Titan Company—that is, Titan A/S—appoints Titanium Pigment Company as the sole agent of its products in the Licensed Field for North
265 America and by any products to be sold that may be manufactured by Titan A/S in the territory of Titanium Pigment Company are to be sold at prices to be fixed by Titanium Pigment Company as the exclusive agent of Titan Company A/S. Titanium Pigment Company then

appoints Titan A/S as its exclusive agent to sell any products within the Licensed Field which may be manufactured by Titanium Pigment Company and sold anywhere in the exclusive territory of Titan Company A/S which, under the definition of the territories allocated to the two companies, would be any products manufactured or sold by Titanium Pigment Company outside of North America as defined in the contract, subject to the limitations that either party could sell in South America.

Now paragraph VII deals with the exchange of technical information. In other words, in addition to the exchange of present and future patents both parties agree to exchange what is understood in any business as "know-how" twice a year, and the parties are given the right to inspect and study and inquire into any of the plants operated by either party to the contract where work in the Licensed Field is being done.

Paragraph VIII requires each party to impose upon its employees and officers that may invent anything within the Licensed Field the obligation to assign that
266 invention to the company for whom the employee or officer works.

Paragraph X relates to the duration of the contract and the licenses granted under the contract were to run until December 31, 1936, but the contract as such—and of course the licenses granted thereunder—was to run after December 31, 1936, for successive periods of ten years each unless cancellation notices were served on the other party to the contract five years prior to the date at which the other party desired to cancel the contract. In other words, this contract would run now until 1952 under this provision.

The COURT. How do you get 1952?

Mr. DIXON. Well, it could not be cancelled now. You see, it has been automatically renewed for a ten-year period.

The COURT. 1946.

Mr. DIXON. Which would run until 1946, and then it cannot be cancelled thereafter until five years' notice is given of the cancellation, that is, the intention of each party to cancel it. In other words, it is an automatic clause.

The COURT. I don't read the clause that way. You can't cancel until five years before 1956.

Mr. DIXON. That is what I say. It would make
267 it run until 1951.

The COURT. As I see it, in 1946 if you haven't

given notice in 1941, you can't do anything about it——

Mr. DIXON. That is right.

The COURT (continuing). Until 1951, and then it would expire in 1956.

Mr. DIXON. Well, that is right, your Honor.

The COURT. In other words, the notice can only be given five years before the expiration of a ten-year period.

Mr. DIXON. That is correct.

Mr. WEBSTER. Notice not having been given five years before 1946 it can only expire in 1956.

The COURT. All right.

Mr. DIXON. We now come to paragraph XIV of the contract, which will frequently be referred to and become the subject of considerable discussion and evidence during the course of this trial.

Mr. WEBSTER. Presumably we can terminate the contract by agreement with ourselves before that period.

Mr. DIXON. I don't think that necessarily follows.

The COURT. No. We are reading the agreement as it reads, and the subsequent powers that the parties may have acquired is not the point that Mr. Dixon wants
268 to call my attention to. That may be something that Mr. Webster wants to call my attention to.

Mr. DIXON. Now, paragraph XIV of this contract was perhaps the one which gave it its most forceful sanction from the point of view of charges here in the complaint. I don't know as it is necessary to read it except——

The COURT. Point out the points that you think it makes.

Mr. DIXON. The first part of the paragraph before (a) limits the right of either party to the contract to make any license with any other person within its own territory even of its own patents.

Mr. WEBSTER. It says, "sublicense hereunder".

Mr. DIXON. That would be of course the license of its own patents. It could not give anyone else within its own territory any right to use its own patents. That is my point, your Honor.

Mr. WEBSTER. It does not say so.

The COURT. Yes. It says "provided that no party hereto shall grant any license under its own patents, or any sublicense hereunder, in the 'Licensed Field' except for the production of titanium or titanium compounds or for the utilization of such compounds"—I don't understand the language. "Provided" does not
269 seem to have a verb. I will read it again. Oh, I see. In other words, "sublicense or license under

its own patents must be limited to the production of titanium as distinguished from other forms of exploitation of the patents."

Mr. DIXON. The point, your Honor, that we wish to make under this paragraph is that in operation neither party could give a license even of its own patents unless the party, the licensee, whoever it might be, in its own territory had complied with the subsequent limitations expressed in paragraph (a) (1) (2) and so forth, without the consent of all the parties that were parties to the agreement.

The COURT. In other words, the conditions which are expressed in subdivision (a).

Mr. DIXON. That is correct, your Honor.

The COURT. There are eight conditions.

Mr. DIXON. Eight conditions which are very important.

Mr. WEBSTER. I still think we really ought to fall right back on the language that has been used here which is perhaps not used with all the care that might be desired in a lawsuit, but the language itself, not Mr. Dixon's characterization of it, because this one that he is talking about is not accurate——

270 The COURT. Why don't you wait until you comment on this contract? Don't you think that would be a more orderly way? He is now making an argument on the contract, and it is out of order in a sense, but I thought we agreed by unanimous consent to let him do that.

Mr. WEBSTER. I haven't wanted to interrupt at all, and I will try to refrain from doing it again.

The COURT. All right. Go ahead.

Mr. DIXON. In paragraph XIV the licensee must agree to all of the restrictions that are imposed upon the parties to the 1920 contract which, as we have already pointed out in the previous paragraphs, we think must confine their activities within the territory allocated to them, and that if by chance there should be any sales made outside of that territory they are made only under and through the other party to the contract as its exclusive agent. And, in addition to that, any licensee of either Titanium Pigment Company or of Titan A/S would have to agree to give to Titan Company A/S or Titanium Pigment Company the same privileges that they each enjoyed between themselves, namely, the right, the exclusive right to use such patents, processes or inventions that the licensee might develop while he was a licensee and that those would be made

available to the parties to the 1920 contract. In
270a other words, this was one of the provisions whereby any inventions of a licensee of either of these two companies or their successor companies would have made available to them all of the benefits or all of the inventions that any of the other parties to the contract might make—a pooling agreement not only of the present but also of all future patents as well that the parties might acquire while the agreements were in effect.

271 In addition to that, the licensee of either of these two parties would have to agree to furnish to the other parties to the contract all technical information or know-how relating to the industry, not only what they had then, but there again whatever might be acquired in the future. So that this provision of the contract provided that anyone who would subsequently become licensed under this agreement, or who would become a party to it, would not only be obligated to do the things which have been mentioned as being obligations imposed on the parties to the contract, but they would also obviously, in consideration of those obligations, get the benefits that went along with it, which would be the royalty free use of present patents that they then had—I mean the parties to the 1920 contract—and anything that either party or any other party that subscribed to the agreement might have in the future.

That, then, was the pattern of the agreements which we propose to show was followed in the subsequent agreements that we will offer in evidence.

It has just been called to my attention that there is another provision here that I had inadvertently overlooked relating to the finished articles.

The COURT. That would be number 14?

Mr. DIXON. That is, I believe, in another pro-
272 vision of the contract.

Mr. WEBSTER. It is in the latter part of paragraph VI under 2.

Mr. DIXON. Yes, that is right. I appreciate your help. It is paragraph VI-2.

Mr. WEBSTER. The "N.B."

The COURT. I have it.

Mr. DIXON. This provides that if any finished articles are sold within the territory of either party to the agreement, that is, Titan A/S or Titanium Pigment Company, and those sales of finished articles interfere with the sales of pigments or similar finished articles by the party

in whose territory they are sold, that the other party to the agreement will do whatever possible to prevent such sales within the other party's territory. In other words, the customers who might buy a pigment from Titanium Pigment Company and use that pigment in any number of uses, of which we have described a few, if that became of sufficient importance in competition with the sales of the party to the agreement who had exclusive rights in those territories, he would notify the other party of such effect upon his business, and then the other party would endeavor to see that such sales or competition ceased.

That is all I wish to direct your Honor's atten-
273 tion to at the moment with reference to Exhibit A.

The COURT. Mr. Webster, do you want to draw my attention to any parts of Exhibit A?

Mr. WEBSTER. I would like to call your Honor's attention to the fact that as we read paragraph XIV, we do not understand that it imposes any necessity for consent with reference to sublicenses. It simply provides for sublicenses, if they are granted, that sublicensees must accept the restrictions or restraints, or whatever they are, contained in the contract as a whole, but there is no necessity for consent.

The COURT. Mr. Whitney.

Mr. WHITNEY. To my way of thinking, if this is the appropriate moment for me to comment, because we admitted the allegation that we entered into a certain contract in 1933, and that contract is annexed as an exhibit to the answer, so that I take it my purpose is to briefly point out to your Honor the contract between that agreement and this.

The COURT. That is a little early. You will have to wait until the 1933 agreement is in.

Mr. WHITNEY. It is already in evidence because it is pleaded and admitted in the answer.

The COURT. But it has not been admitted here. Has it been pleaded in the complaint?

274 Mr. WHITNEY. Yes, your Honor.

The COURT. And admitted in the answer?

Mr. WHITNEY. Yes, your Honor.

The COURT. Is the agreement pleaded in haec verba in the complaint?

Mr. WHITNEY. It is answered in haec verba.

The COURT. I understand that, but they may still create an issue as to whether or not that is the agreement between the parties.

Mr. WHITNEY. Any sequence suits me.

The COURT. I think it would be better if we waited until the 1933 agreement is offered.

Mr. WHITNEY. If he is going to offer it.

The COURT. I am assuming he is.

Mr. DIXON. Oh, yes.

Mr. WHITNEY. We have admitted it and therefore he does not have to offer it.

The COURT. As against you. That is good. However, I will make a note of what you have said.

Mr. DIXON. Now I wish to offer in evidence, your Honor, Plaintiff's Exhibit A-1.

The COURT. Mr. Whitney, is that the second one printed in your proof?

Mr. WHITNEY. Yes, your Honor, it is page 20, I believe.

275 The COURT. Then Plaintiff's Exhibit A-1 is received.

(Marked Plaintiff's Exhibit A-1 in evidence.)

Mr. DIXON. In this contract we direct your Honor's attention to our interpretation of it, to the effect that the National Lead Company, one of the defendants in this proceeding, and the Titanium Alloy Company, which had a stock interest in Titanium Pigment Company, agreed to respect the contract entered into between Titanium Pigment Company and Titan A/S as long as any exclusive licenses remain in force under the 1920 agreement.

The COURT. Exhibit A?

Mr. DIXON. That is right. Now in this agreement the Titanium Alloy Company further agreed not to contest the validity of any letters patent covered by the 1920 agreement nor to infringe any of the patents or afford any assistance to anyone in questioning or contesting the validity of said patents. They further agreed—talking now of National Lead and Titanium Alloy Company—to refrain from doing any act in derogation of the 1920 agreement and to promptly communicate to the Titanium Pigment Company the results of any experience gained or knowledge acquired within the Licensed Field.

They further agreed to promptly assign to Tita-
276 nium Pigment Company throughout the world any letters patent, inventions or improvements within the Licensed Field which might be acquired by the defendant National Lead or Titanium Alloy Company, and further to require the officers and employees of National Lead and Titanium Alloy to agree to assign to them any inventions relating to the Licensed Field which any em-

ployees of National Lead or Titanium Alloy might secure; that is the rights under any such patents anywhere throughout the world.

Mr. WEBSTER. May I comment on that a moment?

The COURT. All right.

Mr. WEBSTER. I want to say this: I think heretofore the Titanium Alloy Manufacturing Company has not been identified.

The COURT. That is correct.

Mr. WEBSTER. The Titanium Alloy Manufacturing Company was a company that did the pioneer work in the invention of titanium, and they had a little factory up at Niagara Falls. They established a subsidiary called the Titanium Pigment Company——

The COURT. Is that the parent of the Titanium Pigment Company?

Mr. WEBSTER. That is the parent of the Titanium Pigment Company.

The COURT. Our TP.

277 Mr. WEBSTER. That is right, and the Alloy Manufacturing Company got into distress and sold a portion of its stock in the Titanium Pigment Company to the National Lead Company, and that explains why these three people were together in this contract.

The COURT. I assume that what you have now told us is going to be proved, if relevant. I will not take your statement as proof unless conceded.

Mr. WEBSTER. This is in the nature of the same sort of thing that Mr. Dixon is saying.

The COURT. But here is what I am driving at. I don't want you to sit down and assume that you have proved the facts that you have said if it becomes important to your case.

Mr. WEBSTER. I fully understand that nothing I say here is taken except as the representation of a member of the bar of the court as to what will appear, and your Honor may or may not attach significance to such representation.

The COURT. I may attach significance without being able to find a finding on any such statement.

Mr. WEBSTER. I fully appreciate the limitation.

The COURT. Unless counsel all agree it should be stipulated.

Mr. WHITNEY. Except it was your Honor's
278 purpose, stated yesterday, of finishing before Christmas of 1945. If we can concede these things

I imagine we will save a tremendous amount of time, but will concede that.

Mr. DIXON. I do not understand what the proposition is that is being made to the Government.

The COURT. The little statement of history made by Mr. Webster. You do not have to concede it.

Mr. DIXON. We will be glad to discuss these matters, your Honor, off the record.

The COURT. Is there anything further by way of comment, Mr. Whitney?

Mr. WHITNEY. No, thank you.

The COURT. All right, go ahead.

Mr. DIXON. We now wish to offer in evidence Plaintiff's Exhibit A-2, the same being the contract between Titanium Alloy Manufacturing Company and Titan Company A/S of the same date as the other two contracts previously introduced.

The COURT. Without objection it will be received; except of course Mr. Whitney's general objection.

Mr. WEBSTER. We take no objection to this. This is part of our view of the 1920 transaction.

The COURT. It will be received in evidence and marked Plaintiff's Exhibit A-2.

279 (Marked Plaintiff's Exhibit A-2 for identification.)

The COURT. Is there any comment, Mr. Dixon?

Mr. DIXON. Not particularly, your Honor, except to point out that in this contract the Titanium Manufacturing Company agreed to do all the things which the Titanium Pigment Company was obligated to do under the 1920 contract. And, on the other hand, not to do those things that Titanium Pigment Company was not to do under the 1920 contract.

Mr. WEBSTER. In other words, as I understand it, it simply agreed to respect its subsidiary's contract. Is that correct? (No response.)

The COURT. Mr. Whitney?

Mr. WHITNEY. No comment.

The COURT. All right.

Mr. DIXON. We now wish to offer in evidence, your Honor, Exhibit B. That is the agreement, your Honor, between Titan A/S and Societe Industrielle, March 3, 1927. That is the contract, if you want to refer to it, illustrated on chart No. 1.

The COURT. That is in the form of a letter dated March 3, 1927?

Mr. DIXON. Yes, your Honor.

Mr. WEBSTER. I have an objection to it.

The COURT. On what ground?

280 Mr. WEBSTER. The contract is objected to as incompetent, irrelevant and immaterial, and I would like, because of the points that I will make, being similar to the points made with reference to some of the other contracts, to be heard by your Honor on those points. It may take quite a few moments.

The COURT. I will be glad to hear you.

Mr. WEBSTER. The complaint appears to allege, and the trial memorandum submitted by the Government appears to show, and the opening of Mr. Dixon seems to clearly indicate, that it is the purpose, or one of the purposes of this action, to secure the cancellation of a number of these contracts, including this particular contract referred to as Government's Exhibit B for identification.

The COURT. They are not in court. If the parties are not here I cannot do it. I can summarize your argument as far as that is concerned.

Mr. WEBSTER. The point is that the interests of the Societe Industrielle would be materially and adversely affected; that the company is not here and that the Court cannot cancel the contract without that company present in court.

The COURT. Is TAS here?

Mr. WEBSTER. Well, as to TAS, I might have made the same point, except by reason of our peculiar
281 relationship to them it seemed somewhat fantastic to make the same argument; rather technical.

I am aware of the authorities dealing with the power of the Court in a Sherman Act case to cancel license arrangements which have been imposed upon people, according to findings of the court, that are unable to avoid such imposition, but I refer to a material contract under which mutual benefits are exchanged looking to the future. We think that the rule requiring the presence of the Societe should be applied.

282 Mr. WEBSTER. Now the next point I should like to make——

The COURT. Let me see if I can follow that point, I want to understand it, and I just let you put your point on the record. Granting that the Societe Industrielle is not here, TAS is here at least by proxy in some sort, is that right?

Mr. WEBSTER. TAS I should say was represented here.

The COURT. Regardless of what I may or may not be

able to do ultimately with respect to that contract, why isn't the contract relevant to the issues as evidence of the agreement made by TAS?

Mr. WEBSTER. Well, I think it could be considered by your Honor as relevant to the extension of the idea of the 1920 agreement with reference to a French company, and I don't make the point that it is irrelevant on that ground. I make the point simply that the contract is material, if it is material at all—and the contract can have no materiality with reference to the purpose of the Government to bring about a cancellation of the contract——

The COURT. That may be, but supposing it is material as evidence as to whether the 1920 contract should be cancelled? Why wouldn't it be admissible on that theory?

283 Mr. WEBSTER. Well, if it is accepted as admissible for that purpose and for that purpose only, and if the Government now does not take the position that it is seeking to cancel this contract in this proceeding, I do not press the objection any further.

The COURT. But why should the Government be obliged to limit its offer? If the document is admissible, isn't it admissible generally? And the fact that I may not be able to give it a decree with respect to it—in other words, let me put it this way: Isn't there a distinction between the contract as one of the—well, a far-fetched use of the word—one of the deodands of this contract and the contract as simply evidence of what the parties were doing namely, conspiring in violation of the statute? Am I not limited at this time to consider its function apart as evidence, whether this is one of the arrangements that need not be demolished?

Mr. WEBSTER. I do press upon your Honor—I think that I will make other points before we dispose of it first——

The COURT. I want to be sure I understood you.

Mr. WEBSTER. ——because your Honor's comment is involved to some extent with the other points that I had in mind making.

The COURT. All right.

Mr. WEBSTER. The next point I intended to press
284 upon your Honor is that of course an executory contract of this sort has been terminated by the war; that under the doctrine of the Hamburg-American case and other cases with which your Honor is familiar and to which I think your Honor recently referred in the case involving a motion to remand a proceeding to

the State Court, that it is perfectly clear that a contract of this sort involving executory obligations is terminated by the war.

The COURT. Wait a minute. I do not remember the case you are referring to, but did that involve an Austrian contract?

Mr. WEBSTER. Yes. It was a case involving a question of trading with the enemy.

The COURT. Who are the enemies here? France is not an enemy, neither is Norway. Is there enmity between France and Norway now? I don't know.

Mr. WEBSTER. The case of France is different from the case of course of the German contract. But the doctrine is one that applies to neutrals where any communication—if I may just refer a moment to this reference. Here is the reference I had in mind which makes this applicable to neutrals or Americans or anyone else engaged in communicating either with enemies or people in enemy-occupied territory, and the classic
285 reference is in 5 Wallace, which has been referred to many times and is a case cited in your Honor's opinion——

The COURT. I remember that.

Mr. WEBSTER. The William Bagaley. "Executory contracts with an alien enemy, or even with a neutral, if they cannot be performed except in the way of commercial intercourse with the enemy, are ipso facto dissolved by the declaration of war, which operates to that end and for that purpose with a force equivalent to that of an act of Congress."

Now apart from that, I assume that the day we invaded North Africa with our troops a state of war existed between the United States and whatever shred of government might be said to exist at Vichy.

Now the third point is one which will develop I think in the course of the trial but which has reference to this discussion, and that is it does not appear yet—well, it does not appear at all—if does not appear to what extent this contract has a material and direct effect on commerce of the United States. This contract relates primarily to trade in France and in the French Colonies and is largely material to that sort of commerce.

The COURT. In other words, it does not relate to American and foreign commerce?

Mr. WEBSTER. It does not relate directly and
286 materially, and until it appears that it does relate

to and affect directly and materially American and foreign commerce it is immaterial.

The COURT. Well, I don't have the contract so I can't discuss that with you intelligently. That is your point anyway. Those are all your three points?

Mr. WEBSTER. Those are the points?

The COURT. I am not impressed with the first point for the reasons I have already indicated. The second point conceivably may be of significance, but again when I distinguish between the contract as a contract and the instrument as evidence I don't think that the second point is as weighty as it might be. The third I want to hear from Mr. Dixon about because that is a question of relevance generally to the issues framed by the pleadings. Will it take you long, Mr. Dixon, to comment on that?

Mr. DIXON. I don't think so.

The COURT. If you want a minute, why, we will adjourn.

Mr. DIXON. I think I can cover it in a few words.

This contract, we expect to show, contains provisions as I suggested in the 1920 contract which obligated this licensee not to export into any other territory which would mean that it would be prevented from exporting
286a into the United States market. Therefore, to that extent it would be a factor in competition in either restraining or affecting commerce within the United States. And the purpose of these contracts was to prevent exports from one party into the other territory and, conversely, to prevent imports into the other party's territory and cerainly that must affect commerce in the subject matter of the contract.

The COURT. Very well. We will recess for lunch and I will rule on the objection when we return.

(Recess to 2.15 p.m.)

287 AFTERNOON SESSION

Mr. WEBSTER. If the Court please, if I may just say one more word about this question of the effect on foreign commerce. I feel that I stated my position very badly and I think I can summarize it in just a few words: The point is simply this, that the contract was a contract between a Norwegian and a French company in each of which we then, or subsequently, acquired a substantial amount of the stock: that is the National Lead Company acquired stock in Titan A/S and Titan, Inc. acquired

stock in Societe Industrielle. Furthermore, the rights of Titan A/S under the 1920 contract were subsequently taken over by Titan, Inc. Now here was a contract in which the Norwegian company, which had the 1920 contract, undertook to distribute a portion of its interest under the 1920 contract to a French company, and it did that. It was a case of carving out a piece of its interest and giving it to the French company. Now the French company is not shown, and I think will not be shown, to have ever manufactured any titanium pigments whatever. The company was never anything but a sales company. It secured its supplies of titanium pigments first, I believe, from the Norwegian company, and subsequently, for purposes of convenience, from the German company because of economies of manufacture. The agreement related to sales by the Norwegian com-
288 pany within the former French Empire. Our view, and the point I am trying to make is simply this, that it is quite clear under the authorities, we believe, that an agreement must have a material and direct effect upon American commerce. I think that this contract was not calculated to have any such effect and therefore is immaterial on that ground, as well as on the two or three other grounds that I urged previously on which your Honor has ruled. Now I believe that is, in a nutshell, that which I was attempting, rather feebly and badly, to say this morning.

The COURT. Do you want to add anything, Mr. Dixon? You do not have to unless you want to.

Mr. DIXON. I just want to add this, that we feel it is further competent as evidence of the general scheme and purpose that I have previously referred to as part of the conspiracy.

The COURT. If I assumed that a contract between a Norwegian company and a French company relating to the French market is no concern of any American, nevertheless it seems to me that where you have an agreement to which an American company is a party and which does affect the foreign commerce of the United States and the interstate commerce of the United States that you may have an agreement between two foreign companies affecting commerce as between them which is nevertheless so designed so that it has an indirect
289 bearing upon the foreign commerce of the United States and upon the imports that may come into the United States, and upon the interstate commerce that

may be engaged in within the United States so as to become both relevant and material. But regardless of that substantive question it seems to me that where the complaint charges a worldwide conspiracy to control on a globular basis the commerce in a particular commodity that it is admissible to show the truth of that allegation, although it may be that some of the agreements which make up that complete whole would, taken in and of themselves, not afford a basis for civil or criminal remedies under the antitrust law. In other words, it becomes an element necessary to show the completeness of this worldwide scheme. In any event it seems to me that it is sufficiently relevant as evidence to be admissible.

I will overrule the objection and I will admit Plaintiff's Exhibit B.

(Plaintiff's Exhibit B for identification received in evidence.)

(Discussion off the record.)

The COURT. Have you any comment on Plaintiff's Exhibit B, Mr. Dixon, now that it is received in evidence?

Mr. DIXON. Yes, your Honor, I do have a comment on it. If you will bear with me for a moment there are two or three other exhibits in connection with this
290 Exhibit B contract that I am not certain whether the defendants, whom we subpoenaed to have the documents here, have them or not. If you will let me ascertain that?

The COURT. Certainly.

(Discussion off the record.)

Mr. DIXON. Well, in the meantime I will offer in evidence Exhibit B-3.

The COURT. Is there any objection?

Mr. WEBSTER. No, subject to the same objection that was made to the French contract, Exhibit B.

The COURT. Mr. Whitney?

Mr. WHITNEY. Only the continuing one, your Honor.

The COURT. All right. It will be received and marked B-3.

(Plaintiff's Exhibit B-3 for identification received in evidence.)

Mr. DIXON. We offer in evidence Plaintiff's Exhibit B-4 for identification to complete that picture.

Mr. WEBSTER. Same objection, if the Court please.

The COURT. Objection overruled.

(Plaintiff's Exhibit B-4 for identification received in

evidence.)

291 Mr. DIXON. I wish to refer to Exhibit B, referring briefly in passing to B-3 and B-4, as being in explanation of contract B, and an extension of the definition of the Licensed Field in this contract. Now this particular contract was dated on March 3, 1927, and the parties to this agreement are co-conspirators Titan Company A/S and Societe Industrielle du Titane, which was the French company to which was allocated the territory of France and its colonies.

The COURT. Well, now, B-4, isn't that between the same parties? And B-3 does not seem to be between the same parties. I don't understand how they modified and extended it. You will have to explain that.

Mr. DIXON. Your Honor, B-3 was correspondence explaining this contract and its execution, as will be indicated, or as is indicated by this exhibit.

The COURT. Meaning B——

Mr. DIXON. B-3.

The COURT. Let me read it. All right. You had better explain that to me.

Mr. DIXON. In 1922, as appears from this exhibit, Titan Company A/S had made an agreement with another French company entitled Societe Minerale Franco Brazilien, regarding the sale of titanium in France, at which time it was contemplated that a French company be

292 formed to carry on the titanium business in the French territory and that that company was to be licensed by Titan Company A/S. This company, that is, Societe Industrielle, the other party to this contract, Exhibit B, was organized in 1925 as appears from Exhibit B-3, and the so-called formal license contract which was provided for in the previous arrangement between Titan Company A/S and Franco Bresilienne was this contract Exhibit B which we now propose to discuss.

The COURT. That was made in 1927.

Mr. DIXON. That is right. Which was made and dated March 3, 1927. Now in this contract there is a general expression of intention with regard to the carrying on of the titanium pigment business in the French territory based upon the 1920 agreement. The Licensed Field definition is in substance essentially the same as that in the 1920 contract.

The COURT. It is stronger than that. It says "The definitions shall be the definitions of the 1920 agreement."

Mr. DIXON. That is right.

The COURT. It is more than substantial.

Mr. DIXON. It is the actual incorporation into this contract of the identical provisions.

The territory of Titan Company, A/S is then
293 defined as including all other territory not included within the definition of France as described in the definition of France in contract Exhibit B. In other words, this was the beginning of the carving out of the rest of the world which had been allocated to Titan A/S in the 1920 agreement between Titanium Pigment Company and Titan Company A/S, where your Honor will recall that the Titanium Pigment Company was granted all of North America as an exclusive market and all of the rest of the world except South America was made exclusive to Titan A/S, with South America being open territory for both companies to that 1920 agreement. So out of that territory which had been allocated to Titan Company, A/S, this is the first division of that territory.

Now, Article 2 of this agreement, Exhibit B, then refers to the granting of licenses on patents, methods and experience by Titan A/S not only that which it then possessed but which it would at any time thereafter possess or acquire while these contracts were in effect. The license given to this French Company, Societe Industrielle, by Titan A/S was exclusive for the territory allocated to this French company, and to that extent it is following the same pattern with respect to the exclusive allocation of territory as was made in the 1920 agreement.

294 Then we see the further restrictions on the right to sell products within or outside of the exclusive territory allocated to the licensee or the French companies, we will call them, in this contract.

In Article III of the contract there is again the granting of all patents, methods and experience which the French company will possess or acquire within the Licensed Field back to Titan A/S while the agreement is in effect.

Now there is some reference here in Articles II and III to the right of customers of Societe Industrielle to sell products—I mean, those products outside the Licensed territory into the others territory, but that is qualified in the contract and both parties agree to impose the obligation on the customers not to sell outside of the territory. In other words, in the first part, as your Honor can see, there were some rights granted and then they were generally restricted. And if any sales were to be made outside of the licensed territory, the sale must be made

through Titan A/S as exclusive agent of Societe Industrielle and such sales can only be made with the consent of Titan A/S as such agent.

Now there is a little broader application of this principle in this contract because anticipating the expansion of it, Societe Industrielle may be required to have
295 such sales made through such persons or corporation as Titan A/S may determine outside of the territories of Societe Industrielle. Here also we see the provision with regard to the agent fixing the sales price, in other words, the price at which any such sales can be made, solely within the discretion of the agent in his territory. Also in this contract there appears the provisions as I suggested, seeing or looking to the preventing of customers purchasing any titanium pigment from the parties, from competing with the other party to the agreement in the others territory. And the parties agree that if that happens that the party in whose territory that condition arises must take the necessary steps to prevent the customer from continuing such competition.

Mr. WEBSTER. Would you mind referring to the paragraph numbers so that we can follow it?

Mr. DIXON. I am down now to paragraph 5. This Article V provides that upon applying for patent applications within the Licensed Field, each party must send a copy thereof to the other party within two months from the date of the filing, and if the other party desires applications to be filed in his particular territory on such patent applications, the other party or the inventor is obligated to take such steps as may be necessary to see that
296 such applications are filed in the other party's territory.

Now under Article VI the licenses are granted and accepted and any sublicenses that are granted are conditioned upon the licensees agreeing not to oppose any patent that Societe or any of its sublicensees shall secure at any time during the term of the agreement. And the licensee shall assume the previous obligations I have referred to and those which are found in Article IV concerning selling and designation of the other party to this contract as the agent where such sales may be made in the other person's territory by customers or licensees of Societe Industrielle.

297 The COURT. What is a retro-license? What does retro-licensing mean? Subdivision (g) of the section you are reading; Article VI?

Mr. DIXON. I do not know just what that provision does actually contemplate, except that with the background we have of this contract this would seem to refer to the license which was originally provided should be given this company under the contract between Titan A/S and Societe Bresilienne in 1922.

The COURT. I do not think it means that. I should guess that it means in some way the Society becomes a licensee of its own patent for some process; licenses the other party exclusively and then they get a relicense back. I am not sure.

Mr. DIXON. I confess, your Honor, I do not know exactly what that does mean.

The COURT. All right. Is there anything else?

Mr. DIXON. But in Article VI, as I suggested, any sublicensees are required to assume these obligations and all the obligations of Article XIV of the 1920 agreement.

Now in Article VII each party agrees to exchange the technical information or know-how that we have previously referred to within the Licensed Field and the usual provision is there in this article for inspections
298 of plants and such other means as are necessary to carry it out.

Then follows Article VIII with regard to requiring employees of any company to assign their patents, which we have seen before.

Article IX each party agrees, wherever possible, to make the other party a beneficiary when acquiring any patent rights within the Licensed Field.

And Article X is the duration provision of the contract that the exclusive licenses are to remain in force until December 31, 1941 and shall continue thereafter for 10-year periods unless renounced by either party by written notice addressed to the other party at least six years before December 31, 1941.

The COURT. That gives the principal a one-year more period to make up his mind whether he is going to act on the other situation. I dont know whether it actually works out that way.

Mr. DIXON. I was going to point out that difference your Honor. The other contained a five-year provision.

Article XI provides that the French company assumes the same obligations toward the American company, Titanium Pigment, with reference to the South American territory as it does toward the Titanium Pigment Company

in North America in the event Titanium Pigment
299 Company decides to appropriate or use South America as its exclusive territory; in other words, looking to that as a possibility.

There are other provisions there, XII and XIII, providing merely the sanctioning or tightening clauses in the contract, that you could not get out of it by licensing and creating subsidiaries, and so forth, and then follows Article XIV, being the identical number in this contract as in the 1920 agreement in which the French company is prohibited from granting any license under its patents at its disposal outside of France where such licenses do not make the licensee an associated company within the terms of Article I, paragraph (g) of this contract. And under that definition an associated company is one which agrees to comply with the provisions of the 1920 agreement, and any licenses granted in its own territory by this French company are subject to that restriction; that the licensee must agree to comply with the restrictions of the 1920 agreement.

It has been directed to my attention that in this Article XIV the term "retro-licensee" is also used and that it might possibly mean, as your Honor has indicated, a sub-licensee of a licensee of your own patents back over to the other parties.

That is all the comment I care to make on
300 Exhibit B, your Honor.

The COURT. It does not seem to have been signed by but one party. I mean it is a letter from Titan A/S to SIT, but I do not see SIT's exhibit.

Mr. DIXON. We have subpoenaed Exhibit B-1 itself for just that thing. We do not have it here.

Mr. REA. Mr. Dixon, I hand you B-1.

Mr. DIXON. We now wish to offer in evidence Plaintiff's Exhibit B-1 for identification.

The COURT. I do not understand that at all. It is a letter dated 1927 and says "The receipt of your letter of March 3, 1939." That is crystal-gazing with a vengeance.

Mr. DIXON. That should be March 3, 1927. I think that must be a typographical error.

The COURT. Have I the consent of everybody to change 1939 to 1927?

Mr. REA. Mr. Dixon, I give you the original French. There must have been a mistake.

Mr. DIXON. This says 1927, your Honor.

The COURT. Then by unanimous consent I strike out the

figures 1939 and substitute 1927. All right. Plaintiff's Exhibit B-1 is received.

(Plaintiff's Exhibit B-1 for identification received in evidence.)

301 Mr. DIXON. I now wish to offer in evidence Plaintiff's Exhibit C.

Mr. WHITNEY. I was waiting for Mr. Webster on Exhibit B.

Mr. WEBSTER. I have nothing to say about B at this time, your Honor.

Mr. WHITNEY. If your Honor please, I am going to refer only to B-4. B-4 is the letter from Titan Company, Inc. by Jebsen to Societe Industrielle du Titane dated February 17, 1939. I observe on page 2 of it, and I would like to call your Honor's attention to it, the second paragraph reads as follows:

"The expression 'associated companies' as used above is meant to refer to any company which has or will acquire a license of the character described in Article XIV, paragraph (a) of the agreement of 1920, and further the firm E. I. du Pont" (misspelled with an e on the end) "de Nemours and Company, Wilmington, Delaware, U.S.A."

I am instructed, though I have never seen it before, and I call it to your Honor's attention, that it says in so many words that du Pont was not a company which had acquired a license of the character described in Article XIV, paragraph (a). Someone, Dr. Jebsen is very kindly, although perhaps after your Honor is through

302 with this case we may conclude that his kindness was misplaced, told someone in Paris that we are going to be given a chair at this table of associated companies. We never knew it and we never occupied it. But at all events it is conclusive evidence introduced by the Government that we are not a party to the article which Mr. Dixon has repeatedly told us, including this morning, was the most important article in the whole case. He said constantly that this agreement Exhibit A of 1920 was the prototype of all the agreements, and that Article XIV was the key clause in that, and I am grateful to him for introducing evidence from the same source that we were not a party thereto and had none of the benefits thereof, which, I think, disposes of his case.

The COURT. As long as there is no motion pending——

Mr. WHITNEY. No. I won't make a motion.

The COURT. I will just let that lie for the time being. There is no comment on Mr. Webster's part, is there?

Mr. WEBSTER. No, your Honor.

The COURT. Now I understand that Exhibit C is offered?

Mr. DIXON. That is right, your Honor.

The COURT. Is there any objection?

Mr. WEBSTER. I renew as to Exhibit C for
303 identification the points made this morning generally with reference to the French agreement B, namely, that the parties are not present; that the agreement was terminated by the war; and that it had no direct nor material effect on United States commerce, and I shall emphasize the latter if and when my friends offer some of the exhibits that are ancillary to this.

The COURT. Is the document now offered, Exhibit C, a document that is printed?

Mr. WHITNEY. I might help you and ourselves and Mr. Dixon, and anyone else who is holding a printed contract, to just refer to page 46 and we have just worked out here following the notes at the top; which I am told appear at the top of the agreement Exhibit B, and the printer has just printed them in but they really turned out to be a convenient little index, and if your Honor wants to make a note, or anyone else, opposite those, No. 1 is C at page 46. No. 2 is C-1 and at page 51.

The COURT. I don't know what you are referring to.

Mr. WHITNEY. At the top of page 46.

The COURT. I see a little schedule 1 to 8.

Mr. WHITNEY. And I was going to run through from 1 to 8 and give you the pages of each.

The COURT. In the printed exhibit?

Mr. WHITNEY. Yes.

304 The COURT. Go ahead.

Mr. WHITNEY. No. 1 is Exhibit C on page 46.

Mr. WEBSTER. May I ask Mr. Dixon if this little schedule that Mr. Whitney is referring to is not something that was attached by him to the exhibit for convenience?

Mr. DIXON. It was not attached by the Government.

The COURT. It is a little memorandum.

Mr. DIXON. It can be disregarded.

Mr. WHITNEY. I think you will find it has a little index that will help. On page 46 is Exhibit C and we observe that:

No. 1 is Exhibit C at page 46.
No. 2 is Exhibit C-1 at page 51.
No. 3 is Exhibit C-2 at page 54.
No. 4 is Exhibit C-3 at page 58.

No. 5 is Exhibit C-4 at page 76.
No. 6 is Exhibit C-5 at page 78.
No. 7 is Exhibit C-6 at page 80.
No. 8 is Exhibit C-7 at page 82.

Mr. WEBSTER. Your Honor, we have no objection to the index as given by Mr. Whitney, but I would like to point out that on the original exhibit the little slip of paper which is attached to it and from which that index is taken is something that has been attached appa-
305 rently by the Antitrust Division.

Mr. DIXON. No. That is not true, your Honor. I want to make clear that was on the document and to our judgment it was as much confusing at times as it was clarifying.

The COURT. Is it suggested it was part of the original agreement?

Mr. DIXON. No. It can be disregarded as part of the agreement.

The COURT. I will disregard that as part of the exhibit and simply use it for the purposes Mr. Whitney has just indicated.

Is there any objection to Exhibit C other than what I have just heard from Mr. Webster?

Mr. WHITNEY. And the continuing objection.

The COURT. The objection is overruled and Exhibit C is received in evidence.

(Plaintiff's Exhibit C for identification received in evidence.)

Mr. DIXON. Perhaps at this time I should, and will therefore, offer in evidence each of these other exhibits which are part of the so-called German contracts.

The COURT. Exhibit C I must know a little more about. Who are the parties?

Mr. DIXON. That was the agreement and under-
306 standing between Titan Company A/S and I. G. Farbenindustrie October 3 and 20, 1927.

The COURT. All right.

Mr. DIXON. I therefore wish to offer in evidence at this time Plaintiff's Exhibit C-1.

Mr. WEBSTER. That is subject to the same objection as C itself.

Mr. DIXON. Your Honor, I will be glad to identify this for your assistance: This is the partnership agreement between Titan Company A/S and I. G. Farbenindustrie Company dated June 24 and October 20, 1927.

The COURT. The objections are of the same character I take it?

Mr. WEBSTER. That is right.

Mr. WHITNEY. Yes.

The COURT. The objections are overruled and it is received in evidence.

(Plaintiff's Exhibit C-1 for identification received in evidence.)

Mr. DIXON. We now offer in evidence Plaintiff's Exhibit C-2, which is the license agreement between I. G. Farbenindustrie and Titangesellschaft, signed October 3, 1927.

The COURT. The same objections?

Mr. WEBSTER. In addition to the other objections
307 I submit that this exhibit is objectionable because on its face it is an agreement between I. G. and T.G.

The COURT. Two German companies?

Mr. WEBSTER. Two German companies, and relates to the license given by one German company to another German company for use in Germany and is therefore immaterial and irrelevant.

The COURT. The objection is overruled.

(Plaintiff's Exhibit C-2 for identification received in evidence.)

The COURT. I take it, as I must repeat occasionally just to remind myself, that no one questions the authenticity of the documents or that the contracts were executed. These are not just pieces of paper?

Mr. WHITNEY. That is right.

Mr. DIXON. I now offer in evidence Plaintiff's Exhibit C-3, the same being license agreement between Tifan Company A/S and T.G. dated October 3 and 20, 1927.

The COURT. The same objections?

Mr. WEBSTER. The same objections as to the previous agreements in this group.

The COURT. The objections are overruled.

Mr. WHITNEY. Your Honor's precaution in saying what you were assuming throughout is correct, but I hope you will permit me to say the reason of my con-
307a ceding authenticity is because the Government and Mr. Webster tell me that is authentic.

The COURT. I understand, but you are not putting that in issue.

Mr. WHITNEY. That is right.

(Plaintiff's Exhibit C-3 for identification received in evidence.)

308 Mr. DIXON. I now offer in evidence Exhibit C-4, the same being an agreement between TG and IG, regarding the transmission of such things as services, water and gas and so on, for this new company, dated October 3, 1927.

Mr. WEBSTER. I think this is about as far north as the Government can go on making relevant agreements of this type having to do with the renting of services, of gas and so forth, and space and transportation. And I make the same objection as I made previously.

The COURT. As long as it is no further north than the Government can go.

Mr. WEBSTER. I say about as far north as they could go.

Mr. DIXON. Your Honor, off the record.

(Colloquy off the record.)

The COURT. Objection overruled. Exhibit C-4 is received in evidence.

(Plaintiff's Exhibit C-4 for identification received in evidence.)

Mr. DIXON. I now offer in evidence Exhibit C-5, the same being an agreement between TG and IG, dated October 3, 1927.

The COURT. The same objections, I take it.

Mr. WEBSTER. The same objections.

309 The COURT. I suppose, although these are called separate agreements, they are merely paragraphs of a large agreement. They seem to have been all made on the same day and the same parties and relate to the subdivisions of the same subject matter. Isn't that true?

Mr. DIXON. That is correct. I might add an explanation—I was going to make it as soon as we have these documents in evidence—that they all relate to the carrying out of the principal agreement entered into which is Exhibit C.

The COURT. Exhibit C-5 is received in evidence.

(Plaintiff's Exhibit C-5 for identification received in evidence.)

Mr. DIXON. We wish to offer in evidence Plaintiff's Exhibit C-6, the same being an agreement between TG and IG, dated October 3, 1927.

Mr. WEBSTER. I make this comment by way of glass on my previous objection, and that is that here was a case where a manufacturing company, Titangesellschaft, was making use of the great sales facilities of what it assumed the sales facilities of its parent, and it is a little

difficult for me to apprehend the connection of the National Lead Company with that.

The COURT. The atmosphere is getting more rarified, but I suppose there is still some virus of antitrust
310 floating around in it, according to the Government. Objection overruled.

(Plaintiff's Exhibit C-6 for identification received in evidence.)

Mr. DIXON. I now offer in evidence Plaintiff's Exhibit C-7, the same being an agreement between TG and Titan A/S, dated October 3 and 20, 1927.

Mr. WEBSTER. That is an agreement by which the Titan Company up to Norway have found an outlet for some of its Norwegian ore in Germany.

The COURT. You mean that it has no relationship to titanium?

Mr. WEBSTER. It it connected with titanium, titanium ilmenite, the element of titanium, I suppose.

The COURT. This ore is ilmenite?

Mr. WEBSTER. This ore is ilmenite, mined in Norway and sold under this agreement to TG.

The COURT. Well, that is close enough, if it is ilmenite. I thought it might be some unrelated ore. Objection overruled.

(Plaintiff's Exhibit C-7 for identification received in evidence.)

Mr. DIXON. I now offer in evidence Plaintiff's Exhibit C-8, the same being a contract between TG and Titan A/S, dated October 3 and 20, 1927.

311 Mr. WEBSTER. The same objections. I point out that this is an agreement under which the Titan Company was able to buy, that is, Titan A/S was able to buy fifty per cent of the capacity of TG at cost, and I may say now that that proved to be an important right to the Norwegian Company.

The COURT. It will be received.

(Plaintiff's Exhibit C-8 for identification received in evidence.)

Mr. DIXON. I wish to offer in evidence Plaintiff's Exhibit C-9. This is an extension of the Licensed Field, your Honor.

The COURT. Who are the parties?

Mr. DIXON. The parties are TG, supposed to be TG, and Titan Company, Inc. For the purpose of the record I think we can state to the Court that this exhibit was executed in the early part of 1939.

The COURT. Is that generally conceded?

Mr. Webster. Well, we will accept that subject to correction. I understand there may be some——

The Court. Early 1939 is stipulated, subject to correction. Now you notice, Mr. Whitney, that page 88 refers to you.

Mr. Whitney. Yes, sir. That is why I suggested to the gentlemen that it could not have been 1927, it
312 must have been a later date. That is that same point, of course. We know from other evidence that they had an idea they would have liked us in, and they used to try to keep the place open for us, but we never came.

The Court. Exhibit C-9 is received in evidence.

(Plaintiff's Exhibit C-9 for identification received in evidence.)

The Court. Are you through now with your C's?

Mr. Dixon. I would like now to make a few comments about this.

The Court. All right.

Mr. Dixon. Exhibit C is the agreement and understanding between the co-conspirator Titan A/S and the I. G. Farbenindustrie Company, one of the other co-conspirators, and is dated October 3 and 20, 1927. On the chart No. 1 this agreement is represented by the 1927 TG box, and the territory and so forth allocated is shown on that chart.

Now this was an agreement between the co-conspirator Titan A/S and the I. G. Farbenindustrie Company of Germany, whereby they agreed to arrange for cooperation in the field of manufacture and sale of titanium pigments and compounds. The definition of the Licensed Field is substantially the same in this agreement as in the 1920 agreement, and in the 1927 agreement to Societe Industrielle with very slight modifications. In this
313 agreement the co-conspirators agree to form a company which shall be called Titangesellschaft, which is the TG co-conspirator named in the complaint, which is to be operated by four managers, two of them to be selected by IG and two by Titan Company A/S. The parties then agree to have any titanium pigments manufactured in the territories described in the contract, which are those referred to on chart No. 1, manufactured exclusively by this new company, and to acquire their requirements for titanium pigments from this new company to be formed as previously stated. This is to be accomplished by carrying out the terms of contract B, which is the next exhibit, C-1, which I will discuss in a moment.

Then follow the mechanics of it whereby these things are to be accomplished: IG is to enter into a contract wherein it will grant to this new company an exclusive license under all patents then owned by IG or thereafter acquired by IG, which relate in any way to the Licensed Field. That was done in contract C-2, our Exhibit C-2. The Titan Company is to enter into a contract, our Exhibit C-3, that is with this new company TG, whereby it is to transfer to this new company all of its patents and processes in the Licensed Field within the territory, and to further obligate itself to disclose to this new company all of its technical information then at its disposal or which might thereafter be acquired.

314 Then follows the provisions, incidental perhaps to the main purposes of the contract, that IG and TG are to make a contract, Exhibit C-4, renting a factory belonging to this new company and placing at its disposal the necessary things to get it started, such as water, steam, electricity and so forth.

And IG and TG are to enter into a contract, our Exhibit C-5, wherein IG is to be obligated to supply this new company with all the products necessary to carry out its arrangement that was theretofore made and in turn this new company is to supply all the obligations of IG. And IG and TG are further to enter into a contract, our Exhibit C-6, appointing IG the exclusive sales agent for the total production of this new company, except such portions thereof as may be supplied to Titan Company A/S. And then Titan A/S and the new company are to enter into a contract, our Exhibit C-7, whereby Titan A/S is to supply this new company with all the ilmenite that it might require in the manufacture of titanium pigment.

Your Honor will recall that previously we had referred to Titan A/S as having some properties in Norway containing ilmenite. And Titan and TG, this new company, are to enter into another contract, our Exhibit—

The COURT: You say "are to." This agreement says they did.

315 Mr. DIXON. Yes. Well, this is what they were to do.

The COURT. Call it contemporaneous.

Mr. DIXON? That is correct. It was a reduction of the understanding and this is how it was to be carried out. (Continuing.) Obligating the new company to supply all the requirements of Titan A/S at prices to be fixed in this particular contract. In other words, a price provi

sion. And any processes intended by this new company are to be placed at the disposal of Titan Company A/S or any of its sublicensees for use in the territory of Titan A/S, and IG, the other co-conspirator connected with these contracts, is obligated to respect the territory of Titan A/S and any of the sublicensees of Titan A/S, and to refrain from producing or selling titanium pigments except through the medium of this new company. In other words this contract directly between Titan A/S and I. G. Farbenindustrie obligated the German chemical concern that we have described from operating in the titanium business in any way except through this new company.

Now the first C-1 exhibit is the partnership agreement between Titan A/S and the I. G. Farbenindustrie dated June 24 and October 20, setting up the details of the incorporation, the amount of capital, and providing for the management of this new company; and further pro-
316 viding that the company cannot be dissolved before December 31, 1957.

The COURT. Let me ask you this. The partnership formed under that name of Titangesellschaft m.b.h., is that the Titangesellschaft that we are talking about?

Mr. DIXON. That is the one, your Honor.

The COURT. So that is really a limited partnership, not a corporation.

Mr. DIXON. That is the form, as I understand it, that they use abroad. This is a partnership agreement. The facts are that Titan A/S owned 50 per cent of the stock in the new company.

The COURT. It really was a corporation?

Mr. DIXON. Yes.

Mr. WEBSTER. No.

The COURT. I thought it was a limited partnership.

Mr. WEBSTER. There wasn't any stock; but we didn't deny the charge that there was stock in the complaint because we did not think it was material.

The COURT. For practical purposes it is the same thing.

Mr. WEBSTER. That is right.

The COURT. In form it took the shape of a limited partnership.

317 Mr. WHITNEY. Your Honor, could I say off the record—

(Colloquy off the record.)

The COURT. We will take a short recess.

(Short recess.)

Mr. DIXON. I just wanted to add before I leave Exhibit C-1, that this contract also provided that until the shareholders' meeting is held or thereafter, Mr. McCarty and Dr. Jebsen, whose names your Honor will have occasion to become familiar with in some of the subsequent documents, are to be appointed as two of the general managers of this company until further managers are provided for.

Now Exhibit C-2 is the license agreement between——

Mr. WEBSTER. I would like to point out in connection with additional managers or general managers that I take that to mean in the European sense directors of the company and not managers in the usual sense.

Mr. DIXON. Exhibit C-2 is the license agreement also labelled Contract C under the series of contracts mentioned, and is between IG and this new company, TG, and is dated October 3, 1927. This is important from the point of view of showing again the general nature of the contracts and the license agreements, this one being from the I. G. Farben Company, as I suggested, to this new company TG. And in this contract IG grants to TG
318 exclusive licenses under all patents, methods and experiences in the Licensed Field theretofore defined in contract A or our Exhibit C. IG then agrees to send to TG a copy of any patent applications in the Licensed Field within a four-months period after they have been filed by IG, and TG agrees to thereafter inform IG as to whether further applications are desired in the other countries which it is obligated to pass on the value of those patents to under its contract with Titan A/S.

TG is to pay any expenses of maintaining or defending or acquiring any letters patent which IG secures in the future relating to the Licensed Field unless this new company TG surrenders its exclusive licenses. If it does it is still to be entitled to a non-exclusive license even under those circumstances.

Then follows the other provision, obligating officers of the IG to see that any patents that may be developed by the inventors, I mean any employees or officers of IG, are made available to this new company. And then they further agree, that is, TG and any exclusive licensee, under IG's patents, are to have the right to defend them but the new company is to be obligated never to question the validity of any of these patents nor to

afford any assistance to any contestant or anyone who might question their validity, and IG assumes a
319 similar obligation on any of TG's patents.

IG then obligates itself in granting any license under any processes involving or using titanium compounds to impose upon its licensees the obligation to secure all of its requirements of titanium compounds from TG or TG's licensees. And then IG agrees that it will do nothing against the interest of this new company and any of the companies which may be associated with it in the titanium pigment field. In other words, it is going to operate in the titanium pigment business only through this new company.

Now our Exhibit C-3 is the license agreement from Titan A/S to this new company, and is dated October 3 and 20, 1927, and covers the relations between Titan A/S and this new German company, TG, in exploiting processes for the production of titanium compounds. This license follows in substance previous licenses and I refer to them briefly.

The definition of Licensed Field is substantially the same as in the other agreement. Titan A/S obligates itself to grant to TG for use in TG's territory all of the patents that it then owns or may thereafter acquire, together with methods and experience, I mean the know-how again, which it might thereafter have at its disposal.

320 The customers of TG, but not TG itself, are given the right to sell finished articles, which we have referred to before outside of TG's territory, subject however to the conditions of the 1920 agreement which we have previously referred to; in other words, finished articles manufactured by customers and using titanium pigment could not be exported into, say, the United States under this provision. If there were and it affected the business of the Titanium Pigment Company in the United States under this provision of the contract, this German company would be obligated to take steps to prevent any further export of those products by the person to whom the pigment had been sold.

Then the exclusive license provisions that I have referred to. The obligations are then assumed by both Titan A/S and TG not to sell directly or indirectly in each other's territory, and, as I previously suggested, the companies further agreed to impose this obligation on

their customers. That is clearly provided for in the agreement.

The Titanium Pigment Company is appointed the exclusive agent of the parties in North America, and in South America in the event this becomes the territory of the Titanium Pigment Company under the 1920 agreement. However, no sales are to be made even in
321 the territory of the Titanium Pigment Company without the consent and approval of Titan A/S. In other words, if there were such sales even operative under the agency provision they still cannot be made unless Titan A/S agrees that they may be made in the United States.

Then this new German Company agrees, on the request of Titan A/S, to appoint as its exclusive agent any allied company which is the exclusive licensee of Titan A/S in any part of Titan's territory. The agent there, as is previously provided in the other agreements, is to fix the prices at which these products in the titanium field may be sold.

Mr. WEBSTER. I find it difficult to follow that. Which paragraph?

The COURT. He has been moving along from paragraph to paragraph. Occasionally he skips one. But go ahead. If you can now give him a pointer, he, not being familiar with it, can follow it.

It is page 64, the second paragraph.

Mr. WEBSTER. That is what he is referring to?

The COURT. I assume so.

Mr. WEBSTER. I have it now.

Mr. DIXON. And here again it becomes the territory of Titan A/S, which has everything that is not given to the new German company, and here again if the
322 sales in the other's territory in any way interferes with the sales of the allied companies outside of TG's territory, the TG agrees to take such steps as are necessary to see that those sales by their customers shall cease.

Then we have the procedural matter relating to the manner and method of exchanging patent applications, which we have discussed before, and how it shall be done and who is to make the payments. And here Titan A/S has the right to make such payments in the name of this German company on any North American patents and to charge the German company for such payments even though they are taken out in the United States, for example.

The exclusive licenses granted in this contract are again conditioned on the agreement of the German company and Titan A/S never to contest the validity of any patents under which they may be licensed and to not give aid to anyone in contesting the validity of such patents; and all royalties payable to Titan are to cease on December 31, 1936, and the new German company then assumes all obligations of Article XIV, subsection (a) which is the one we have previously discussed of the 1920 agreement, exclusive of subsections 1 and 3 which are not material to consideration of the contract from our point of view.

323 Then the know-how provision is inserted in the contract providing for the exchange of technical information, and then there is a provision in the event the American company, Titanium Pigment, shall acquire South America as its exclusive territory, which had been previously declared as open territory, that then this German company agrees to enter into the same obligations as to South America as are imposed upon it for North America. Then of course the new German company is not to get any licenses outside of its territory without making the licensee an allied company.

Now Exhibit C-4 is really unimportant. It just provides what IG shall do, as I suggested, for the new German company to get them started in accordance with Exhibit C.

Exhibit C-5, however, does require IG to take all of its requirements of titanium pigment from this German company. That agreement, as previously stated, was signed October 3, 1927, along with these others. And this is to be done on the cost-plus-10-per-cent basis.

Exhibit C-6 then appoints IG as the exclusive sales agent for TG in TG's territory with the prices, however, to be fixed by TG.

Exhibit C-7 obligates the new Germany company to take its ore supply from Titan A/S.

324 Exhibit C-8 merely provides that Titan A/S may purchase products from TG on a certain basis so that the output of this new company is to go to Titan A/S at least 50 per cent of it, at cost.

Then follows Exhibit C-9, which is the license for the extender which we previously referred to. In other words, the obligation was imposed on the German company to supply 50 per cent of its output to the Titan A/S at cost on a cost basis provided they wanted it.

Now that brought about the division of these territories

set forth specifically on chart 3, which is the territory allocated to this new company under this agreement, so that we start out with all the rest of the world having been allocated to Titan A/S under the 1920 agreement and we now find that a portion of it has been allocated to Societe Industrielle and a substantial portion of the remainder, exclusive of the British Empire territory, has been allocated in turn to this new company. I wish to point out in passing that this exclusive territory allocated to the new German company included practically all of Asia, that is Japan and China, and all of southern Europe where they had exclusive rights, with non-exclusive rights in South America, along with all the other licensees or parties to the agreement.

Mr. WEBSTER. I have no comment now, your Honor.

325 Mr. DIXON. We now wish to offer in evidence Plaintiff's Exhibit D for identification, the same being an agreement dated March 23, 1929, between Titan Company, Inc. and Titan Company A/S.

Mr. WEBSTER. No objection, your Honor, by National Lead.

The COURT. The same objection from Mr. Whitney?

Mr. WHITNEY. Yes.

The COURT. Objections overruled. Plaintiff's Exhibit D received in evidence.

(Plaintiff's Exhibit D for identification received in evidence.)

Mr. DIXON. I now wish to offer Plaintiff's Exhibit D-1 in evidence.

Mr. WHITNEY. If your Honor please, D-1 and D-2 went to the printer's this morning and they have just come back. They are pages 106 and 111 of the printer's proof [handing].

The COURT. Is there any objection to Plaintiff's Exhibit D-1?

(No response.)

The COURT. It will be received.

(Plaintiff's Exhibit D-1 for identification received in evidence.)

326 The COURT. Will you give me the parties? It is a letter.

Mr. DIXON. That is right. I might say that this is the consent of TG, the German company, and IG to the transfer of the contractual obligations of Titan A/S to Titan Company, Inc., the new company.

The COURT. It is not signed, but I take it there is no objection on that ground.

Mr. WEBSTER. Which one are you talking about?

Mr. DIXON. That is D-1.

Mr. WEBSTER. No objection on that ground.

Mr. DIXON. June 15th are the letters.

Mr. WHITNEY. It is part of the same exhibit.

Mr. DIXON. What this was, your Honor, was the forwarding of the consents of IG and TG in this matter and the consents are attached.

The COURT. Page 109 is part of the same exhibit?

Mr. DIXON. That is right, and also 110, I believe. That is the next exhibit which we have not yet offered.

The COURT. Let me be clear about it: Page 106 through page 109 constitutes D-1.

Mr. WHITNEY. It is through page 110.

The COURT. Are there any comments on D and D-1?

Mr. WEBSTER. Not yet.

The COURT. From Mr. Dixon?

327 Mr. DIXON. No, your Honor. On Exhibits D and D-1 I was reserving my comment until I had finished with offering the other one, which I now offer: Plaintiff's Exhibit D-2 for identification, in order to complete that.

The COURT. This has no signature and no names.

Mr. DIXON. The approximate date of that, as far as we can determine, is August 9, 1929.

The COURT. Is that agreed to?

Mr. WEBSTER. This is objected to as incompetent. It is a copy of a paper found in our files, but there is nothing to show that it was ever written or received, nor is there anything on the face of the document to show that it has any legal significance at all.

The COURT. In view of the objection I will have to require you to prove it.

Mr. DIXON. It is all right, your Honor. We have asked for and subpoenaed from the defendant certain documents, including minutes and records, of Titan Company, Inc., which will clearly show authority for this and we will be glad to show that when the defendants bring them in.

The COURT. All right. For the present the objection is sustained.

Mr. DIXON. So we will have to ask you to bring those exhibits.

Mr. REA. When do you want us to bring them in?

328 Mr. DIXON. You better bring them in tomorrow.

Mr. REA. Will you tell us, please, what paragraph you request that under?

Mr. DIXON. I will be glad to do that; under general minutes, and so on.

I just want to ask counsel: I assume they are objecting to it——

The COURT. On the ground of competence.

Mr. DIXON. Not on the ground that it actually did not happen? I think we can show from their own records that it did. If we have to go to that we are perfectly willing to do it.

Mr. WEBSTER. I may say that we have the minutes and we will produce them if Mr. Dixon wants them. It seems to me a little unusual to offer an unsigned document. If we find overnight that the transaction referred to is as described in this memorandum we will be glad to make some statement about it in the morning.

Mr. REA. Mr. Dixon, I understand you want us to produce tomorrow morning minutes in response to paragraph 27 of the National Lead subpoena?

Mr. DIXON. I really cannot say at this time without consulting the subpoena and my own records and notes as to what particular one I would want.

The COURT. He wants you to come in and prove
329 Exhibit D-2.

Mr. DIXON. We will endeavor to comply and tell them what we want.

I just want to comment on Exhibits D and D-1, which I understand are in evidence.

Exhibit D is an agreement between Titan A/S and Titan Company, Inc., dated March 23, 1929, whereby all of the assets of Titan A/S were transferred to Titan Company, Inc.

Mr. WEBSTER. I do not know that it appears in here that all of the assets of Titan A/S were transferred.

Mr. DIXON. What I am talking about, your Honor, is the 1920 agreement and the things that were are concerned with. I don't care whether they transferred a boiler out of Norwegian territory.

The COURT. You mean the 1920 rights?

Mr. DIXON. That is correct, your Honor.

The COURT. The 1920 agreement and its progeny.

Mr. DIXON. That is right.

Exhibit D-1 is the consent of the two German co-conspirators, TG and IG, to the transfer of the contractual obligations of Titan Company A/S to Titan Company,

Inc., this new company, dated June 15, 1929. In other words, under the provisions of the German contracts Titan A/S could only assign its assets, as far as the con-
330 tractual obligations were concerned which related to TG and IG with the consent and approval of both of those companies, and that was given in Exhibit D-1.

Mr. WEBSTER. I would just like to add a footnote to the effect that the agreement on its face provides——

The COURT. Which agreement are you talking about?

Mr. WEBSTER. Exhibit D on its face provides that A/S transfers to Incorporated all its patents and patent rights and the contracts specified in 1 to 3, and those are specified in the agreement as the contracts of 1920, a license agreement of October 18, 1922, a contract of October 3, 1927, to IG, designated as contract A, and a contract of October 3, 1927, with TG, designated as contract D, together with protocol of the same date, concerning the said contract D, with additional agreements—it simply transfers the specific rights to contracts and the property referred to in there.

The COURT. All right. Mr. Whitney?

Mr. WHITNEY. No comment, your Honor.

Mr. DIXON. I now wish to offer in evidence Exhibit E for identification, the same being the contract dated January 1, 1933, between Titanium Pigment, Inc. and Krebs Pigment & Color Corporation.

Mr. WHITNEY. I will just say for convenience, your Honor, that not anticipating we ought to print that
331 we have not yet done so, because it is annexed to our answer in printed form, but in view of the printing of the other documents we will arrange to print it at the appropriate place in sequence.

The COURT. This proposed offered agreement is between Titanium Pigment, Inc. and Krebs Pigment & Color Corporation?

Mr. DIXON. That is correct, your Honor.

The COURT. Is there any objection?

Mr. WEBSTER. No objection.

The COURT. Then Exhibit E is received in evidence.

(Plaintiff's Exhibit E for identification received in evidence.)

Mr. DIXON. I wish to comment about this contract or exhibit as follows: that in subsequent exhibits it will develop that Titanium Pigment Company, Inc. became National Lead Company, and Krebs Pigment & Color Corporation became du Pont for the purposes of these agreements.

The first part of the agreement is such that both companies, Titanium and Krebs, owned certain United States letters patents which in the opinion of their respective counsel present causes of controversy in respect of claims of mutual infringement, and that in order to avoid those controversies each party desires to enter into a license agreement of the scope and character set forth
332 in this particular agreement.

Article I then proceeds to define the Licensed Field in substantially the same general language as is contained in the previous agreements, namely, that it includes all methods, processes and apparatus in the field of manufacture and use of titanium compounds containing two per cent or more of titanium in a chemical, mechanical or physical combined state and mixtures thereof which can be used as pigments whether or not adapted for other uses, and all such compounds and mixtures which can be used as pigments, whether or not adapted for other uses.

333 In Article II both of the parties to this agreement grant to each other irrevocably and non-exclusive rights and licenses within the United States to use all processes, methods and apparatus of manufacture now or hereafter, or during the term of the agreement, used by either party, and as to which it is free to grant rights whether or not patented or subject to patent; and under and in accordance with any and all United States letters patent now or hereafter, and during the term of this agreement, owned by it or otherwise at its disposal for the grant of licenses relating to and within the limits of the Licensed Field, and to sell the products resulting from the use of such processes, methods and apparatus whether or not patented or subject to patent throughout the United States of America, its colonies and possessions, present and future, Mexico, Central America and West Indies and South America. In other words, it relates to United States patents owned by either party which they then owned or during the term of the agreement might thereafter ever acquire, and the right to use them and sell products manufactured thereunder in the territories that are specifically mentioned, and those are territories which are identical and comparable to the territories allocated to, as I have shown, Titanium Pigment Company under the 1920 agreement.

334 Then follows that notwithstanding the limitations of the Licensed Field it was understood and agreed

that each party shall have the right to sell within the licensed territory as well, which would be North or South America any and all intermediate products manufactured under the license hereby granted. Then, it is further understood that all purchases from either of the parties thereto of any products which shall be manufactured under the license shall be privileged to use the products so purchased for any and all purposes—a slight difference in that provision from the other ones in which there was a specific provision imposing the obligation.

And then follows the language that nothing in the article shall limit or restrict the right of either party to grant the third parties licenses of the same character and scope as the licenses granted by it.

The COURT. That makes it explicit but non-exclusive in character.

Mr. DIXON. That is right. Then follows Article III, which is the know-how provision of this contract which we have found in all of the others, that each party shall, during the term of the agreement, disclose to the other as promptly as may be practicable full technical information with respect to all methods, processes, apparatus
335 and products within the Licensed Field, including, when requested, specifications and claims under any United States letters patent owned, and under any application for United States letters patent filed or contemplated to be filed by it.

Now this provision is a combination, not only being a know-how provision as in the other contracts but also the one relating to the obligation to disclose patent applications, as well as patents to the end that the knowledge and experience of each party in the Licensed Field shall be at the full disposal of the other within and for the territory of the license granted by this agreement. And then it provides that these disclosures shall be made only to officers designated for the purposes in writing.

Now Article IV is one relating to the royalty provision. There was a royalty provision here which is rather difficult perhaps to follow, but it was based upon the production of each of the two companies at that particular time, and somehow if the production of one exceeded that ratio then there was to be a royalty paid on that basis. It was, however, limited to $10,000 in any one calendar year.

The COURT. $10,000 excess in any year. The net balance can't exceed.

Mr. DIXON. That is right. That was the maximum royalty which would be due or could possibly be
336 due under the contract.

The COURT. It might cancel each other out.

Mr. DIXON. The facts are that during this—I was going to tell how much had been paid, but that is already in evidence.

Mr. WHITNEY. I said that. It is already in evidence. Go ahead.

Mr. DIXON. That is all I intend to say, your Honor. The facts are that each year under this agreement up until 1936 Krebs paid to Titanium Pigment or du Pont paid to National the $10,000, and that was all. And all royalties ceased at the end of 1936. In other words, no further royalties were to be paid after that date.

The COURT. What provision is that? Oh, I see it.

Mr. DIXON. The following one, "It is understood and agreed that no royalty"——

The COURT. I see it.

Mr. DIXON. So that du Pont in fact paid $40,000 to National Lead as royalties under this agreement.

Now follows Article V whereby each party agrees while the agreement is in force to use its best efforts to assist the other to acquire on terms as favorable as possible to the other an irrevocable and non-exclusive right and license to manufacture, use and sell within the limits of the Licensed Field and within the territory of the
Licenses granted by this agreement under any
337 United States patents or applications therefor owned by it or otherwise at the disposal of other companies, firms or individuals, foreign or domestic, under which such party itself thereto is licensed. The purpose of that was to principally obligate National on the foreign commitment.

Mr. WHITNEY. Is that so? Where do you get that from? That is the usual provision in all license agreements.

Mr. DIXON. All right. Then Krebs took the obligation to offer to the foreign associates of National that might be designated by National—I am now using National in its present sense, at this time it was Titanium Pigment Company—before offering to any other person, firm or corporation the opportunity to acquire those patents upon terms that could be mutually agreed upon and worked out.

And then follows the termination or clause 6, the dura-

tion provision of the contract which, as we found in the other contract, in substance—oh yes, I wanted to point out that these licenses provided for in Article V to the foreign associates were supposed to be—or in the contract it provides that they are irrevocable and non-exclusive.

The COURT. In other words, the licenses survive the termination of the agreement.

338 Mr. DIXON. That is right. Then the agreement could be cancelled by either party at any time after December 31, 1933 upon three years' prior notice in writing, but the cancellation or termination of it was not to affect any licenses theretofore acquired by either party from the other.

Then follows Article VII, which provides that titanium——

The COURT. A mutual release.

Mr. DIXON. That is the release provision. I wanted to point this part out in the release, your Honor, if I may direct it to your attention.

The COURT. Go ahead.

Mr. DIXON. "releases and forever discharges the other from any and all claims for infringement of any and all United States letters patent relating to the Licensed Field now owned by it or hereafter during the term of this agreement." I direct your Honor's attention to the "hereafter" part.

The COURT. What does it mean "with the right to sue for past infringement"? You mean that is reserved? Well, you don't have to take a position on it. I am not clear on it.

Well, we won't have time for Mr. Webster's comments. We will adjourn until tomorrow morning.

(Adjourned to December 7, 1944, at 10.30 a.m.)

339 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, ET AL.

NEW YORK, *December 7, 1944,*
10.30 o'clock a.m.

Trial resumed.

Mr. WEBSTER. If the Court please, there are one or two matters of a preliminary nature that I might mention at this moment. The other day I suggested that in view of the rules your Honor would probably not expect us to

take an exception to rulings regarded by us as adverse, and notwithstanding the care of the reporters, whose work I think is admirable, I think your Honor's ruling on that is somewhat obscure as recorded in the record. What it says is, at page 156, "Whether that be the rule or not I will give you an exception anyhow to whatever adverse ruling you wish to take it, and thus save time."

I think what your Honor said was: "Whether that be the rule or not I will give you an exception to whatever rulings I make, and thus save time."

The COURT. Yes. I think that is a more accurate statement. The intention was quite clear, but I think it is well that you call it to our attention so that the record will be equally clear.

340 Mr. WEBSTER. There are other things that I think we will be able to adjust in the record by agreement, but I thought that was of such a nature that it ought to be brought to your Honor's attention.

Now my diligent associates have found in the files a printed copy of Government's Exhibit A, the 1920 agreement, which we believe to be more accurate than the photostatic copy of a typewritten copy which was offered for that purpose, and I suggest, pursuant to the indication yesterday, that that be substituted as the original Exhibit A for the one now so marked.

I may say that it contains on page 3 a typewritten amendment of paragraphs V(a) and (b).

Now I have first marked this so as to remove the former (a) and (b), but I believe that perhaps the proper thing to do is to——

The COURT. Incorporate them both.

Mr. WEBSTER. Simply insert the amendment at a convenient place following those two originals——

The COURT. Do you know when the amendment was inserted?

Mr. WEBSTER. It shows on its face.

The COURT. Very well.

Mr. WEBSTER. It was made as of March, 1928.

341 The COURT. Is there agreement that the exhibit suggested by Mr. Webster be substituted for Plaintiff's Exhibit A?

Mr. DIXON. As far as the Government is concerned, that was our intention, from the start, your Honor, to have that in.

The COURT. Is that agreeable to you, Mr. Whitney?

Mr. WHITNEY. Yes, your Honor.

The COURT. Then I will instruct the clerk to strike out the mark on original Exhibit A and to mark the presently tendered document as Plaintiff's Exhibit A.

(Exhibit substituted and marked as above indicated.)

The COURT. Are you going to reprint that in your printed copy, Mr. Whitney?

Mr. WHITNEY. Certainly, your Honor. I do think that perhaps Mr. Webster will be so kind as to shoulder that burden. We had never seen this document. Two days ago we were told that it did not exist. We don't know anything about it. We just took it and they handed it to us. We will be glad to reprint it for them, or they can arrange the printing.

Mr. WEBSTER. What is being done about that is that in the printed copy which Mr. Whitney was so kind as to furnish, the proof has been compared not with
341a the original Exhibit A but with the new corrected reformed Exhibit A, so that when your Honor gets the revised proof from the printer it will be an exact copy of the new Exhibit A.

342 The COURT. Do I understand, Mr. Whitney, that these preliminary sheets, in this new volume you handed me include the little supplements which you gave me yesterday?

Mr. WHITNEY. Yes, your Honor.

The COURT. So I can destroy that?

Mr. WHITNEY. Yes, your Honor.

Mr. DIXON. If counsel are finished I might add, in view of the fact that defendants have been so kind as to print the exhibits we will not burden the Court with having to take care of them and we will, therefore, assume the responsibility for the exhibits that are offered as far as their custody is concerned.

The COURT. Very well. Then I won't have to deal with the originals unless at the close of the case I should care to have them. That would be a great convenience.

You may proceed.

Mr. WHITNEY. If your Honor please, Mr. Webster says he does not want to say anything about Exhibit E, which is the last one admitted in evidence and commented upon by Mr. Dixon. That is the agreement of January 1, 1933 between Titanium Pigment Company, Inc. and Krebs Pigment & Color Corporation which, as your Honor is aware, were later respectively taken over by National Lead and du Pont. And no point is being made in this case as
343 to the separate corporate identity of Krebs through

du Pont so I must treat this case as a du Pont agreement.

But going to the clauses, I respectfully call your Honor's attention to the fact that the whole tenor and language of the agreement is utterly different from any of the earlier exhibits.

The COURT. Are you now talking about the contract annexed to the answer?

Mr. WHITNEY. Yes, your Honor, and I am using that copy. It is not yet printed in the volume, but it will be.

This agreement we believe, your Honor will find, is an agreement of essentially a patent character carefully drafted having regard to the needs of the parties inside of the United States of America and contrasts with the 1920 and other contracts which are European or International in language and tenor and which fall within the description given by Mr. Dixon on the first day of the trial.

Being essentially commercial contracts, by which Mr. Dixon said that he distinguished what were essentially patents and know-how contracts, a distinction which puts Mr. Dixon and us upon common ground—I will say that preliminarily, your Honor, because it would take a great deal of time, which I am not taking, to go through the earlier contracts, Exhibits A, B and C, to point out
344 the differences in language and tenor.

The COURT. You need not do that now.

Mr. WHITNEY. But I put great weight upon that because of the allegation in the complaint that although we agreed to this contract Exhibit E in writing, and not orally—and the point I would like to leave with your Honor is—according to the terms of the other agreement I think a misconception has arisen on this matter from its very beginning and has been that you could not have an oral agreement and be bound by all its terms, when they contrast so extraordinarily, page after page after page, and every kind of detail, with the terms we already agreed on in writing.

One can well see where the misunderstanding arose in Washington. If one takes the very brilliant summary of the earlier agreement that is found in the Government's complaint, and which was all that we knew about prior to the trial you might have the impression that they only varied in perhaps two or three major aspects from our agreement, and then you suppose, reasonably, that the defendants might have made our agreement in writing, and then orally agreed to these two or three aspects it is quite different. But when one sees these agreements as

they actually existed, the improbability of any such oral agreement arises to such a point that I submit that
345 the Government would have to bring most cogent evidence later in the trial in order to tie the two together. Of course we do not think that evidence exists, but that is anticipating.

Now, if your Honor please, referring back to the agreement in terms. First I will run through the 1933 agreement to which we were a party.

The COURT. That is Exhibit A in your answer and E in evidence?

Mr. WHITNEY. Yes. Exhibit E at the first page, 25. It opens with the recitals which were read by Mr. Dixon and he read the second and third, being recitals that whereas each owns patents and in the opinion of their respective counsel they present causes of controversy and respective claims of mutual infringement, and each of the parties in order to avoid such controversies decided to acquire from the other defendant a license—and so forth.

Now the Government has introduced the document in evidence, without reservation, if that is the fact. And there is no doubt that is true. I must not take a different position, but I do not anticipate your Honor will have to be burdened, as has been done with similar causes of issue, in detailing these patent controversies. At least I hope not. I think it is a common ground that this recital is true and therefore the basis of this agreement is that in fact there were those——

346 The COURT. Pause a minute. I want to get clear about a doctrine in evidence that I am not familiar with, a doctrine as to which I was almost falling into error until you rescused me the other day. Do you suggest when on an opinion from counsel, an exhibit, being a contract between A and B, the defendants in this case, which says, Whereas thus and thus is a fact, we agree as follows, that everybody is bound by that statement of fact contained in that agreement and that I must find it as a fact in this case?

Mr. WHITNEY. Well, no. I accept your Honor's interpretation which I think is absolutely sound, if I may say so with respect: that that would not be enough, but the Government, as I understand it, does not charge that this statement was untrue. It does not charge that there was not a bona fide patent conflict, and I take it that as the Government introduces the document that it goes this far; that if it charged that the document was untrue in

this recital of facts it would fall upon the Government to introduce evidence to that effect.

The COURT. I was under the impression from the Government's opening, and I do not recall now just how I got that impression, that the Government regarded the
347 controversies re patents and patent infringement as rather unsubstantial. I may be in error about that.

But that was the impression I formed in my mind in listening to the Government's opening.

Mr. WHITNEY. Well, your Honor, that is right, but there is nothing of that sort in the complaint.

The COURT. That may be. It is not the connection, and I am only thinking.

Mr. WHITNEY. I am not asking the Government to make a concession right here and now, but I hope they will think that over because as I understand their case, from the complaint itself, of course in theory it should be their whole case, although they may amend with your Honor's leave, that we won't need in this case to go into the points of the most dreary part of its larger cause, whether or not in that there was a conflict. If we need it we are ready with a great deal of evidence on the subject.

The COURT. The only reason I engage in this colloquy is that if you do what is generally accepted and not accept it—I let the idea jell in my mind, and it is one of the fixed ideas as we go along, but I want to suggest the idea has not jelled in my mind because of what has occurred. We have much behind them.

Mr. WHITNEY. Perhaps we will see further as we go along, your Honor. But I am sure your Honor
348 grasped that I do not need to rely on this if the Government does not want to rely on it in that way. If the Government wants to litigate that issue we will litigate it.

The COURT. Certainly.

Mr. WHITNEY. And that brings us to the contract based upon the recital of the patents conflicting, and your Honor has details of that in that little brief I submitted in which I went into Mr. Justice Brandeis' opinion, and I merely mention that because the opinion came down in 1931 and this contract was negotiated in 1932 or 1933 and I have no doubt that the counsel to whom reference is made in the contract were influenced by what has been pretty much the charter on this subject.

The COURT. You had better give the reporter the

name of the case.

Mr. WHITNEY. I am referring to Standard Oil Company of Indiana v. The United States, 283 U. S. 163; unanimous opinion in the Supreme Court by Mr. Justice Brandeis, except that Mr. Justice Stone did not sit.

349 Now we come to the articles, and as to the first one, Mr. Dixon said that this was substantially the same general language as in the previous agreements; that is, the definition of the Licensed Field. I do not quarrel with Mr. Dixon's statement. It is correct. But it is meaningless, because necessarily these contracts were both dealing with the titanium field and therefore of course substantially the same general thing would be much the same. However, what would be remarkable would be if there were any difference of language. Now as to the form of the language, they are entirely different. They did not come at all from the same draftsman and certainly this one was not taken from the 1920 agreement.

The COURT. I would not have been impressed by that. Plagiarism in the law is a permitted art.

Mr. WHITNEY. Well, your Honor, the argument of course is that we entered fully into a pre-existing conspiracy, and the argument has been that the 1920 agreement was the pattern of all the subsequent agreements including ours, and therefore if that were true one would naturally expect to find in this agreement, perhaps not identical language, but the same form and tenor, the language as the pattern that was being followed.

350 Now there this happened to be a difference of substance, because our Licensed Field is confined to this: "which can be used as pigments." That is not in the 1920 agreement. Your Honor, Mr. Dixon and your Honor will observe that I am not saying that that is a great point. It is only that it indicates the limited nature of our intention and the care of our draftsmanship distinguishing it from the 1920 agreement.

If your Honor please, in Article II there is a grant of a non-exclusive license, and in that article which was read verbatim by Mr. Dixon, or most of it, he also is weighting upon the phrase "or hereafter." In other words, he emphasized the words which covered, that the license did not merely, under the then existing patents, cover those, but extended to the future or after-acquired patents.

I only have these comments: first I know that one of the most active discussions in the law today is as to the extent of validity of agreements relating to future patents. However, if those patents are, per se, illegal, then the law must have changed because the agreements in the Standard Oil case, 283 U. S., covered future patents.

Now that is a strong case for these reasons: first,
351 it is not old law which has perhaps come into doubt through some modernization of another court, but it was a unanimous decision and was concurred in by such Justices as Holmes, Brandeis, and the then Chief Justice. It is not a case that the enterprising editors of law reviews would expect to find reversed.

Now the second thing is that those contracts were much more extreme than this, because the parties to those contracts were three of the largest oil companies in the United States—Standard Oil of New Jersey, Indiana and the Texas Company, as well as a fourth party—and they made an agreement that covered all patents that might issue upon inventions that might be made at any time within seventeen years after the date of the agreement.

I have gone to the record about that, your Honor, but there is a reference in the opinion to the fact that the patents ran until—the reference in the opinion is general, but I have gone to the record for the facts.

Now more important I think to your Honor's mind must be the underlying reason and the underlying reason is that those agreements were justified upon the basis of the fact that because of existing patent conflicts they were essentially liberalizing, and that was where the Department of Justice had a misconception. I am very
352 aware of these things because I participated in the Department of Justice on the wrong side of this case and participated in the misconception in 1926 or 1927.

Mr. WEBSTER. I was about to remark off the record——

(Colloquy off the record.)

Mr. WHITNEY. Well, as Mr. Justice Brandeis pointed out, and of course it is consistent with the whole essence of the antitrust laws—that is the reason the Circuit Court of Appeals has had very often to be reversed, they think that it is the rule in the case and they try to follow it and they are reversed in that only because the case has gone the other way—they look at the realities. The reality was that these were the major oil companies. Therefore Mr. Justice Brandeis said, you have to treat

them differently than if they were just A and B. But having treated them differently, he said, there is no reason why they have to litigate conflicting patents. They may be settled by agreement, and in order to settle by agreement necessarily, he recognized, they must enter into cross-licensing agreements. And, inasmuch as the purpose of the cross-licensing agreements was to enable free operation of the actual manufacturing, their refining, they would be useless unless they covered future patents for a reasonable period ahead.

Now under our agreement it could never be more
353 than three years because, as we will see, and as your Honor noted yesterday, it could be terminated any time within three years. And that is the situation.

Now quite a different situation arises, where it is found as a fact that the agreement in question may have been entered into for the deliberate purpose of monopolizing an industry or for some other wrongful end; thus, for example, in the Glass case, the Hartford Empire Company was found to have created a structure in the industry in the United States for the precise purpose of monopolizing it through the use of patents as the instrument and fixing prices and so on, and in that event the whole thing fell, had to be struck down, including the future patents.

We may have more enlightenment upon that, and particularly the decree, as your Honor knows, when the Supreme Court renders its decision which we are looking for any Monday.

But the case is distinguishable completely on the merits. Just like the difference say between the Appalachian Coal case for the defendants and some other case for the Government, because that was the type of case in which there was a general restraint and therefore consequences flowed from that which do not flow unless there is restraint.

354 Now I would like to come back to the agreement. That is only on the "or hereafter". In the last part of that paragraph which defines the United States and Mexico and Central America, et cetera, Mr. Dixon said that that was identical with agreement A, and I only pause to say that is not so, because Canada falls within the definition of the Titanium Pigment field in Exhibit A, but falls outside in this exhibit. And I am not making a point of that, your Honor, but the real reason that it in-

terests me is that again it evidences the fact that the Government has gone at this in sort of a general way, and the use of a word like "identical" which ought to be a word of precision, when it is wrong, does not evidence anything more than just a lack of clear understanding of a situation or a lack of close enough study, and that is therefore going to be imposed upon your Honor.

Now the next to the last paragraph in Article II was read with considerable emphasis by Mr. Dixon, and it reads as follows—it is only one sentence: "It is further understood and agreed that all purchasers from either of the parties hereto of any product intermediate or final of manufacture under the licenses hereby granted shall be privileged to use the product so purchased for any and all purposes."

355 Now, to my mind that is a plainly liberalizing provision. It merely grants a privilege and the privilege is to the customers to do anything with the product that they saw fit. It might have been written by the author of the Carbice opinion.

The COURT. I take it from several of your remarks that I am not listening to the author of the agreement.

Mr. WHITNEY. No, your Honor.

Now, Mr. Dixon's comment there was that this is slightly different from the other agreement in that the other agreement imposes requirements upon customers. And now turning for example to the French agreement—it is in the printed document at page 33; that was the Exhibit B, your Honor; page 33, Article IV—there are these provisions:

"The Societe undertakes, notwithstanding the provisions of Articles II and XX above, not to sell, directly or indirectly for or to be destined for Titan's territory, any invention, improvement or anything relating to the 'Licensed Field'; Titan on its behalf undertakes not to sell directly or indirectly for or to be destined for France such inventions, improvements or anything relating to the 'Licensed Field.'

"Societe and Titan mutually undertake to im-

356 pose, within reasonable limits, upon their customers, the obligation set forth in the preceding paragraph."

I skip to page 35, the 7th line:

"Although the above Articles II and III permit the customers of Titan and Societe freely to sell products defin-

able under the term 'finished articles', the two companies will have to see to it that their respective customers do not compete with one or the other in their respective markets and if one of the companies becomes aware of such competition from a customer of the other company, the latter should take the necessary measures to prevent the customer from continuing such competition. It seems impossible precisely to envision the measures for the application of this principle, but periodic conferences will take place between the two parties for the purpose of examining market conditions and to discuss the measures to be taken."

Your Honor would find similar provisions in the German agreement, for example, different in language, at page 63 of the print. Now, when Mr. Dixon laid emphasis upon those provisions when going over the contract yesterday afternoon, and when he then came to our contract and said that this paragraph was slightly different, I think he was indulging in a euphemism. The slight
357 difference is the precise difference between the grant of a liberalizing privilege and the imposition of a restrictive obligation, which is what these laws are all about. I am not saying that Mr. Webster's client does not have a defense. I just don't know anything about it. They may have and they may not. But I am only saying that that is their case and their problem about those two contracts. It is not slightly different from our problem; it is different from our opinion by precisely that measure which represents the difference between an antitrust problem and the absence of one.

The next clause your Honor pointed out was making the non-exclusive license explicit. That is the last of Article II. We don't need to repeat that. Then Article III is the one about know-how, and Mr. Dixon read practically all of that article. Now I take it that the applicable principles are these: first the exchange of know-how is not of course per se illegal, like an agreement to fix prices, say, because Mr. Dixon said in his opening at page 85 that he was going to ask your Honor to compel us to grant know-how. Of course his distinction is between an exchange of know-how between two parties and an offer of know-how to the entire industry. Now, the question in every know-how case is whether—although I don't
358 think there has ever been one—it is reasonable under the circumstances for the two companies to exchange know-how because that is always the question in

every antitrust case other than a per se illegality case. Now on that these considerations apply: (a) An' exchange of know-how is at least prima facie beneficial always, because it means that each of two manufacturers has a wider knowledge than it had before. In other words, I think the burden is on the other foot, as it were, that if parties are not to exchange know-how from the point of view of the welfare of the ultimate consuming public, whatever be the law they might have to defend, they are not exchanging it. But now, then (b) the time, and here I think is the point that the Government has missed and it is the heart of the matter—the time that know-how is particularly beneficial is when a new art is being developed, because the universal experience is that the development of an art goes through broadly three stages; first, what might be called the basic patents. When you have only got a basic patent you haven't really got anything for the public, the consumer. You then get a stage of development of operating methods and techniques and from those some general basic improvement patents—they are improvement patents but they are still basic patents—and what you find is that after the public has learned from the basic patent that something can happen
359 the big companies are apt to go in and each try to develop it in their own laboratories and research departments. And then they each begin to get patents of their own as to methods and techniques and operations and so on, and generally a number of those patents are good, and then comes the necessity for cross-licensing and the desirability of the exchange of know-how which simply means that each one has got a crude process at that stage, and if each one likes what the other one is doing they will do that much better. And then comes the problem for the law to have a look at it and see whether it is what I have described in fact or whether it is working into a restraint.

The third stage is when the art is sufficiently launched so that each of the companies is really engaged in the business, and then it may be—of course there never has been a case that says so—but it may be that at that stage they ought to cease and desist from exchanging know-how because they ought to compete not merely as to price and quality and so on, but perhaps they ought then to compete even as to the better processes. That is something that is not in the books; it has never been presented. And we think that in our case we have been ultra-legal, if I may

coin a phrase, because when we reached that stage whereby on the whole we were able to operate on our own,
360 we cancelled this exchange of know-how five years ago.

Toward the end of that know-how article, III, is the provision about exchange of knowledge, the end of the long first sentence in article III, "To the end that all the knowledge and experience of each party in the Licensed Field shall be at the full disposal of the other within and for the territory of the licenses granted by this agreement." Now there your Honor will begin to discern the European discomfort. There was available to us within the only territory in which we were interested, which was the Western Hemisphere, except Canada, all the knowledge and experience available to National Lead, and that was, to put it simply, an enormous boon to us. That is how we were able to develop this competitive position. There was available to National Lead within the same territory ours, but it was not available to anybody in Europe because it was only available within the territory, so that we got the European knowledge without ours going back.

The COURT. I wondered about that.

Mr. WHITNEY. I don't know what they did with it when they got it. They may have told the French and Germans——

The COURT. Were they obligated under the agreement with the French to tell them?

361 Mr. WHITNEY. Well, they were.

The COURT. Would it have been a violation of your agreement if they did so?

Mr. WHITNEY. Yes, certainly. Your Honor will probably see a good deal about that, because throughout the 1930s as a result of this, and as I indicated before—and this is surmise, but I think it is a surmise the Government will permit me to indulge in—I think the answer was that du Pont & Company, it is alleged in the complaint and admitted, is a great big company, and it is famous the world over for its research and development. It used to be proven on every woman's leg and now it is proven in every parachute, and in all fields of chemistry. And the answer was that National Lead were willing to make this narrow agreement with us in order to get the benefit of our research and development capacity. And I suppose it is the same thing, the size of the company, that tempted the Government to include us as defendants in a case in which we believe your Honor will find we do not

belong. There is a sort of irresistible temptation there.

Now if your Honor please, I pass to article IV which is the royalty provision and only mention that that provision ran only for three years. Unlike the rest of the agreement it was not a permanent provision sub-
362 ject to termination every four years. It ended December 31, 1936. It is significant that what happened in fact was that in each of those four years we had to pay National ten thousand dollars, and of course what that meant was that National Lead was way ahead of us, and that is when we were catching up. I think chart 5 shows us catching up there. So, we were paying them royalties.

The COURT. And I suppose that would indicate that you were ahead of them.

Mr. WHITNEY. We were ahead of where they thought we were going to be. That is the catching up, you see. We were producing more than they thought we were going to be able to produce.

The COURT. That is what I mean. That is why you were paying them a royalty.

Mr. WHITNEY. Yes.

Mr. WEBSTER. It indicates that du Pont was not only willing to give us a license under its patents but was willing to pay us something for our license under the patents.

Mr. WHITNEY. In all events, on December 31, 1936, it ended. I think it is of no legal significance whatever, but if it is of legal significance it is eight years ago, so I am sure it would not interest your Honor.

363 I skip down to article V. Mr. Dixon laid emphasis upon the first sentence which he read, and that is where I interposed.

"Each party hereto agrees during the term of this agreement to use its best efforts to assist the other to acquire, on terms as favorable as possible to the other, an irrevocable and non-exclusive right and license to manufacture, use and sell, within the limits of the Licensed Field and licensed territory, under any United States patents or applications therefor owned by it or otherwise at the disposal of other companies, firms or individuals, foreign or domestic, under which such party hereto itself is licensed."

Now that is the usual provision of any wise patent agreement, that if either party—if and when either party extends the license to third and fourth and fifth parties

they will get back parallel rights, because no one who thinks in advance and is a careful draftsman of his agreement or a good patent counsel is going to agree that he will give a non-exclusive license to somebody else and somebody else might pass on rights to a third party and that third party not be obligated to send it back to the first party. But that is merely a liberalizing of the art.

364 I don't see how that could under any circumstance be a restraint. That merely spreads the circle of knowledge wider.

Then the next paragraph is the one that brings into play the European situation and it is as follows:

"Krebs further agrees that during the term of this agreement it will offer to any foreign associate of Titanium designated by Titanium before offering to any other person, firm or corporation the opportunity to acquire upon mutually satisfactory terms and conditions an irrevocable and non-exclusive license,"

and so on. Now, that was in effect a first right of refusal or in effect du Pont was saying, If we have a patent we will give a license to your associates. And of course what happened was, as has already been indicated—Mr. Gesell says if we decided to license, anyway. And of course what happened was National Lead was much stronger than we were. They had a greater number of patents. They were further developed in the art, with the know-how. They anticipated, as I mentioned before, that we would have a lot of know-how. In order to get their license and their know-how they were in effect saying to us we must get something for our associates.

Now this article VII, of which we I suppose knew in some general way, but of which we never knew until in this courtroom in detail, required them to get

365 back the same rights for their foreign associates, and obviously what happened was there was a trade, and the upshot of the trade was we said, Well, we will give non-exclusive license to your associates if we are going to give it to anybody, before we give it to anybody else. Well, that cut them down by two notches, first because their foreign associates did not get it at all unless we decided to give it, and secondly, they only got it first. Your Honor knows that in these matters of course you always negotiate with one first and then with another, and the first means that the first license would be to their associate in France or Germany, leaving us free to give it to other people.

Now, five years later we changed that and made it exclusive subject to ourselves only, non-exclusive to others. That is to say, on degrees of what you might call restriction, we restricted ourselves a bit further in that we gave them each year, gave the foreign associates, exclusive rights.

The COURT. Instead of non-exclusive rights?

Mr. WHITNEY. Instead of non-exclusive rights. That was in 1937 to 1941. A new contract, a new license grant was worked out each year reserving always to ourselves the non-exclusive license, and that of course was con-
366 fined in each year to the then existing patents which were named, or it was more apt to the applications that we had out in Germany or France. I only mention that so that there will be no risk that I am misleading your Honor by acting as if this were the story throughout, and having mentioned it I think it fair to add that of course the explanation of that is that by an agreement made January 1, 1933—there was an agreement made when Dr. Bruening was Chancellor of Germany, and we were living in a golden age of happy illusion, and doubtless our people felt that maybe some day people might want to go to Germany and France, and by 1937 or 1938 the whole world picture changed, and it was perfectly obvious that there wasn't going to be anybody in Germany allowed to make titanium pigments except the IG Company. So neither the one or the other was in any way restrained. We did not make any restraint on either party. In each period we only gave a license under patents, a pure patent agreement, a pure licensing agreement, and the first time it was only non-exclusive, and the second time what made it exclusive was an external factor, but even then we were successful in reserving to ourselves the right in ourselves.

Now then I turn to Article VI, and that is the termination article, and I only mention that although agree-
367 ment A, as your Honor pointed out yesterday, would require at least ten years to terminate, indeed theoretically it could require 14 years and 364 days, if you permit five years to go by, and this required only three years. I think that is not without importance because it shows the capacity of either party very promptly to put an end to the whole agreement if it saw fit, and it is not worthy of undue emphasis, I don't think.

In Article VII we have about three different provisions, Articles VII and VIII, three different provisions, which again I submit to your Honor are characteristic of patent license contracts, the sort of provisions that would not

have been written except by people who were thinking in terms only of licenses under patents.

Now, the first is a release for claims for past infringement. Obviously you could not have a cross-license for the future without a release for the past. You could not be litigating on the one hand and licensing on the other. The second paragraph is a release of customers that is only beneficial to the industry. Your Honor understands that the consumers of these products are mostly other manufacturers,—not entirely. And, finally, the agreement that it shall not be assignable by either party. It is essentially personally in character, unlike the other agreements, which were assignable in whole.

368 If your Honor will permit, I am most of the way through, but I am going back for a moment to the other agreement, Exhibit A, just to mention two or three of the paragraphs by contrast. I have passed over the definition sufficiently without repeating it, but at page 3 in II and III are the reciprocal grants which Mr. Dixon emphasized, and he particularly emphasized the two-line clause that begins on page 3 on the 14th line of the page, two lines above the end of the sentence, reading as follows: "but said license shall not permit the licensee to make any sale directly or indirectly in or for any territory within North America."

And there is a reciprocal clause in III and that is similar to the one I have referred to in the French and German agreement, and it is absent from ours.

As to mere form, for instance, in the great long paragraph V, which is the paragraph working out the exchange of licenses, there is nothing of that sort in ours, as there would be if this were the pattern.

Then in VI, passing over a paragraph that I don't think of much substantive importance now, but that evidences changes, that paragraph A, about recognition of validity is not in ours. That is VI(a) at the bottom of page 7.

The royalty provisions are completely different.

369 Those are VI(b), pages 8 to 10. And then another major difference in VI(b) on page 10, about the appointment of a sole agent which of course is a commercial provision. It does not appear in ours.

Then that important note (N.B.") provision on page 11, which is under (c) upon which Mr. Dixon placed great emphasis, describing it as follows:

This is a clause obligating the parties to do whatever was possible to prevent sales by customers in the other party's territory.

And Mr. Webster, you will recall, said that it had never been enforced and necessarily he renounced it or some such phrase. But again it of course is not in our agreement or anything of that sort. And so with most of the rest of the clauses. Just for example, as evidence of the closeness of the relationship in (a) in the compulsory element, is Article VIII on page 13 requiring the other party to cause its officers, agents and employees to assign. We were not required in that way; we just exchanged.

Then I go through other clauses I have mentioned like the assignment clause and the termination clause and come to Article XIV, and Mr. Dixon said of that that this paragraph gave it its most forceful sanction from the point of view of the charges of the complaint. And it is
370 that complete absence of sanction, an apt word that he chose, which distinguishes our part of the case. And Mr. Dixon then construed the first paragraph to mean that under article XIV the parties could not license for sale even in their own territory. That of course is absent from our case.

Mr. WEBSTER. It is absent from Exhibit A.

Mr. WHITNEY. Right. Thank you. I don't want to prejudice either party. So, there is a battleground for that.

Now, your Honor, my conclusion on that is just to suggest to your Honor that as our grants of licenses to Zirconium and Virginia Chemical come into this case your Honor will doubtless be watching them closely to see whether they contain within them the provisions that were we parties to article XIV we would be required to put into them as one of the tests as to whether we are one of the parties to article XIV. And I have reference particularly to the whole article XIV.

Then there is an important provision, Arabic 2, on page 16, of which Mr. Dixon said: Anyone who subsequently became licensed under this agreement or became a party to it would be found—and then he used his normal phrase—and that then became the pattern of the agreements.

370a Your Honor and my other friends have been very patient, and I am closing now with the statement that Mr. Dixon I think has made the issue a very practical one as to whether this agreement which was the foundation of the conspiracy alleged against the other defendants was the pattern of our agreement or was not.

The COURT. I think we will take a recess.

(Short recess.)

371 Mr. DIXON. May it please the Court, on behalf of the Government may I reserve at this time some time to reply at a more appropriate time.

The COURT. All right. Let us understand each other, gentlemen. We are not engaging in argument on the case. All I am permitting thus far is comment on the exhibits because manifestly they are complicated and I think it would help me comprehend the case as we want really if I had the Government's facts and defendants' comments. But I do not want to engage in argument in reply.

Mr. DIXON. What I intended, your Honor, in view of the legal references made at this time, before the end of the trial——

The COURT. Oh, of course; you will have ample opportunity.

Mr. DIXON. Because obviously we are not going to argue our case at this time.

The COURT. Correct.

Mr. DIXON. And do not intend to.

The COURT. Correct.

Mr. DIXON. We offer in evidence Plaintiff's Exhibit E-1, the same being agreement between Titanium Pigment Company, Inc., Krebs Pigment and Color Corporation, and E. I. du Pont de Nemours and Company, dated January 1, 1936.

372 The COURT. Is there any objection other than those that have already been noted?

Mr. WHITNEY. No objection.

The COURT. It will be received.

(Plaintiff's Exhibit E-1 for identification received in evidence.)

Mr. DIXON. This document is self-explanatory. It is merely an assumption of all the obligations that were imposed upon Krebs by the previous contract by du Pont de Nemours and Company, which has been covered by counsel for du Pont.

I now wish to offer in evidence Plaintiff's Exhibit E-2, the same being on page 9.

Mr. WHITNEY. I just would like to call his Honor's attention to the provisions at the top of page 96, providing that du Pont takes nothing which does not relate primarily to or come within the scope of the activities regularly conducted by its pigment department. I don't think it is important. It is a rather minor point but I just wanted to comment on that in passing.

The COURT. Is there any comment by Mr. Webster?

Mr. WEBSTER. No, your Honor.

Mr. DIXON. Do I understand that Exhibit E-2 is in evidence?

373 (Plaintiff's Exhibit E-2 for identification received in evidence.)

Mr. DIXON. This exhibit, your Honor, is on page 98 of the printed record, as we indicated, and is one where National Lead assumes the obligations of the contract of January 1, 1933, between Titanium Pigment Company and Krebs; in other words, it is comparable to the Exhibit E-1, wherein du Pont did the same thing as regards to the business of Krebs. The parties to that agreement are du Pont, Titanium Pigment Company and National Lead.

Mr. WEBSTER. Du Pont is not a party.

Mr. DIXON. I believe that is in E-2.

Mr. WEBSTER. I have an agreement in front of me which is an indenture made the 31st day of October.

The COURT. That is not the language that was called to my attention.

Mr. DIXON. We had better get it straight.

The COURT. The language is here, "Agreement entered into this 31st day of October, 1936," and the parties named are du Pont, Titanium Pigment, or TP, and National Lead or NL.

Mr. WEBSTER. All right. Is there a mistake in the original document received in evidence? The official copy marked E-2 is apparently the one I referred to as an indenture to which only the Titanium Pigment Com-

374 pany and National Lead are parties.

Mr. DIXON. It should be corrected if that be the case.

The COURT. Do you have the original of E-2 that you have in mind?

Mr. DIXON. Yes, your Honor. It would appear that there was a mistake in the introduction of that exhibit. We have here a copy.

The COURT. Will you offer the correct one.

Mr. DIXON. Yes. We will now offer it, and we will withdraw the other exhibit, that is, Exhibit E-2, and we will now offer a new one.

The COURT. First we will mark E-2 in evidence.

(Plaintiff's Exhibit E-2 for identification received in evidence.)

The COURT. Now will you offer the correct one and have that marked Exhibit E-2.

Mr. DIXON. I now offer Plaintiff's Exhibit E-2 in evi-

dence, the same being an agreement between du Pont, Titanium Pigment Company, Inc., and National Lead Company, dated October 31, 1936.

Mr. WEBSTER. No objection.

(Marked Plaintiff's Exhibit E-2.)

The COURT. Now I will instruct the clerk to strike out the endorsement E-2 on the incorrect one.

375 Now, Mr. Dixon, do you want a new number assigned to that incorrectly marked document?

Mr. DIXON. No, your Honor.

The COURT. Then you will return that to counsel.

Mr. DIXON. We now offer in evidence Plaintiff's Exhibit E-3, the same being an agreement dated January 1, 1941, between National Lead Company and du Pont de Nemours & Company, which is on page 112 of the printed copy.

(Plaintiff's Exhibit E-3 for identification received in evidence.)

The COURT. Is there any comment on that?

Mr. DIXON. Yes, your Honor. This was an amendment to the 1933 agreement, our Exhibit E, in which two things appear to have been done. The Licensed Field was extended to include extender pigments and exchange of know-how was disposed of between the parties.

The COURT. What do you mean by disposed of?

Mr. DIXON. Eliminated so far as the contract was concerned. In other words, there was a provision, as we pointed out previously in our Exhibit E, between the parties for an exchange of know-how, and that does not appear in this amendment to the contract of 1933, or the amendment to Exhibit E.

The COURT. Let me be clear on that. This, in form, is an amendment or is it a substituted agreement?

376 Mr. DIXON. It was called an amendment to the 1933 agreement.

The COURT. Is the know-how clause stricken out or is there a simple new agreement which does not contain it?

Mr. WEBSTER. Your Honor will find that is at the head of Article I of the agreement—the tenor of it.

Mr. WHITNEY. It is Article III, your Honor, page 115 of the printed copy.

The COURT. All right.

Mr. WHITNEY. Mr. Dixon, a minor correction on the first point. The first point was that it was not thought that it was clarified to include extended pigments, as they

were in the original agreement. It was clarified to include extenders.

The COURT. I am glad you corrected me because I made a wrong note of it. In fact, as I remember, the expert who testified said there are no such things as extended pigments. There are only composite pigments and there are extenders.

Mr. DIXON. That is correct.

The COURT. And the application of the extender converts the product into a composite pigment.

Mr. DIXON. In the trade, your Honor, the confusion arises from this, that an extended pigment is
377 also a composite pigment, and an extender is the matter that they use with the TiO_2 to make an extended or composite pigment.

The COURT. Are there any comments other than that, Mr. Whitney?

Mr. WHITNEY. No, your Honor.

The COURT. Mr. Webster?

Mr. WEBSTER. No.

Mr. DIXON. We now wish to offer in evidence Plaintiff's Exhibit F for identification, which appears on page 119 of the printed record, the same being an agreement of cooperation dated February 16, 1933, between Imperial Chemical Industries, Ltd., that is ICI, and Imperial Smelting Corporation, Ltd., which is ISC, and Goodlass Wall and Lead Industries, Ltd., which is GW, and Titan Company, Inc., which is Tinc.

The COURT. Dated what?

Mr. DIXON. The date of that agreement is February 16, 1933, your Honor.

Mr. WEBSTER. I object to the exhibit as involving parties who are not present, and whose interests are being materially and injuriously affected if the action is to cancel the contract, and second, that the agreement does not appear to have any material or direct effect on American Foreign commerce.

378 The COURT. Those are all the objections of the same character that you have already made yesterday in another connection, and which I overruled then and I will overrule them now.

Mr. WHITNEY. Our continuing objection should be recognized here. I make no such objection to the E group as we do to the others.

The COURT. Objections overruled and Exhibit F is received.

(Plaintiff's Exhibit F for identification received in evidence.)

Mr. WEBSTER. I would like to ask Mr. Dixon, and I have had in mind asking him in court rather than outside, when the original was offered, did you intend to offer the marginal notes?

Mr. DIXON. Oh, no, indeed, your Honor.

Mr. WEBSTER. They appear on the original exhibit——

The COURT. It has been reprinted in that form.

Mr. DIXON. They have been reprinted but I think it should be removed from the context.

The COURT. You are not offering the marginal notes?

Mr. DIXON. Absolutely not, your Honor, just offering the contract. If they appear in the exhibit or the
379 printed copy of the exhibit, they should be stricken.

The COURT. Does anybody else want to offer them? (No response.) All right.

Mr. DIXON. Perhaps I could defer comment on this, your Honor, until I complete the full series of these agreements.

The COURT. Why, of course.

Mr. DIXON. We now offer Plaintiff's Exhibit F-1 for identification in evidence, the same being shown on page 129 of the printed record, and being a license agreement dated March 10, 1933, between Titan Company, Inc. and British Titan Products Company Limited, that is BTP.

Mr. WEBSTER. The same objection, your Honor.

Mr. WHITNEY. I do not take any objection at this time other than the continuing one.

The COURT. Objection overruled. I will take it.

(Plaintiff's Exhibit F-1 for identification received in evidence.)

Mr. DIXON. We wish to offer in evidence Plaintiff's Exhibit F-2, being on page 149 of the printed record and being license agreement dated March 10, 1933, between ICI, ISC, GW and BTP.

The COURT. The same objections?

Mr. WEBSTER. I make the same objection and the additional objection that it is an agreement between
380 British parties only.

The COURT. Objection overruled, and Exhibit F-2 is received in evidence.

(Plaintiff's Exhibit F-2 for identification received in evidence.)

Mr. DIXON. We now offer Plaintiff's Exhibit F-3 on

page 154 of the record, same being an agreement dated March 10, 1933, between BTP and Tinc.

Mr. WEBSTER. The same objection.

The COURT. Overruled. It will be received in evidence.

(Plaintiff's Exhibit F-3 for identification received in evidence.)

Mr. DIXON. We now offer in evidence Plaintiff's Exhibit F-4 on page 156 of the printed record, the same being an agreement dated March 10, 1933, between Tinc and BTP.

Mr. WEBSTER. I make the same objection with this notation, that it too only affects British parties.

The COURT. The objection is overruled.

(Plaintiff's Exhibit F-4 for identification received in evidence.)

Mr. DIXON. We are now offering in evidence Plaintiff's Exhibit F-5, which is on page 163 of the printed record, being an agreement dated March 10, 1933,
381 between BTP and R. W. Greeff, Ltd.

Mr. WEBSTER. I object on the further ground that it appears to be an agreement in the nature of an agency agreement whereby the British companies——

The COURT. I have not heard that name Greeff mentioned before except once in the opening. How is that material?

Mr. DIXON. That is the agent appointed by the British Company in the territory and in the discussion of these exhibits I will show the relevancy of that contract.

The COURT. All right, it will be received.

(Plaintiff's Exhibit F-5 for identification received in evidence.)

Mr. Dixon: We offer Plaintiff's Exhibit F-6 in evidence, being on page 168, and being an agreement dated March 10, 1933, between Tinc and BTP.

Mr. WEBSTER. I make the same objection.

The COURT. Objection overruled. Plaintiff's Exhibit F-6 will be marked in evidence.

(Plaintiff's Exhibit F-6 for identification received in evidence.)

Mr. DIXON. I wish to offer in evidence Plaintiff's Exhibit F-7 for identification, same being an agreement dated February 17, 1939, between Titan Company, Inc.,
382 or Tinc, and BTP. That is on page 171 of the printed record, your Honor.

Mr. WEBSTER. The same objection.

The COURT. Overruled. I will take it.

(Plaintiff's Exhibit F-7 for identification received in evidence.)

Mr. DIXON. There is one more exhibit in this series which we will offer, not now, but we will proceed to offer it at a later date.

I have already pointed out that prior to the execution of Exhibit F, that the Titan Company, Inc., or Tinc, had taken from Titan A/S and had allocated from its territory that which was the rest of the world, exclusive of that given or allocated to Titanium Pigment Company; the first thereof to Societe Industrielle under Exhibit B, and to the German company under Exhibit C.

The territory covered by these agreements relates to the British Empire, exclusive of Canadian territory and Newfoundland, and that portion of the territory adjacent to North America which could be included in a broad definition of the British Empire.

Now in this agreement which I am now referring to, Exhibit F, which was between the companies shown on chart No. 4, ISC, ICI and GW, those companies agreed with Tinc to form a new company, or to engage in
383 by taking shares and having an interest in BTP, which was given the exclusive right to manufacture and sell titanium and its compounds throughout the allocated territory under this agreement, which was, as I previously suggested, all of the British Empire, excluding, however, Canada, Newfoundland, the islands adjoining, and North America. Now all of the parties under this agreement, Exhibit F, namely, the ISC, the ICI and GW, were to purchase their requirements of titanium pigment from this new company, BTP, and to take steps——

Mr. WEBSTER. Will you now refer to the paragraph in the same way you did to the pages?

Mr. DIXON. I have not had a chance to read the record of it. It starts in the early part of the agreement. It is paragraph 1 of the agreement, your Honor. It is contained in paragraph 1, in answer to Mr. Webster's question.

(Continuing) To require their subsidiaries as set out to do likewise. This Tinc and this new company, BTP, are to enter into a license agreement, and the other companies are likewise to enter into license agreements with BTP covering the licensed field, and Tinc is to transfer to this new company all of its business in the British Isles. The capital structure is then provided for in the agree-

ment, and in this company, it has been pointed
384 out, the Titan Company owned a 49 per cent interest.

And provisions were contained in this agreement to the effect that no party to it could dispose of their interests without the consent of all the parties to the agreement.

Now under this contract, as I have indicated, we appended these other exhibits which I will now briefly discuss.

Exhibit F-1, the license agreement dated March 10, 1933, between Tinc and BTP, in Article 1 the licensed field is defined; also North and South America as to finished articles as to the territory of BTP and Tinc and other allied companies; in other words, it is clearly shown what territories have been allocated at that time under the other agreements and what territories are covered by this agreement.

Under Article II, Tinc grants an exclusive license to the new British company for its territory on all patents, processed and subject matter within the licensed field, which Tinc had at the time of the agreement or might thereafter acquire.

BTP is granted the right to make sublicenses, providing the sublicensee agrees to conform to the terms of the agreement between BTP and Tinc. In other words, that is the provision appearing in the previous agree-
385 ments that we have referred to before.

Now BTP is not to make any sales of finished articles and so forth outside of its territory under Article II, so that the provisions of Article VI of the 1920 agreement may be enforced.

In Article III BTP grants an exclusive license to Tinc for its territory on all patents then owned or which it might thereafter acquire, on which BTP would have a right under the patents, and those rights are to be made available to Tinc or anyone that may be designated within the territories thus allocated to BTP. And then if BTP grants any license in Tinc territory the titanium compounds, if any, which are used shall be purchased from the company that is the allied company in whose territory the license is granted.

386 And BTP further agrees to grant exclusive licenses directly to any of the allied companies on the request of Tinc on any patents in the territory of Tinc.

Then follows Article IV which provides that neither of

the parties shall knowingly permit customers to sell any of the products within the Licensed Field within the territory of the other party and shall take such steps as may be necessary to make certain that this obligation is observed by their customers. If, however, such sales are made they shall be made through the company as exclusive agent in whose territory the sales are made by BTP. In other words, each party is the exclusive agent of the other for the sales of the other party in the other's territory. And BTP then appoints Titanium Pigment Company its exclusive agent for North America for any sales made in North America under the provisions of Article VI(c) of the 1920 agreement. Here again the sale can only be made in North America with the consent of Tinc. The agent is of course empowered, as in the previous agreements, to fix its own prices where such sales are made and conditions for the resale of the products within the Licensed Field, and each party undertakes again to prevent its customers from competing with the other in the other's territory
387 in the sale of finished articles permitted under this agreement.

Now in Article V we have the procedure for exchanging patent applications between the parties which is found in the German agreements, Exhibit C and that series, and Societe Industrielle agreements, Exhibit B. The exclusive licenses in Article VI are conditioned upon the payment of royalties by BTP as well as the performance of the other conditions, including the assumption by BTP of the obligations of Article IV of the 1920 contract, Exhibit A.

In Article VII both parties, that is Tinc and BTP, are to exchange accurate technical information or know-how, and permission is granted each party to inspect each other's plants for that purpose. Then follows the provision regarding the assignment of inventions of employees.

Then in Article IX each party agrees it will endeavor to provide to the other party as it may secure in its territory any inventions from other persons within the Licensed Field and make them available to the other party.

Then follows a provision in Article X with regard to the exclusive licenses remaining in force for the longest period for which the respective parties have power to grant
388 licenses, but those exclusive licenses shall terminate in the event Tinc shall cease to own at least 25 per cent of a portion of the capital stock of this company. South America is made open territory for Tinc and TP, that is Titanium Pigment Company, and reference is made to them in this contract. Either party may then grant

sub-licenses as long as its exclusive license is in effect, provided the sub-licensee agrees to render statements of its production twice a year to the licensor and agrees to grant the licensor exclusive licenses on patents within the Licensed Field which the sub-licensee may acquire, and to assume the various obligations imposed upon the respective parties as to sales, products, agents and patents which we have previously discussed.

Exhibit F-2 on page 149, dated March 10, 1933, is one between ICI, ISC, GW and BTP.

The COURT. You are not reading the correct exhibit. You said F-2?

Mr. DIXON. F-2.

The COURT. F-2 is an agreement between BTP and—it doesn't say who the others are, it is blank. It looks like a form of agreement rather than an agreement.

Mr. DIXON. This is apparently all that was printed. It is a complete agreement.

The COURT. That is what you told me, that it is
389 between ICI, ISC, GW and BTP. That is what you told me when it was introduced in evidence.

Mr. DIXON. That is what it was. And here again we may have to resort to our stipulation to get the proper exhibit in evidence.

The COURT. It may be that the parties you have mentioned were inserted in the blank space.

Mr. DIXON. Well, that is the fact, your Honor, as I understand it, but the blank here won't help you very much in coming to that conclusion. We will therefore have to ask counsel for the defendants to state what the fact is with respect to that particular agreement.

Mr. WEBSTER. I understand, Mr. Dixon's statement is substantially correct.

The COURT. May I write into that exhibit the words mentioned?

Mr. WEBSTER. I don't know whether they actually had all of those parties in the one agreement.

The COURT. No. I mean the parties.

Mr. WEBSTER. Or whether an agreement in this form was executed by each of the British parties to BTP.

Well, I think that this can be cleared up by simply stating that it was provided in the British agreement, the main British agreement, that scheduled agreement No. 2 would be executed by ICI, ISC and Goodlass and
390 that such agreement was executed.

The COURT. Is that stipulated?

Mr. WHITNEY. Yes, your Honor.

The Court. Very well. It is stipulated that Plaintiff's Exhibit F-2 where the word "grantor" is used that the grantor included ICI, ISC and GW and that such agreements were executed.

Mr. Webster. I may just say that the fact is for the record that there were separate agreements executed by each of these parties in separate form.

The Court. I understand. Three separate incidents in each of which one of these parties was the grantor.

Mr. Webster. That is right.

Mr. Dixon. So that the record may be clear, then, I understand that Exhibit F-2 is a license agreement between ICI, ISC, GW and BTP; those companies, that is, exclusive of BTP—I withdraw that, your Honor.

The Court. In each one of these agreements the grantor party was ICI in one, ISC in the second case and GW in the third, and that in each of those agreements BTP was the party grantee.

Mr. Dixon. That is right.

The Court. So we will take that as fact.

Mr. Dixon. So that we will not have to offer separate exhibits.

391 The Court. No.

Mr. Dixon. That was the only thought I had in mind.

Well, this exhibit covers the granting of patents, exclusive licenses by the parties to the BTP which they then owned or might thereafter acquire, and provides that when it files any patent applications relating to the Licensed Field copies thereof will be sent to BTP within two months from the date of the filing of the application, and that within a period of four months thereafter BTP will notify the company who sends in the application whether it desires the company who sends in the application to file similar applications in the territories outside of the territory of the BTP. In other words, making available to the allied companies outside of the territory of BTP such inventions as may be developed within the Licensed Field by this company.

The Court. There was no cross-agreement in this contract whereby BTP assumed any obligation to do the same thing on its patents or future patents?

Mr. Dixon. That is right, because this company was to be the exclusive media of operations of the other companies.

The Court. Yes. I just want to be clear. By this

agreement BTP did not agree to license ICI, ISC
392 and GW with patents in the Field which it might own or acquire, is that correct?

Mr. DIXON. That is correct.

The COURT. You notice also that on page 153 of the print it appears that the ICI agreement was slightly different from the agreement of the other parties.

Mr. DIXON. That is right. There is a slight difference in the definition of the Licensed Field. I believe anything relating to the manufacture of tetrachloride was excluded.

The COURT. All right.

Mr. DIXON. Now Exhibit F-3, the agreement between BTP and Tinc, provided for the transfer to BTP of the business of Tinc within the British Isles. In other words, up to that time Tinc had been operating independently and had a business there and it was now transferred over to the new company, and this is the agreement effecting the transfer.

Exhibit F-4 between Tinc and BTP, Tinc sold its titanium products to BTP and turned over to it all the current contracts for the sale of titanium products and——

The COURT. In the field reserved to BTP?

Mr. DIXON. That is right.

The COURT. Turning over its inventory and
393 contract.

Mr. DIXON. That is right. And continued to take such other steps as might be necessary to vest the benefit of its business in the new company BTP.

Now, Exhibit F-5 is one between BTP and the RW Greeff & Company, Ltd., and Greeff prior to that time had been acting as an agent for Tinc in this territory and BTP——

The COURT. Is that conceded, or do you want to prove it?

Mr. DIXON. I don't think it is in dispute.

The COURT. The question is whether you concede or stipulate that Greeff used to be the agent of Tinc before Tinc sold its British business to BTP.

Mr. WEBSTER. Well, that is conceded, yes.

The COURT. That is conceded?

Mr. WHITNEY. Yes, your Honor.

The COURT. You are willing to take Mr. Webster's concession as your own?

Mr. WHITNEY. Yes, sir.

The COURT. Very well, then. We don't have to bother proving it. All right, go ahead.

Mr. Dixon. And in this contract, the agent, Greeff & Company, obligates itself not to sell titanium products for export outside of the territory allocated to
394 Tinc, nor to enter into any contract for the delivery of more than 50 tons of Titan products to any customer without imposing the above export restriction, with the right to cancel any future delivery to the customer in the event such restriction is breached by the customer. And no customer is to export in manufactured form any Titan products to the North American Continent.

In Exhibit F-6, another agreement dated March 10, 1933 between Tinc and BTP, Tinc agrees to supply BTP with titanium products for a specified period.

The Court. So that it can get under production; is that the idea?

Mr. Dixon. That is right, your Honor. This arrangement is to be effected on a cost plus 10% basis, and BTP is to cooperate with TG to the extent of supplying TG, the German operating company, with additional capital if necessary to expand its plant on such terms as may be agreed upon between TG and BTP.

Exhibit F-7 is merely an extension of the Licensed Field effected on February 17, 1939, or that approximate date, on all of the contracts with the allied companies, and this exhibit effects that extension in the Licensed Field as far as BTP is concerned.

The Court. That is the last of the F series, isn't it?

Mr. Dixon. I have one more exhibit, your Honor.

395 The Court. You haven't offered it yet.

Mr. Dixon. I haven't offered it yet.

The Court. Before you do that, I observe that some of the F series of contracts do not in their exhibit form appear to have been executed. Is it stipulated that they were signed by the parties named?

Mr. Webster. Yes, it is so stipulated.

The Court. Mr. Whitney?

Mr. Whitney. Yes, sir.

The Court. Very well.

Mr. Dixon. That is correct, your Honor. We have been using these copies and that is the reason, unfortunately, the copy which you have seen and which has gone in evidence is not the executed one.

The Court. I understand that, but I want to save time or avoid the contingency of having at the last day of the trial somebody come in with a lot of proof about execution.

Mr. Webster. Your Honor need not have any fear of that, sir.

The COURT. Very well.

Mr. DIXON. Thank you, your Honor. I think that is helpful to all counsel if we have these understandings with reference to these matters as we go along.

The COURT. Now you say you want to offer another F exhibit?

396 Mr. DIXON. Well, we will offer it in this series as soon as it is available.

Mr. REA. Just a minute. That document was not subpoenaed. We have not had a chance to look at it, but we will look at it over the noon recess and make a statement about it right after the noon recess.

The COURT. All right.

Mr. DIXON. That is correct, your Honor.

The COURT. He hasn't got it so you can't offer it.

Mr. DIXON. So we will defer that until we secure it.

The COURT. Any other comment you want to make on the F series?

Mr. DIXON. That is all on this series.

The COURT. Mr. Webster.

Mr. WEBSTER. Your Honor, there are several provisions of the contracts or at least one of the contracts that I would like to call attention to and make some further comment about them.

Your Honor will note on page 152 that it is provided that the share——

397 The COURT. That comes out of F-2.

Mr. WEBSTER. F, I believe, your Honor.

The COURT. Page 152 is not F-2.

Mr. WEBSTER. The printed copy did not show F-2 that I had been using before. It provides for reorganizing the share capital of BTP which had been nominal up to that time, and provides that it shall be——

The COURT. I don't find that in the page you refer to.

Mr. WEBSTER. Excuse me, it is page 122. It is Exhibit F.

Mr. WEBSTER. It provides that the share capital of BTP shall be increased to £150,000, consisting of 25,000 A shares of £1 each, which shall be issued for cash, and 125,000 B shares of £1 each which shall be issued as fully paid up to Tinc, or Titan, Inc., as consideration for the transfer by Titan, Inc. to BTP of the existing British business of that company.

Now on the next page, 123, the distribution of shares among these companies is shown, that is, the then distribution of shares. That is 49 per cent to Titan, Inc.,

17 per cent to ICI, 17 per cent to ISC and 17 per cent to GW.

The COURT. That is on the A shares.

Mr. WEBSTER. That is on the A shares.

398 The COURT. That is paid up shares.

Mr. WEBSTER. That is the shares that were distributed for cash. It then provides in paragraph 6, on page 123,

"Except in so far as is otherwise herein provided during the continuance of this Agreement no party hereto shall transfer or part with the possession of any of its shares in British Titan except with the written consent of all the other parties".

Then on page 125—I am taking these as they appear in order——

The COURT. Are we getting into an Addison case? Is that what you are giving me? Are we getting into the doctrine of the sale of a business accompanied by restrictions?

Mr. WEBSTER. No.

The COURT. All right. I did not mean to interrupt you.

Mr. WEBSTER. Then it also provides for the articles of association of British Titan, and I will come to my point in a minute, which provided that "on any sale of 'A' shares the same shall first be offered to the other holders of 'A' shares and that if acceptances are received in respect of more shares than are offered the shares

399 offered shall be transferred to the other holders proportionately."

Then in paragraph 12 it provided that

"Until British Titan has commenced to manufacture titanium compounds and for two years thereafter Titanic will arrange for the supply of titanium compounds manufactured by Titangesellschaft Leverkusen."

Now getting back a moment to this question of shares, at the foot of this page, 126, it provides that

"Any party" retiring under that provision shall offer to the remaining parties the right to purchase the whole of the A shares in BTP then held at a price to be determined by agreement and corresponding to the book value of the shares.

The COURT. Without the consideration of patents, trademarks.

Mr. WEBSTER. That is correct; or good will. On page 127 there is a provision to the effect that should the agree-

ment of 1920 referred to in the third recital to this Agreement cease or determine prior to the expiration of thirty years, each party shall have the right to retire from the provisions of this agreement by giving to the other parties certain notice, and it then says that "Such retiring party or parties shall have similar obligations to those contained in the last preceding clause of this agreement."

400 And by reference back to paragraph 13, that is the provision with reference to the retiring party receiving a price corresponding to book value without taking into account the values of patents, trade marks or good will.

Now I would like to refer back first to the statement which your Honor permitted me to submit as part of the opening statement and which I did not then take the time to reread, and I would like to now read a portion of that, on page 92 of the transcript.

The COURT. You don't want that taken down again, do you?

Mr. WEBSTER. No, I don't think there is any need to take it down again.

(Mr. Webster reads from page 92 and following of the transcript.)

The COURT. That is the end of your statement that you were reading.

Mr. WEBSTER. That is the end of the statement which is incorporated in the record in full.

Now if the Court please, I have here and would like, if the Court permits, to read into the record as part of the same statement, a copy of the contract which the British parties and the National Lead Company have agreed that they would execute.

The COURT. They have not executed it yet?

Mr. WEBSTER. It has not been executed.

401 The COURT. I should imagine that the more orderly procedure would be for that to go in on the defendants' case. I assume that it is a matter of defense.

Mr. WEBSTER. Well, I of course am quite content to accept that order of proof.

The COURT. Unless you indicate to me some good reason why convenience would be served for putting it in at this time.

Mr. WEBSTER. Well, I had been led to offer to put it in now for two reasons. First, I wanted to make good on the commitment which I made in October——

The COURT. That you have done already.

Mr. WEBSTER. That I would offer it as soon as possible. And the second is that I thought in connection with the comments that have been made by Mr. Dixon it might be helpful to the Court to have before it now the provisions of the agreement which are really material, namely, those that the parties propose to follow in the future.

The COURT. There will be a dispute about that.

Mr. WEBSTER. I don't care particularly. It is just a question of whether or not it would assist your Honor in understanding the case. This is the sort of case in which there is no particular reason for putting on blinders
402 and saying we are not going to look at what the defendant Lead Company is going to do until we reach it. This is the present status of the relations between the American and British parties, and I believe that it may be helpful.

The COURT. I will tell you one thing, first what you are tendering is a piece of writing which you as counsel tell me certain people are going to adopt as an agreement, so that in present form it would not be receivable in evidence. If not receivable in evidence, simply as a comment, I don't know whether it will be helpful. In any event, is there objection to the course suggested by Mr. Webster, Mr. Dixon?

Mr. DIXON. On behalf of the Government, it seems to me that it can serve no useful purpose at this time, and we therefore do object to it.

The COURT. All right. Mr. Whitney?

Mr. WHITNEY. No comment except only to say, your Honor——

The COURT. Is there objection to the suggestion made by Mr. Webster?

Mr. WHITNEY. I have no objection either way.

The COURT. All right. I won't let it in.

Mr. WHITNEY. Except that we are not participating in these negotiations he has been talking about, though they are interesting to me to hear.

403 The COURT. In view of the objection I will not receive the form of proposed agreement between the British company and the National Lead Company which Mr. Webster has already tendered.

Are there any other comments you wish to make on the F series?

Mr. WHITNEY. No, your Honor.

Mr. WEBSTER. In accepting your Honor's ruling, I think I should simply add that of course it is our inten-

tion before this case is over to secure your Honor's approval if possible to the terms of agreement which as I say have been accepted by the parties, the British and American parties.

The COURT. I don't follow that request. You mean you want me to give you an approval of the agreement? I don't follow you.

Mr. WEBSTER. Well, I think that the time may well come in this case when your Honor, after first considering whether or not the Government has proved its case of a violation of law, and then if there has in any case been any violation of law with reference to the National Lead Company—and I am not involving my friends here in this statement in any way—if it is felt that the 1920 agreement or those provisions of the 1920 agreement which were carried over into the British agreement are
404 objectionable, then we shall offer this.

Now I am doing what I know to be a somewhat unusual thing with reference to the 1920 agreement; there are provisions in the 1920 agreement which if made today would not be made by the National Lead Company and there are certain respects in which that agreement has never been enforced. There are other respects in which the agreement has not proved to be appropriate, and if we were free to do so, contractually free to do so, without danger of liability or suits for damages or suits on the contracts in other countries, we would frankly cancel the 1920 agreement.

We have undertaken in good faith and with a good deal of diligence to work out with reference to the British just what our relation should be consistent with the Sherman Act, what we regard to be the provisions of the Sherman Act. We have done that in the case of the British and in the case of the Canadians, not in the case of the others because we think the German agreement and the French agreement and the Japanese agreement are out the window by reason of the war.

The COURT. Well, I have no doubt that before this case is finished in one form or another, these proposed agreements will go into this record, but I do not think that over objection I can receive them now. So we
405 will move on from there.

Is there any comment by you, Mr. Whitney, on the F series?

Mr. WHITNEY. The only thing on that, your Honor, is that I would like to reserve the point that if these new

agreements come into evidence and your Honor does conceive that you have the power to pass upon them——

The COURT. You mean the new agreements?

Mr. WHITNEY. Yes.

The COURT. They are not in evidence now and you need not comment on those. Do you want to comment on the F series?

Mr. WHITNEY. I beg your pardon, your Honor. I misunderstood. No comment. Thank you.

Mr. DIXON. If the Court please, at this time I wish to have marked the correct copy of Exhibit E-2, and to withdraw the one that was incorrectly marked E-2.

The COURT. That was taken care of.

Mr. DIXON. It was taken care of, your Honor, but the official court exhibits as such still is wrong until the number is put on the right exhibit.

The COURT. I thought we did that this morning. We made one correction this morning. What page is that in?

406 Mr. DIXON. Exhibit E-2, your Honor, is on page 98, and in corrected form the way it should be in the printed record, but the exhibit which was made the official exhibit was incorrect. We now wish to have the correct one marked correctly.

The COURT. Off the record.

(Colloquy off the record.)

The COURT. The paper the clerk is about to mark is the correct paper. I understand that the form in which it is printed is correct. Strike out the incorrect labelling.

We will now take the luncheon recess.

(Recess until 2:15).

407 AFTERNOON SESSION

Mr. DIXON. We would like to offer in evidence Plaintiff's Exhibit F-8 for identification, same being a letter from C. J. Stopford to Dr. Jebsen, dated September 13, 1941, to which is attached a two-page copy of a letter from P. T. Minter, secretary of BTP addressed to National Titanium Pigments, Ltd., copy of said letter being dated September 11, 1941.

The COURT. That is a new company. I have not heard that before.

Mr. DIXON. That is right. That is Laporte, your Honor, for your information.

Mr. WEBSTER. This is objected to as irrelevant. It is a letter from a person connected with BTP to Dr. Jebsen,

apparently advising Dr. Jebsen that pursuant to Government regulation in September, 1941, an arrangement has been made between BTP and another British company, National Titanium Pigment Company. It is outside of the issues in the case. There is nothing to show what Dr. Jebsen had to do with this, and it seems to me it relates to a situation that is exclusively British and under the war.

The COURT. First, have you any question as to the authenticity of the document?

Mr. WEBSTER. No, none whatever.

The COURT. In other words, it is admitted that
408 Minter is the secretary of the British Titanium Products, Ltd?

Mr. WEBSTER. I am advised that he is, and I do not raise any question about that.

The COURT. Nor as to his authority to write that letter for British Titanium Products, Ltd?

Mr. WEBSTER. Mr. Minter did not write the letter for the British company.

The COURT. I am looking at the annex. The most important part of this exhibit is the annex to that letter. The letter itself contains no information. It is the enclosure which fits in with the general information and exhibits that have heretofore been received relating to intercompany arrangements.

Mr. WEBSTER. I do not know anything about Mr. Minter's authority to represent the latter.

The COURT. If that is not conceded I will consider the objection. The objection has been taken and the objection is sustained. Have it marked for identification.

(Marked Plaintiff's Exhibit F-8 for identification.)

Mr. DIXON. I understand then, your Honor, that the objection of the defendant is made on the ground that the party whose signature purports to be attached to the letter for British Titan Products Company, Ltd., as secretary is questioned?

409 The COURT. Well, I take it not his signature but his authority to speak for the BTP with respect to the matter of which he speaks. When you say it is questioned, it is clearly not conceded, and therefore that raises the necessity of proving it.

Mr. DIXON. Very well. Then I will reserve it at this time, your Honor.

We now wish to offer in evidence Plaintiff's Exhibit G, found on page 173 of the printed record, being an

agreement between TG and Aussig, dated November 23rd, and December 2, 1933, respectively.

The COURT. Are there any objections?

Mr. WEBSTER. I will state the objection: The agreement is clearly an agreement between the German and Czechoslovakian companies. It relates to quotas within Europe, within the territory that is referred to as the TG territory. It has to do with an obligations, apparently on the part of TG, to supply Aussig, the Czechoslovak company, with certain products, and it is immaterial and irrelevant.

The COURT. Mr. Whitney?

Mr. WHITNEY. Just the continuing objection.

The COURT. The objections are overruled.

(Plaintiff's Exhibit G for identification received in evidence.)

410 Mr. DIXON. This is the agreement referred to on chart No. 3 as the Aussig agreement. It was entered into between co-conspirator TG and co-conspirator Aussig. The territory involved in this agreement is described or mentioned in the block between TG and Aussig on chart No. 3. In this agreement both parties to the agreement give each other the right to use their patents and agree to support each other in protecting those patents during the period of the contract, and Aussig assumes the obligation of acquiring from TG the titanium dioxide which Aussig requires for the territories covered by the agreement in so far as those requirements exceed the production capacity of Aussig at the time the agreement is concluded. And TG agrees to supply Aussig for such requirements and at a preferential price.

The COURT. I understand Aussig is not to produce any more than it is already producing, is that the idea?

Mr. DIXON. If it sells more than the quota allocated to it and is unable to produce from its factory, then it has to take that production from TG.

The COURT. You have two ideas there and I am not clear: You say if it produces in excess of its quota and in excess of its productive capacity—both. In other words I want to be clear which it is that it

411 has to buy from TG, the excess of its then production capacity or the excess of the production capacity it may have at the time of the purchase, or excess of some specified quota?

Mr. DIXON. It is the excess of the then production capacity.

The COURT. In other words, it cannot increase its production capacity as at the time of the making of the agreement?

Mr. DIXON. Correct.

The COURT. And all additional requirements must come from TG?

Mr. DIXON. Correct.

Mr. WEBSTER. That is subject, I believe, to a clarification just in the interest of clarity that when TG's capacity has been absorbed Aussig may then go ahead and put in its own manufacturing facilities.

Mr. DIXON. The description of the territory covered has already been referred to and the field of the agreement was the same as had already been pointed out as that shown on chart No. 3. Now both parties to this agreement are to do everything possible to prevent the importation of titanium products by third parties into the territory of this agreement. The quota is set up between the two parties as being for Germany about
412 28 per cent as against 72 per cent allocated to TG.

The COURT. What is the quota? Quota of what?

Mr. DIXON. 100 per cent. In other words of the amount that is sold within Germany as part of the territory. Of that 100 per cent Aussig is entitled to sell 28 per cent.

The COURT. In Germany?

Mr. DIXON. In Germany and TG is entitled to sell 72 per cent.

All sales activities within Germany are to be carried on by IG for both parties at prices to be fixed by mutual action; I mean action of both parties.

Now Aussig is to be the predominating influence in Czechoslovakia for the determination of prices and other matters within Czechoslovakia. That is other matters relating to price.

The COURT. Does TG sell any of its products in Czechoslovakia?

Mr. DIXON. Yes.

The COURT. Directly or only as Aussig requires it?

Mr. DIXON. It may sell within Czechoslovakia but under the agreement the consideration has to be given to Aussig in fixing the prices in Czechoslovakia where Aussig has a factory and was operating at the time.

413 The prices in the rest of the territory are to be fixed by agreement of the parties, so that there will be no loss on any sales to either seller. In other words, it was a matter of agreeing between themselves on

the price which should govern for the territories, apart from Czechoslovakia and Germany, which have been both covered by the specific considerations I have already mentioned.

The consent of the other party to the agreement was made an absolute condition. I mean the consent of the party to any change of price was made an absolute condition to the agreement, and at the end of the year each party is to advise the other as to the names of firms to which deliveries are being made, and a trustee is appointed to examine the books of both parties once a year to determine whether or not the agreements have been complied with.

Now both parties to the agreement, together with IG are not allowed to participate with any other factory which manufactures, or intends to manufacture, titanium in the territory covered by the agreement, or to aid such factory in any way by giving technical or commercial advice or information.

Employees of both companies are to be found by this obligation by the respective parties to the contract.

Then each party to the agreement is given the
414 right to use the respective patents of the other party. It is not a direct license of particular patents, but it is a general arrangement that either party may use the respective patents of the other, and each party agrees to refrain from filing oppositions to the grant of applications for patents filed by the other party during the term of the agreement.

The termination provision of the agreement provides that the agreement runs until December 31, 1936, although the expiration date is automatically extended to December 31, 1939, in the event these parties get along all right under the agreement and can work out any problems for the exchange of information of a commercial nature relating to sales of those products. If no cancellation notice is given within six months period prior to the expiration date, then the agreement runs for another two years. In other words, it is a self-perpetuating agreement, unless either party notifies the other of its intention to cancel that agreement, limited under the agreement for an additional two-year period.

And if competition develops during the continuation of the agreement between Aussig and TG on the one hand and any other third party, then TG and Aussig are to do everything possible to make the outsider's activities

ineffective. In other words, it is not competition
415 between TG and Aussig, but competition between someone else who is not a party to this agreement which is then regarded as being competition against both of them and concerning which both parties will do everything in their power to make that competition ineffective.

Mr. WEBSTER. I have no comment.

The COURT. Mr. Whitney?

Mr. WHITNEY. No comments.

Mr. DIXON. We now offer in evidence plaintiff's Exhibit G-1 for identification, same being described as contract 4 between Titan Company, Inc., or Titan, Thann & Mulhouse, Terres Rares and Societe Industrielle. Your Honor, here are the companies referred to in chart No. 3 (indicating) on chart. The group under Contracta a Quatre Livraisons 34 and the territory involved in this agreement is the territory shown on chart No. 3 in the second block under the main heading "Territory Covered By Agreement."

The COURT. What is the exact date of it?

Mr. DIXON. The exact date of this agreement, your Honor, is June 5th and 17th, 1935. It is found at page 188 of the printed record.

Mr. WEBSTER. I have not stated my objection.

The COURT. Is there objection?

Mr. WEBSTER. There is objection on the grounds
416 heretofore stated with reference to the previous agreements; also I would like to ask Mr. Nixon if he has pointed out to the Court that the agreement was terminated in the fall of 1939?

The COURT. He has not come to that yet.

Mr. WEBSTER. I believe he did say something about one of these agreements being terminated either today or yesterday and I thought that might appear.

The COURT. That would not govern admissibility. Of course one of the parties to this agreement is Titan Company, Inc.

Mr. DIXON. That is right.

The COURT. Objection overruled. Mr. Whitney, have you any objection?

Mr. WHITNEY. I wonder if I may have just a moment. I notice the name "Krebs" in here.

The COURT. But he is not a party to this.

Mr. WHITNEY. But I am amazed to see something about an agreement with Krebs. There is no such agreement. I would like to look at it a moment. This came in after

we began today, your Honor.

The COURT. All right.

Mr. WHITNEY. Only the continuing objection, your Honor.

The COURT. Do you say this was represented by
417 the second line on chart No. 3?

Mr. DIXON. Yes, your Honor. The reason that date is on there is because that is the date the quotas would become effective.

The COURT. But this agreement is signed in 1935.

Mr. DIXON. That is right, but it was, for all practical purposes, in operation in 1934 as will appear from the agreement.

The COURT. Objection overruled.

(Plaintiff's Exhibit G-1 for identification received in evidence.)

Mr. DIXON. In this agreement the Blumenfeld group, as in the other one, that is Exhibit G, and the Titan companies, for the purpose of insuring sales on common lines and avoiding competition between themselves, and to aid in preventing competition from others outside of the parties to the agreement, entered into this contract. Connected with it will be Exhibit G-2 which I will not take time to discuss at the moment, except to refer to it as it is not yet in evidence and is not particularly an important part of these two agreements. But the territory here was principally France, Belgium and Holland, together with some of the smaller countries in the immediate area.

418 Now I direct your Honor's attention to the first part of this agreement on page 189, where reference is made to the rights of Societe Industrielle, Titan Company, Inc. TG, and BTP, those being the three co-conspirators and the defendant Titan Company, Inc. or Tinc, and what we have called the Blumenfeld companies. Terres Rares, Societe Anonima Titanium, which your Honor will recall is Montecatini, and this Krebs Pigment & Color Corporation referred to as being holder of United States patents of the Blumenfeld group, and Aussig, which is the other party which we discussed in the so- Aussig agreement. The exclusive nature of the territories of each of those companies is referred to and is a part of this agreement.

Now in this agreement the French territory was divided as to sales of pigments on substantially an equal basis; that is, on a 50-50 basis. But in the rest of the territory covered by that agreement the Titan Companies were given

70 per cent of the market as against 30 per cent to the Blumenfeld companies.

The terms of delivery of any product sold is to be fixed by mutual consent, and in the event quantities are delivered above the quotas set for either party, compensation in cash or merchandise shall be paid to the other party on a stipulated basis.

419 Quarterly reports are to be submitted and each party on deliveries and prices by the other parties and the books of both parties are to be open to the other party to determine compliance with the agreement.

Now both parties are prevented from participating in competitive enterprises, or to assist them in any way by furnishing technical or commercial advice or preferential deliveries or licenses. The same obligations are imposed upon the employees of the companies to the agreement.

Now on the patent provisions both parties are given the right to use the patents of the other royalty-free, during the term of the agreement. In other words, this is not giving a license of specific patents but in general a right to use any patents the other party may have royalty free during the term of the agreement, and if any such licenses are granted to customers by either party, the customer must obligate itself to use the products supplied by the parties to the agreement.

Then follows a provision agreeing to refrain from filing oppositions to patent applications filed by either party.

This agreement as to term can be denounced on a six-
420 months' notice prior to December 31, 1938, and if no notice is received it continues to run for a period of two years thereafter unless denounced within a six months' period prior to the expiration date of each two-year period. In other words, it is another agreement that is self-perpetuating unless one of the parties acts to cancel.

Mr. WEBSTER. I understood Mr. Dixon conceded this was terminated by agreement in 1939, but I do not believe we got that on the record.

The COURT. Is it stipulated that this agreement was terminated in 1939?

Mr. WEBSTER. By agreement.

Mr. DIXON. We have found no official notice, I believe, that this agreement was actually terminated. There was a note appended to it that by reason of the operation of the war it was supposed to have been somehow suspended.

Mr. WEBSTER. The note said it was terminated by agreement and you accepted the document with the note attached to it.

The COURT. Was that annexed to Exhibit G-1?

Mr. DIXON. They are talking about this, your Honor (exhibiting paper), which certainly I would not regard as an official notice that it has been terminated.

The COURT. Is that in evidence?

Mr. DIXON. It is not in evidence.

421 The COURT. I have no knowledge that it has been terminated unless it is conceded or proved.

Mr. WEBSTER. It can be proved it was attached to the copy given to Mr. Dixon's representative, and I believe he knows it to be true.

The COURT. I hear no concession, so I won't make any such assumption now.

Any comments, Mr. Webster?

Mr. WEBSTER. I have no comments.

Mr. WHITNEY. If your Honor please, not to delay the trial, may I ask if your Honor would reserve to me the right to renew an objection on the gronud of competence. I will explain why: As I said to your Honor this contract, like all these contracts we are just seeing for the first time, this particular one at page 190 was handed to us at the opening of court this morning, and we are actually looking at it for the first time. As we turned the pages we observe that the setup is that it begins with a recital that there exists certain pre-existing agreements. That is at page 189, and then there is another recital in the middle of the page, and toward the bottom of page 190 is a recital that between Terres Rares and Thann & Mulhouse "agreements exist concerning a technical and commercial cooperation regarding the products of the

422 present contract according to which the industrial and commercial activities are reserved:" And then on the next page:

"(b) Societe de Produits Chemiques des Terres Rares which has exclusive rights for all countries with the exception of the rights specified under (a) and the rights resulting from the agreements made with:"

and then:

"Krebs Pigment & Colour Corporation".

Now, your Honor, I am instructed that there does not and never has, exist any contract whatsoever between Terres Rares and Krebs Pigment & Colour Corporation. In other words I am instructed that Terres Rares has here made what looks like a misrepresentation to the effect that it had a contract with us, and if your Honor eventually denied my motion to strike you would have

here in the record a statement by Terres Rares that they have an agreement with us.

The COURT. That is right, and if it should appear Terres Rares were a co-conspirator that was a declaration——

Mr. WHITNEY. Then I ask leave, although five minutes have gone by, to object to this on the ground of competence. It is hearsay and it is not authenticated.

The COURT. Are you objecting on the ground that
423 the signatures have not been proved and that this is not the original, and so forth—that type of competence?

Mr. WHITNEY. Yes, your Honor, just so. You see my only protection is to cross-examine somebody who has told what I am instructed is a falsehood. That is the only protection against that type of thing.

The COURT. There being an objection on the ground of competence with respect to Exhibit G-1, on the part of du Pont——

Mr. DIXON. I would like to be heard on that, if your Honor please.

The COURT. All right, I will hear you.

Mr. DIXON. As I understand, the question now presented to the Court is we have here a document the authenticity of which is not questioned by the defendants National Lead and Titan Company, Inc. It has been so stipulated.

The COURT. Correct.

Mr. DIXON. We have the objection of one of the defendants to the admission of that document as against the defendant objecting, on the ground of competency, the objection being, as I understand it, that he does not know that the document is authentic and wants proof of the signatures appearing thereon, and, I presume, the authority of the person signing it.

424 Now in connection with this question, your Honor, which may arise, perhaps, in regard to other documents as well, I wish to direct your Honor's attention to the ruling of the Court in 52 Fed. Supp., 751, a case entitled United States v. Vehicular Parking Ltd., in which the effect of a stipulation by one defendant,—and here we have an admission as to the authenticity of documents—was objected to as not having any effect whatever on the other defendant in the case. In other words, he claimed that he was entitled to question the matter, and so therefore was not bound by the stipulation or admission, if you

want to call it that, of the other defendant. The Court said that the action of the other defendant in stipulating and admitting the genuineness of the document was, until proved to be without foundation by the other defendant, presumed to be sufficient to attach validity and authenticity to the document.

The COURT. In other words, what I said day before yesterday.

Mr. DIXON. Correct, your Honor. But if the defendant objecting feels that he has some reasonable grounds to contest it he still has that right and privilege of doing so. That is a decision by Judge Leahy in the Vehicular Parking Company case in Delaware.

425 Now we feel where one defendant admits the genuineness of his own document—not mine; he is not questioning them—certainly in the interest of saving time, of expediting the trial, it would seem that that should be sufficient to make a prima facie showing of the authenticity of that document until proved otherwise. But the burden should be upon the party who asserts to challenge the document on the assumption that he has something to challenge it on.

The COURT. He is not simply putting you to the burden of proof?

Mr. DIXON. That is right, your Honor.

The COURT. I want to see if I can safeguard Mr. Whitney's claim that if he is so bound he has not an opportunity to cross-examine. Let us see what might happen: Assume that the Government undertakes to prove this. I assume all it would have to do would be to produce someone who can testify that the document was in fact executed. That might be a stenographer in the office of one of those companies or one of its law officers, and that it was delivered. Assuming that such witness was produced; that the objection as to authenticity would no longer lie, and Mr. Whitney would still be without the power of cross-examining anybody as to the truth of the alle-

426 gations declared in t[illegible] contract, and in that respect would be no different than the testimony of any other declaration by a co-conspirator. But of course your bigger problem would go back to your question as to whether a connection has been established between du Pont and the other co-conspirator. If there is no connection then of course this contract would not be admissible against du Pont no matter how authentic, and that is your general objection that I have been saving.

Mr. WHITNEY. I think your Honor has analyzed it rightly and that perhaps undermines the point I was making. Your Honor is well aware of the fact that I have to work very fast here, and I am grateful to your Honor for correcting us.

The COURT. That is along the line I was discussing the other day.

Mr. WHITNEY. I think you are right.

The COURT. And as a practical matter, while I think what I was suggesting was not suggested as a rule of law I thought that it was a sensible rule of convenience. I did not know that somebody had actually crystallized it into a holding because that sanctifies it in some way more than by just mere legal opinion, but it seems to me the balance of convenience lies here in overruling the objection especially since I take it that your objection to authenticity is not because you are really questioning the
427 authenticity of the signature, but simply because you want an opportunity to cross-examine with respect to the verity of the declarations in the agreement. I think that that would not be accomplished by sustaining your objection, and if you want to challenge those declarations you will have to (A) either produce evidence to contradict it, or, (B) establish the absence of any conspiratorial relationship between the two parties, in which case the document would go out as far as your client is concerned.

Objection overruled.

Mr. WHITNEY. If your Honor please, with great respect to Judge Leahy, who is not here to defend himself, I do think that he has slipped into an error so fundamental that it might be possible to establish the birth of fascism in this country on that opinion. He says that if the Government elects to indict any two or more people or bring action against them, and any one or more of those people—any one of them—chooses to cede away the defendant's defenses that have been built up in eight centuries of the common law, the laws of evidence are gone as far as the other defendants are concerned. Now that is error. That is plain error.

The COURT. I certainly do not have to subscribe to
428 that for the purposes of making this particular ruling.

Mr. WHITNEY. Your Honor will observe the fundamental error.

The COURT. The way you state it it seems to be pretty extreme.

Mr. WHITNEY. I do not think he realized it, but that is what that opinion says.

Now here is this situation: We have here received within the last 24 hours from the Government upwards of 300 printed pages of documents from all over the continent of Europe; most voluminous. We have been trying desperately to read them from our laps as your Honor does as we go along, and they contain here and there, and that is what we spotted, reference directly to us. Now I just again am trying to put the matter in perspective and I would say it is the sort of thing I had supposed used to happen in Russia and in Germany; that you bring a defendant into a courtroom to be sued by the Government and then press upon him a mass of documents that he has never heard of and with which he has no connection and say, "Oh, Comrade So-and-So says you had a connection with it."

429 The COURT. By using the word "comrade" you do not mean the Russian citizen but you mean the comrade in arms?

Mr. WHITNEY. No. I mean the Russian Government, your Honor. It is against that sort of thing that battles were waged in this country over 150 years ago and in England 500 years ago, and there is no fairness where hundreds of pages of documents are traded in against one defendant because another one says it is so.

Your Honor has accepted everything subject to connection and a motion to strike out so I have no quarrel with your Honor's action, but I am saying these things by way of comment because what it does come down to, your Honor, if goes to the probability of connection. You see here we have, as I say, these hundreds of pages and our name turns up about once every 100 pages, laying aside the E documents. In other words, in the documents in connection with which we have objected reaching up to page 191, this is the fourth time in 191 pages that our name has appeared at all. That is an average of one for every 50, and we have no connection with any of the contracts and therefore what I am really submitting is that I recognize that the rightness, in cold law of your Honor's ruling, because we all know, especially those have been district attorneys, as I have been, the dangers of the law of conspiracy: that it is a real sheltering law

430 for misuse and the only protection of the alleged co-conspirator is in this rule that he must be connected.

Now in these big complicated antitrust cases the question is connection, but what the Government must seek to connect us to is this mass of contracts—whatever it be, this mass of contracts represents in the way of a combination—and that we were a part of it and my only comment is that the negative of that is it is established by the rarity of these highly dubious references.

The COURT. All right. I have ruled.

Mr. DIXON. I now offer in evidence Plaintiff's Exhibit G-2, the same being contract between Societe Industrielle, Terres Rares, Thann and Tinc dated June 5 and 17, 1935, found on page 212 of the printed record. This agreement may be called the delivery contract.

Mr. WEBSTER. I object to it on the grounds as stated before and call the Court's attention to the fact that the copy which has been offered in evidence was given to the Government by the Lead Company with the advice and notation that the contract was terminated by agreement in 1939. Of course it was terminated by other factors but that has already been stated.

The COURT. Yes.

Mr. WHITNEY. The continuing objection.

The COURT. Objection overruled. It will be received as Exhibit G-2.

431 (Plaintiff's Exhibit G-2 for identification received in evidence.)

Mr. DIXON. The only comment I care to make about this contract, which is really a supplemental contract to contract 4, Exhibit G-1, is that goods delivered pursuant to this contract, which provides the method of delivery under G-1, contract No. 4, shall not be exported from countries for which they have been ordered and delivered and the buyer will have to impose upon its customer the obligation that, not to export or sell such goods for exports and the buyer shall reserve the right to cancel the quantities remaining to be delivered under such contracts in case the customer violates the obligations; and he particularly will see to it that any export to America north of the Panama Canal is avoided. I make special reference to that because of course that is the territory of the United States where the defendants are doing business.

The COURT. Is there any further comment, Mr. Webster?

Mr. WEBSTER. No comment.

Mr. WHITNEY. No comment.

Mr. DIXON. I now offer in evidence Plaintiff's Exhibit

G-3, the same being agreement No. 6 shown on chart No. 3 (indicating) between Tinc, Societe Industrielle and TG, those companies being the allied companies operat-
432 ing under the Jebsen-Rossie Barton patents, so-called, for purposes of convenience, and Terres Rares, Thann & Mulhouse and Montecatini, those companies being the Blumenfeld patent assignees or licensees.

The territories covered by this agreement are set forth in the third block——

The COURT. You are referring to Exhibit G-3?

Mr. DIXON. Yes, your Honor.

The COURT. I am sorry. I have not received it.

Mr. WEBSTER. I assumed I would have an opportunity to object. I make the same objection and point out that in this contract Mr. Dixon already stated in his opening that it had been terminated by agreement.

The COURT. All right. Mr. Whitney?

Mr. WHITNEY. Your Honor, I would like to leave with your Honor overnight this further thought; that it is something of the same sort your Honor called to my attention this morning when I suggested that perhaps it could be taken to be in evidence as represented in the Krebs-Titanium agreement Exhibit E.

Now the two points that one has observed in these two agreements of this afternoon are representations by one of the parties to the agreement. What the Government does is simply to introduce the agreement in evidence as an agreement. I take it what becomes evidence against anyone who is connected with a conspiracy is the
433 fact that that agreement was made. That is all the Government has proved. The fact that in spite of that agreement one of the parties represents some external fact would not itself be in furtherance of the conspiracy which the Government maintains the execution of the agreement represents. I don't think those external facts, as they are represented are evidence as such.

The COURT. Unless they constitute declaratory admissions by one conspirator as against another conspirator under the law of evidence relating to conspiracy. I understand the rule is pretty clear. Now it is true that any declaration in that agreement which is self-serving as to an external fact, the Government would not be bound by it for the reason that it is not bound by self-serving declarations. So any declarations in there which are in the nature of an admission I think the Government can take advantage of. I may be in error about that. I am

just formulating it as you are handing it to me. I should like to hear you explain it, but that is the way it strikes me. So that if there should be proof of an agreement and the agreement contains preambles of fact if they are admissible as admissions they constitute proof. If they are not admissible as admissions then there is no proof of the occurrence of the events recited.

Mr. WHITNEY. I do understand, your Honor, that the rule is that any declaration in furtherance of
434 a conspiracy is admissible against co-conspirators, but that an admission, as such, by one of the alleged conspirators is not admissible against the co-conspirators. In other words, the rule of admissibility——

The COURT. Let me see if I can restate it slightly differently. I understand you cannot use a declaration to establish a conspiracy.

Mr. WHITNEY. That is a different rule.

The COURT. But once the conspiracy is established the declarations, in the nature of admissions as to the conduct of conspirators deemed to be in furtherance of the conspiracy are admissible.

Mr. WHITNEY. My understanding was to the contrary, your Honor, but I won't worry your Honor's time now. I have a memorandum here and I will look at it, and I looked at it moment after rising and I believe the distinction is made that even after the connection has been made and the conspiracy established, still all that is admissible are the declarations in furtherance of the object of the conspiracy.

The COURT. Assuming your statement to be true, I would presume when two conspirators contract, and in that contract they recite some preambulatory material which is the foundation of that agreement that they regarded those preambles as being in furtherance of their
435 conspiracy. Otherwise they would not put it into the preamble of their contract.

Mr. WHITNEY. It may well be, your Honor.

The COURT. It may be that we do not have to decide these rather acute questions.

Mr. WHITNEY. Passing the comment again, I think this is exactly the same as the other. It has occurred to me in the interim that I am, as Mr. Webster said the other day, setting up a straw man again, because the representation here is only that Terres Rares had a contract with Krebs, with no description or definition of the contract whatsoever——

The COURT. It does not prove very much.

Mr. WHITNEY. It does not prove, in my respectful view, anything as to the conspiracy, because a conspirator might have all sorts of contracts with a tailor or what not.

The COURT. It would prove as a minimum fact that they knew each other.

Mr. WHITNEY. Yes, thank you, your Honor.

The COURT. All right, Plaintiff's Exhibit G-3 will be received.

(Plaintiff's Exhibit G-3 for identification received in evidence.)

The COURT. I am giving you gentlemen considerable leeway in the argument at this time because it seems to me that if we ventilate some of the problems early in
436 the game we will move along faster.

Mr. WEBSTER. I think it is very helpful because these questions are going to arise in more critical form.

The COURT. Yes, and I reserve the right to reverse myself.

Do you want to comment any further on G-3?

Mr. DIXON. Yes. I started my comment apparently a little out of order.

The parties to this agreement obligated themselves to refrain from selling or delivering titanium products in favor of the parties who have the exclusive rights in a specified territory reserved to them and referred to in the contract.

The parties further agree to prevent the importation by third parties of titanium products which they must sell in the countries which they had obligated themselves not to export or sell into, and in the event there should be any such sales or imports the quota of the party referred to, in other words who was connected with the sale, shall be reduced for its respective territory by the amount of such sale or importation.

Now in this establishment of the quotas the so-called Blumenfeld group were allocated 30 per cent of the market and the Titan companies the other 70 per cent.

Mr. WEBSTER. He says Blumenfeld 30 and
437 Titangesellschaft 70?

Mr. DIXON. That is right. The sales price of titanium products are to be fixed and are fixed by the agreement and the parties to the agreement are prohibited from participating in or aiding any competitive enterprise. In other words, any company that might in would be confronted with this agreement in this territory.

The parties to the agreement further agree not to supply intermediate products to third parties who are likely to utilize them for the manufacture of products covered by the agreement, and the agreement is to be a secret agreement between the six parties to the contract.

The COURT. Which agreement?

Mr. DIXON. This one, G-2, as far as any third party or person is concerned or person who isn't a party to this agreement is concerned it does not exist.

The patent rights are exchanged between the parties for the duration of the contract on a royalty-free basis. In other words, here again there is no out and out license specific patents. It is permissive use of patents without any royalty being charged as long as they belong to the parties to the contract.

This agreement can be denounced on six months' notice prior to December 31, 1938 and if notice is not given the agreement runs for two-year periods unless within a two-year period six months' notice of cancellation is
438 given.

The quota system established here, as in contract 4, is to be effective as of May 1, 1934. In other words, although this contract was actually executed, you might say, over a year later it was effective from that date on.

Now this contract, as we stated in the complaint, is alleged to be terminated, or to have been terminated, on December 31, 1938 by action taken by Montecatini, the other party to the contract which we referred to here before in our opening statement, and that party is sometimes referred to in this contract as Bovisa, in case your Honor reads the contract further, but that is the same party.

The COURT. Would the renunciation by one party terminate the contract as to all parties?

Mr. DIXON. That is right.

The COURT. Is there anything you desire to add, Mr. Webster?

Mr. WEBSTER. No, your Honor.

Mr. WHITNEY. No, your Honor, but would your Honor like to have me give you a note of a case I have here. There are quite a number of them but I think your Honor will be interested in this one. It is from the Second Circuit Court of Appeals, United States vs. Goodman, 129 F. (2d) 1009. The Court says:

439 "To be admissible against others than the declarants, the declaration must not only be made while

the conspiracy is pending but must also be 'in furtherance of its object.' Einhorn's statements that Goodman had been his partner in the bankrupt's business were not made to procure goods or money for this corporation. They were merely narrative declarations of a past fact."

Perhaps that supports us both you observe.

The COURT. Yes.

Mr. WHITNEY. And another case in our own circuit, if you are interested, is Van Ripper v. United States, 13 F. (2d) 961 at page 967. I have a large number of cases but those are two in our own circuit.

The COURT. I think the principle as you stated it from the C.C.A. Second Circuit decision corresponds with my recollection of the law. I did not intend to state it otherwise. If I did I would adjust it to that statement.

Mr. DIXON. I now wish to offer in evidence Plaintiff's Exhibit H on page 251 of the printed record being a cross-license agreement between Titanium Pigment Company, Inc. and American Zirconium Corporation, dated May 6, 1935. That is the agreement which will also be found on chart No. 4.

Mr. WEBSTER. No objection.

Mr. WHITNEY. Only the continuing objection.

440 The COURT. The objection is overruled.

(Plaintiff's Exhibit H for identification received in evidence.)

Mr. DIXON. Before discussing this agreement, your Honor, I will offer Plaintiff's Exhibit H-1 for identification, the same being agreement dated May 6, 1935 between Titanium Pigment Company, Inc. and American Zirconium Corporation, the Glidden Company, the Metal & Thermit Corporation. That is on page 263 of the printed record, your Honor.

Mr. WEBSTER. No objection.

Mr. WHITNEY. Only the continuing objection.

The COURT. Exhibit H-1 will be received.

(Plaintiff's Exhibit H-1 for identification received in evidence.)

Mr. DIXON. I wish to offer Plaintiff's Exhibit H-2 in evidence, being found on page 268 of the printed record, and being an agreement dated May 6, 1935, between National Lead Company, Titanium Pigment Company, Glidden and Metal & Thermit Corporation.

The COURT. The same disposition?

Mr. WEBSTER. No objection.

Mr. WHITNEY. The continuing objection.

THE COURT. It will be received.

(Plaintiff's Exhibit H-2 for identification received in evidence.)

441 MR. DIXON. These three exhibits, your Honor, Exhibits H, H-1 and H-2 relate to the license granted one of the American companies producing titanium pigments in the United States by the National Lead Company acting through, at the time the agreement was made, a subsidiary, Titanium Pigment Company. It is a cross-license agreement between Titanium Pigment Company and American Zirconium Corporation wherein Titanium Pigment Company, that is the National Lead subsidiary, grants a non-exclusive license to American Zirconium Corporation of approximately 38 patents owned by Titanium Pigment Company and an additional 31 patents of which it is the exclusive assignee, and American Zirconium Corporation grants Titanium non-exclusive licenses on 8 patents owned by American Zirconium Corporation.

The Licensed Field described in this contract is substantially the same as in the 1920 contract covering all methods, processes and apparatus within the field of manufacture and use of all titanium compounds containing 2 per cent or more of titanium which can be used as pigments.

The finished article as defined in this contract is, any artificially produced article or compound, within the Licensed Field manufactured by the aid of any process or apparatus.

442 Now in this license American Zirconium Corporation is restricted in the use of the license to the United States, and it is further provided that the American Zirconium Corporation shall not, directly or indirectly, sell or export for sale any product within the Licensed Field outside of the United States. In other words, we have here the export restrictions imposed upon a licensee of the defendant, National Lead, acting through its subsidiary.

Then the American Zirconium Corporation grants to Titanium Pigment Company a license to any patents which American Zirconium Corporation may secure during the term of the agreement in addition to those which are specifically licensed to Titanium Pigment at the time the agreement is made. Zirconium is then obligated to render periodic reports of its production to Titanium Pigment Company at least twice a year.

The validity of the patents of each party is acknowledged, and then comes an exchange of know-how between

the Titanium Pigment Company and American Zirconium Corporation.

There is this apparent limitation of itself in the contract; that this is subject to any obligations which might prevent it from giving or passing on to American Zirconium Corporation that technical know-how or information.

443 Then we have the employee restrictions which we have seen before.

Then American Zirconium Corporation agrees to grant exclusive licenses throughout the world to any companies or associates of Titanium Pigment Company that might be requested by Titanium Pigment Company. In other words, that applies to any future patents that American Zirconium Corporation could secure. They are to be made available to any——

The COURT. Does it say foreign associates or associate?

Mr. DIXON. The language had perhaps better be referred to.

Mr. WEBSTER. At the top of page 258.

Mr. DIXON. It is entirely within the control of Titanium Pigment Company as to who should get the foreign licenses of American Zirconium.

The COURT. It is not limited to foreign, is it?

Mr. DIXON. It is limited to Titanium Pigment Company exclusive licenses throughout all countries of the world, to Titanium Pigment Company or any of Titanium Pigment Company's licensees. And any person or associate specified by Titanium Pigment Company is to have exclusive license. In other words, the purpose, apparently, of this provision was to make available to any foreign associate of Titanium Pigment Company, which would

444 be the companies connected with the contract I have mentioned, any patents that those companies might want to use in their respective territories.

The COURT. Not du Pont?

Mr. DIXON. There is not anything said here.

The COURT. You keep telling me "foreign" or "abroad" or language of that kind which I think excludes du Pont. I want to know whether you intend to exclude du Pont.

Mr. DIXON. No, your Honor. A memorandum as to licenses and the obligation of Zirconium to make available licenses to the foreign associate would obviously have nothing to do about it. Throughout the countries of the world other than the United States of America. That seems to be the limitation imposed by that language.

445 The COURT. I just wanted to know what you claim.

Mr. DIXON. Then American Zirconium appoints Titanium Pigment Company or any of its licensees specified by Titanium Pigment Company the exclusive and sole agent of Zirconium for the sale of all products, that is, manufactured by American Zirconium Corporation within the Licensed Field outside of the United States.

The COURT. That is a protective device.

Mr. DIXON. That is right. And the prices and terms and conditions are to be fixed by Titanium Pigment or whoever it designates to act as agent for such sale. And then Zirconium agrees not to make any sale or transfer of any of its products outside of the United States except through Titanium Pigment as its exclusive agent. This is perhaps subject to the privilege that if American Zirconium cares to export outside of the United States it can do so provided the amount of titanium pigment is less than two per cent and provided it does not interfere with the sales of any of the parties that we have previously referred to in the respective exclusive territories.

The COURT. I think we will suspend, now.

(Short recess.)

Mr. DIXON. Commenting on Exhibit H-1, this merely is a contract guaranteeing the maintenance of stock
446 ownership in American Zirconium Corporation by the parties to that contract.

Exhibit H-2 is the contract whereby the parties guarantee the performance of the contract between the subsidiary companies. In other words, that is comparable to the Exhibits A-1 and A-2 in the 1920 agreement.

Mr. WEBSTER. If the Court please, I have no comment with reference to the Zirconium agreements except that I think that I should advise the Court that on the 9th of March, 1944, all of the Zirconium agreements that have been referred to were terminated.

The COURT. By their terms or by the parties?

Mr. WEBSTER. By the parties, by agreement.

Mr. WHITNEY. If your Honor please, these again are agreements that we have never seen, so far as I know, in which we are very much interested in view of the allegation that the Krebs and National licenses were worked out together. But looking at it here this afternoon I observe a few features that I would like to call to your Honor's attention.

The COURT. What page?

Mr. WHITNEY. Beginning at page 251 on Exhibit H and underlining Mr. Dixon's comments. From the beginning

I do observe that in a general way it falls within his pattern of conception. It follows generally speaking the National Lead language, and thereby contrasts with the 1933 du Pont agreement, Exhibit E. For example, the Licensed Field, the finished article, pages 254 and 255, and then at the middle of page 255, in II, seven lines from the bottom, Mr. Dixon emphasized this phrase in respect of the grant by Titanium to Zirconium:

447

"provided always, however, that the license so granted shall not permit Zirconium to sell or export for sale, directly or indirectly, outside of the United States of America"—well, that is the type of thing that he referred to as commercial, and I am mentioning it because I expect your Honor will be keen to see whether it turns up in our Zirconium license when that comes to be shown, having regard to the allegation of the Government that we in National Lead worked them out together.

And III is the reciprocal grant back from Zirconium to Titanium.

IV and V I do not need to linger over, they are all interesting, because they are all in the old form, so-called pattern.

VI provides for an exchange of know-how. I do observe that the language of it is different from the language of ours. That is to say, ours is already in evidence.

448

VII is their favorite provision about employees of the licensed parties which was not present in ours.

VIII is the one that he gave particular emphasis to, page 258:

"Zirconium agrees to grant to Titanium and/or any licensee or sublicensee of Titanium * * * an exclusive right and license, exclusive of all others including Zirconium, throughout all countries of the world other than the United States of America"——

and skipping down four or five lines:

"whether or not patented or patentable, now owned or controlled by Zirconium or hereafter, and during the term of this agreement made, discovered or acquired by it."

Now your Honor pointed out that this ran to foreign parties, to the benefit of foreign parties only, but I would supplement your Honor's remark by pointing out that it covers the type of patents upon which Mr. Dixon places so much emphasis in our grant, that is, future patents, and goes way beyond our grant in two vital respects. First, "whether or not patented or patentable," and secondly, that it is exclusive. And I am going to ask the Government

here and now to consider how they can possibly justify themselves before their oath of office in having joined
449 us as a defendant and co-conspirator and not joined Zirconium. This agreement, by their definition, your Honor, is far worse than ours. Why are we brought in here and Zirconium not?

The COURT. That is argument to be addressed to a jury. I never heard it addressed to a court.

Mr. WHITNEY. It is argument to the 130 million people who are invited to buy Mr. Berge's book.

Now we resume with IX at the bottom of page 258, and he gave emphasis to this:

"Zirconium shall and hereby does constitute and appoint and shall hereafter continuously retain Titanium or any licensee or sublicensee of Titanium"—that is, all the foreign associates——

"to the exclusion of all others, as the sole agent of Zirconium throughout the term of this agreement for the introduction and sale outside of the United States of America, its territories and dependencies, of all products of Zirconium within the Licensed Field,"—that is, whether or not patented—"upon such orders of said agent therefor" and so on.

And then he read to you, in line 9,

"at prices and upon terms and conditions to be fixed by said agent"—and then they rub it in——

"and Zirconium shall not make any sale or transfer of any of its said products in or for any territory
450 outside of the United States of America, its territories and dependencies, except through its said exclusive agent and as aforesaid."

The COURT. I think you ought to move over to the front table.

Mr. WHITNEY. I should say so. Your Honor, I want to tell you that my associates and I, in all fairness, are aghast. We never saw this. Here is a genuine agreement on the pattern of 1920 and here is a defendant that is not named as a co-conspirator, let alone a defendant. There is no such thing against us.

Now, if your Honor please, the rest of the agreement is very similar in terms to the past, but they are all minor provisions and I won't take up any further time on them.

The COURT. All right.

Mr. DIXON. We now offer in evidence Plaintiff's Exhibit I, on page 273 of the printed record, the same being an agreement between Krebs Pigment and Color Corporation

and American Zirconium Corporation, dated January 1, 1935.

The COURT. No objection. It will be received.

(Plaintiff's Exhibit I for identification received in evidence.)

Mr. DIXON. Now we wish to offer in evidence
451 Plaintiff's Exhibit I-1, the same being an assignment of contract made December 31, 1935, between Krebs Pigment and Color Corporation and du Pont de Nemours and Company.

Mr. WHITNEY. No objection.

The COURT. Without objection it will be received.

(Plaintiff's Exhibit I-1 for identification received in evidence.)

Mr. DIXON. Now this is the agreement between American Zirconium Corporation and Krebs Pigment and Color Corporation, now the defendant du Pont de Nemours and Company. In view of the comment by counsel for du Pont I will comment briefly that this is a non-exclusive license from Krebs to Zirconium of 37 patents to make titanium dioxide, and that American Zirconium is restricted in this contract by the defendant du Pont in the manufacture of titanium dioxide which Zirconium can manufacture by reason of this license to 3000 tons per year for the years 1935, 1936 and 1937, 6000 tons per year for the succeeding three years, and 9000 tons per year thereafter. The royalty is based upon not less than a quarter of a cent per pound on all titanium dioxide produced by American Zirconium during the period of the agreement.

Those are the important provisions that I wish to direct
452 to your Honor's attention. Zirconium admits validity of the Krebs patents and agrees to mark any containers containing any products and so forth that are manufactured under the patents, and the contract is to run until all the letters patent attached to the license agreement have expired, provided that Zirconium may cancel it at any time after January 1, 1945 if the products then made do not infringe any of the patents licensed.

Mr. WHITNEY. If your Honor please, this contract of course in our view is to be contrasted with the earlier Exhibit H to see the critical differences, and thereby evidencing the independence on the part of the two licensors. Notably, as appears at the outset, this is a one-way license. Du Pont grants a license to American Zirconium and no rights come back to du Pont. Theirs is a working cross-license. The consequence of that is that there is no know-

how exchange here as there is in others. That is the second point.

Then at page 274, under I(a) is our grant of a non-exclusive license and it is under specific patents. In other words, we give Zirconium the license it wants under the specific existing patents. That is quite different.

Then the quantity provision I discussed the other day. It is what I might call the Standard Oil of Indiana provision in the sense that perhaps we had better not
453 have had it in. I don't think there is anything illegal in it, under the Paper Bag case, but we always relax it, and we have abandoned it before the trial.

And in that connection I will ask your Honor to refer to Plaintiff's Exhibit 46, which contains the tonnage of actual production of Zirconium under the license and the royalties paid, and you will find that, roughtly speaking, there was a gradual and steady increase of production of Zirconium, commencing with the year 1935, at then 2200 tons, and running up to the year 1941, at then 6500 tons, and from the very second year it exceeded the amounts in the contract. In other words, the contract was not enforced. There isn't any doubt but that at that time we considered we were entitled to enforce it. There isn't any doubt that under the Paper Bag case we are still entitled to enforce it. And when Zirconium asked in the '30s for more than the quantity, the record shows that du Pont argued with them, but du Pont always gave in in the end. And they went on steadily growing.

Now as a matter of fact, Exhibit 46 in evidence will show to your Honor that in 1942 their production practically ceased, and from October 1, 1942, to September 30, 1943, they reported no production at all. We don't know the reason. Presumably some war reason. So that they
454 have not been a sufferer because of this clause which has been abandoned. But it is one of those little items which is embarrassing, it is one of the sort of items that makes a case. It is the sort of reason we all have to be here to justify and explain, and we believe we have.

Then, your Honor, at the bottom of page 274, II, again characteristic of a license agreement, is the fact that it is a straight royalty agreement, which contrasts again with the National Lead license.

And again at III, where we give Zirconium a most favored nation clause, characteristic of the liberal type of license agreement, where we say if we license anyone

else they will have the same terms. Such clause does not exist in the National Lead agreement because that is essentially a partnership working agreement.

IV and V on validity and marking of the patented products are the usual clauses, but they are quite different in language again from the National Lead license.

VI is the cancellation clause and that is different in language and substance. The National Lead cancellation was 1951, with various other provisions around it, and this has nothing of that sort, but does have what I call your Honor's attention to as being a most unusually
455 liberal provision, at the top of page 277, the effect of which is that at any time after ten years Zirconium had an option of getting out of the license altogether. That is to say, they could by submitting to us information evidentiary of the fact that they did not infringe, again become free in the sense that they could take their chances on whether we could sue them under the patent laws. And I confess that although I am exposed to a great many of these agreements, I have never before seen one with just that clause. It strikes me as extraordinarily liberal and one that would highly commend itself to even the most liberal views that have become current in our recent lifetime. And it, finally, is peculiar because that ten years comes to an end December 31st of this year. So that we are, really, if there is an argument here from the Government that this granting by us of a license to Zirconium under these forty-odd patents is some sort of a shopping restraint, it is one that Zirconium begins at its own free will to be free to escape beginning with the coming first of January. So perhaps we will find the Government not coming back after the first of the year, for which I would be very happy.

Finally, in paragraph VII, the provision is quite different. Under the National Lead agreement it was assignable to a successor of Zirconium, and this agreement
456 is not, this agreement being definitely a personal characteristic of the pure form of patent license contract.

Mr. DIXON. Might I add off the record, your Honor, that I presume that it would be rather easy to satisfy du Pont under this provision, that he says is so magnanimous, now that the suit is pending, that Zirconium does not infringe those patents, so graciously referred to as having been made available to American Zirconium Corporation.

Mr. WHITNEY. Now, Mr. Dixon quite misconceives that. It is on the record and ought to be on the record. With great respect to you, you quite misunderstand the provision, the provision that Zirconium has it in its hands to cancel if it makes available to Krebs all information evidentiary of such non-infringement. It does not have to satisfy Krebs. We cannot decide whether or not it may cancel. It makes the decision whether or not it is to cancel, and it then makes the position of any member of the public completely free of the provision of which the Government is making criticism. That is a vital distinction.

The COURT. Very well.

Mr. DIXON. We now wish to offer Plaintiff's Exhibit J in evidence, being found on page 281 of the printed form, the same being a pool agreement between
457 Titan Company, Inc., Societe de Produits Chemiques des Terres Rares, I.G., regarding the formation of a Japanese company and appointing Doitsu as trustee to make the necessary arrangements. That is dated January 18, 1936.

Mr. WEBSTER. I renew my objections that have been sufficiently stated before with reference to other foreign agreements.

Mr. WHITNEY. Just the continuing objection, your Honor.

The COURT. Well, Titan Company, Inc., is not a foreign company.

Mr. WEBSTER. Yes, Titan Company, Inc., is a party to the agreement now offered in evidence.

The COURT. Yes. I say that is not a foreign company.

Mr. WEBSTER. Oh, no, I did not say that.

The COURT. Oh, I thought you said that was an agreement amongst foreign companies. I must have misunderstood you.

Mr. WEBSTER. I meant my objection was on the same grounds as to other agreements including foreign companies to which Titan Company, Inc., was a party. There were some in which Titan, Inc., did not appear at all.

The COURT. I understand. Yours is a continuing
458 one. Objection overruled. Plaintiff's Exhibit J received in evidence.

(Plaintiff's Exhibit J for identification received in evidence.)

Mr. DIXON. Before discussing these exhibits, your

Honor, I would like to offer the entire series of Japanese contracts.

The COURT. All right.

Mr. DIXON. We therefore offer Plaintiff's Exhibit J-1 in evidence, the same being Agreement B dated January 18, 1936, found on page 289 of the printed form, between Kokusan Kogyo and Doitsu for the formation of the Japanese company, Titan Kogyo.

The COURT. Any objection? The same objection, I suppose.

Mr. WEBSTER. The same objection.

The COURT. Objection overruled. Exhibit J-1 in evidence.

(Plaintiff's Exhibit J-1 for identification received in evidence.)

Mr. DIXON. I now offer Plaintiff's Exhibit J-2 in evidence, on page 294 of the printed record, being a guarantee agreement between Doitsu, Tinc, IG, TG, Terres Rares, and Thann & Mulhouse, dated January 18, 1936.

Mr. WEBSTER. The same objection.

459 The COURT. Overruled.

(Marked Plaintiff's Exhibit J-2 in evidence.)

Mr. DIXON. I now offer in evidence Plaintiff's Exhibit J-3, found on page 307 of the printed record, the same being license agreement C between Kokusan Kogyo and Titan Kogyo.

Mr. WEBSTER. I think that one is subject to the further objection that it does not include Titan Company, Inc. or any other American company as a party. Otherwise, the objections are the same.

The COURT. This agreement is between KK and TK, dated January 18, 1936.

Mr. DIXON. That is right, your Honor.

The COURT. All right. I will allow it.

(Plaintiff's Exhibit J-3 for identification received in evidence.)

Mr. DIXON. January 6, 1936, is contained on the top of page 5 of Exhibit J-3.

The COURT. Was it made before J-1 and J-2?

Mr. DIXON. No, your Honor. Actually, this agreement would have to have been made after the main agreement.

The COURT. Probably contemporaneously.

Mr. DIXON. That is right. It may well have been provided for, in the Exhibit J, by which the purposes of that contract were carried out.

460 The COURT. J-3 is Chapter (c) of J, isn't it?

Mr. DIXON. That is right.

The COURT. All right.

Mr. DIXON. I now wish to offer in evidence Plaintiff's Exhibit J-4, the same being a license agreement labeled "D" between Doitsu as trustee for Tinc, IG and TG and Titan Kogyo, or TK.

Mr. WEBSTER. The same objection.

The COURT. No date?

Mr. DIXON. This, your Honor, is apparently June 1, 1936, to the best of my ability, and I am approximating the date.

The COURT. All right. Plaintiff's Exhibit J-4 received in evidence.

(Plaintiff's Exhibit J-4 for identification received in evidence.)

Mr. WEBSTER. There is nothing in the agreement to show the date.

The COURT. The date will be subject to proof if it is material.

Mr. DIXON. I now offer in evidence Plaintiff's Exhibit J-5, the same being minutes of agreement between TK and KK labeled "E" in a series of these Japanese agreements. Here again there is apparently no specific date given to the copy of the agreement offered, but approximately the same date as the other.

461 Mr. WEBSTER. The same objection.

The COURT. Exhibit J-5 is received in evidence.

(Plaintiff's Exhibit J-5 for identification received in evidence.)

Mr. DIXON. I wish to offer in evidence Plaintiff's Exhibit J-6, the same being minutes of agreement labeled "F" between TK and KK. This agreement is on page 328, your Honor.

Mr. WEBSTER. The same objection.

The COURT. The same objection, the same disposition. It is received in evidence as Plaintiff's Exhibit J-6.

(Plaintiff's Exhibit J-6 for identification received in evidence.)

Mr. DIXON. We now direct your Honor's attention in discussing these Japanese contracts to chart No. 4 wherein these series of contracts are shown to the right under the European and the rest of the world territory division on that chart. We have seen the creation of TG and the territory allocated to TG at the time that agreement was entered into which was, among other portions of the world, Japan and China. This agreement was therefore under the supervision or control in the sense of territory of TG.

Therefore, the parties to the agreement operated through the agent Doitsu as trustee for all of the parties
462 to these agreements.

Now these agreements cover licenses from the Blumenfeld associates, Terres Rares and Thann & Mulhouse, as well as the interests of Tinc, and are shown on the chart by the various lines connecting these companies—Blumenfeld and Terres Rares running up to Doitsu and then from Doitsu to TK, and then on the other hand from TK to Doitsu and then through, also, Thann & Mulhouse being a party to this agreement is also connected with it.

The COURT. Any other comment?

Mr. DIXON. Yes. I wish to point out that Terres Rares was interested in the Japanese market at this time and had been exporting to that market and that these agreements therefore related to competition, the elimination of competition between those two groups in that market and retained all operations with regard to the titanium pigment business in the Japanese market, via the Japanese company. As I have already pointed out, there was a trustee appointed through which these contracts and agreements were made and all communications were to go through that party under Japanese law.

The allocation of stock interests in this company were varied in percentages. 50 per cent of the stock was allocated to the Japanese company who participated in the formation of this new company to manufacture titanium pigments, and the balance was allocated between the
463 Titan companies and associates on the one hand and the Blumenfeld groups, of which the Blumenfeld groups were to get I believe 30 per cent of the 50 per cent of the stock remaining to be distributed among the Blumenfeld group and the Titan group companies.

Now all of the parties to this agreement agreed to sell their stock if, as and when it was sold only in one block and not separately, so that the control of the company was to rem[illegible]50 per cent in the Blumenfeld-Tinc companies or int[illegible]sts and the other 50 per cent in the Japanese group.

Now J-1 is the agreement B dated January 18, 1936 and provides for the amount of capital with which the Japanese company shall commence business and the new company or the other Japanese company participating in the formation of this group agrees not to transfer any of its holdings of the Japanese company without the consent of Doitsu, the trustee. The company cannot be dissolved until December 31, 1960, and if it is not dissolved on that date it can

only be dissolved at the end of each succeeding ten-year period.

Plaintiff's Exhibit J-2 is the guarantee contract between Doitsu, Tinc, IG, TG, Terres Rares and Thann & Mulhouse in which they authorize the trustee to act for them in this agreement, and the Licensed Field is described as substantially the same as that in the 1920 agreement, and the territory of the Japanese company is limited to
464 Japan and Manchukuo. The definition of the finished article is substantially the same as in the 1920 contract.

The European-American group, which is the two groups, obligate themselves to refrain from granting any licenses in the Licensed Field to any other Japanese company than the one that is to be licensed. And Terres Rares and Thann & Mulhouse agree to make their patents and experience available to TK at any time TK desires. In other words, the technical know-how in patents of the Blumenfeld group were to be available to the Japanese company if they desired it. And TG agrees to transmit to this new company all information and technical experience that they have and which they get by reason of the connections of TG with the Titan Company. The Titan companies and the Blumenfeld companies agree not to sell any products within the Licensed Field in any territory of the Japanese company and to impose these same obligations upon their customers. That is the provision we have seen in the other Titan-Blumenfeld contract. And the Japanese company agrees to impose the same obligation upon their customers.

Then follows the provision we have seen before—customers of the group may, however, that is the European-American group, sell finished articles within the Japanese territory and the customers of the Japanese com-
465 pany have the same rights, provided that such sales cannot be made in North America. That is a specific restriction there. The territory of North America is expressly set apart as one in which those sales cannot be made.

The parties agree to make certain that their customers do not compete in any undesirable way and if such competition develops the company whose customer is affecting the competition shall take steps to prevent its continuation.

And, then, the group, that is the American-European group, agrees not to participate in any other Japanese enterprise in which titanium pigments may be manufactured. Then KK is to agree on its own behalf and on behalf of firms belonging to the Japanese company not to

engage in the manufacture or trading in all products within the Licensed Field except through this Japanese company.

Now Exhibit J-3 is the license agreement "C" between KK and TK and follows the form that we have discussed before.

The COURT. I suggest that you suspend at this point. We will resume again on Monday.

(Adjourned to December 11, 1944, at 10.30 a.m.)

466 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, ET AL.

NEW YORK, *December 11, 1944, 10:30 a. m.*

Trial resumed.

Mr. DIXON. May it please the Court, when we adjourned, we were about to comment on Plaintiff's Exhibit J-3, which is the license agreement between KK and TK. In this contract, KK grants to TK exclusive licenses in the Licensed Field under all patents then or thereafter owned by KK. This also provides for the manner and procedure in exchanging patent applications so that the other party to the agreement may determine whether that party wishes similar applications to be filed within its particular territory.

Other provisions such as those requiring employees to assign their contracts or their patents is also contained in this agreement. Both parties likewise agree never to contest the validity of any patents that they may be licensed to use by the other party during the term of the agreement.

KK also obligates itself to purchase its requirements of titanium pigments from the Japanese TK formed for the purposes of manufacturing and selling titanium
467 pigments within the territory allocated to the Japanese company.

Exhibit J-4, license agreement D, page 312 of the printed exhibits, is between Doitsu as trustee for the European allied countries, Tinc, IG and TG, wherein Doitsu as trustee grants to TK, licenses on behalf of Tinc, IG, TG, and TK in turn grants licenses to Doitsu as trustee for the parties named on all titanium pigment patents pursuant to the obligations imposed on it under the contracts. The licenses are exclusive and each party agrees not to sell or permit to be sold within each others territory the products manufactured pursuant to any of the patents

licensed. If any such sales are made, they are to be made through the other party into whose territory they are made as the exclusive agent and at prices to be determined by the exclusive agent.

Both parties to the agreement undertake to prevent their customers from competing in the territory of the other party, and if such competition does develop take steps to avoid that and correct that competition and prevent it from continuing.

Exclusive licenses are then granted on any patents which the respective parties may have at the time or in the future for their respective territories, and each party agrees to cooperate and exchange full and com-
468 plete information in detail as to any technical knowledge obtained by it relating to the manufacture of the products under contracts or licenses in the Licensed Field; these obligations to assign patents from the employees of any of the companies are also contained in these contracts, so that those inventions would be made available to all of the parties to the agreements.

Now Exhibit J-5, number E, is merely an agreement between TK and KK, relating to the furnishing of supplies and services by KK to TK.

J-6, contract F, is merely the minutes of an agreement between TK and KK covering the terms of the agency between the parties theretofore provided for in the contract.

The COURT. Mr. Webster.

Mr. WEBSTER. If the Court please, Government counsel has now put before the Court a series of agreements relating to the 1920 agreement, that is the so-called European agreements, and has commented very fully about the terms of those agreements. I believe that at this point before reference is made to the so-called Canadian agreements, it would be pertinent for me to make some comments with reference to this whole series of agreements in line with the kind of comment that has been made by the Government and in the case of du Pont, or the
469 agreements to which du Pont was a party—the du Pont agreements.

Before I refer specifically to the 1920 agreement, of course it is now perfectly apparent from chart No. 5 which the Government brought to our attention——

The COURT. The production chart?

Mr. WEBSTER. The production chart, and which Mr. Whitney so warmly embraced as his own Exhibit 1, that

in 1920 when that 1920 contract was made there was no business in titanium pigments.

470 That the Americans and the Norwegians holding certain patent rights were simply aware that each was engaged in the process of research and invention and that Dr. Jebsen came over here at the suggestion of the Americans to consider what should be done about opening up this incipient art. It was realized that each had something to contribute—the schedules attached to the agreement of 1920 and the recitals show that—and it was decided that they should pool all their interests in the field of invention and research in the interest of opening up this new art.

Now there are certain features of the 1920 agreement that attract attention and I believe warrant some reference. The first is that it stands out from an examination of that agreement that the parties believed that if there was to be any exchange of invention and research there should be a complete exchange; that if the parties were to allow each other to use their patents they should also, of course, allow each other to use their know-how, and it followed from that, I think very logically and naturally and properly, that if they were to confer upon each other not only patent rights but all of their experience of the art and their discovery they should also provide that future patents should be included; that if they were to

471 have a partnership for the purpose of developing this new substance one partner should not be permitted to hold back from the other partner things required to produce the most perfect product under the exchange that they had agreed on. This was to insure of course that the art would really be opened up and there would be no research which would permit one party to stand or lie as the dog in the manger and prevent the comparable growth of the other party. In other words, it was a real partnership.

Now the second features that stands out in our opinion is this, that instead of merely dividing up this business between them as they might well have done under their patents, the Norwegians and the Americans anticipated that licenses would be granted to others. They might have simply stood fast and said, "Now we will just develop this between ourselves and will not permit anybody else to take any part in it"; but that was not the plan. Licenses to others were anticipated from the very beginning. It followed from this that if the National Lead Company and

the Titan Company A/S, it followed from this that those two companies should each get back from their licensees whatever the licensees were able to develop in the way of patents or know-how or future patents. In other words, if licensees of these two parties were to be taken
472 into this partnership they, too, should be expected to act like partners and act in good faith and to a complete extent return to the licensors the benefits which they were able to develop so that the art would be a truly open art.

Now I might add parenthetically at this point that the National Lead Company has never refused to grant licenses to anybody under its patents.

Now the third feature which stands out in an examination of this 1920 agreement is that, having regard to the conditions of the industry, namely, really that there was no industry and to the positions and relations of these parties as I have described them, the territorial provisions were regarded by them as a reasonable incident of the exchange of patents and know-how. The American company was engaged in the production and business in America, the Norwegian company was engaged in business in Europe, and this seemed to be a reasonable incident of that exchange. There is one feature which has been mentioned before, namely, the attempt on the part of the parties to the 1920 agreement in writing to control to some extent the export and import of finished articles. Of course there weren't any finished articles containing titanium compounds at that time; they were simply looking for-
473 ward from the day in 1920 to the time when there might be, and with Norwegian thoroughness putting in something which somebody thought about or thought might happen. The fact is of course, as I have said before, that that was not enforced; to the extent that it still has any vitality whatever it is relinquished. And if the National Lead Company was in a position to do so, it would be prepared to cancel out that provision in the 1920 agreement.

Now, what was Dr. Jebsen doing between 1920 and 1927? I think the next significant step in these proceedings is the step or steps which led to the 1927 IG or German agreements, but something was happening over there which I think is apparent from the record thus far developed. Dr. Jebsen went back to Norway—he had a small company, he was producing the ore, ilmenite, in Norway and was carrying on his researches and he was endeavor-

ing, as one might expect him to do, to sell his product in Europe; and the consequence of that was that there were sales arrangements made in France, followed in 1927 by the French agreements which are now before your Honor. Jebsen was doing precisely what I think many business men in the same circumstances in Europe would have done—he was using existing facilities and in France
474 he used existing facilities in the shape of a concern engaged in selling chemical products.

Now having made those arrangements and thinking perhaps at one time that there might be occasion for manufacture in France—actually there was none and there never was any manufacture in France, simply sales agreements—he made sales agreements with Greeff in England and he arranged with Greeff as one might expect he would that Greef would sell the Norwegian product throughout the British Empire. Jebsen had no facilities of that sort, and the natural and proper thing for him to do was just what he did, I submit, namely, to make an arrangement with Greeff to distribute this product in England, in the United Kingdom and in the British Empire; and also, sales were made in Belgium and Holland.

The time came when overtures were made by the IG to Dr. Jebsen's creditors looking toward to the acquisition of this Norwegian company. Dr. Jebsen did not embrace those overtures and he was authorized to negotiate with the National Lead Company on behalf of the owners of the Norwegian company, including of course himself to a limited extent, and the National Lead bought 87 per cent but insisted that Jebsen remain as the manager. He was the man who knew about the business, who had originated it, and he did remain. And the IG was deprived of obttaining the ownership of the Norwegian company.

475 Now at this same time, I think the record now permits me to say, the IG was negotiating with Jebsen for a license. It was interested in getting into this business. Between 1920 and 1927 it observed what was going on and undertook to negotiate for a license, and as your Honor knows, that led to the preparation of the German agreements which are now on record here.

Now what did the Norwegian company get under the German agreements? I think that is a critical consideration to which your Honor will desire to give some attention. In the first place, the Norwegian company got what may roughly be described as IG's good will. We do not think of IG as having any good will, certainly in this part

of the world, but in 1927 IG did have something that might roughly be described as good will, not only in Germany but in the whole of Central Europe. It had a huge and very efficient sales organization. It had, as all know, a magnificent research organization. (We might now wish that that research organization had been less efficient than it was.) It had huge potential know-how in this field which was attractive of course to Dr. Jebsen. In addition to those things it had cheap manufacture. It had a factory and a factory site, and it had raw materials, cheap sulfuric acid. And all of these, yes, were gladly received.

476 It also got under the German agreement another very valuable right which proved of great value to the British and to others, namely, a call on the IG for 50 per cent of IG's production at cost. It could simply call on the IG to turn over to it 50 per cent of their entire production at cost.

Now of course, what did the IG get? The IG got the patents, the Norwegian and American patents; it got the know-how, and it got something which was then valuable to it—it got ilmenite from Norway not at cost as in the case of the IG production to Titan A/S, but it got ilmenite at cost plus 10 per cent, so that it was in a position to acquire this.

The result of all this was a joint venture to which each paid in 50 per cent of the capital, and of course, though the arrangement was made between the Norwegian company and the German company, the National Lead Company put up the money.

Now that leads us I think to the few comments concerning what might be described as the European agreements and the European situation. There was a man in France named Joseph Blumenfeld, a chemist, who had some patents. Whether he had a complete process or not does not appear. But he had some titanium patents but they were held by Terres Rares, a French Company.

477 Terres Rares had licensed these Blumenfeld patents to Thann & Mulhouse in France, to Montecatini in Italy, to Aussig in Czechoslovakia, and I believe to Laporte in England, and what the German company did, which I think is typical of what German companies were doing and did do for some time before and after that with reference to many fields of industry, was to make a deal with Blumenfeld based on the then production or sale of TG and Blumenfeld, namely, 70 per cent for the interests that might roughly be described as

the TG interests, and 30 per cent to Blumenfeld. This did not take in, as I understand it, the British Empire or the United States. It related exclusively to the situation in Europe in what is described here as TG's or IG's territory. It was a typical European quota arrangement of which there are thousands of examples, as your Honor well knows.

That brings us down to the 1933 British arrangements. There was, as I have said, this sales agency arrangement with Greeff which, for reasons of which I think we all have knowledge, was to a large extent unsatisfactory. There was the well known Buy British campaign which was particularly current at that time; there was the traditional conservatism of the British master painter or mechanic to use a product coming from abroad with which he was not familiar, having always used a different kind
478 of product for paint; there was the tariff situation and other matters which will be more fully developed later.

Now in addition to that we have ICI, one of the largest chemical companies in the world, a combination brought about after the last war to unite the interests of British chemical firms, and we have the ISC, a very powerful company engaged in the heavy chemical business, and the Goodlass Wall Company, which was a very respectable company which engaged in, sales throughout the British Empire. They were, I believe, allied in other matters as well as with reference to the formation of BTP, and, as I say, were all engaged in manufacturing and producing heavy chemicals.

Now the advantages apparent from an inspection of these British agreements were the same or similar to the advantages under the IG arrangement. The National Lead Company and the people associated with it got the enormous research facilities of these great British companies. They got a huge amount of chemical know-how which was of inestimable value to them. They acquired their enormous good will, access to their sales facilities. They received a factory site at Billingham, which is referred to, and they got the raw materials necessary for the production of the product.

479 The COURT. I do not quite understand when you say the National Lead got these things. I did not think they got anything. They got these enormous research facilities in the sense that the industry might be said to

have obtained them, but I do not understand you when you say National Lead obtained them.

MR. WEBSTER. I mean National Lead obtained them in the sense that National Lead, under the 1933 British agreement, was entitled to receive back from BTP all of the fruits of BTP's enterprise in this field, and of course, as your Honor knows, ICI transferred to BTP its patents relating to titanium production, and ICI and ICS and Goodlass Wall all agreed to refrain from manufacturing in that field and to pool their interests, so that National Lead, in the sense that all it received was 49 per cent of the stock, subsequently reduced to about 44 per cent, had a great interest in the prosperity and success of BTP, apart from the know-how which came back to the United States—know-how and patents and patent rights. Of course incidentally the National Lead Company sold an unsuccessful sales business in England for £125,000 of B shares of BTP, which, if not then, perhaps some time in the future would have a substantial value.

Now what did the British get? In the first place,
479-A they got a thing of great value to them. They got IG's production. They got that 50 per cent right which Titan A/S had until such time as they were in a position to build a factory, so that they received an immediate source of supply of great size and value and they, of course, received the patents and know-how.

480 Now when this arrangement was made we, that is Titan Company, Inc. or National Lead Company, put up one half of the paid-in capital. As I say we got the £125,000 pounds of B shares and 44 per cent of the A shares.

Now the Japanese arrangements are not essentially different from that. Your Honor will recall that under the agreement between Titan A/S and the IG, the IG received Japan as part of its territory. Now at that same European agreements, Blumenfeld had been given as his time, or subsequently, under what we have called the European agreements, Blumenfeld had been given as his quota by these European companies 30 per cent of the Japanese market, so that it transpired, as one might expect it would, that when arrangements were made with reference to Japan the division of interest was substantially on the basis of 70 per cent for the interests there represented by IG and 30 per cent for the interests there represented by Blumenfeld or Terres Rares.

Now in case your Honor has not clearly got the exact

division of interests in that I have made some notes on it which are simple enough but which I think may possibly be of assistance:

The local Japanese group received 50 per cent of the Japanese enterprise.

The so-called European group, that is IG and
481 Blumenfeld, received 50 per cent.

Of the 50 per cent that went to the European group, so-called, 70 per cent went to Titan Gesellschaft, TG, and 30 per cent went to Blumenfeld.

And of the 70 per cent that went to TG, of course the interests represented by the National Lead Company received one-half of this.

The papers show that the National Leal Company or Titan Company, Inc. actually put up TG's share of the cash——

The COURT. Who put up the cash?

Mr. WEBSTER. The National Lead Company put up TG's share of the cash, the capital contribution, giving TG an option to repurchase that share and that, of course, was because of restrictions then existing on the export of funds from Germany.

Thank you very much.

Mr. WHITNEY. If your Honor please, I only want to make a very brief comment, that with this opening of the new week of the trial in this interesting and brief review by Mr. Webster we have brought into relief—and I submit to your Honor the documents as a whole and the record as a whole shows this—that here are these worldwide com-

plexes of agreements representing this apparently
482 remarkable energy of Dr. Jebsen over a period of 16 years, with the finances of National Lead behind him, developing all these complex relationships, Germany, France, Great Britain, and finally Japan, and du Pont is not a party to any of this. Du Pont's problem is simply one of an American manufacturer seeking to enter this industry which has thus been created and which it finds in existence as an industry with a highly developed situation in patents and in expert knowledge in which the National Lead has at its disposition in the United States, not merely its own work but the fruits of the work and the fruits of the agreements that it had made throughout the world. Now whether those agreements were or were not in restraint of trade within the United States within the meaning of the Sherman Act as construed in the innumerable cases that began with the Addison Pipe & Steel and terminating with your Honor's opinion in the

Dyestuffs case is a complex problem which I believe we are going to be entitled to stay out of. Although I know that there are coming odd bits of evidence where these very energetic gentlemen on the other side from time to time tried to suck us into it, I think your Honor is going to conclude on the whole that there is not any doubt that we stay out of it, whatever it is and whether it is good, as Mr. Webster is submitting, or evil, as Mr. Dixon
483 is submitting. But you could not have this world-wide situation, or, putting it in a more homely way, you could not have these 485 pages of paper without it making some dent on the du Pont position. We produce about 8 per cent of the chemical products in the United States, about one-twelfth, and this is one of the very minor, but none the less promising, new chemical fields, and we want to get into it and as we want to get into it we face this huge situation that has been described to your Honor.

Our problem is simply to get the rights determined, the knowledge, the patent licenses, the know-how from this great group in whatever way we can consistent with the laws of the United States. It certainly is not worth while to the du Ponts to violate the laws of the United States in order to enter this new market of art. I think that is what the record is showing.

The COURT. Mr. Dixon?

Mr. DIXON. I just wanted to add, in view of the comments made by counsel for defendants——

The COURT. No. That is one thing I am not going to let you do. We are not going to have a reply on each one.

Mr. DIXON. All right, your Honor. I take it your Honor understands the Government will present its case in
484 all of its phases as it develops its picture.

The COURT. This is a restriction more of necessity than anything else. Otherwise we are going to simply argue and reargue this case at every stage, and that is something I cannot have. I am perfectly willing to have you gentlemen call my attention to such parts of the exhibits as come in and make comments to facilitate my comprehension, but I don't want to get into any re-arguments.

Mr. DIXON. That is so. My intention was to comment merely upon these agreements, and that is all that we ask.

The COURT. You have had your opportunity.

Mr. DIXON. I wish to offer in evidence Plaintiff's Exhibits J-7 and 8 for identification. I don't know as either

of you gentlemen have copies of this. I will show them to you. They are very short—just to complete the J series.

Mr Webster. This is simply subject to the objection we have heretofore made with reference to the Japanese situation as presented by Mr. Dixon.

The Court. All right. It is a footnote to the Japanese situation?

Mr. Dixon. That is right.

The Court. All right.

485 (Plaintiff's Exhibits J-7 and J-8 for identification received in evidence.)

Mr. Dixon. We now wish to offer Plaintiff's Exhibit K in evidence, the same being agreement of cooperation between Canadian Industries, Ltd., or CIL, and the National Lead Company, dated January 1, 1937, providing for the formation of a Canadian company to carry on the titanium pigment business in Canada. That is on page 329 of the printed exhibits.

Mr. Webster. We have examined this exhibit and we make the objection that it relates, as appears from its face, to the Canadian company which is not present here and whose interest would be adversely affected if the purpose of this action is to cancel the agreement.

I might also remind your Honor at this point that it has heretofore been stated that in the case of the Canadian arrangements, as in the case of the British arrangements, the defendants have negotiated revision agreements which will supersede the agreement about to be referred to by Government counsel.

Mr. Whitney. Just the continuing objection.

The Court. The objection is overruled. Plaintiff's Exhibit K is received in evidence.

(Plaintiff's Exhibit K for identification received in evidence.)

486 Mr. Dixon. We wish to offer Plaintiff's Exhibit K-1 in evidence, the same being an agreement between the National Lead Company and Canadian Titanium Pigment Ltd., or CTP, dated January 1, 1937, and found on page 341 of the printed exhibits.

Mr. Webster. The same objection.

The Court. The objection is overruled.

(Plaintiff's Exhibit K-1 for identification received in evidence.)

Mr. Dixon. We wish to offer Plaintiff's Exhibit K-2 in evidence, the same being agreement between Canadian Industries, Ltd., or CIL, and Canadian Titanium Pig

ments, Ltd., or CTP, dated January 1, 1937. That is on page 361.

Mr. WEBSTER. As to that I make the further objection that it is an agreement between Canadian companies not present here and that it is irrelevant and immaterial.

The COURT. The objection is overruled.

(Plaintiff's Exhibit K-2 for identification received in evidence.)

Mr. DIXON. I now wish to offer in evidence Plaintiff's Exhibit K-3 for identification found on page 367 of the printed volume, and being an agreement between National Lead Company and CTP, dated January 1, 1937.

487 The COURT. These being all chapters of the proposed agreement K.

Mr. DIXON. That is right, your Honor.

The COURT. Contemporaneously executed by the parties named.

Mr. DIXON. Yes, your Honor.

Mr. WEBSTER. The same objection on that. I might point out that is an agreement under which the Canadian company gave the National Lead Company 8,000 B shares for the National Lead Company's going concern in Canada. It does not seem to be very material to the inquiry here.

The COURT. As to whether or not it would be material as an independent instrument is one thing, but, as I understand the terms of K-3 are really set forth in K as one of the agreements to be executed as part of the master agreement. It seems to me that it would be in order to offer them all as part of Exhibit K. They are simply clauses of a master agreement requiring separate execution, frequently, because they deal with specific problems or because they are to be executed by a corporation to be formed and formed pursuant to provisions of Exhibit K. The objections are therefore overruled.

(Plaintiff's Exhibit K-3 for identification received in evidence.)

488 Mr. DIXON. We wish to offer in evidence plaintiff's Exhibit K-4 on page 369 of the printed exhibits, being an agreement between CTP and British Laporte, Ltd., or Laporte, dated December 4, 1937.

Mr. WEBSTER. I make the same objection as to this agreement, and in view of your Honor's explanation of his ruling with reference to the previous offer, I point out that this agreement is not an agreement referred to in Exhibit K—that it is a wholly independent arrangement

between the Laporte, Ltd., an English company, and CTP, and the only reason the Government has a copy of it is that when they examined our files we obtained one as a matter of convenience and courtesy and gave it to them.

489 Mr. DIXON., I might add, your Honor, I am reserving comment or would like to comment on all these documents, as in the previous series of exhibits, when I have completed.

The COURT. I will overrule the objection.

(Plaintiff's Exhibit K-4 for identification received in evidence.)

Mr. DIXON. We wish to offer in evidence Plaintiff's Exhibit K-5, the same being an agreement between the National Lead and CTP dated February 27, 1939.

Mr. WEBSTER. The same objection.

The COURT. Objection overruled.

(Plaintiff's Exhibit K-5 for identification received in evidence.)

The COURT. I should comment to Mr. Webster, in view of what he said about the last exhibit: Once the Government establishes an arrangement as it does under Exhibit K between some of these companies and then there is at least a prima facie case of a combination or conspiracy or whatever you might want to call it, then of course further acts of the conspirators become admissible in evidence provided they are in furtherance of the conspiracy. On a theory of that character there would be no trouble in admitting exhibits like K-4.

Mr. WEBSTER. I can appreciate your Honor's
490 desire in a case of this sort to look at all the agreements whether they are precisely related or not, but I felt that I should point out that difference.

The COURT. Oh, I am glad you do, and I think you should state your objections because as I reread the record it is the only way I can become aware of what is going through your mind, as I stated, and I state my views occasionally so as to remind myself as to what induced me to let it in.

Mr. DIXON. We wish, your Honor, to briefly comment on these series of exhibits which, as your Honor has mentioned, deal with the Canadian picture or territory in the titanium pigment field.

First, Exhibit K, as your Honor has also stated, was the contract between National Lead Company and CIL, shown on chart No. 4, which provided for the organization of this

new Canadian company, CTP, the purpose of which was to carry on the titanium pigment business in Canada. In this Exhibit K the parties obligate themselves to exchange or give to this new company the exclusive rights on all patents relating to the Licensed Field that they may then own or thereafter acquire, and CIL, the Canadian Company with which this agreement was made by National Lead, agrees in Exhibit K not to deal in or to manufacture titanium compounds in any part of the world
491 except at the request of CTP, and National assumes the same obligations; that is, not to manufacture any pigments in Canada and Newfoundland without the consent and approval of this Canadian company.

National agrees to supply this new company with titanium compounds on a cost plus 10 per cent basis until the Canadian company commences the manufacture of titanium pigments, and National also agrees to have or permit BTP, the British company, to furnish a limited supply to the Canadian market on the same basis. The agreement is to remain in effect until January 1, 1967 and unless terminated with the provisions within the requirements of the contract which were the giving of a 12 months' or year's notice of the intention of either party to cancel the agreement before it could be cancelled. It extends itself indefinitely until such cancellation notice is given.

Now Exhibit K-1, between the National Lead Company and CTP, this new company in Canada, provides for the granting of the exclusive licenses required to be granted this company in Exhibit K in the titanium pigment field not only of National's then owned titanium pigment patents but any that they might thereafter acquire in the future. Customers of CTP may sell finished articles in National's territory but no such sale can be made by the CTP itself without complying with the obligations
492 of Article VI(c) of the 1920 agreement.

The COURT. You say that CTP customers may sell finished products in the United States?

Mr. DIXON. That is right.

The COURT. To that extent, that is a departure from the other.

Mr. DIXON. A slight one. There is a qualification as I will point out, to that right in a further portion of the contract.

Now this contract does provide that while CTP is obligated to give to National for its territory any patents that it might thereafter acquire that National wants in the

United States, that even though this license is to be exclusive from CTP to National if du Pont wants a license on any of these patents du Pont is to share that license with National or at least is to have a similar privilege provided it pays one-half the expenses of granting the license.

Mr. WHITNEY. Which paragraph is that, Mr. Dixon?

Mr. DIXON. Now I am reading from my summary.

The COURT. Are you offering the marginal note on page 342 in Exhibit K?

Mr. WEBSTER. I was ging to remark when Mr. Dixon got through that Mr. Dixon's assistants appear to have put some marginal notes on a number of these Canadian
493 agreements, and I think it will be agreed that none of them is material and they ought to be removed.

Mr. DIXON. I concur with that.

The COURT. I will strike out the marginal note on 342 and I will strike out the others as I come to them.

Mr. DIXON. If there are any they are obviously not to be part of the exhibit.

Mr. WEBSTER. There is one on 329. I think they all ought to go out.

The COURT. All right.

Mr. DIXON. Now the provision that Mr. Whitney inquired about I believe is found in paragraph III. Now any sales within the territory of CTP by the customers that I have mentioned previously that might be permitted are to be kept within the limits of Article VI(c) of the 1920 agreement, which your Honor may recall was the one where if there was any competition——

Mr. WEBSTER. That is in the limits imposed by the note to Article VI(c).

Mr. DIXON. That is right. In other words, subject to that limitation, that if there were any such sales and they interfere with the business of CTP, for example, in Canada or with National in the United States that efforts were to be made to stop and prevent those sales upon request of
494 the other party to the agreement in whose territory they were being made. And CTP agrees to grant licenses direct to any of the companies, the allied companies so-called, that National may designate, subject again, however, to the granting of similar licenses to du Pont if requested by du Pont. Then follows the specific provision I suggested a moment ago, although not in detail, that neither National nor CTP will sell or permit to be sold within their respective territories any of the products

within the Licensed Field and agree to take steps to impose this obligation upon their respective customers. And if either party permits these sales or imports into the territory of the other the party in whose territory such imports are made shall be the exclusive agent for such sales within that particular territory.' And then CTP appoints Titan Company or any licensee of Titan, Inc., that is Tinc, as its agent for any sales outside of North or South America and the agent, either Tinc or anyone designated by it, in whose territory such sales may be made is authorized to fix the prices and conditions for resale of the products sold by the agent. And each party undertakes to prevent its customers from competing with each other in each other's territory. In other words, there are several references made in this contract to the sales by customers or purchasers of the products from either party in the territory or outside the territory, and I endeavored to
495 cover them in the order mentioned.

Then we have the provision relating to the procedure to be followed in filing patent applications and exchanging them, and CTP agrees to render semi-annual statements of its production to National and to impose upon any licensee the obligations and conditions of Article XIV of the 1920 agreement. It is then provided that each party shall exchange know-how or technical information and be authorized to visit the plants of either party and have the other privileges that we have seen in some of the other Titan agreements relating to the exchange of know-how.

The contract can only be assigned in connection with the transfer of the entire business of the party, the contract itself, and the assumption by such transferee, if it is sold, of the obligations of the contract. And sub-licenses can be granted, as suggested previously, provided the licensee agrees to assume all the obligations previously referred to.

The Court. We will suspend at this point.

Mr. Webster. If the Court please, there is a matter I would like to take up in chambers, if I may.

The Court. I will be glad to see you all inside.

(Short recess.)

496 Mr. Dixon. With reference to K-2, the agreement between CIL and CTP, in this agreement CIL grants to CTP exclusive licenses on any patents or processes which it then has or might thereafter acquire in the Licensed Field and obligates itself to see that CTP carries out the provisions of its contract that is entered into with

National Lead.

K-3, the agreement between National Lead and CTP, is one in which the Canadian business of National Lead in the titanium pigment field is transferred to the new Canadian company, CTP, and National agrees to make available to CTP all of its technical know-how and experience in the titanium pigment field.

Exhibit K-4 is the agreement between CTP and Laporte which, as previously mentioned, was engaged in the titanium pigment business in the Canadian market. This contract transfers to CTP all of the Canadian business and patents of Laporte in Canada as well as any future Canadian patents which it might acquire in the Licensed Field to this new Canadian company CTP, and any future patents that Laporte might acquire are to be given to the Canadian company on a royalty-free basis. And if it should acquire, that is if Laporte should acquire any patents relating to the Licensed Field outside of the Canadian
497 territory, it agrees to make those available to the new Canadian company, that is, to use its best efforts to secure them for the Canadian company. There is a restrictive clause in this contract obligating Laporte not to engage in the titanium pigment business in Canada until after January 1, 1953.

Now Exhibit K-5 is merely the amendment to the contract Exhibit K extending the Licensed Field or the field of operations of these various companies which your Honor has seen in the other Titan contracts.

The COURT. Mr. Webster.

Mr. WEBSTER. No comment.

The COURT. Mr. Whitney.

Mr. WHITNEY. Well, if your Honor please, just a few minor points that I noticed in going over it. At page 330 in the first of these agreements, K, between CIL and National Lead, in paragraph (5), it recites that CIL has access to the technical information of du Pont for use in the Dominion of Canada and the Colony of Newfoundland. On that I ought to say to your Honor and to the Government to save time that it was an agreement for exchange of information between du Pont and CIL and that that exchange of information was cancelled subsequently, at the same time as du Pont cancelled the National Lead so far as titanium pigments were concerned. Your Honor and
498 Mr. Dixon will both observe at once that from du Pont's point of view that was necessary, otherwise, to use the phrase that was then used, information

from du Pont would have flown around the corner through CIL back to the National Lead from whom we were cutting ourselves off. But before that we had this inter-American-Canadian understanding with CIL that they would have our information.

On page 336, the same agreement, at the bottom of the page, paragraph 9, I am told that that factory in Canada was in fact never erected. I thought the record ought to show that and Mr. Dixon would be glad to have it right.

The COURT. Is that conceded all around?

Mr. WEBSTER. That is conceded.

Mr. DIXON. That is right.

The COURT. It is conceded that the factory mentioned in paragraph 9, page 336, was never erected.

Mr. WHITNEY. And I take it similarly, at page 369, K-4, the first recital, "Whereas Canadian Titanium is engaged in the business of manufacturing and selling"—I take it in light of the fact that the manufacturing never was engaged upon that that means planning to engage. I think as a matter of fact it is engaging in the sense in which people use it in Norway. It is familiar European language. There are really some delightful expressions here.

498a I hope they are being incorporated in the language——

Mr. WEBSTER. That particular comment is gratuitous, for the reason that we do not appear to have anything to do with it.

Mr. WHITNEY. It is not meant to be unfriendly.

The COURT. It is a good Norwegian custom anyway.

Mr. WHITNEY. And then on page 337, the very next page of the original agreement——

499 The COURT. We are back in Exhibit K?

Mr. WHITNEY. Yes, your Honor. I was linking up the 369 to the 336. Those comments went together.

And then this third comment on 337, paragraph 11. Your Honor will observe at the end of the statement:

"It is understood that, for the purposes of this Clause, E. I. du Pont de Nemours and Company, Inc. shall not be deemed to be an associated company of C-I-L."

That is a clause in which CIL is binding itself not to operate in certain respects in the balance of the world outside of Canada, and your Honor will recall that du Pont and CIL were exchanging information and CIL put in that it could not bind du Pont in the rest of the world.

The COURT. One of those double-edged clauses?

Mr. WHITNEY. Well, it is a saving clause, doing the

right thing by the party with whom it had another contract.

The COURT. I understand.

Mr. WHITNEY. Mr. Dixon paused under Exhibit K-1 at page 345 with the sentence beginning at line 7, which provided—and that is another similar caveat by CIL, apparently, that they could not give an exclusive license to National Lead without reserving a non-exclusive license to du Pont, and that arises also necessarily as a
500 result of the pre-existing CIL and du Pont-National Lead licensing exchange. And a corresponding provision appears in the reciprocal agreement K-2 on page 362. The first is the agreement between BTP and National Lead, and the second is the agreement between BTP and CIL. Your Honor will observe that fits into the same subject matter; that here was apparently CIL which had a preexisting agreement for exchange of information and non-exclusive license, which I submitted to your Honor the other day is only a liberalizing agreement, we say, and saves its obligations to us apparently in these agreements it makes with this new group. And your Honor will observe also that somebody adds on at the end of these phrases, "but such sublicense shall not be subject to the conditions stipulated in Article XIV hereof."

The COURT. Does that mean "hereof" in Exhibit A?

Mr. WHITNEY. I don't think we need pay much attention to that. One of my associates called my attention to it but I don't think we need pay much attention there; the Article XIV in this agreement is comparable and follows the pattern of Article XIV in the 1920 and other agreements and they have been so kind as to write us out of what we never were in.

Then we turn up again on page 376 in Exhibit K-4, which is the exhibit to which Mr. Webster added
501 as a ground of objection that it was between the English company, Laporte and CTP, and there at the bottom of page 376, the last line, is a proviso that CTP or its licensees or sublicensees shall be permitted to make sales in bulk to du Pont in the United States.

Now there again there appears to be a reservation that they can sell to us in bulk, or buy it, not perhaps in individual small quantities, but that would be an exception to their having agreed to disenable themselves from selling it abroad. So we, as usual, appear to be in the happy position of being mentioned only as people who are to

enjoy additional unrestraining or disrestraining licenses and rights of purchase.

And finally in K-5, the agreement between National Lead and Canadian Titanium at pages 381 to 383, your Honor will observe on page 383 the familiar expression which we found about in early 1939 in each of these four great groups of agreements, German, British, Canadian and I believe the French or International, that is to say, that the associate companies under Article XIV of 1920 and also du Pont are reserved a certain right which is set forth in each of those agreements.

I only want to add, your Honor, the self-evident fact that once more across the border we are not parties to any of these agreements although they do reserve
502 us these opportunities to purchase and to have the benefit of Canadian inventions. It is true that we had a minority investment in CIL; we did not control it; we did not have officers of it. And if the Government does introduce further evidence it will show we did not control these agreements, just as we did not control any part of the CIL operations. So that if these agreements leave us where the other agreements left us, as outsiders who have special arrangements under which we get for ourselves, and therefore for our customers in the United States, certain benefits under patents and under know-how, that is all there is to it.

Mr. DIXON. Having taken your Honor on a tour around the world with these various agreements, we will now bring you back to the United States, where we offer Plaintiff's Exhibit L, the same being agreement between du Pont de Nemours and Company and the Virginia Chemical Corporation, dated August 5, 1937.

Mr. WHITNEY. We have no objection.

The COURT. There being no objection, it will be received.

(Plaintiff's Exhibit L for identification received in evidence.)

Mr. DIXON. This is a license from the defendant du Pont to the Virginia Chemical Corporation, which
503 your Honor will find on chart No. 4, and is the only other license granted by either National Lead or du Pont to any American company engaged in the titanium pigment business.

The COURT. When you say "the only [illegible]" you mean the Zirconium Corporation?

Mr. DIXON. That is right, your Honor. We direct your

Honor's attention to the fact that this is a non-exclusive license to manufacture titanium dioxide and covers a license of 43 du Pont patents to Virginia Chemical Corporation, those patents relating only to the manufacture of titanium dioxide or TiO_2 as we have previously used that chemical designation for titanium dioxide. It is in the nature of a cross-license agreement between these two companies only to the extent that Virginia Chemical gives back to du Pont a license under two of its patents to manufacture, use and sell titanium dioxide thereunder in the United States. These licenses going from Virginia Chemical to du Pont, however, are on a royalty free basis, whereas the licensee, Virginia Chemical Corporation, pays a royalty to du Pont of a quarter of a cent, I believe, a pound, or it is a flexible royalty, on all titanium dioxide produced by this company.

The Court. Virginia Chemical also had a license from National Lead, did it not?

Mr. Webster. No.

The Court. It was Zirconium that had both?

Mr. Dixon. It was Zirconium that had both. This company only had a license from du Pont.

Now the important feature that we want to draw to your Honor's attention in this agreement is the restriction imposed upon the licensee as to the amount of titanium dioxide which the licensee may produce under this license as follows:

3000 tons for the years 1937, 1938 and 1939 respectively; 6000 tons for the years 1940 through 1946 respectively; and 9000 tons thereafter.

The license is to remain in effect until all of the letters patent on the license agreement have expired except that upon Virginia Chemical producing information to du Pont that it is infringing any of the thirty——

The Court. Let me read that clause which you are referring to.

Mr. Dixon. Yes, your Honor. It is on page 389, paragraph 7, which gives to Virginia Chemical the right to terminate the agreement under the provisions of paragraph 7 upon showing that the products made by it and the methods of producing the same do not infringe the claims of any of the unexpired letters patent licensed to the Virginia Chemical Company.

505 The Court. I do not know, but I think I understand what is meant by that language. It only means that at the end of ten years du Pont is no longer

a licensee and of course no longer being a licensee it must not infringe any longer, but having contracted to take a license it obligates itself to indicate, and do more than that, to indicate to the licensor on what grounds it believes it is to be no longer operating under the patents; in other words not infringing.

Mr. DIXON. That is right. I do not attach any particular importance to it. I merely mentioned it because Mr. Whitney mentioned it as being in the license to the Zirconium Corporation. The restriction would be applicable on the production of Virginia Chemical, as I think I pointed out, of all titanium dioxide produced by this company under this license agreement.

The COURT. Of course I do not know what that agreement means; that if after ten years Virginia decides the patents are invalid it may then proceed to manufacture free of the license agreement? Normally a licensee cannot challenge the validity of a patent.

Mr. DIXON. That is provided for in this agreement.

506 The COURT. Certainly. Whether or not in this language it must show evidence of non-infringement includes the idea of invalidity, I do not know, but I do not have to pass on it.

Mr. DIXON. We attach, as I have said, no importance to this provision as far as being of any material benefit to the licensee is concerned.

The COURT. Mr. Webster.

Mr. WEBSTER. I believe my friend Mr. Whitney comes first on this.

Mr. WHITNEY. Does your Honor have the earlier exhibits before you?

The COURT. I have all the printed exhibits.

Mr. WHITNEY. Then I just want to hand you Exhibit 47 for a moment. Exhibit 47 is the report of the net tonnage of Virginia Chemical and the royalties. Your Honor will observe a steady and constant growth, year by year, of such a character that in the normal course of growth in 1939 and again in 1942, the Virginia Chemical exceeds the then allowed amount, being 4000 instead of 3000 the first year; 1943 instead of 1942; instead of 6000 in 1943. Now what happened as shown by these two exhibits, and this will be supported by evidence if it is material, is that this clause was never applied; as Virginia steadily developed and as shown in the supplemental answer, it has been cancelled.

507 The COURT. It has been cancelled?

Mr. WHITNEY. Yes.

The COURT. Is it concluded the clause was cancelled, and if so when?

Mr. DIXON. I have no knowledge.

Mr. WHITNEY. You mean you have no proof other than our answer?

Mr. DIXON. That is right. It may well be, as counsel suggests.

The COURT. When do you claim it was cancelled?

Mr. WHITNEY. It was cancelled November 10, 1944, but it had been completely inoperative, in a practical sense, from the beginning, in that we had conceded the increases, and, in a legal sense for over three years last past due to the War Production Board, which governs matters.

The COURT. Do you want to comment any more than the fact at times you yielded and did not insist on the letter of this clause?

Mr. WHITNEY. That is the first fact. The second fact is that with the coming of the war the fact became moot, because how much anyone produced is completely at the disposal of the Government, and the third fact is we formally cancelled the agreement, as such, ad-
508 mittedly on the trial and reported that in a supplemental answer. Those are the same three facts that I gave to your Honor in commenting on American Zirconium and similar comments to the American Zirconium comments run throughout the whole agreement between the two agreements are substantially the same and that means that they are both completely different from the agreement between National Lead and Zirconium, and, indeed, as has already been said, National Lead had no agreement with Virginia Chemical at all.

Now that means, in summary, that this agreement is only an agreement under which Virginia Chemical got our patent rights and therefore were free to engage in the industry without suit for infringement from us, and we do not see that there is any public interest in the agreement under the antitrust laws.

And a last, sort of footnote, comment I want to make is on Mr. Dixon's pointing out to your Honor that du Pont charged the royalty and Virginia Chemical did not. I think the Court can take judicial notice that where party A has 43 patents and party B wants a license, party B pays a royalty, but that it is practically habitually practiced in such licenses to give a license back from the li-

censee party and the license party does not claim
509 to have any patents and it does not get a royalty for the license back; if anything the amount is adjusted in the amount of the original royalty. That is universal and usual procedure. I submit, your Honor, it has no significance whatsoever in a case where the public interest is at issue under the antitrust laws.

The COURT. Mr. Webster?

Mr. WEBSTER. I have no further comment.

Mr. DIXON. If the Court please, I just wanted to keep the record straight. I thought I understood Mr. Whitney to say this agreement was cancelled. I think you meant to say that——

Mr. WHITNEY. Only the quantity restriction provision was cancelled, and the validity provision.

Mr. DIXON. We now wish to offer in evidence Plaintiff's Exhibit M, the same being an agreement between du Pont and Tinc, dated July 27, 1937.

Mr. WEBSTER. No objection from National Lead.

Mr. WHITNEY. No objection, your Honor.

The COURT. There being no objection it will be received.

(Plaintiff's Exhibit M received in evidence.)

Mr. DIXON. This is one of the five agreements shown on chart No. 4 running from du Pont to Titan, Inc. or Tinc, dated 1937, and your Honor will note on the
510 chart that it is a license running from du Pont only to Tinc, and that there is not running back from Tinc to du Pont any patents. In other words, it is not a cross-license agreement of any patents owned by either party to the agreement. It is merely a license from du Pont on a royalty-free basis of certain patent applications described in the agreement for Great Britain, Italy, France, Germany and Czechoslovakia.

In this license agreement Tinc is given the specific right to grant royalty-free sublicenses to TG, BTP and Societie Industrielle. If any royalties are paid on any other licenses du Pont is to receive 50 per cent of any such royalties. Tinc is to pay all maintenance fees; that is, any fees that may be required to be paid in any of the countries wherein a license is granted to keep the patents in effect, and they cannot be abandoned by the licensee, Tinc, without notifying du Pont of their intention to abandon the patents.

I might also add that in this license the licensee, Tinc, is given the right to sue in the name of du Pont.

Mr. WEBSTER. No comment.

Mr. WHITNEY. If your Honor please, this is the first of the five agreements that I forecast when commenting upon the first du Pont agreement, Exhibit M, when I said
511 that the time came when, with the development of the close nationalized situation in Europe, du Pont became willing to grant exclusive licenses under specific patents within and confined to the countries in which those patents had been applied for, and subject to a non-exclusive reserved right in du Pont in case it should ever wish to exercise it.

This particular agreement covers a single invention, these five applications in the five countries named being under that invention.

I want to add this, your Honor, and this is the important point: Of course there are all different ways of reading an agreement, and it strikes me the way to read an agreement, and I submit it to your Honor, that page 393 of the record is in contrast to the other agreement. Now we were in whatever it is that agreement A created, obviously this agreement would never exist. The Government is not submitting to your Honor here agreements of this character submitting specific licenses to Titan, Inc. from National Lead, because their relation is the other, and I take it the main, issue in the case. The very reason that we had to grant a specific license agreement where we had reasons so to do, agreements of a patent character and not of a commercial character,—Mr. Dixon's
512 phrase— was because we were not in this alleged combination or conspiracy that is at issue in this case.

Mr. DIXON. We wish to offer Plaintiff's Exhibit N in evidence, the same being a license agreement between du Pont and Tinc, dated June 20, 1938.

Mr. WHITNEY. No objection.

Mr. WEBSTER. No objection.

The COURT. There being no objection it will be received.

(Plaintiff's Exhibit N for identification received in evidence.)

Mr. DIXON. This is the second license running directly from du Pont to Tinc, and again covers certain applications or licenses on applications for letters patent filed by du Pont in Great Britain, Germany, France, Holland and Belgium, the applications for letters patent covered in this license need not even have been filed at the time the licenses were issued in this agreement, as is provided for in the

agreement. The licenses are to make available to TG, BTP and Societe Industrielle as well as Tinc, on a royalty-free basis, all the advantages of these patent applications. Du Pont reserves for itself, or for any of its controlled subsidiaries, in this agreement the right to use it, that is
use the benefits of any patents in any of these coun-
513 tries, and also the same right is to be reserved to
ICI, that is Imperial Chemical Industries, which we found was a party to the BTP, or the British Empire series of agreements. If any other sub-licenses are granted by Tinc on these patents on a royalty basis, then du Pont is to get 50 per cent of the royalties. The costs of maintaining these patents, as in Exhibit L, is to be met by Tinc.

Mr. WHITNEY. No further comment.

Mr. WEBSTER. Your Honor, I think we should observe in connection with this and the previous exhibit, and in connection with my earlier discussion this morning, that of course Titan, Inc. was not engaged in manufacturing, and that the real purpose of getting these specific licenses from the du Pont Company was to enable Titan, Inc., now a wholly-owned subsidiary of National Lead Company, and then an 87-per cent subsidiary, to enable three companies in Europe listed on page 402, in each of which the National Lead Company or Titan, Inc. had substantially 50 per cent interest, to make use of these patents and exploit them in the areas in which those three companies were doing business; namely, TG, BTP, and SIT.

Mr. DIXON. I now wish to offer in evidence Plaintiff's Exhibit O, the same being an agreement between National Lead and Tinc, dated March 28, 1939.

514 Mr. WEBSTER. No objection.

Mr. WHITNEY. Only the continuing objection.

The COURT. The exhibit is received.

(Plaintiff's Exhibit O for identification received in evidence.)

Mr. DIXON. I merely want to comment on this agreement to point out to the Court that this was the agreement between National and Titan in which the Licensed Field was extended in the 1920 contract to make available to each other any other inventions controlled by the company which covered the subject matter, partly or wholly outside the Licensed Field as determined in the 1920 agreement. We have previously seen that the other Titan agreements were modified to include this broader definition of the Licensed Field.

515 Mr. WEBSTER. I have just this to say about this agreement, your Honor, consistent with what I

attempted to say earlier this morning, that when these people decided that they would release this incipient art they decided that they would release it completely and they found of course that as they went along under the arrangement there were certain materials connected with the manufacture of titanium compounds, such as sulfuric acid and extender pigments, that were closely related to their main business and that being partners in this enterprise they would not take advantage of a special position to injure the other.

The COURT. No comment from Mr. Whitney?

Mr. WHITNEY. No comment.

Mr. DIXON. We wish to offer in evidence Plaintiff's Exhibit P, the same being a license from International Pulverizing Corporation to National Lead, dated April 10, 1939 of certain patented reduction equipment.

Mr. WEBSTER. No objection.

Mr. WHITNEY. There is no objection to this.

(Plaintiff's Exhibit P for identification received in evidence.)

Mr. DIXON. I wish to offer in evidence Plaintiff's Exhibit P-1, the same being a sub-license from the National Lead to du Pont, dated April 14, 1939, covering the
516 patented reduction process licensed to National by the International Pulverizing Corporation in Exhibit P.

Mr. WHITNEY. No objection.

Mr. WEBSTER. No objection.

(Plaintiff's Exhibit P-1 for identification received in evidence.)

Mr. DIXON. I wish to offer in evidence Plaintiff's Exhibit P-2, the same being a sub-license from National Lead to American Zirconium Corporation, dated December 1940.

Mr. WEBSTER. No objection.

Mr. WHITNEY. No objection.

(Plaintiff's Exhibit P-2 for identification received in evidence.)

Mr. DIXON. I merely wish to comment with reference to these three exhibits, your Honor, that in Exhibit P, after having licensed National exclusively on this particular equipment on a royalty basis, the licensor obligates itself to give to CTP, that is the Canadian company, the opportunity to acquire a license of this equipment in Canada.

The COURT. Under what agreement is that?

Mr. DIXON. That is in Exhibit P, your Honor.

Now in Exhibit P-1 we see in effect the operation of

the agreement between du Pont and National insofar
517 as the provision of that agreement requires each of the parties to make available to the other any equipment or apparatus, and Exhibit P-1 is a sub-license of the right to use such apparatus flowing from National to du Pont on the identical royalty basis as that enjoyed by the National Company.

Exhibit P-2 is a sub-license from National to Zirconium to use this same equipment, dated, as we pointed out, December of 1940.

The COURT. December 19, 1940.

Mr. DIXON. That is right. And on the same royalty basis.

Mr. WEBSTER. I think I should just say that while I am not fully advised as to the fact yet, my understanding is that the parties to the agreement between the International Pulverizing Corporation and National Lead Company, Exhibit P, have undertaken to negotiate some changes in that agreement, and perhaps at a later time I can call those changes to your Honor's attention. I am not now informed as to what they are.

Mr. WHITNEY. I only want to comment that it seems to be nothing more than National Lead obtaining a right to a useful machine, granting us a non-exclusive license and thereafter granting a third competitor, Zirconium, a non-
exclusive license. The Government may feel that
518 there is some dereliction in Zirconium not getting their license until some time after ours, but so far as this court of equity is concerned, I submit that is not worthwhile litigating at this time.

The COURT. I suppose Mr. Dixon would say to you that you are fragmentizing——

Mr. WHITNEY. No, your Honor.

The COURT. —instead of "puverizing".

Mr. WHITNEY. I am treating the three together. I am combining instead of fragmentizing or trying so to do.

The COURT. Your next exhibit, Mr. Dixon.

Mr. DIXON. I wish to offer in evidence Plaintiff's Exhibit Q, the same being a cross-license agreement dated April 21, 1939 between du Pont and Tinc.

Mr. WEBSTER. No objection.

Mr. WHITNEY. No objection.

The COURT. Without objection it will be received.

(Plaintiff's Exhibit Q for identification received in evidence.)

Mr. DIXON. In this Exhibit Q we see the first cross-

license agreement of du Pont's foreign patents to the foreign associates of Tinc and the flowing from the foreign associates of Tinc to du Pont of such United States patents as du Pont wishes to make use of in this country. The foreign patents cover five French patents, two British, one Dutch and seven German and Japanese patents.

519 The COURT. They are all specified, however?

Mr. DIXON. They are all specified in the agreements, yes, your Honor. And in the United States there are 12 United States patents and some applications also are covered I believe, your Honor; ten applications and two patents, making a total of 12 altogether which are made available to du Pont. The licenses granted by du Pont are exclusive and royalty free except that du Pont reserves the right to use them itself or for any of its foreign subsidiaries, and particularly mentions ICI. Titan is given the right, as in the previous agreements, to grant royalty-free sub-licenses within the licensed territories to BTP, TG, Societe Industrielle and TK or the Japanese company. The licenses granted by Tinc to du Pont are on a royalty-free basis.

The COURT: Mr. Webster?

Mr. WEBSTER. No comment, your Honor.

Mr. WHITNEY. Your Honor, I have only this to say. This is the same as the earlier agreements of the two previous years, insofar as exclusive licenses were granted to the foreign companies under the specific patents and within their own countries or, rather, within the countries in which the patents issued. I think I have explained enough of our viewpoint on that. There was no one else to

520 whom we could grant it to keep it alive with the non-reserved right to ourselves. The element in this contract is that we had spotted a dozen applications in America of Titan, Inc. and we got a non-exclusive license to those within America, thereby adding ourselves to the number of companies that would be free to operate under those. And there isn't one word in these straightforward patent license agreements that in any way, shape or form restricts or refers to either the American or the international trade in any product or commodity.

Mr. DIXON. We wish to offer in evidence Plaintiff's Exhibit R, the same being a cross-license agreement between du Pont and Tinc dated May 10, 1940 of certain patents and patent applications.

Mr. WHITNEY. No objection.

The COURT. It will be received.

(Plaintiff's Exhibit R for identification received in evidence.)

Mr. DIXON. In this agreement du Pont grants licenses for the foreign associates of Tinc on eight French, four British, two Dutch, six German, one Belgian, one Italian and ten Japanese patents or applications and receives a license on four Tinc applications and three Tinc patents in the United States.

521 I also direct your Honor's attention to the difference in the language of license Exhibit Q on page 451, which is paragraph 1, and also on page 453 of paragraph 2, the last paragraph, "It is understood and agreed"——

The COURT. Are you reading the same thing?

Mr. DIXON. I started with page 451, your Honor. Do you have that before you?

The COURT. Yes, but I don't see any paragraph 1 except a list of patents.

Mr. DIXON. It is in paragraph 1, the last part.

The COURT. You mean, "It is understood and agreed that purchasers from Titan and/or its sub-licenses," and so forth?

Mr. DIXON. That is right, your Honor. And that identical language is found in paragraph 2, that is, the end of paragraph No. 2 on the top of page 453. And on page 466, paragraph 1 of Exhibit R, and also on page 468, the second paragraph there ending No. 2 of Exhibit R, provides that "It is understood and agreed that purchasers" and so on "in pursuance of this license shall be free to use said products within the licensed territory". I merely wish to point out those differences to your Honor at this time.

Mr. WHITNEY. I don't get the difference. What
522 is the difference?

Mr. DIXON. That is all.

Mr. WHITNEY. There is no difference. They are just the same.

The COURT. The language omitted from the one is "within the licensed territory".

Mr. WHITNEY. Oh. That is merely draftsmanship, your Honor, because the whole contract is only a license for a particular territory. These points of the Government, with great respect, only consume time because they are irrelevant and immaterial. To grant a license, an exclusive license for Great Britain, to a British company and provide freedom to its customers. Now then, another

fellow a year later puts in "within the territory"; but there is always freedom for everybody outside the territory anyway because it was not within the license or within the patents.

The COURT. All right. Mr. Webster?

Mr. WEBSTER. I should like to make a comment, wholly unrelated to Mr. Whitney's and to Mr. Dixon's, that seems to me to be warranted by the schedule of patents appearing in here. It has been intimated, at least in the complaint and certainly at least suggested in Mr. Dixon's opening, that most of the useful patents, the patents that people would seek to make use of terminated
523 about 1935 and that from then on the art was dormant, that all of the valuable patents were secured 17 years before then and that a condition of drying up must have taken place in the inventive minds of these people. Your Honor will note on page 459 and elsewhere in these two exhibits recently referred to the list of patents which apparently these people were glad to get dated 1938, 1938 and other recent dates. In other words, there was a very active process of germination going on in the field of research.

Mr. DIXON. I wish to offer in evidence Plaintiff's Exhibit S, the same being a cross-license agreement between du Pont and Tinc dated June 23, 1941.

Mr. WHITNEY. No objection.

Mr. WEBSTER. No objection.

(Plaintiff's Exhibit S for identification received in evidence.)

Mr. DIXON. We merely wish to point out to your Honor that this is again a cross-license agreement on a royalty-free basis from du Pont to Tinc and its associates of four French, three British, three German, one Italian, two Dutch, one Belgian and three Japanese applications and three Tinc applications and one Tinc patent flowing to du Pont, with the usual privileges to grant sub-licenses to the parties named, as found in the other agree-
524 ments, and substantially the same as in Exhibits Q and R.

The COURT. Nothing from du Pont to Tinc?

Mr. DIXON. Yes, your Honor. I thought I had pointed out——

The COURT. You mentioned only those running from Tinc to du Pont.

Mr. DIXON. Du Pont gives to Tinc four French, that is the licenses, and four French, three British, three German,

one Italian, two Dutch, two Belgian and three Japanese applications.

The COURT: Mr. Whitney?

Mr. WHITNEY. If your Honor please, if I may add to Mr. Webster's very excellent observation that this shows the liveliness of invention advance and development, that these applications of du Pont, seven in number, all represent six months of patent application filing between June to October—five months—of 1938. That is page 473, page 474.

If your Honor please, at page 484 there is a new paragraph that was not in the earlier agreements, paragraph 12 reading as follows:

"Governmental objection or prohibition shall be a valid plea on the part of either of the parties hereto to decline to disclose or to grant rights with respect to any
525 invention, patent and/or application therefor which, but for such objection or prohibition, would come within the operation of this agreement."

Your Honor will observe that the next earlier agreement had been dated the 10th of May 1940, a date world famous as the date of the invasion of Belgium, Holland and France; and, therefore, that agreement was negotiated at a time that the United States Government took a completely neutral position in the war and before the prospect or possibility of war had caused a change in Governmental attitude. The last agreement is before the United States was in the war but it is when the danger of war was uppermost in the public and Governmental consideration, June 23, 1941. And then we put in this provision that if the Government objects to the granting of any of these licenses we will not grant them.

Now the other point I want to mention, your Honor, and I don't want your Honor to feel I am addressing a legal argument on this, because I am not, I want to call your Honor's attention to what is of the least a wholly interesting coincidence—the date of this agreement, page 473, June 23, 1941, and the complaint in this action was filed June 24, 1944. Now if we were in the Criminal
526 Court or if we were in the Common Law Court where the New York statute of limitations on injury to property would apply, as I take it it would under precisely the same statute, and if this were the last event, as apparently it is the last agreement and I believe is the last event, that coincidence would doubtless be the main subject of discussion in this court. But being in equity of course

the question is what I might call the Bausch & Lomb question. And I merely note that in passing.

The COURT. Very well. We will now adjourn.

(Recess to 2:15 p. m.)

527 AFTERNOON SESSION

Mr. DIXON. We wish to ask defendant Titan Company, Inc. to produce the minutes of a meeting of Titan Company, Inc., dated December 12, 1929, pursuant to the subpoena.

Mr. REA. I hand you, Mr. Dixon, minutes of Titan Company, Inc. for December 12, 1929, in response to paragraph 25 of the Titan Company subpoena.

Mr. DIXON. We wish to have the same marked for identification as Plaintiff's Exhibit 49.

(Marked Plaintiff's Exhibit 49 for identification.)

Mr. WHITNEY. Only the continuing objection, your Honor.

Mr. DIXON. We wish to offer Plaintiff's Exhibit 49 for identification in evidence.

Mr. WEBSTER. No objection.

The COURT. Received as Plaintiff's Exhibit 49.

(Marked Plaintiff's Exhibit 49 in evidence.)

Mr. DIXON. Mr. Locke will continue for the plaintiff, your Honor.

Mr LOCKE. I wish at this time, if the Court please, to have National produce a list of names with various identifications marked, called for under paragraph 8 of the subpoena.

528 Mr. REA. I now hand you, Mr. Locke, additional material that was orally requested in response to paragraph 8 of the National Lead subpoena.

Mr. LOCKE. If the Court please, it is the purpose now to offer in evidence various copies of letters, cables, memoranda and other written documents in support of, and related to, various contracts that have been introduced in evidence here. We have asked from the party the identification of various individuals whose names will appear on these documents from time to time, and they have produced them, and I would like to hand the Court a list of those names which are in alphabetical order so the Court can have before it and you can identify the positions of the various parties as we go along.

The COURT. This is in the nature of a memorandum?

Mr. LOCKE. Yes, your Honor.

The COURT. If you want to treat that as an answer to an interrogatory you can offer it in evidence.

Mr. LOCKE. Perhaps the simplest way is to offer them in evidence, if the Court please.

(Marked Plaintiff's Exhibits 50 and 51 for identification.)

Mr. LOCKE. Exhibit 50 for identification is the list furnished by National and Exhibit 51 is the list furnished by du Pont.

529 The COURT. Since you are offering each list as against both the company offering and as against the other company, I want to know about that.

Mr. LOCKE. I first offer exhibit marked 50 for identification; that is the National Lead list.

Mr. WHITNEY. We have no objection to either one, your Honor.

Mr. WEBSTER. No objection.

The COURT. Very well. Exhibits 50 and 51 are received.

(Plaintiff's Exhibits 50 and 51 for identification received in evidence.)

The COURT. You want to have me hold that for reference?

Mr. LOCKE. Yes, if the Court please.

May I proceed?

The COURT. You may proceed.

Mr. LOCKE. The Court will have comprehended by this time that commencing along in 1926 and progressing down through the years, the various parties named as defendants here and the co-conspirators and the individuals identified with them were pretty busy. These contracts were being developed, if I made that expression, contemporaneously. It has been quite a chore to so outline the developments of this case that there would be

530 an intelligent presentation of the case that we have finally decided to approach it in this way. We will take these documents which relate to, for instance, SIT, the development of that consummation and presentation of that deal, and present those to the Court first. Next we will take any documents that have to do with the purchase by National Lead of TAS; next in order we will take the documents that have to do with the development of the TG picture.

Now as we present these documents there will be references in a great many of them to two or three, and sometimes four, of the various developments that were in

progress at the time. We will hold ourselves as nearly as we can to the thought that we are seeking to develop at the particular moment.

The COURT. I take it, Mr. Locke, that these documents are not going to be presented simply from the point of view that you want the Court to have everything that was put down in writing between those dates relating to the transaction. I take it that the agreements now having been received in evidence, that their execution having been admitted, and the authority of the agents who signed for the respective companies having been acknowledged, that unless the additional written material has some bear-
530a ing on intention, or purpose, or some supplemental data which is material in the case, I do not suppose that they would really become of any significance.

Mr. LOCKE. I think the Court will discover that the paragraphs we point out in the successive exhibits will serve just what purpose; to establish and develop an intention of the parties, and so on.

The COURT. Very well.

531 Mr. LOCKE. Now to save time, if your Honor please, if there is no objection, instead of having each exhibit marked for identification, I shall——

The COURT. You don't have to do that. You can have them offered in evidence in the first instance.

Mr. LOCKE. I will offer them in evidence in the first instance, and I might explain that we have submitted to counsel for du Pont copies of each one of the documents that I will offer in evidence at this time, and I think they have had them printed. I have not looked at what has been presented to your Honor but I take it that the printed pages are in the order that they were given to you.

Mr. GESELL. That is correct, Mr. Locke. They have not been paged, though.

Mr. LOCKE. We wish to offer first as Exhibit 52, photostatic copy of a letter written by one Lobstein, I am not sure of his first name, to Evans McCarty, vice-president of the United Lead Company, 111 Broadway, dated December 24, 1925.

The COURT. Is there any objection?

Mr. WEBSTER. I assume that Mr. Locke is offering the entire letter in this case. This letter is objected to as immaterial. It was written in 1925 from someone connected with the company called Societe Franco
532 Bresilienne. It appears to relate to a possibility that certain shares of the concern known as Hopkin

& Williams might be available for purchase by Mr. McCarty's company, 10,000 shares, though Mr. Lobstein tells him that another company, the Brimsdown Company in England, might be interested in these too. Now I confess I do not see the connection of that with National Lead.

The COURT. All right, Mr. Locke will oblige you and tell you. What is the connection?

Mr. LOCKE. We offer this merely because it is a foundation by way of explanation of subsequent documents that we will offer that bear directly on the purchase of the SIT stock.

The COURT. Does it grow out of this?

Mr. LOCKE. It grows out of the negotiations that were initiated at or about that time between Mr. Lobstein and Mr. McCarty.

The COURT. First of all, let us get the competent angle. Is there any objection to competence, meaning authenticity, one, and authority, two.

Mr. WEBSTER. There is no question about authenticity. There is a question about competence in the sense that it could hardly seem that statements made by Mr. Lobstein to Mr. McCarty would be competent as binding on the National Lead Company, but that is I think secondary in this case to the fact that the letter does not appear to have any connection with the issues in the case.

533

The COURT. Well, that he tries to cure by saying that that is subject to connection.

Mr. WEBSTER. I am not going to raise the question of competence because the fact is that Mr. McCarty does comment on this proposal in subsequent correspondence with Mr. Lobstein, so that it can't be——

The COURT. Who is Mr. McCarty?

Mr. WEBSTER. Mr. McCarty was a vice-president of National Lead Company at that time.

The COURT. Is United Lead the same as National Lead? This says United Lead.

Mr. WEBSTER. No. It is a subsidiary of National Lead.

The COURT. All right. Subject to connection I will take it.

Mr. WHITNEY. I think we will gain time if I just ask your Honor whether I may have noted the continuing objection perhaps from here on until I suggest a concession without objection, because I have read these papers and I do not find any of them whatsoever to which we are a party, and therefore I would like to submit the continuing objection throughout.

The COURT. On the ground of relevance.

534 Mr. WHITNEY. Yes. No connection to du Pont.

The COURT. And you are not raising any objection as to authenticity or authority of the party. In other words, you are not basing your objection on competence.

Mr. WHITNEY. Your Honor, quite frankly I would submit an objection both as to relevance and materiality as to the whole lot.

The COURT. I understand.

Mr. WHITNEY. But I understand your Honor's point of view on that.

The COURT. I just want to be sure that you are not founding your objection on competence.

Mr. WHITNEY. No.

The COURT. Because if you are, I will sustain the objection, as I have indicated time and again.

Mr. WHITNEY. Well, I am not.

The COURT. That is not the ground of your objection?

Mr. WHITNEY. No.

The COURT. The objection is only to relevance, and as to relevance I will have to read the document and decide that, and I will have to understand the issues in order to determine any question of relevance and I may as well read it in the record as out of the record. So I do not

535 see much point—I see a great deal of point, but I am not going to spend too much time reflecting on the question of relevance at this stage of the proceeding.

Mr. WHITNEY. I think, your Honor, it has been made clear that the objection about connection is within the realm of relevance—I was not dead certain, and my objection is simply that there is no connection to du Pont.

The COURT. Very well.

Mr. WHITNEY. May it be noted throughout on every paper——

The COURT. Very well.

Mr. WHITNEY. —as I did with the agreement, and I may from time to time point out that where we are a party——

The COURT. I understand.

(Plaintiff's Exhibit 52 received in evidence.)

Mr. LOCKE. In answer to Mr. Webster's question, if the Court please, I should like to explain that we offer the whole of each document that we present here.

Referring to the letter I have just described, I call the Court's attention only to the first and the fourth paragraphs. The first paragraph reads: "Confirming my letter of the 13th ult."——

The COURT. You don't have to read it.

Mr. LOCKE. Very well. I wish next to offer
536 copy of a letter purportedly written by Mr. McCarty in response to the letter just referred to, written to Mr. Emile Lobstein, dated January 8, 1926.

Mr. WEBSTER. I make the same objection to this letter as I did to the former one, on the ground of materiality and relevancy.

The COURT. All right. I will receive it.

(Plaintiff's Exhibit 53 received in evidence.)

Mr. LOCKE. I should like to call the Court's particular attention to the first paragraph, the third paragraph and the paragraph next to the last of the document we have just introduced.

Mr. WHITNEY. Could I just call his Honor's attention to the second paragr

The COURT. You may.

Mr. LOCKE. I wish to offer next a photostatic copy of a confirmation of telegram. I may explain that all of these exhibits are photostats of documents taken from the files of National Lead Company, and du Pont, these particularly from the files of National Lead Company.

Mr. WHITNEY. Are there any whatsoever that you have given us?

Mr. LOCKE. Not yet.

Mr. WHITNEY. That come from the files of the du Pont Company?

537 Mr. LOCKE. Not yet. I say these particularly are from the files of National Lead.

Mr. WHITNEY. Exclusively.

Mr. LOCKE. Yes. These particular documents from the National Lead Company's files.

Mr. WHITNEY. Right.

Mr. LOCKE. This confirmation is signed "McCarty" and is addressed to Lobstein, dated January 8, 1926. It is a one paragraph telegram which I think the Court can read quickly.

Mr. WEBSTER. I make the same objection to this and I ask Mr. Locke if it is claimed that the expression "if such purchase would give control of ilmenite production" is intended to relate only to Travancore ilmenite referred to in the first letter, because I think there is danger of considerable confusion here.

The COURT. Meaning worldwide.

Mr. WEBSTER. Yes.

The COURT. He wants to know what you contend?

Mr. WEBSTER. I wonder what your contention is to the significance of that cable.

Mr. LOCKE. Only as it is modified by the letter to which it refers, that is, Travancore.

(Plaintiff's Exhibit 54 received in evidence.)

Mr. LOCKE. We wish to offer in evidence next
538 a photostatic copy of a letter written by Emile Lobstein to Evans McCarty, dated——

The COURT. Written by Emile Lobstein?

Mr. LOCKE. By Emile Lobstein.

The COURT. That is not the next one in my document. The one I have is written to Emile Lobstein. They are not in the same order. I will find it. What is the date?

Mr. WHITNEY. It is not printed, your Honor. Apparently it was not given to us. It is one of these little mistakes that do happen. The understanding was that we were to be given all of them, and I am sure that was the intention. This one we did not receive.

Mr. LOCKE. It is a letter written by Emile Lobstein, as I said, to Evans McCarty, dated April 1, 1926.

Mr. WEBSTER. I make the same objection to this but point out to your Honor particularly that in the first three paragraphs of this letter the materiality becomes even less apparent because it appears that the shares that Mr. Lobstein first referred to had been bought by the Brimsdown Company and not by Mr. McCarty's company. And, further, in the next two paragraphs there is a reference I believe Mr. Locke will concede, to an entirely different subject, namely, the production by this company Societe Franco Bresilienne of ilmenite in Brazil. This
539 French company for whom Mr. Lobstein was writing apparently had some Brazilian ilmenite production that is referred to in the latter part of the letter which I believe is immaterial.

The COURT. I will look at it.

Mr. LOCKE. The significant part of this letter and the only one in which we are interested is paragraph 3. That has to do with the things that were discussed in earlier correspondence.

The COURT. You mean "I regret that I have not been able to secure for your group the control of our friend's deposits of ilmenite to which our purchaser attaches great importance"?

Mr. LOCKE. That is right.

The COURT. Where are these deposits to which he refers as belonging to "our friends"?

Mr. LOCKE. They belong to the Travancore Company and are the deposits from which most of the ilmenite came in subsequent years.

The COURT. I see.

Mr. WEBSTER. To show that we did not get them or any interest in them.

The COURT. All right. I will take it. I can't be led far astray by this document.

(Plaintiff's Exhibit 55 received in evidence.)

540 Mr. LOCKE. We wish to offer next photostatic copy of a letter purported to be written by McCarty to Mr. Lobstein on April 16, 1926.

Mr. WEBSTER. The same objection.

The COURT. I understand that Mr. Whitney has the continuing objection.

Mr. LOCKE. I wish to call the Court's attention to paragraphs 1 and 2 of that letter.

(Marked Plaintiff's Exhibit 56.)

Mr. LOCKE. We wish to offer next photostatic copy of letter from Mr. Lobstein to McCarty September 24, 1926.

Mr. WEBSTER. I object to this on the same ground. The first paragraph appears to relate to advice regarding the shipment of Brazilian ilmenite and the second has to do with the directorship of the work in Brazil, and the third to the chart of the Harbor of Guarapary which is referred to here and the last seems to do with the relationship of the Auer Company to Franco-Brazil with reference to rare earths products. I submit the connection of Auer with our case is very remote.

The COURT. Do you see anything less remote than Mr. Webster?

Mr. LOCKE. If the Court please, in paragraph 30 of the complaint the Auer patents became involved in this
541 proceeding. We offer the last paragraph of this letter merely as evidence of the time when the parties first became interested in the Auer situation, as we described it for short.

The COURT. The Auer Company is the Brazilian company?

Mr. LOCKE. No.

The COURT. I did not mean what you meant. I meant "our" company. The word "our" in the last paragraph refers to the Brazilian company?

Mr. LOCKE. That is right.

The COURT. The Brazilian is a subsidiary of SIT?

Mr. LOCKE. No.

The COURT. Is there any relationship between the Brazilian company and SIT?

Mr. LOCKE. Lobstein had an interest in it I see at or about the time this exchange of correspondence was taking place. Eventually Lobstein sold that stock.

The COURT. Subsequently Brazilian became absorbed in SIT?

Mr. LOCKE. No, if the Court please. It was merely a stock transaction; a transfer in the stock in SIT ultimately to National Lead Company. Lobstein at that time, rather his company, the Brazilian company here in
542 1926 owned that stock or were interested but eventually transferred it to the National Lead.

The COURT. All I see in this letter is that the Franco-Brazilian Company, which I have heard mentioned here before, but I now fail to see any connection to the parties here—I thought I knew some connection but apparently it escapes my mind—says they are completing an agreement with the Auer Company to stabilize the price of "our rare earths products", whatever that might be.

Mr. LOCKE. I see we make mention that in the last paragraph "Auergesellschaft" comes into the picture.

The COURT. Comes into what picture? It does not come into the Brazilian picture.

Mr. LOCKE. No, not necessarily. The Court will recall I said there would be times when there would be an overlapping.

The COURT. Here is what I mean: Suppose there was a letter written by Beth Webster in 1927 to Dwight Whitney back in 1927, just as they were emerging from and entering their Governmental activities in which one said to the other, "I think this Auergesellschaft is going to do something," and the word "Auergesellschaft" is mentioned. I should need a stronger authority to make it relevant to the issues.

543 Mr. LOCKE. I say, if the Court please, as we progress we find the name "Auergesellschaft" is referred to again and again and again.

The COURT. I have not any doubt. I remember seeing about Auer agreements.

Mr. LOCKE. They owned certain patents and certain inventions that had to do with the titanium compounds which were eventually purchased by du Pont.

The COURT. I follow all that, but I do not follow here an exchange of letters between a man named Lobstein, an officer of an unrelated company, with the Franco-Brazilian

Company, with a man named McCarty, who is a vice-president of a subsidiary of National Lead, in which he mentions "Auergesellschaft" becomes relevant.

Mr. LOCKE. It becomes relevant for this reason: It establishes, following the other correspondence which refers to the same company, the position of Auergesellschaft in that production of titanium and titanium compounds in Europe which might have some bearing.

The COURT. I don't want to take too much time. I am taking this one on faith, so don't exhaust your credit at the bank.

(Marked Plaintiff's Exhibit 57.)

Mr. LOCKE. We offer next photostatic copy of a letter purportedly written by McCarty to Lobstein dated
544 October 8, 1926, and we wish to call the Court's attention to the last paragraph of that letter.

Mr. WEBSTER. He suggests to him that he might be interested in sharing control of the Brazilian Company with Mr. Lobstein, is that right?

Mr. LOCKE. That is the implication, yes.

The COURT. Did that ever happen?

Mr. LOCKE. No, your Honor.

The COURT. Did Franco-Brazilian Company ever into this picture?

Mr. LOCKE. They are not referred to in the complaint. The fact of the matter is that the Brazilian Company did furnish to National Lead ilmenite that was produced in South America.

Mr. WEBSTER. You could carry it in your shirt-tail, Judge; a relatively few pounds and of no importance and they had a hard time getting it because they never got that charter for Guarapary.

The COURT. I think we are doing just what I thought we would do and which I hoped we would not do, which is to make a very complete record of all the correspondence that passed between everybody in which certain key words were mentioned, like one of these clipping bureaus that print newspaper items wherever a name is mentioned. But
I am having the greatest trouble in visualizing just
544-A how this letter is going to propel me one way or the other in the direction of finding violation or no violation, and after all it says that is the test of relevance and materiality.

I am trying to visualize and take a little more time on this now because I am afraid we will have a great deal more of this, and maybe you ought to re-examine this

whole folder and see what you really need.

545 Mr. LOCKE. I can promise the Court there won't be much of this. There are a few letters in the early part of this proceeding. The others are closely related and identify themselves very quickly.

The Court: I am trying to visualize what I can learn from this letter, and I learn that the parties, an officer of a subsidiary of National Lead, and I am willing to leap across the chasm and say he is writing for National Lead—all right—and he writes Lobstein that he would like to acquire, presumably for National Lead or for United Lead, one or the other, a substantial interest in Franco-Bresilienne. Then I know from what you have told me, although it does not appear in the letter that that actually never happened. So why does that move me in the final picture or even in an intermediate stage of the final picture?

Mr. LOCKE. Only to this extent, if the Court please: The Court might be interested in the titanium situation as it existed at the time this letter was written. The titanium situation includes the development of the ore from which titanium was made; it includes the negotiations that led up ultimately to the purchase in this particular interest of SIT stock of National Lead Company, and shows the contents of the parties who eventually consummated the deal.

546 The COURT. All right. I will take it.

(Marked Plaintiff's Exhibit 58.)

The COURT. The danger involved in doing things is that when you hand a trial court or an appellate court so much reading matter it naturally tends to subtract from the amount of time that the judicial agency can give to the documents which are really strongly probative. However, let us go on.

Mr. LOCKE. We offer next, if the Court please, photostatic copy of a letter written by Lobstein to McCarty, dated October 22, 1926, and calling the Court's attention to the second paragraph of the second page of that letter.

The COURT. "I answer to the part"?

Mr. LOCKE. Yes, if the Court please, and the last paragraph of the letter.

Mr. WEBSTER. Perhaps I can shorten this by calling your Honor's attention to this: I have attempted, your Honor, over the week-end, to go through, for the second time, several hundred pages of letters and it takes me a moment to refresh my recollection of what they contain.

but now that I see this, I remember it. Mr. Lobstein advises Mr. McCarty that they now have some word from a director down there in Brazil about the works down there and that the war situation is improving somewhat and that efforts are being made to get small steamers into that harbor and then over here in the paragraph to which Mr. Locke particularly directs our attention now he says, "In our meeting of 28th July last, I mentioned to you the rather important purchases made by an American bank and that it seemed likely to me that your company and Auer Company alone were interested in these purchases."

547

Now I submit to your Honor that speculation by this man on the question of possible interest in these shares is utterly immaterial. The rest of this just goes on and talks about things that have no connection with the case.

Mr. LOCKE. I have no further reasons for offering it than those I gave your Honor for offering the previous ones.

The COURT. All right. We will take it today.

(Marked Plaintiff's Exhibit 59.)

Mr. LOCKE. We wish to offer next a photostatic copy of a letter purportedly written by Mr. McCarty to Lobstein, dated November 3, 1926, and calling the Court's attention only to the last paragraph of that letter.

Mr. WEBSTER. Of course while Mr. Locke is calling your Honor's attention to only one paragraph in here he quite frankly stated that he was offering in each case the whole letter, and therefore if I do my full duty to my client I cannot overlook provisions which he is not at the moment emphasizing. My attention having been called to this again, I find that Mr. McCarty further is speculating in this interesting correspondence he is having with Mr. Lobstein; he thanks him for the documents and says that he has not been able to give them the attention that their importance warrants and that he cannot therefore give him a quick decision. He again regrets that this chart has not arrived for the harbor of Guarapary and then comments again on the delay of Mr. Barrozo in getting back there to look after the production, and then I find the thing Mr. Locke is really talking about is simply Mr. McCarty's comment: "Thanking you for your suggestion with respect to the possible purchase of a block of shares in your company, a matter to which I will return at the first opportunity."

548

The COURT. That is the purchase that never happened?

Mr. WEBSTER. That is the purchase that never happened; still speculating.

Mr. WHITNEY. If your Honor could compare this with Exhibit 50, I observe possibly Mr. Lobstein and Mr. McCarty have this great advantage over us; that they
549 are both long since deceased.

The COURT. All right. I will take it.

(Marked Plaintiff's Exhibit 60.)

Mr. LOCKE. We wish to offer, if the Court please, a photostatic copy of a letter written by Mr. Jebsen to Evans McCarty, dated March 4, 1927, and we wish to call the Court's attention to the first paragraph on page 1, and the second paragraph on page 3.

The COURT. Do the paragraphs and pages correspond to the print?

Mr. LOCKE. I thought they were to be set up in print just the way they were here.

Mr. O'DONNELL. They are not page for page.

Mr. WHITNEY. Why not give the opening words of each paragraph.

Mr. LOCKE. There can be no question about the first paragraph. The fifth paragraph of the letter which starts "But anyhow, the result was" etc. The ninth paragraph which starts "However, if we are not able," and the tenth, eleventh, twelfth, thirteenth, fourteenth and fifteenth paragraphs.

The COURT. I find no such paragraphs.

Mr. LOCKE. They are not numbered.

The COURT. I cannot find paragraphs that begin with the words you indicate. Let us go back to the
550 paragraph beginning, "But anyhow, the result was". Where is the next one?

Mr. LOCKE. The fourth paragraph following that.

The COURT. "However, if we are not able"?

Mr. LOCKE. Yes, if the Court please, and then the successive paragraphs "In order" and "In favour".

Mr. WEBSTER. And all the rest of it?

Mr. LOCKE. That is right. "Against the continued cooperation," and the paragraph marked (2) "Mr. Lobstein is a man of 76 years," skipping the next, and the next paragraph, and then "We have nobody able to take the whole management," and the next paragraph which starts, "It will though mean a slower development," and the following paragraph which reads "During my negotiations," and the next seven paragraphs.

The COURT. Beginning with the words "I have been trying"?

Mr. WHITNEY. The signature, your Honor, is a mistake. It is illegible and the printers thought apparently it was Lobstein, but it was Jebsen.

Mr. LOCKE. The last paragraph to which we refer starts "I have been trying to give you the position."

The COURT. Is there any objection to that?

Mr. WEBSTER. Your Honor, I think I should warn your Honor that Dr. Jebsen was a very thorough man
551 and he wrote very long letters and he was particularly zealous to try to explain to his American friends what things were all about, and this is one of his very long letters. Now I submit that it is improper to ask your Honor to consider fifteen paragraphs out of 30 or 35 and that it does not get us anywhere. What is going on here in this letter, if I may attempt, on the basis of what I have remembered about it, if he finds himself having some rather unsatisfactory relations with Lobstein, and Lobstein's associates in France.

The COURT. Where is Jebsen then? Is it still at that time in the TAS?

Mr. WEBSTER. Yes. Jebsen is the head of or manager of the TAS.

The COURT. He has not come over to American yet?

Mr. WEBSTER. Well, he was over here in 1920, but this is 1927.

The COURT. I mean he is not in any position with any American company.

Mr. WEBSTER. No, none whatever. Now he is having difficulty with his sales situation in France and one of his problems, his problem children, is Mr. Lobstein, and he says that Mr. Lobstein not only is a problem child but a problem child of second childhood; he is 76 years old
552 and he is not enthusiastic about titanium products as Dr. Jebsen might wish he would be, but he is only interested in the metal business and he puts it up to Mr. McCarty to say "What do you think we ought to do about Loostein and his crowd?" The fact is, this rather comes to nothing because Jebsen sums it all up by stating the advantages on each side so convincingly that he leaves himself unconvinced and the result is complete confusion. I suppose these are being offered against us as proof of a conspiracy, and it is all right to be pleasant about it for a while, but it gets to a point where we think Mr. Locke ought to tell us what this letter contains that shows we

were parties to the conspiracy alleged in this complaint.

The COURT. Anything you want to add, Mr. Whitney?

Mr. WHITNEY. No, thank you, your Honor.

The COURT. What is this letter all about, Mr. Locke, from your point of view?

Mr. LOCKE. It is a further delineation of the picture I described. It has to do with the purchase of the stock Mr. Lobstein owned, and background for the subsequent developments all having to do with the conspiracy, if the Court please, Mr. Webster's interpretation is very interesting but I think the letter should speak for itself.

Mr. WEBSTER. Then why don't we read the letter?

553 The COURT. Of course you understand, Mr. Webster, my attention having been called to specific paragraphs does not mean that the Court is not privileged to read the entire letter, and of course will. The point is, Mr. Locke feels these paragraphs contain the meat of this very lean stew.

Mr. WEBSTER. I accept that characterization and can rest on that as the basis of my objection.

The COURT. I will take this. I suppose I will take a few more today, but I give fair warning now that I am going to adopt a more rigid attitude in this matter tomorrow, so that counsel can reexamine during the evening each of these documents they really regard as pertinent. That does not mean if you identify all the others I might not receive this one and the Court might not sustain its reception on the theory that it supplies background, but when you have so much background, why load it down with very remote communications. If you feel that there is something to be extracted from it I will be glad to see it, but so far in practically all the exhibits from No. 52 on, I have found very little meat.

Mr. WEBSTER. May I ask Mr. Locke—perhaps this is an inappropriate place to raise the question, but I have a marginal note on my page of this—if he offers the marginal notes as well?

554 The COURT. The marginal note does not seem to have been printed.

Mr. WEBSTER. I have not the printed copy.

Mr. LOCKE. Answering Mr. Webster, if the Court please, it is not our purpose to have the marginal notes considered as part of the exhibit.

(Plaintiff's Exhibit 61 received in evidence.)

Mr. LOCKE. If the Court please, we wish to offer in evidence now photostatic copy of a letter purportedly

written by McCarty to Jebsen, dated March 18, 1927.

Mr. WHITNEY. There were three pages annexed to the next previous exhibit, in French.

The COURT. I was just going to inquire about that. Is that offered?

Mr. LOCKE. No, that is not offered.

Mr. WHITNEY. I only appeal to the Government. This sort of thing is quite expensive.

The COURT. I will take it.

Mr. WEBSTER. Have you offered the one March 18th?

Mr. LOCKE. Yes.

Mr. WEBSTER. If your Honor will bear with me, if we look at this a moment, we have to recall what this is all about.

555 Mr. WEBSTER. Your Honor, I make the same objection. It is just a lot of speculation about things.

The COURT. My respect for Mr. McCarty is rising, however. He comments that it will take quite a while to digest this Jebsen letter.

Mr. WEBSTER. Also he says, "The situation is quite complicated, as you say."

The COURT. Well, all right. Plaintiff's Exhibit 62.

(Marked Plaintiff's Exhibit 62.)

Mr. LOCKE. I wish to offer in evidence photostatic copy of a letter purportedly written by McCarty to Jebsen dated November 4th.

The COURT. What about October 2nd? You are not going to follow that——

Mr. LOCKE. I don't have October 2nd. I am not familiar with what that letter is. It may be that that will be offered at some subsequent time in the proceeding, if the Court please.

Mr. WEBSTER. On your list it is the next one in order.

Mr. LOCKE. Well, this does not follow exactly the subpoena list so you can't check from that. It follows the list that we gave you, however.

Mr. WEBSTER. We did not have any such list.

556 We spent the last three or four days reading the list that we thought we got from you.

The COURT. What is the next one?

Mr. LOCKE. November 4, 1927.

The COURT. It will be impossible to find it here.

Mr. LOCKE. It appears as item 24 in the National Lead subpoena.

Mr. WHITNEY. That has not been printed, your Honor; it was not handed to us by the Government.

Mr. LOCKE. In this letter we wish to call the Court's attention——

Mr. WHITNEY. Wait a moment. We haven't seen it.

Mr. WEBSTER. It is McCarty to Jebsen.

Did you make your offer?

Mr. LOCKE. Yes.

Mr. WEBSTER. If your Honor has looked at this letter——

The COURT. I haven't yet. Where is the exhibit?

(Handed to the Court.)

The COURT. You will have to tell me about it.

Mr. WEBSTER. I will be glad to tell you a few words about it. Apparently Mr. Pisart who is referred to in the first paragraph was an acquaintance of Mr. McCarty's and Mr. Pisart was in business in France and he came to see Mr. McCarty and talked to him about some zinc
557 oxide paste, and told him that they had certain grinding facilities at a Belgian company named Stella. And then there was some reference in here to a possible conflict between lithopone and titanium pigments which was the conflict that certainly developed and resulted in the defeat to a large extent in the United States of lithopone; but apart from that, and even including that, it seems to not bear on the issues of the case.

The COURT. Mr. Locke?

Mr. LOCKE. I wanted to call the Court's attention to the seventh paragraph of the letter which discusses the conflict of interest between lithopone and titanium. That becomes a material issue in this case. And we offer it at this time because this is the first time that in the correspondence there is any mention of——

Mr. WEBSTER. Oh, excuse me. I thought you had finished.

Mr. LOCKE. We offer it also because there is reference to the IG situation which had by that time developed, and we offer the last paragraph of the letter because it treats with the purchase of SIT—or, rather, we offer the whole letter, if the Court please, and call the Court's attention to those paragraphs.

Mr. WEBSTER. In view of the complaint here I would like to ask Mr. Locke and his associates right
558. now if it is contended that this case includes the lithopone business, because if it does it is the first intimation we have had that any such point would be made. There is a reference in the letter to the IG but it is an entirely obscure reference, and as far as Mr. Pisart is concerned we never made any arrangement with him about

titanium pigments and the letter does not seem to refer to the case at all.

The COURT. I will receive it. And the first thing tomorrow morning at 10.30 I will consider applications for the striking out of any of the exhibits beginning with I think No. 52. At that time I will expect the Government to be able to show me wherein any of those documents are relevant to the issues, because, as I told you, I was taking some of them on faith and I suggested that you do not overdraw on your account. But I am unable to follow these documents as having any relevance to the issue. Maybe they are relevant and maybe I do not comprehend the issues of the case. That is what I want you to be prepared to show me tomorrow morning. For the present I will take them, receive them and have them marked, and if we strike them out they will be marked for identification.

(Marked Plaintiff's Exhibit 63.)

Mr. LOCKE. We wish to offer next copy of a
559 letter from Jebsen to McCarty dated April 8, 1927. It is No. 48 on the subpoena.

Mr. WHITNEY. If you take what we have already read, your Honor, as about one-third we are now one-third of the way through, and this letter isn't anywhere in there.

The COURT. I won't try to find it. It is impossible to try to find individual letters in a book which hasn't got any numbered pages.

Mr. WHITNEY. There is some little mistake because the understanding was that our friends would give us the exhibits, we at our expense would print them and then, as they said, we would always be ahead and your Honor would have a printed copy and we would go on.

The COURT. It has been very convenient.

Mr. WHITNEY. And we printed them precisely in the order in which they were given. I suppose there has been a little mistake or a change of mind or something but that is——.

The COURT. We are going to solve that problem very simply. I am going to return this printed material to Mr. Locke and he is going to change the order of the printed documents that are unbound in the order in which he intends to present them, then we can make some speed and we can have material so that all of us can look
560 at it at the same time. Otherwise it will be an endless task.

Mr. LOCKE. I would like to have the Court know that we not only gave Mr. Whitney's office copies, photostatic

copies, but before they were turned over they were checked with this file from which I am reading now and they were handed to Mr. Whitney's printer.

The COURT. In the same order?

Mr. LOCKE. In the order in which I am presenting them. I don't know where the mistake occurred. I don't know where the confusion has arisen. This order has been established for some time, it has not varied, I haven't made any insertions nor have I made any deletions in the documents.

Mr. WEBSTER. Your Honor, we had a list of 70 or 75 documents given to us by Mr. Locke on which we spent two or three days and arranged those in order. We could keep ahead of this if we can follow a list of some sort and read them the night before.

The COURT. If you had the printed book.

Mr. WEBSTER. Or if we had the printed book. But otherwise we can't keep up with them——

The COURT. You might find, Mr. Locke, that there has been some very bulky interchange, that is, a whole section of stuff may have been put in the wrong place which, if you examine the printed material, you
561 may be able to restore in the proper order.

Mr. LOCKE. May I suggest that at the end of each day I will be very glad to sit down with counsel and give him the rest in the order in which the documents appear on the subpoena so that he can that night take those documents out and find out in what order they will be presented to the Court.

Mr. WHITNEY. That is not practical because the printer has to print them the day before. We have to be at least a day ahead.

Mr. LOCKE. You will be three or four days ahead in your printing.

Mr. WHITNEY. Good.

Mr. LOCKE. I am suggesting that we get together the night before with the printed documents and compare them.

Mr. WHITNEY. Right.

The COURT. We will take a short recess.

(Short recess.)

Mr. LOCKE. We wish to offer next, if the Court please, copy of a letter from Jebsen to McCarty dated April 8, 1927.

The COURT. I thought that was offered.

Mr. LOCKE. It has not been marked yet. I just wanted

to refer to it again.

562 Mr. WEBSTER. Has that one been received?

Mr. WHITNEY. I have never seen it. I object to it upon the ground that I have never seen it.

The COURT. I thought that was the one we had our discussion about.

Mr. WEBSTER. No. That was 63.

The COURT. April 8, 1927.

Mr. WEBSTER. We had a discussion about the procedure. We did not have a discussion about the letter.

The COURT. All right. You may examine it.

Mr. WEBSTER. I have examined it. This is April 8, 1927.

Mr. WHITNEY. Is that the one that was up for discussion before the adjournment?

Mr. WEBSTER. Yes, but it has not been offered.

There is one point I would like to refer to just in passing. Dr. Jebsen has the habit at this time in these letters of referring to Titan A/S as Titan Co. That was before the incorporation of the American Titan Company, Inc., so that Titan Co. in here means Titan A/S.

Now apart from that mechanical detail this relates to a proposed trip of Mr. McCarty's to Norway in connection with the taking over by National Lead Company of its shares which it was then purchasing in Titan A/S, and reference is made in here to a concession that had

563 to be obtained from the Norwegian Government before stock in a company that operated natural resources could be turned over, and your Honor will find, if Mr. Locke insists on offering all of these letters, many references to that which have nothing to do with the case.

There also is a reference here to Mr. Hallett—that is, Mr. Hallett is a man connected with the engineering department of the Lead Company and he wanted to go over to see what the mine in Norway looked like. Also, there are references to bookkeeping suggestions and that sort of thing. Dr. Jebsen, whose thoroughness is unparalleled, slips into some curious expressions. He used the expression here in one place which I think indicates having near him a Norwegian-English dictionary: He speaks of the "raw-balance" which I assume means trial balance which is made up every month.

Now I don't think any of those things are in this case. If they are, I would like to have them pointed out to us.

564 The COURT. May I look at the exhibit?

(Exhibit handed to the Court.)

Mr. LOCKE. If the Court please, I explained to the Court when we started off with these documents that almost all of them treat with one, two, and sometimes three different phases of this picture. They treat with the TG situation; they treat with the SIT situation; they treat with the purchase of Titan stock; they treat with the organization of Tinc and so on. I am offering the whole of each one of these letters as I do, pointing out the particular paragraph in the letter that I am offering that have to do with the subject that I am attempting to develop at the time. This particular letter has some relevancy to the negotiations that eventually resulted in the formation of TG. That appears in paragraph marked 3 in the second page of this exhibit, referring to conferences with Dr. Kuhne, who turns out to be one of the negotiators in the TG deal. Paragraph 4 has to do with the purchase of SIT stock. Not any one paragraph is sufficient to be of any great moment, but it has some importance in putting together the pieces of this crossword puzzle that each and every one of these different enterprises is.

I shall be very glad, if the Court would prefer it that way, to offer only that part of any given letter
565 that has to do with the particular problem that we are developing. I think this would be a more expeditious way, so that having offered this particular document dated April 8th for the purpose of establishing proof in connection with SIT when we began to develop the TG picture I would again refer to that exhibit and point to the paragraph that had to do with that problem.

The COURT. Plaintiff's Exhibit 64 is received in evidence.

(Plaintiff's Exhibit 64 marked in evidence.)

Mr. WHITNEY. Your Honor, could I just say my only interest on behalf of du Pont Company is to save some time and expense and in that interest I would just like to suggest to your Honor and to our friends for the Government that this problem isn't a problem of painting the entire picture in every detail. I would be grateful to have Mr. Locke's attention.

Mr. LOCKE. I am listening, Mr. Whitney.

Mr. WHITNEY. It is a matter of proving the first three sentences of paragraph 45 of the complaint.

Paragraph 45 describes these IG contracts and after the first three sentences it summarizes the contracts which

have already gone into evidence; and the points of the first three sentences are that IG conducted extensive development work, that National believes, because
566 of IG's inventive power and great resources, that it would develop into a serious competitor, and that National made this deal in order to eliminate that competition.

If he has any letter that goes to any of those three issues that would be relevant and material. All these other things are irrelevant and immaterial, and although we are a big company we have stockholders, public stockholders, and they have to pay our expenses. We also say we are taxpayers for Mr. Locke.

The COURT. All right.

Mr. LOCKE. We wish next to offer, if the Court please, photostatic copy of a letter which purports to have been written by McCarty to Cornish, president of National Lead Company, dated June 18, 1927.

Mr. WHITNEY. I received this and I have a printed copy. I object to it on the ground that there is no signature, and I object to it upon the ground of authenticity. I am simply tired of making an offer to the Government to try to cooperate and have them not even answer, reply or pay any attention. After all, we are supposed to be lawyers admitted to the bar because we have made some study of law, trying to try a case to your Honor about relevance and materiality and the issues of the complaint, and there are five of us here from our company. We have nothing to do with any of these papers. There
567 isn't one single one of 150 of them that come out of our files. There aren't five refefences to our company in the whole 150. And in the interest of our stockholders I object to this exhibit upon the ground it has no competence.

Mr. WEBSTER. I am not going to object to this letter, your Honor, and after it is received, if it is received, I would like to read portions of it to the Court.

The COURT. I haven't seen the letter.

(Letter handed to the Court.)

The COURT. All right. Now first let us get disposed of the objection as to competence. How about it, Mr. Locke?

Mr. LOCKE. If the Court please, in many conferences we had trying to get up a stipulation here——

The COURT. A stipulation does not govern Mr. Whitney.

Mr. LOCKE. I want to finish by making this statement,

if the Court please. (Continuing) We were assured by Mr. O'Donnell that if, as and when the National Lead Company waived any objection because of authenticity under paragraph 4 of the stipulation which provides that the offer of any unsigned document, copy of a letter, so on and so forth, when the National waived any objection thereto that du Pont would not raise any objection. Mr. Whitney gave us the same assurances two or three
568 times in the many discussions that he has offered here on the science of trying a lawsuit and listed many other things. We are not prepared because we have relied on those assurances to make further proof than that which satisfies National Lead Company as far as documents received and taken or available in their place.

Mr. WHITNEY. It is not a question of that. Who wrote this letter? There isn't a word on it to indicate it.

Mr. LOCKE. I have made the representation that McCarty wrote it. We gather that impression from reading all of the correspondence here, if the Court please, and it seems to satisfy the attorneys for the National Lead Company.

Mr. WHITNEY. Do you represent that McCarty wrote it?

The COURT. That is what I take it to be.

Mr. WHITNEY. He said he gathered that impression.

The COURT. He is now representing it.

Mr. LOCKE. We represent it.

The COURT. He is offering this as a letter——

Mr. WHITNEY. I will withdraw my objection, simply commenting that both of these gentlemen are long since dead, and the letter is date 17 or 18 years ago,
569 and we are not mentioned in it.

The COURT. All right. I take it that the objection as to competence is withdrawn; Mr. Whitney has a continuing objection, Mr. Webster has no objection, and the exhibit will be received as Plaintiff's Exhibit 65.

(Plaintiff's Exhibit 65 received in evidence.)

The COURT. Do you want to make some comment on it, Mr. Locke?

Mr. LOCKE. I just want to call the Court's attention to the third and fourth paragraphs on page 2 of the exhibit that has been offered.

Mr. WEBSTER. May I read this? I would like to read portions of this letter to the Court.

The COURT. All right.

Mr. WEBSTER. Inasmuch as each of these documents is received complete I think this bears on some things that

were discussed this morning. Mr. McCarty wrote this letter to Mr. Cornish and summarizes a number of matters, and I think quite well.

(Mr. Webster read the first three paragraphs of Exhibit 65.)

Mr. WEBSTER. (continuing reading). "The 'Titaniunr' Company—that in this letter refers to Titan A/S——

570 (Mr. Webster continued reading to the second paragraph on page 2 of the exhibit as follows:)

"To give an account of the day would be rather a long undertaking which I will defer until my return. 'Mr. Warburg''—I think I may say Mr. Max Warburg is a German banker in Hamburg with whom the National Lead Company had business relations [continued reading, reading the third paragraph on page 2]. I think I might say parenthetically there that the Societe there referred to is the Lobstein concern that has previously been mentioned.

(Mr. Webster completed the reading of Plaintiff's Exhibit 65.)

The COURT. All right. It is marked Plaintiff's Exhibit 65.

Mr. LOCKE. We wish next, if the Court please, to offer in evidence letter which purports to have been written by McCarty to Jebsen, dated August 18, 1927, together with enclosures found with that letter, one being a confirmation of telegram from McCarty to Jebsen, dated August 17th, the second a telegram from Jebsen to McCarty, dated August 3, 1927. With reference to these we wish to call the Court's attention to the confirmation of telegram dated August 17th and to the second paragraph on page 2 of the exhibit offered.

571 Mr. WEBSTER. We do not seem to have the telegram dated August 17, 1927, which is attached to the document, but we have no objection to this, except to point out to your Honor that if your Honor receives it there are one or two things we would like to call attention to.

The COURT. It will be received. Plaintiff's Exhibit 66.

(Marked Plaintiff's Exhibit 66.)

The COURT. Now, Mr. Webster, you wanted to make some comment.

Mr. WEBSTER. Yes. I suppose Mr. Locke has in mind the details of the acquisition by the Lead Company of—the interest that it had at least financed in TG and the SIT, but the last paragraph of the letter I think is quite interesting to the Court in view of the charges here:

"You will be interested to learn"—this is McCarty advising Jebsen—"that the price of Titanox in the United States has been reduced to ten cents per pound." I haven't yet confirmed the exact figure, but I am in the process of doing so. It was very much higher. Seven years later they made this reduction. "It is however, too early to tell what effect this reduction will have upon the volume of the sales. I am arranging to send a small
572 shipment of Titanox to Greeff & Company in London as Mr. Thompson"—Mr. Thompson was the managing director of Greeff—"is very anxious to have some of our product there to submit to certain customers for trial."

In other words, they were carrying out the plan for exchange of know-how and exchange of experience and getting from Thompson, this British agent, the English experience under English conditions and climate of Titanox. "I do not know just what price I will be able to arrange with Mr. Meredith"—Mr. Meredith was the head of Titanium Pigment Company who was the first party to that 1920 agreement—"but will advise you later when the matter has been settled. As the first shipment will probably not exceed five tons the price is not really a great matter."

Subject to correction, the price had come down at least from 18 cents to 10 cents in seven years. There is a reference in here to the fact that certain transactions have been authorized by the Norwegian Creditbank because of Jebsen assuming personal responsibility, and that gives me an opportunity to say what I have not said before: that this correspondence shows that Dr. Jebsen was not only a very thorough man but as I think any fair-minded reader will conclude after he has seen all of this evidence a very honest man.

573 Mr. LOCKE. We wish to offer in evidence the next exhibit if the Court please, a photostatic copy of a letter written by Jebsen to McCarty dated September 6, 1927. We wish to call the Court's attention particularly to the third paragraph on the first page thereof, the third paragraph on the second page thereof, and the first paragraph on page 4.

Mr. WEBSTER. Just a moment.

Mr. WHITNEY. We haven't got it. September 6, 1927?

Mr. LOCKE. That is right.

The COURT. I can't read this now, but will you tell me something about it.

Mr. LOCKE. This has to do with the relationship between Lobstein and the Franco Bresillienné and the SIT, if the Court please. There is some discussion about control of the ilmenite market. That is about all there is in there that I have referred to.

The COURT. Any objection, Mr. Webster?

Mr. WEBSTER. Yes, I have an objection. I will have to look at this for a moment.

574 Mr. WEBSTER. Well, there is a great amount of material, as others have indicated, in any letters of Dr. Jebsen, so-called longer letters, and I think the references in here to Franco Bresilienne are very nicely summarized in Mr. McCarty's response to Dr. Jebsen, which Mr. Locke has not offered in evidence and which I adopt as my own summary of all of that material relating to the Franco Bresilienne agreement:

"I have your letter of September 6th, and am interested in the extracts from the contracts with the Franco-Bresilienne."

Mr. LOCKE. May I interrupt. I will offer that as my next exhibit.

Mr. WEBSTER. Then I can refer to it.

"Apparently the Titan Company or the Soeciete Industrielle du Titane has a call or option on the ilmenite produced by the Franco-Bresilienne, and in no case can the latter company sell its ilmenite elsewhere at a lower price than cost plus 25 plus per cent."

That is Mr. McCarty's summary of Dr. Jebsen's extracts from the agreement.

Moreover, the Franco Bresilienne property in Brazil is a relatively puny affair. We never acquired control of it. We never had anything to do with it. We
575 never got that map of the harbor at Guarapary, and except for the shirt-tail full of ilmenite, that never amounted to anything in our lives, and is completely irrelevant.

Now there is a section of this letter, later on, after Dr. Jebsen refers to his meeting with Mr. Thompson of Greeff in Paris, and that five tons of ilmenite being sent to London for test purposes and the price, etc., he then comments at great length upon some gossip that apparently had been received by someone over in IG from someone in the United States about a possible ilmenite or titanium project other than the National Lead in this country. It is sheer gossip, rumor, hearsay, several times multiplied, and mentioned by me really because I hate to be caught by a trap

if this whole letter is received. And then it contains things that my friend Mr. Locke inadvertently prefers not to mention but may remember to mention later.

The COURT. All right.

(Plaintiff's Exhibit 67 received in evidence.)

Mr. WHITNEY. I would like to submit to your Honor that this letter seems to me reasonably characteristic of all that have gone theretofore and one point seems important to us. Here we are in September 1927, the period of the IG agreement, and the full flood of whatever it is
576 that is being charged, and here we have a great long letter followed with the names of all these various companies and discussing the titanium situation and the ilmenite situation throughout the world. Now if du Pont were in this, they would be mentioned in that letter. That is my comment.

Mr. LOCKE. We wish now to offer photostatic copy of a letter that purports to have been written by McCarty to Jebsen, dated September 23, 1927, and wish to call the Court's attention only at this time to the first paragraph of that letter.

Mr. WEBSTER. I object to it as irrelevant and immaterial.

The COURT. What does he mean by the "Titan Company" in the third line?

Mr. LOCKE. If the Court please, that is Titan A/S.

The COURT. Is there any comment?

Mr. WEBSTER. No, I do not think so, your Honor.

The COURT. All right. We will receive it as Plaintiff's Exhibit 68.

(Plaintiff's Exhibit 68 received in evidence.)

Mr. WEBSTER. I assume if I do not fully state my objections to each of these it will be taken as having
577 been already stated.

The COURT. I have already indicated that tomorrow morning I will consider seriously if a motion is made to strike a great many of these exhibits, including 52. In the meantime, does anyone want to take the task of arranging this printed exhibit in the order they are to be offered or are likely to be offered tomorrow.

Mr. LOCKE. I would suggest to the Court that we may have that together with the other copies that have been distributed put together and see if we can arrange those.

The COURT. That will expedite the movement of this tremendously.

Mr. LOCKE. I can offer no explanation for the confusion.

The COURT. Well, see what you can do about rearranging those this evening.

We will now adjourn until tomorrow morning at ten-thirty.

(Adjourned until Tuesday, December 12, 1944, at 10:30 a.m.)

578 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, ET AL.

NEW YORK, *December 12, 1944, 10.30 o'clock a. m.*

Trial resumed.

Mr. WEBSTER. May it please the Court, I think we are all sometimes disappointed by the form that what we said yesterday takes in today's transcript.

The COURT. That is a form of disappointment that I experienced many a time.

Mr. WEBSTER. It sometimes appears without punctuation, all flattened out, and the winged words killed by a Dictaphone. I think only Mr. Churchill gets adequate reporting. Some of these corrections can wait, but there was one that appeared yesterday that I think might trouble my friend and client, Dr. Jebsen, and I would like to correct it, if I may.

On page 574 I am reported as saying:

"Well, there is a great amount of material, as others have in dicated, in any words of Dr. Jebsen, so-called Junker letters."

Now I think that Dr. Jebsen would be disturbed if he thought his counsel was referring to anything he
579 did as Junker, and I don't know exactly what I did say, but I am sure I did not say that.

Now on the next page I resorted, I regret to say, to extreme colloquialism.

The COURT. I think you said "so-called longer letters."

Mr. WEBSTER. I may have said just that, your Honor. I referred to a shirt-tail full of ilemenite. I am reported as referring to a "shirt-tail pool of ilemenite." There may be other sorts of pools in this case, but I don't believe there is a shirt-tail pool.

There is one other mistake I would like to mention, in Dr. Jebsen's behalf. In my discussion early in the morning I referred to Dr. Jebsen's creditors when I was talking about the condition of Titan Company A/S. Of

course what I meant was the creditors of Titan Company A/S, not Dr. Jebsen's personal creditors.

The COURT. Very well.

Mr. LOCKE. I think this compilation of printed matter is more nearly in the order of the proof we will make, and we would like the Court to have that corrected copy.

The Court indicated last night at the close of yesterday that he might entertain motions. Before the Court entertains any such motion I should like to offer two
580 letters in evidence which I think are necessary and should be part of the record before the Court considers such motions. The first is a letter written by A. Thompson, Second Vice-President of Titanium Pigment Company, Inc., to Mr. Evans McCarty, Vice-President, dated January 20, 1926. I have explained to Mr. Whitney and to Mr. Webster that this is a letter that we had not yet given to Mr. Whitney to be printed because in our order of proof it occurred much later. However, I had given Mr. Whitney a copy—I did before court—and I anticipate Mr. Webster has a copy of that letter.

I should like to offer that in evidence, if the Court please. Before any discussion is had on it, I should like the Court's permission to read this letter because I think the details of the letter are of sufficient importance——

The COURT. It is not yet marked.

Mr. WHITNEY. I am going to object to it.

The COURT. I will give you an opportunity to do that. First just let me make a note of it. Who is this letter signed by?

Mr. LOCKE. A. Thompson, if the Court please, who is indicated here by the National Lead Company as having been a vice president of Titanium Pigment Company, and who was also a director of Titanium Pigment Com-
581 pany from time to time. I have the schedule here before me.

The COURT. Before you tell me what it contains, you say there is an objection?

Mr. WEBSTER. We make no objection to this letter.

Mr. WHITNEY. I object to it on two grounds. This letter, in substance, is an expression of opinion as to patents, and it is dated January 1926. My first objection is on the ground of materiality; that an opinion as to patents nineteen years ago has such remote materiality that it is prejudicial to us to have it in the record. My second objection is on this ground of competence, that it is an opinion and that opinion evidence must be given on the

witness stand where one may cross-examine the expert. I am not contesting that Mr. Thompson wrote the letter, or that he was a second vice president, or even that he was a chemist, so that if he took the stand he could express an opinion and we could then cross examine him. As it happens, this letter is characteristic of the type of letter that creates prejudice. He expresses an opinion in 1926 as to what the patent situation will be in 1934. It is now nearly 1945 and I half believe that if we could cross examine him we would bring out that the opinion was proven by events to have been totally un-
582 founded. But if the document goes in and is read it is prejudicial, and I submit in violation of the rules of evidence on both counts.

The COURT. Well, Mr. Whitney, I think your point is well taken; that probably this could not be received as opinion evidence of the validity or invalidity or whatever it is that he expresses opinion on, with respect to patents, but I think you will probably agree that the letter may be admissible as a declaration by this officer of what his state of mind was with respect to the patents, and since intention and state of mind is one of the elements in issue, it would seem to me that the letter would be admissible on that score. I have not read the letter but I am taking at full value your statement as to what it is likely to show.

Mr. LOCKE. May I say that is the only purpose of offering it.

Mr. WHITNEY. If confined to that ground, that meets the ground of my objection. Of course your Honor I take it I do not need to repeat here a continuing objection on the ground of connection; an intracompany communication, a National Lead letter between two officers in 1926, and I take it it is admitted as an admission on behalf of National Lead for whatever that is worth as of that time.

583 The COURT. Let me say, of course, this letter would not be received as evidence of the validity of the patents or of the invalidity of the patents, or their infringement or non-infringement. This not being a patent suit in which the Titanium Pigment Company is charged with violation, and even there I doubt whether admissions as to validity would have any significance; it might as to infringement, but I am taking it purely for what it purports to be, namely, as to what Mr. Thompson's mind contained at the time he wrote the letter, and

of course you would be free to introduce evidence and so would the Government have to introduce evidence if they desire, to show in fact the patents were invalid or of little value at that time. The objection is overruled.

(Government's Exhibit 69 received in evidence.)

The COURT. Do you want to read that letter?

Mr. LOCKE. If the Court please, rather than summarize the whole letter I should like to read those parts of the letter which are pertinent and which will serve some purpose at this time.

Reading from page 1:

"My dear Mr. McCarty:

"In considering the policies to be adopted by this
584 company in the future I believe that some of the points referred to in the following paragraphs may prove of interest to you.

"All of the controlling United States patents of this Company with the exception of two will expire on or before September 18, 1934."

Then he goes on to say that others expire March 14, 1939. I will read the next paragraph:

"It is probable, therefore, that the Company's patent control will practically cease during the Fall of 1934, which means in approximately 9¾ years.

"The National Lead Company purchased control of the Titanium Pigment Company as of August 1, 1920, or approximately 5½ years ago.

"Neither this Company nor the Titan Company has any patent which controls the manufacture of titanic oxide as such and as we know there are other companies now offering titanic oxide for sale.

"Until very recently we have never seen a titanic oxide pigment that had tinting strength of over 700 (compared to white lead as 100). During the latter part of 1925, however, we have made in our small chemical plant at Niagara Falls titanic oxide products of good color of which the tinting strength has been as high as 1200, and in one case the tinting strength
585 ran 1400.

"So far as I am aware there is nothing in our patents or those of the Titan Company which would prohibit another manufacturer from making a mechanical mixture of such a titanic oxide with an extender pigment. Such a mechanical mixture might conceivably have tinting strength nearly equal per unit of titanic oxide contained to our composite pigments."

Reading from the second page:

"This Company has three U. S. patents"—he gave the numbers—"all of which expire on November 21, 1933, which broadly cover paint containing amorphous titanic oxide and iron oxide, paint containing amorphous titanic oxide and white lead, and paint containing amorphous titanic oxide and zinc oxide.

"If the validity of these three patents can be sustained they would undoubtedly prevent the use of mechanical mixtures of titanic oxide and extenders or of titanic oxide itself in paint mixtures containing the titanium pigment alone or mixed with either white lead or zinc oxide.

"Assuming, therefore, that these three patents could be sustained this Company might be able to preclude the sale of titanic oxide or mechanical mixtures of
586 titanic oxide and extenders for use in paints until November 21, 1933, or approximately 8¾ years hence.

"It is apparent, therefore, in a general way, that this Company's patent control of the situation is a matter of less than ten years, or less than twice the period since the National Lead Company purchased control of this Company.

"I believe that all of us, who have watched the rapidly developing use of titanium pigments, are convinced that ultimately these pigments will be used in large tonnages.

"I believe also that there has been sufficient activity on the part of others in connection with the research and development of manufacturing processes to indicate that were it not for the strength of the patents of this Company and the Titan Company other titanium pigments would have been manufactured and marketed on a much larger scale before this and certainly will be as soon as the patent protection expires.

"In view of the above it seems to me self-evident that the policy of this Company should be to rapidly increase the production and use of titanium pigments during the next eight or ten years, to enlarge our research
587 development and to obtain control of the most available sources of raw materials, so that the Company's position at the expiration of its patent protection would be as strong as we can make it."

I skip to the last paragraph and only paragraph on the last page:

"While I appreciate my lack of experience in this field

in which that of others in our organization has been so great I cannot escape from the conviction that failure to develop the market for Titanium pigments to the fullest extent, during the patent protection period, by maintaining high prices, and low production, is a policy which will be regretted at a not distant date."

And it is signed "A. Thompson."

Now, if the Court please, before I make any comment, or before any comment is made on this exhibit, I should like to offer the next exhibit because the two are so related that an intelligent discussion can be had only that way.

The COURT. All right.

Mr. LOCKE. This exhibit, if the Court please, will be found among the printed exhibits and it appears on what is marked page 73.

The COURT. The exhibit you have just read?

588 Mr. LOCKE. No, the one I am about to offer, and I should like again the Court's permission to read from this document.

Mr. WEBSTER. No objection by the National Lead Company.

Mr. WHITNEY. Your Honor, could I add this one word: when your Honor ruled on my objection you expressed yourself on the subject of competence, and I would like to say a word further on materiality, which you did not express, because it may save a great deal of time; at least it will clarify the positions.

The ground of my objection as to materiality goes entirely to the date and the fact that these are forecasts, prophecies and guesses. Now it will be quite apparent, your Honor, that if someone had predicted in January 1926 as to what type of political administration there would be in the United States say in the fall of 1934, that prediction today would be laughable. Or suppose that in January of 1926 someone had predicted what the political situation would be in Europe in the autumn of 1934. Now I submit, your Honor, that if antitrust cases are to be anything less than a farce, that we have to apply some of these common sense principles, some of those principles of human experience relating to the admission of evidence.

589 Your Honor will observe that the Government is taking this position—and I may say in passing this is the first case of this character that has been tried, and this is, I think not without importance—

and the Government is taking the position in this trial in the year 1944-45, it is sufficiently material, within the rules of materiality, for the Court to consider what, in January 1926, officers of the company forecast would be the patent situation in the autumn of 1934. If that be so, and if that be proper, if your Honor rules against me on this, then it becomes a subject of inquiry as to what were the guesses beginning in 1926 and thence forward and as to what actually happened. Obviously if this is in, I become entitled to call witnesses and put in all the evidence that we may have written in 1926 and probably before that, 1923 or 1924 about what we thought would be the position, and Mr. Webster the same, and then all the actual developments of each patent that is mentioned in this letter.

590 And that is if I am overruled as to immateriality and my submission to your Honor, because I have observed, if I may say so, the remarkable way your Honor has taken hold of the issues here in this case that this is a challenge to us to confine these cases within reasonable, workable limits so that both the trial court and the appellate court may have before it both records that are based upon some common sense degree of genuine worth and relevance and materiality, and I know that it has often been the practice before commissions like the Interstate Commerce Commission to hold hearings over a period of years, sometimes three or four or five years, in which the room is filled with members of the legal profession who just put in everything, and the witness sits there for weeks, and then the other side puts in everything the next year or the second year thereafter, but I do not think it right to degenerate a federal district court to the same level of proof-taking. It seems to me that when a case is taken out of the mere administrative proceeding, as this is done by act of Congress, and put into the field of equity, or chancery, so that it is for the Court to resolve, to perform the equity function, which is merely to issue a decree for the future, that then this right for the Government to try the cases upon the basis of

591 having peoples guesses 19 years ago about a situation to come 10 years ago I would respectfully submit to your Honor would be a great blow for decent justice if your Honor were to rule this out on the ground of materiality, and if your Honor is wrong the reversal will be only an aid to the law for us to find those things out. This would be a splendid subject to discuss in the

higher court; whether it was error to rule out material 19 years ago guessing about material 10 years ago. The thing that has distinguished Anglo-American jurisprudence has been the common sense practicability of the common law. The rules of evidence have been built up, as your Honor knows, by your Honor's predecessors over 700 years, and I profoundly regret to participate in the prostitution of those rules so that the conduct of an important lawsuit becomes nothing more nor less than the pouring in of every conceivable paper and then the other side pouring in every conceivable paper, then asking for this summer or next summer or six months after the right to write a thousand-page brief, and then by that time the whole thing is so dead that the public rightly criticises the bench and law for conducting themselves in that way.

That is what, I submit, to your Honor, is the ground of the objection of materiality to this paper.

The COURT. Well, the general thesis that you subscribe to finds a very receptive hearing here, and I
592 was under the impression that I had given voice at the close of yesterday's session to an attitude towards the reception of evidence in antitrust cases which does not depart far from well established principles which you have just now indicated.

The problem is these rules of evidence, and I take it there are no special rules of evidence in anti-trust cases which are distinguished from the rules in an action for a tort or breach of contract of any other type of case, but the question is, what are the issues of fact and what are the relative types of probative material which can be received to resolve those issues.

Now I am speaking out loud instead of simply ruling on your objections, because I think we will perhaps clarify some of these problems and make progress.

You take Plaintiff's Exhibit 69, for instance, which has just been received, and with respect to your objection has been overruled. It is a communication from an officer of TP to an officer of a subsidiary of National Lead.—I think McCarty is an officer of United Lead——

Mr. WEBSTER. He was also an officer of National Lead.

The COURT. Also an officer of National Lead, in which Thompson, apparently a scientific gentleman,
593 makes some forecast as to the patent situation in the future. Now if that is all there was to it, and if the issue was, what is the patent situation in 1934 or

1939, the dates to which he projected his prophecy, I would not receive that letter and I would regard it, as to us, unlikely to be of significance so that I would not even suggest having it marked for identification to preserve it for the Circuit Court. Clearly whether or not, strictly speaking, its relevance could be established, its weight would be microscopic so as not to warrant the disturbance of this record with that kind of material. In a sense we would say it was not probative, it was not relevant, or, more accurately, it was not material.

But suppose the issue is not what the patent situation was in 1934. The issue is, as I see it, this: A, B and C enter into certain agreements. Those agreements, in one view of the situation, might be regarded as lawful business transactions relating to licenses under patents. Under a different view of the situation those agreements may be the instrumentalities and means by which a conspiracy in restraint of trade is being perpetrated. And frequently—I don't know whether it will be so in this case,—but frequently the line of division between one or the other is entirely determined by what the parties
594 contemplated as the direction they were traveling. Were they going in the direction of a restraint of trade? Was that their objective to which these agreements were the means? Or were they simply exploiting patent monopolies as they had a right to do under the law and making agreements relating thereto? Or were they selling licenses and entering into covenants ancillary thereto which in part may appear to restrain trade? Or were they engaging in some other legitimate objective?

Now if the issue is, and I take it that one of the issues here is, what was the objective and purpose of the defendants and the purposes denominated as co-conspirators, a word which I do not like and for which I think the bar ought to invent another ~~word not as charged~~ with culpability as the word "conspirator"—but I do not use it with any connotation other than to identify certain corporations,—the question is whether they had in mind a scheme to monopolize and restrain trade.

Therefore let us suppose that Mr. Thompson writes a letter in 1926 to his president, "Our patent situation is rapidly evaporating. Therefore if we are going to control this business it is very important that we enter into an arrangement with other persons who have some participation in this enterprise so that between us we
595 could monopolize the trade of the world in titanium." Suppose he said so, and then next year or

next month you see negotiations commencing between the president of the corporation, to whom that letter is written, with other persons controlling deposits of ore; with other persons controlling accommodations for factories; with other persons controlling outlets, and agreement which confirm and which are reciprocal in character, the inference would be, presumably—not absolutely, but presumably—that the agreements were being made in connection with the suggestion made and that the object was not to exploit patents but to monopolize and restrain trade.

596 Therefore, the letter becomes material because it affords a permissible inference, and any document which affords a permissible inference on an issue of the case is relevant and material. As to weight, that is a much more difficult question, but whether much weight or little weight can be assigned to it is a problem that depends upon a subsequent evaluation. Clearly, of course, remoteness in time would tend to moderate weight and a remoteness in causality might tend to mitigate the weight to be assigned but it has some weight, and it is on that line of reasoning that I have been admitting exhibits of the character of Plaintiff's Exhibit 69. Not at all as evidence of the validity of the patents in 1934. I do not even receive it as proof of the fact that the patents were going to expire in 1934; and if the patents do get introduced in evidence they would have an expiration date of course arithmetically calculable and that would of course dissipate any possible prejudice that arises from any statement of this kind.

A document like Plaintiff's Exhibit 69 is received solely as evidence of what was turning over in the minds of these gentlemen in order to throw light upon the intention and purpose of their activities following thereupon in the execution of the lettered exhibits which

597 are the matrix of the case.

Mr. WHITNEY. I follow that clearly, but upon that basis does it not follow, in the light of the colloquy we had last week and the citations of the Second Circuit Court of Appeals cases, which are supported in all circuits, incidentally, that this is not an exhibit that is to be taken against du Pont subject to connection, that the exhibit cannot be taken against du Pont at all because it is admitted as an admission or declaration of what is in the minds of officials of Titanium Pigment. And even if it were during the period when it was charged that du Pont were

within their conspiracy and it had been established that du Pont had entered into it—that is, the connection had been established—the mere declaration or admission of intention is not admissible against du Pont, the co-conspirator, and that is certainly true at a period before the time that du Pont is charged to have been drawn in or established to have been drawn in. Therefore, these papers prior to the period with du Pont, to use Mr. Dixon's phrase, come into it, but these papers that your Honor admits on the ground of their being admissions or declarations of evidence of purpose or intent of gentlemen of National Lead or Titan, Inc. are inadmissible against du Pont, apart from the question of connection,
598 wholly apart.

The COURT. Well, that problem has given me some concern. I would like to have you help me resolve that, since you bring it up now, and this is as good a time to discuss it. Again I am in the realm of hypothesis because I don't know yet what the case will show. Clearly, du Pont is not a party to the transactions at the time this exhibit was created, and I do not understand that the Government charges that du Pont would have been under the conspiracy in 1926. If I remember the pleading correctly, du Pont does not actually enter upon this scene until some time in 1933, maybe shortly before that time.

Mr. DIXON. 1932, your Honor.

The COURT. 1932. Culminating in the actual formal arrangement in 1933 and, I would suppose, following a period of negotiations which may have had an early history, maybe a year or possibly more. So, from that point of view you are right—this clearly cannot show du Pont's frame of mind in 1926, and even if it could show du Pont's frame of mind in 1926 it would not be material because it is not alleged that du Pont had any participation in it at that time. But I am struggling with another rule of evidence and I am going to give it an inartificial expression and
599 see if I can polish it down in the discussion.

Let us suppose that it is established by the Government that National Lead and TAS and subsequently SIT, then IG, and then the British and the Japanese, each in succession, did deliberately concoct a scheme for the purpose of monopolizing the world trade in titanium. Let us suppose that, and let us suppose that the Government has established it. Then they establish that du Pont joins the enterprise—I won't say the conspiracy. Well, (a) if du Pont joins the enterprise and the enterprise is a legitimate patent exploitation and not an illegitimate conspiratorial

monopoly, then du Pont's conduct is innocent, regardless of anything else, because then it has joined a legitimate business transaction. If it has joined a conspiracy in restraint of trade, let us suppose for a moment—this is an equity suit, not a criminal suit—let us suppose for a moment that National Lead and Titan are engaged in an unlawful conspiracy under the antitrust laws and that du Pont innocently unites itself to their efforts, that is, that du Pont's purpose is purely patent exploitation or business expansion without any intention to restrain trade; but that nevertheless it lends its aid in such a way so that a gap in the ring established by the conspirators is closed, although that is not du Pont's
600 intention but it is the intention of the other conspirators that du Pont's aid should be used in that way. Do you follow me, Mr. Whitney?

Mr. WHITNEY. Yes, your Honor, I do.

The COURT. Would not that—I am asking the question now, having no opinion on the subject—would it not warrant a court of equity in disturbing the relationship between du Pont and the other members of the conspiracy?

Mr. WHITNEY. Your Honor, that is an excellent question, if I may say so. I take it that the substance of the wrong is exactly the same in a criminal case as the equity case because it is a wrong under the statute and both remedies are provided. That is the first point. The second would be that the difference between the two proceedings is in their object. The criminal case is designed to punish for the past wrong, criminal wrong. The equity case is designed to be remedial of the present suffering of the public flowing from the past wrong.

Now to that extent the equity case, the court in the equity case governs itself by a consideration always of: How is this going to aid me to determine how I need to remedy this situation in the nation, looking to the future, to provide a better situation for the future?
601 And, as your Honor said, suppose that du Pont came in innocently to a group of others who we will suppose were engaged in a wrong. Then I entirely agree with you that even though entirely innocent it might be that du Pont could be affected by the decree, just as your Honor pointed out the other day—a contract might be struck down between a wrongdoer and a rightdoer and the rightdoer could not insist upon the contract that grew out of a wrong of which he was innocent.

However, that would not warrant findings of fact,

conclusions of law and the entry of a decree or judgment against du Pont as a defendant. Du Pont would not have been a conspirator under the antitrust laws.

The COURT. Let me see if I get you straight. You mean that the decree might provide that National Lead shall have no relations with du Pont?

Mr. WHITNEY. Right.

The COURT. But it might not provide that du Pont shall have no relations with National Lead?

Mr. WHITNEY. That is right. Because the decree can only in an antitrust case go against the defendant that has done wrong. The equity decree in an antitrust case can only be entered against the party that the judge, had he presided over the jury trial, would have thought the jury ought to or could have convicted, because
602 otherwise there is no violation of the antitrust laws against which a judgment or decree can be entered. Suppose the decree said generally National Lead is a great company and therefore it may not enter into any agreement of this type with any other major American company or, alternatively, the decree might say with any other American company. But that would no more merit the entry of a decree against du Pont than it would the entry of a decree against Zirconium. Equity would lack the power.

The COURT. If you don't mind, let me interrupt you at this point. I am willing to assume at this point that what you say is so. I am going to assume that in my succeeding argument. Now, clearly I think you would agree that if it had been established now already in this case that both National Lead and du Pont—when I say established I mean prima facie evidence had been offered—that both National Lead and du Pont were guilty participants in a conspiracy, would you not agree with me that although this letter antedates du Pont's adherence to the conspiracy it would nevertheless be admissible against it as well as everybody else?

Mr. WHITNEY. No indeed, your Honor. That is precisely what the Second Circuit Court of Appeals and all the other Circuit Court of Appeals have held.
603 The COURT. That is what I want to get at.

Mr. WHITNEY. That admitting that A and B are established to have become co-conspirators, the only declarations by B which are even thereafter admissible against A are the declarations that constitute a part of the operation of the conspiracy.

The COURT. It cannot relate to events prior to the adherence of the particular conspirator? That is what I want to get clear.

Mr. WHITNEY. No. The point is this, your Honor——

The COURT. A, B and C are conspirators from 1926 to 1930 we will assume. During that time A's declarations are admissible against B and C in furtherance of the conspiracy. That is true. In 1930 D formally adheres to the conspiracy, and from that point on he participates in and furthers the conspiracy. Clearly, declarations made by A with respect to post-1930 events in the furtherance of the conspiracy are admissible against D. That is true, is it not?

Mr. WHITNEY. No, your Honor, not if they are merely declarations.

The COURT. I say, declarations in furtherance of the conspiracy.

Mr. WHITNEY. That is the distinction.

604 The COURT. I am making that distinction. Declarations in furtherance of the conspiracy.

Mr. WHITNEY. Well, I agree.

The COURT. Now would you say under those circumstances that declarations by A in furtherance of the conspiracy, which at that time was a small partnership, become admissible against the larger partnership and the individual partners thereof when subsequently more partners are taken in? That is what I want to know.

Mr. WHITNEY. I am awfully sorry, I just missed a connection. If we take A, B and C as the other parties and D as the later——

The COURT. A, B and C are the conspirators from 1926 to 1930; in 1930 D is admitted as a member of the conspiracy. A has made a declaration in 1926 which is clearly admissible as against A, B and C. Let us assume that. Query: Does it become admissible as against D when he subsequently joins the conspiracy in 1930?

Mr. WHITNEY. I think the answer—that is this question——

The COURT. That is hitting the nail on the head.

Mr. WHITNEY. The answer to that depends upon whether the statement by A in 1926 was in furtherance of the conspiracy or was a mere declaration or statement otherwise than doing the work of the conspiracy.

605 Now the point is, if I may say so, your Honor, that the ground upon which you admitted this evidence this morning, as stated by your Honor very clearly,

was that you were admitting it as a declaration by one of the defendants expressive of his intent or state of mind and you did not admit it as part of the operation of the conspiracy itself.

Now if it were part of the operation of the conspiracy itself then, as read already by Mr. Locke, it would have relevance, even a certain materiality, only to the question whether in 1934 the parties then in the conspiracy—I will say then in the combination—were conspiring against the antitrust laws or were honorably interchanging licenses under patents, because the issue to which the material in that letter goes is the issue whether in 1934 there were genuine patents or there were not.

Now Mr. Dixon in his opening said that his theory was that he was going to show your Honor that there came a time, I think he said in 1936 or thereabouts, when the basic patents expired and that thereafter there was no patent basis for the agreement to which we were a party and that, therefore, it must be a restraint of trade intent. Now it is to that issue that this letter is directed; it is submitted to your Honor as evidence to support a proposed
606 finding of fact that in 1934 the basic patents expired.

Now the immateriality of it is that it is a mere guess as to that in 1926, but that is a different question. That is the reason I thought my materiality ground was sound. But then your Honor said: Yes, Mr. Whitney, in effect I would agree if that were so, but I am going to admit it on a different ground; I am going to admit it merely as a declaration of what was in the mind of Mr. Thompson and perhaps the addressee Mr. McCarty, therefore what was in the mind of National Lead Titanium Pigment, Inc., which is one of the co-conspirators, is expressive of their then purpose. And, therefore, I submit it falls within the class that this certainly cannot be admitted against du Pont no matter what is subsequently proven about du Pont.

The COURT. I am thinking out loud. Let us for a moment dismiss the long time element from the consideration. I do it for this reason, that whether a particular time length is sufficient in and of itself to make a thing too remote to be material depends of course on the texture of the problem you are dealing with. The projected invasion of the low countries by Hitler would make events in 1923 material, whereas some other activities two days later might be re-

garded as too remote to be material. Now here, if
607 the government is right, we are dealing with a projected scheme to embrace the earth within the control of a few people in the distribution of a specific commodity. Whether eight years is too long a period to project that kind of plan I certainly would not want to rule as a matter of law; I might have to respond to it as a matter of evidence in the evaluation of all the facts. But let us assume that instead of 1926 this is 1932, five days before du Pont makes it first move. The principle of law would then be more closely within the focus of our consideration, because if what you announce as the applicable rule is valid it ought to apply to that case as well as to this one.

Mr. WHITNEY. Oh, yes. The Circuit Court of Appeals applied it within the period of conspiracy. It said a mere declaration within the period was not admissible.

The COURT. All right. Now let us suppose that we get the following context: On Monday Mr. Thompson said to Mr. Cornish, purely a declaration of what is in his mind: These du Pont people are going to break up our monopoly because they have got tremendous scientific resources at their disposal, unlimited capital and I fear them, and since we can't break them we had better join them. Suppose that occurs, purely hypothetical two days before du
608 Pont has even reflected on the problem of titanium. The evidence shows that two days later an officer of du Pont is in conference with an officer of National Lead—now, you realize that I am now dramatizing without relating to any of the events proved—and that a month later an agreement is entered into between National Lead and du Pont which, as I have already indicated, might be construed as purely patent exploitation or might be construed as monopolistic in character, depending on what you find the intention of the parties to be.

Now I would like you to answer me specifically and I will hear argument on that because I think that gets into the heart of the question. It thus appearing that du Pont has joined the enterprise, are the conversations or the declarations of Mr. Cornish two days before du Pont was invited to join this group admissible as against du Pont on the question of whether the arrangement between National and du Pont is violating the law?

Mr. WHITNEY. Your Honor, I go further. I understand the law to be that Mr. Cornish's declarations after du Pont is connected to something, although admissible as evidence of the criminal intent of Mr. Cornish, are inadmis-

sible as evidence of the criminal intent of du Pont.

609 Now suppose a small bank engaged in counterfeiting, passing out counterfeit bills, and a customer comes in regularly, the FBI, thinking that they are working together, arrests them, they are indicted. Assume their course of conduct began on the 1st of January. The Government calls the president of the bank who has become a Government witness and he testifies and identifies a letter that he wrote on the 2nd of January to the cashier saying, "It's wonderful that we have sucked defendant B into this scheme of ours because his passing out these dollars for us is really wonderful." And of course if we——

The COURT. It is inadmissible.

Mr. WHITNEY. Yes. Inadmissible against B.

The COURT. But supposing he says, "Let us suck B into it because he would be a wonderful outlet." That is a declaration in furtherance of the conspiracy.

Mr. WHITNEY. It is equally inadmissible because——

The COURT. Is it equally admissible?

Mr. WHITNEY. That is a declaration in furtherance of what at the moment it was made was only a plan or intention of the bank to which the outsider was not a party.

The COURT. That is true. My example, therefore, was bad for that reason.

610 Mr. WHITNEY. Well, it is like this case only this case isn't even that much. What your Honor has ruled is that here in advance of du Pont appearing on this scene at all a supposed conspirator has said—if Mr. Locke's view of the evidence is sustained—"I want to engage in a conspiracy." Now that is a mere statement that goes, as your Honor has ruled, to the issue of his intent, and as your Honor ruled, Mr. Dixon and his associates were vigorously nodding their heads and by that they were saying yes; and this whole case is going to the point that Mr. Locke said yesterday afternoon on the record it would go to, to the question whether there was an intent. And that is a point that must be proven in an antitrust case, whether criminal, equity or common law, because it is an ingredient of the substantive sections 1 and 2.

Now that evidence of intent goes only to the party that has stated it, it does not go against the other parties, assuming for the sake of argument either that they are subsequently to become or have already become co-conspirators. And I would submit therefore that if your

Honor were to admit this against du Pont you would have to have overruled me on the other ground and you would have to have said, I don't admit this as evidence of intent; I admit this as substantive material evidence
611 of the fact that in 1934 the major patents had expired. And, of course, I think your Honor ruled quite rightly that the prediction in 1926 is no evidence of that.

The COURT. I will hear a little more discussion on this.

Mr. DIXON. May it please the Court, this discussion I think will be very helpful because we are starting in now on the phase of the case where the Government will present numerous documents. We are not, however, in a court of law, this is a court of equity, so to that extent we are not bound by the rigid rules of evidence which are applicable in a case at law involving a jury, and that fundamental difference between the liberality in the application of rules of evidence in an equity case and those applicable to a criminal case have been recognized by the courts in numerous cases. So to that extent, I wish at the outset to take a different position from that taken by learned counsel for du Pont when he endeavors to urge upon this Court the same applications of the strict rules of evidence as would be applicable in a criminal suit involving an action for violation of the antitrust laws. Now we can give you ample authority for the position we are taking if your Honor desires it.
612 I come now to the general theory of the conspiracy case. This is a case of course in which the defendants are charged with having engaged in a combination to restrain trade and commerce in this commodity and also to create a monopoly. Those are the two specific grounds or charges for violations of Sections 1 and 2 of the Sherman Antitrust Act. Now, if we were going to adopt in a court of equity a strict rule of evidence, it is obvious that in a conspiracy case, as your Honor has previously indicated, it would be practically impossible for the Government to ever even make a prima facie case. Recognizing the practical view of the law, and that is what we are here concerned with—this is not the same kind of situation as existed 500 years ago when you were dealing with hardly even a street corner business; today we are in a practical world where we are dealing with worldwide business, and no one knows that better than the defendants in this proceeding. In other words, the scope of the evidence that must be presented

for the consideration of the Court in this type of case is very wide by reason of the very nature of the case itself, and we have to start somewhere in order that we may get somewhere. And the general accepted views, as I understand it, of the Courts in considering this type
613 of case is to allow the evidence in against the defendants, as your Honor has done, subject to connection and subject to a motion to strike. Now, that enables the Court to get for whatever value the Court may care to attach to it such evidence as the Government feels relates in some manner connected with the proof in this case to support the allegations of the complaint, all of the evidence the Government feels that the Court should have in order that it can make an intelligent and fair decision.

Now, if it should develop that after that has been done and the evidence is in subject to a motion to strike your Honor may well decide at that time on a motion to strike made by the defendant of such evidence as has been previously admitted by your Honor subject to connection and subject to a motion, whether or not any connection has been established, you would at that time be in a position to apply the laws of evidence of which your Honor is fully familiar and of which we have endeavored in trial memorandum No. 2 to give you some general principles. In other words, let me put it this way: Who is damaged and who is injured or who will be damaged or injured by that method of the presentation of evidence in this type of case?

Now, I fail to see any prejudicial action or results, because in the last analysis if your Honor feels that the Government has established a connection, then of
614 course it does become material under the well established rules of conspiracy law. If however, your Honor feels that the evidence as we will give it to you in its entirety does not establish that du Pont was in a conspiracy or does not establish even the existence of a conspiracy, then of course the motion should be granted and the Government's case dismissed.

The COURT. Let me address a question to you. I understand perfectly well that as a practical matter I have to read this letter, whether I have to read it for National Lead's benefit or I have to read it for du Pont's benefit. I understand all that. Also I am fully aware of the fact that no great prejudice results from the reception in evidence in the sense of a jury receiving it,

because a court has to be trusted to pass upon the admissibility of the evidence, and therefore ought to be trusted to reject it if on analysis it finds it is not probative of an issue. I understand that I can trust myself in reading this letter, exhibit 69, to say that this shows, assuming that it does, that Thompson thought that the patents were about to expire and that something ought to be done about it; it does not show that du Pont thought that the patent situation required buttressing by monopolistic practice. I understand all that. But that is not
615 the question, and perhaps I am a little bit ahead of it.

The question comes down to a very specific one, where it is a close question, and that is why I put the question as I did to Mr. Whitney. Assume you show conspiracy on the part of National Lead and Titan and so forth, assume that you show that du Pont joined the enterprise, then the question comes up: Did du Pont join it for the purpose of monopolizing and restraining trade or did it not? Then the question is, can I read Plaintiff's Exhibit 69 and on the basis of that draw an inference: Yes, du Pont did have intentions to monopolize?

In other words, can I make a finding on this hypothesis which I have given that du Pont intended to monopolize trade—let us assume for a moment that Plaintiff's Exhibit 69 shows such an intention on the part of the other conspirator—and footnote that finding as to du Pont by reference to Plaintiff's Exhibit 69? Now, that gets pretty close and that is where you have got to put your finger on admissibility. Is it probative, is it relevant and admissible as against du Pont? And I wanted to also get an answer to the more general question whether declarations of this character antedating the admission of a conspirator to a conspiracy are admissible as against that conspirator when he subsequently joins the conspiracy. I didn't know the answer to that question.
616 You indicated that you thought the decisions you refer to pass upon that, and I would like to reread them to see whether or not——

Mr. WHITNEY. That happened during the conspiracy. The citations were United States v. Goodman, 129 Fed. (2d) 1009, at 1013; and Van Ripper v. United States, 13 Fed. (2d), 961, at 967.

The COURT. Of course I don't want to find myself on a spur of this track considering the character of the declaration itself. In other words, that the declaration, re-

gardless of time, would be inadmissible because not a declaration in furtherance of the conspiracy. I am assuming that it is a declaration in furtherance of the small conspiracy, and, therefore, admissible as against the original conspirators. Does it become admissible against the new partners when and as they are admitted to partnership? That is a slightly different question.

Mr. WHITNEY. That is how the whole discussion arose. If you say that it is a declaration in furtherance of the conspiracy you then, in my understanding, reverse yourself upon your earlier ruling that you would not accept it on the issue as to whether or not in 1934 or at any time there was a conspiracy.

The COURT. I don't say it that way.

Mr. WHITNEY. I thought you were accepting it
617 as a declaration only——

The COURT. No. That is true. But suppose you have a conspiracy in which a conversation is reported that A, B and C are in session, and the evidence showed or there is a declaration that A said, "There is a bank to be looted at Fifth Avenue and 42nd, let's go and loot it." This being a conspiracy of bank looters. That would not be admissible to prove that there is a bank at Fifth Avenue and 42nd Street, but would be admissible as a declaration in furtherance of the conspiracy to go to loot a bank at Fifth Avenue and 42nd Street.

In the same way here; this does not prove the fact that in 1934 there were not perfectly new and valid patents or old patents, but in any event newly-discovered inventions patented which made the patent monopoly of the defendants invulnerable. It can only prove from the nature of the declaration that Thompson thought in 1936 that in 1934 the patent situation would be vulnerable. But even that declaration is a declaration in furtherance of the conspiracy in the sense that he said those words with the object of advancing the interest of the conspirators toward the task that they were setting themselves to do. And unless I am completely in error about that, my conception of a declaration in furtherance of a conspiracy
means just that. It does not necessarily exclude
618 all substantive evidence.

Mr. WHITNEY. Your Honor is aware that this does not say a word about what they ought to do after the patents have expired.

The COURT. I understand that.

Mr. WHITNEY. It says, Let us make the most money

we can while the patents are going, because after that is over we won't be able to do anything, which is a declaration of innocence, you see.

The COURT. That is quite true.

Mr. WHITNEY. It couldn't be thereafter in furtherance of the alleged conspiracy. It negatives it. The alleged conspiracy is that after the patent had gone the party set out to restrain trade, using as your Honor said patent instrumentalities. Now, this paper negatives that, because this paper said, We have got to work under the patents because that is all we can work under, so let us work fast. In that sense it is not in furtherance of the alleged conspiracy. There I do have Supreme Court cases, indeed one within the last two years, the Glasser case, 315 U. S. 60, at 74 and 75, making the distinction between the allegations of aiding the conspiracy and the allegation that is right against it. I will submit the citations later, three or four more, that are perhaps more illustrative of that.

619 Now, you see it is very interesting. When Mr. Dixon came to reply I tried to follow him very closely and I thought the whole was in one text and came down to a statement toward the end that he made. He said, We have now come to the stage of introducing documentary evidence; your Honor is sitting in equity and not at common law with a jury; therefore, it is your Honor's duty to sit absolutely silent, in effect, and receive everything that the Government thinks it ought to put in. That is a misconception of the relationship of the Court to the Department of Justice.

The COURT. I don't understand that the rules are any different for one or the other. I think the application as a sensible proposition is frequently different.

Mr. WHITNEY. Right.

The COURT. And I think you and I will both agree there are many things we do in an equity case that we would not follow with a jury. But that is not because the rule is any different, it is because the jury is different.

Mr. WHITNEY. Mr. Dixon's practical suggestion was that the way he reconciled the two thoughts your Honor has expressed, the rule of convenience in equity and the rules of evidence was that your Honor should admit everything without question that the Government is

620 introducing, because, he said in so many words, your Honor ought to receive all that the Government thinks it wants to put in in the way of documentary evidence, and then at the end of it he said your Honor

may entertain motions to strike. Of course, that suggestion as to procedure would mean that we would have these appalling briefs at the end of this case and your Honor would sit——

The COURT. Yes. Another reason why that can't function: if these letters were being received and we had a witness on the stand du Pont should be entitled to know now whether it should cross-examine with reference to these documents or not.

Mr. WHITNEY. That is right.

The COURT. If this evidence is not received against it it may remain mute. If it is received against it, why, it has to cross-examine or forever forego that right. And although we haven't the living witness on the stand, du Pont should know now as this evidence is received whether it is expected to offer evidence in rebuttal in contradiction of it or whether it should not. If it is not received against it it may remain mute. If it is received against it it has to marshal its facts and evidence in order to meet the issue as it is addressed to du Pont. So I do not
620a think we can quite do it the way Mr. Dixon suggested. But I confess that I am not entirely clear about the answer to one or two of the questions. I will have to examine the situation in the next day or so and perhaps deal with it more completely.

I think it is time to take a short recess.

(Short recess.)

621 Mr. WHITNEY. I would like to hand to your Honor a short memorandum containing the cases that I have cited just before the recess. I find I have not the case in which they said that the statement instead of being for the conspiracy was directly against it, but I will give you that citation, if I may, a little later on the record.

The COURT. Did you want to add any further remarks?

Mr. DIXON. I just wanted to ask your Honor's attention again to the fact that we have endeavored to cover, with such authorities as we could acquire to be helpful to the Court, under paragraph 4 of the trial memorandum, in number II, cases relating as closely as possible to the point that your Honor raised.

The COURT. I noticed that language that you had, "The acts and declarations of other conspirators before he entered are admissible against him," and of course your first citation threw me off, because 321 U. S. does not affirm 34 Fed. Supp. 267. I think that is error.

Mr. DIXON. We will check that, your Honor. It was affirmed.

The COURT. I confess that the first paragraph was the one I read, because I anticipated that this is
622 the question that was going to arise and I wanted to get some light on it. Do any of those cases clearly hold to this proposition—see if I can put it to you in nailed down form—that a declaration made in furtherance of the conspiracy, sufficiently so that it is admissible against conspirators A, B and C, which declaration is made at a time, or which letter was written at a time, before D was a member of the conspiracy, is admissible against D when he later joins the conspiracy?

Mr. DIXON. Yes, your Honor. I believe we can refer you specifically to the Buckner case in our circuit, and the language there that is referred to as the fourth case cited. I just want to read you briefly the language or a portion of it that I believe may help in answering your Honor's question:

"And when once a connection was shown between Conomino and the conspiracy, evidence of the earlier activity of Buckner and Gillespie"—those were the other defendants and co-conspirators—"during the spring and summer of 1937 tending to prove the origin and existence of the conspiracy was admissible against both Biacommos."

The COURT. Clearly. I do not find any problem there at all. In other words, I have no doubt that the
623 agreement of 1920, or the agreements of 1920, are admissible against du Pont, and I received them against du Pont because they joined the 1933 agreement. Do you get my point?

Mr. DIXON. Yes, your Honor. I have not any trouble about that score.

The COURT. You looked shocked, Mr. Whitney.

Mr. WHITNEY. I am sure you did that subject to connection. Du Pont made a 1933 agreement——

The COURT. Oh, of course, subject to connection. In this discussion I am assuming that it will be shown that du Pont joined the conspiracy. Otherwise we have not any problem. So I am assuming that du Pont joined the conspiracy, we will say, in 1932 or 1933. And I have no trouble on that score whatever. Of course you may then show, as against all the conspirators, the whole conspiracy from its origin. But the particular question that we were discussing this morning is on a slightly more refined prob-

lem. I think I will have to examine into it and may read those cases and see if I can get some more light on it.

Mr. WHITNEY. Your Honor, I am not going to mention the law, but just refer to the exhibit. Has your Honor the Exhibit 69?

The COURT. I haven't it before me.

624 Mr. WHITNEY. I will read two paragraphs that Mr. Locke read, a very large part of it, down to about the middle of the second page of the letter, and then following those two paragraphs which are critical to the colloquy we have been having, and to the objection that was submitted to your Honor:

"It is apparent, therefore, in a general way, that this Company's patent control of the situation is a matter of less than ten years, or less than twice the period since the National Lead Company purchased control of this Company.

"I believe that all of us, who have watched the rapidly developing use of Titanium pigments, are convinced that ultimately these pigments will be used in large tonnages.

"I believe also that there has been sufficient activity on the part of others in connection with the research and development of manufacturing processes to indicate that were it not for the strength of the patents of this Company and the Titan Company other Titanium pigments would have been manufactured and marketed on a much larger scale before this and certainly will be as soon as the patent protection expires.

"In view of the above it seems to me self-evident
625 that the policy of this Company should be to rapidly increase the production and use of Titanium pigments during the next eight or ten years, to enlarge our research development and to obtain control of the most available source of raw materials, so that the Company's position at the expiration of its patent protection would be as strong as we can make it.

"I do not feel that any of us can be entirely satisfied with what has been accomplished during the past eight or ten years, during which we have been working on the development of Titanium pigments."

The argument I am making is, that was a letter in furtherance with an object of Mr. Thompson, that he wished to make the object of his corporation; that they should, while protected by patents for the next eight or ten years at the maximum, both earn profits and gain a stronger position for National titanium pigments so that

when they would have to face open competition under the Sherman Act without patent protection under the Patent Law they would be in a position to do so. So I say that letter is a letter against the alleged conspiracy and not in furtherance of it. And I conceive that if that letter is in furtherance of it in 1926, if we do later get drawn into it, may be received in evidence against
626 us, that is not my point. My point is that this letter is not in furtherance of the alleged conspiracy. I think you will find that the words "furtherance of the conspiracy" do not necessarily mean in furtherance of law-breaking.

That is the issue between us then and I will try to get this other case that is closely on the point.

The COURT. I think that the language commonly used by the courts is not "in furtherance of the conspiracy" or when they do use it it is an abbreviation of the phrase "in furtherance of the object of the conspiracy," and of course the object of the conspiracy here was to make money, I assume.

Mr. WHITNEY. Your Honor, God help the progress of our country if the Government is going to ask the Judges of the District Court to sit while they introduce all the documents that they may happen to have found in our files with the object of making money.

The COURT. No. What I am driving at is not, of course, quite as fantastic an idea as that. I mean this: a letter constituting a declaration in furtherance of a conspiracy need not in and of itself, constitute a declaration of scheme and plan of how to violate the law. In other words, the declaration is admissible if it furthers the objects of
627 the conspiracy in its broadest sense. In other words, I can well see where Mr. Webster might introduce that letter to show that their intention was to engage in research and study and perfect their inventions in order to have a dominant position in the field and completely under the umbrella of the antitrust act and be protected from other monopolies, and so on.

On the other hand I can see where the Government wants to introduce that letter to show that the management of the company was apprehensive of the then existing patent situation, and then when subsequent events happened agreements are made and the Government wants to argue that that was done as the solution to the problem Mr. Thompson advanced rather than the solution that he suggested. Of

course that is argument on the evidence. But that does not determine admissibility.

Mr. WHITNEY. Your Honor, that is a most helpful point, if I may say so, and far more important in the way of looking at it. I take it that there is no distinction between what your Honor might have spoken of as the narrower and broader conspiracies. The point as I get it is this law—the reason it is so difficult is because it is so fundamental—has the characteristics, as Mr. Justice Hughes said, of a constitutional provision. This law simply says, and to enlighten Mr. Dixon he need not fear to go back five
628 hundred years; it goes back over three hundred years as Senator Hoar said on the floor of the Senate—this law says simply two things; you shall not unreasonably restrain interstate commerce. Now that is the whole law, provided that it is an agreement and combination or conspiracy between two or more, and it has been held it can be two men or two officers or two companies, so the Government can always prove that.

The COURT. No one yet has invented a way of doing business with one's self.

Mr. WHITNEY. Yes. And therefore what they set out to prove is that certain methods of doing interstate or foreign commerce, or certain acts in it, are unreasonable restraints of it. Now of course your Honor has to have the commerce before you pass upon it, and then you have to pass upon it. You see how utterly hopeless would be the position of any defendant in such a case if there were the jury that your Honor was surmising, if the rule were that anything that either party or any party wrote or spoke about with a view to reasonably encouraging any interstate commerce could be admitted as being in furtherance of the conspiracy. What the courts have said in the effort to give some protection to defendants in conspiracy cases is the only evidence that is admissible against D coming from conspirators A, B, or C, is the
629 evidence of A, B or C acting in furtherance of the objects of the conspiracy.

The COURT. You have transported my thought into another field.

Mr. WHITNEY. My thought is, I do not believe your Honor will conclude, after having a second look, as it were, that that means in furtherance of the legitimate objects—of legal objects. Because, as your Honor rightly analyzed your own remark, the ultimate object, the only valid object under the corporation law of the country, of the National

Lead Company is to make money, and that is the end of the rule. It just means about anything comes in in relation to titanium against us.

The COURT. No. I was not then thinking of it being brought into the field of additional conspirators. I was thinking of admissibility as against National Lead.

Now as against the additional conspirators, apart from the question of equity convenience, and not taking the time to do it during the trial, the rule of evidence is that the court looks at the document and says "Is this as a document in furtherance of the conspiracy that the Government is alleging, a conspiracy unreasonably to restrain interstate and foreign commerce, and if it is then it can come in against the other party.

630 Mr. WHITNEY. Then, as your Honor suggests, that means it is the kind of document that is most material evidence. It is a document of guilt. Of course either the Court in equity or a jury may conclude there are so many documents the other way that notwithstanding there is that document of guilt, it is outweighed by other documents of innocence. Or the Court may conclude, or the jury may conclude, that although there was guilt at some time, and that is our assumption, arguendo, position on the whole case of your Honor should find there has been guilt in the middle of 1930——

The COURT. There has been expiation?

Mr. WHITNEY. It ended long ago. And then that sequence follows. But the result is that this rule of admissibility against co-conspirator D of documents in furtherance of the conspiracy of A, B or C, is really I respectfully submit to your Honor, confined to documents in furtherance of the unlawful object. And I am glad to have that issue brought clearly out.

The COURT. I think I see your point, and I do not think I find myself far away from you. But let me ask one question of Mr. Locke or Mr. Dixon which might perhaps reveal something. Take Exhibit 69. I suppose one question we ought to ask of any exhibit is, what does it pur-

631 port to prove against du Pont? We are discussing du Pont now, there being no objection against National Lead or if there has been I overruled it long ago.

Mr. WEBSTER. There has been none, and when Mr. Locke gets through, I would like to say something about the letter.

The COURT. I will be glad to hear you. What does it prove against du Pont?

Mr. LOCKE. As of the present time nothing, because du Pont has not been established as a part of the conspiracy.

The COURT. All right. Next week what will it prove against du Pont?

Mr. LOCKE. It will prove this, that as early as 1926 there was a planned, definite——

The COURT. By A, B and C?

Mr. LOCKE. By A, B and C—plan to restrain trade, if the Court please.

The COURT. All right. Let us suppose that. What does that prove against du Pont?

Mr. LOCKE. When du Pont joins the conspiracy they accept the benefits of all acts that have been part of the development of the conspiracy prior to that time and become liable for all obligations that arise under it.

The COURT. On that point I have no trouble
632 whatever. But would you say this letter can establish the adherence of du Pont to the conspiracy?

Mr. LOCKE. No, but it establishes the acceptance by du Pont of the terms, conditions and developments of the conspiracy that had transpired up to the time they became parties.

The COURT. In other words, you offered this as you would the 1920 contract?

Mr. LOCKE. It has been a development of the 1920 contract, if the Court please.

The COURT. What I mean by that is, you want to offer this against du Pont, not in the sense that it establishes du Pont's participation.

Mr. LOCKE. That is right.

The COURT. Or adherence to the conspiracy or that it had support in 1926, but you want to establish the conspiracy between A, B and C and all you mean as against du Pont is that when, as and if it is independently established that du Pont joined the conspiracy of course then it becomes a full-fledged partner and from that time forward at least, it not retrospectively, it is charged with everything that has happened?

Mr. LOCKE. That is our position, your Honor.

The COURT. Well, maybe we are not so far afield. Maybe we are not in such complete disagree-
633 ment. Maybe the people at the table behind you do not disagree with you on that score.

Mr. WHITNEY. Oh, yes, we do.

The COURT. I think that Mr. Whitney will agree with you—I may be getting into trouble trying to speak for

him—but I think he will agree with you that if it is established that National and Titan Company and IG conspired to monopolize trade, and then it is independently established that some time thereafter du Pont came along and said "We are joining forces with you; we are going to hold down one section of this front," that then of course du Pont is equally guilty of conspiracy to restrain trade and it is a co-conspirator and is subject to the penalties and what nots of the antitrust law. I don't think you will differ with that proposition.

Mr. WHITNEY. I agree to that. The whole point is, I say this letter is just the opposite. This letter was "the position of our company will be as strong as we can make it."

The COURT. Let us suppose that letter says "We think we ought to take du Pont into it." Do you get my point?

Mr. WHITNEY. Yes, I agree.

The COURT. Of course this letter does not prove anything against du Pont in a certain sense, but I think you will agree, will you not, Mr. Whitney, that assuming the situation I postulated, that of course du Pont would then be a conspirator. And if the other conspirators had by that time, we will say, embraced certain countries, and then du Pont came in and filled in the open area, that of course du Pont could properly be charged with being a member of a conspiracy, world-wide in scope. I think that is clear. We are almost getting down to this point, that we might say as to this letter as against du Pont, it does not make any difference whether we receive it or not.

Mr. DIXON. That is right.

Mr. WHITNEY. It brings out a question in a very definite way. If your Honor were in a criminal court and had a jury——

The COURT. I think if I were in a criminal court and had a jury, I would exclude the document. In other words, I would feel I did not want the jury to get any impression that du Pont was in the picture at this time or this in any way indicated du Pont's frame of mind or du Pont's intentions, or anything as to what du Pont was doing in 1926, and of course this letter can only give its evidence as of 1926.

635 Mr. LOCKE. I want to correct a statement I made. I said we had not established that du Pont was a member of the conspiracy. What I meant was we

have not introduced all the proof which the Government proposes to introduce.

The COURT. I understand it. You feel, of course, you have introduced the agreement of 1933 and that you have established a prima facie connection with the enterprise regardless of whether you feel you have established a prima facie connection with the conspiracy illegally conceived.

Mr. LOCKE. That is right.

Mr. WHITNEY. Your Honor, that is the first time the Government said that, and I submit there is no such thing as distinction between the enterprise and conspiracy.

The COURT. He means he has done business with you.

Mr. WHITNEY. Well, your Honor, I mean your Honor jostles with your arms in the subway with a murder frequently. I do business with thieves, robbers, rogues of every description every day in my life, and I never know it, and I am frequently constrained to do business with criminals even if I do know it. Suppose I know when I go to the subway window that the man in there is
636 guilty of unlawful conduct and I put my quarter in and get five nickels? I am so glad Mr. Locke has come forward, and it is the first time the Government has come forward, except in the concluding paragraph of Mr. Dixon's memorandum, and said that the agreement itself brings du Pont into this. Because the very point is that the bigger the conspiracy the more justification for the individual party that has individual transactions with members. The alleged conspiracy is that they got together in this worldwide power. Now we could not compete in the United States with this worldwide power without making a patent agreement with them, and the result is that they—your Honor has put your finger on the whole heart and soul of this case when it comes to du Pont; it is as if the conspiracy were a great circle and it is true we have a contact; we cut into the circle at a point, but the point is that we cut across it. We do not join it, and that is the point; that what my friends say here is just the same as their associates have said before in other places—have convinced me that they have not understood yet, and I think your Honor is going to understand, and I think that the higher court is going to understand it after your Honor does, and then the public is going to understand it, and that there is all the difference in the
637 world upon the facts between making a contract at arm's length with a conspirator or joining his conspiracy.

The COURT. That is right.

Mr. WHITNEY. And the only way we will establish that is through this trial and through it being found—and I am glad that Mr. Locke sticks to his view that he has already got us, as it were, because my submission is he has not possibly, and I think there will be some bits of atmospheric whisps and straws that are going to give us the necessity of explaining and arguing a bit here and there through this case; in other words, you do not deal with people that are engaged in a worldwide scheme especially as insiders and many of these people have said things about you that you have to defend and explain, and that is where we are going to get to, and that is our problem, and that is the reason it has been worth while to pause so long over Exhibit 69 as a characteristic problem, and that is an extreme case of what the other people are saying among themselves. Later on we will have others.

Mr. WEBSTER. Your Honor, I have listened to this discussion with great interest and respect, and I now, if I may, would like to say something about the letter itself.

The COURT. Exhibit 69?

638 Mr. WEBSTER. Exhibit 69.

The COURT. All right, I will let you do that. He wanted to comment on 69 and 70 bracketed.

Mr. WEBSTER. I would rather comment on 69, because that is the letter on which the discussion occurred. I say we must bear in mind what the situation was and who the people were we are talking about before we begin to attach weight or not and attach weight to this particular document.

In the first place this was 1926. Business, while not perhaps in the creeping stage was in the crawling around stage. It was in its infancy. And this man Thompson, who has been referred to by Mr. Locke as a scientist or research man, we contend that he was not that at all; he was a business man connected with the old Titanium Alloy Manufacturing Company associated with Mr. Meredith who had the original patents at Niagara Falls, and who formed the Titanium Pigment Company. He was one of Mr. Meredith's men.

Now by 1926 the Lead Company, on the basis of the contract that had been made in 1920, had made a further investment in the Titanium Pigment Company, but was not at that time, and for some time after that, the owner of the Titanium Pigment Company, so that this was a case

of a man connected with the Titanium Pigment
639 Company putting pressure on Mr. McCarty, who is addressed here as a vice-president of the Titanium Pigment Company—I think for the purpose of making him feel that he is a member of the Titanium Pigment Company family whether that is so or not, but he was not really, he was the executive vice-president of the National Lead Company. He is trying to warm him up over what they have been doing at Niagara Falls and about which he thinks they are very cold down at 111 Broadway.

Another thing about Mr. Thompson that has to be borne in mind is that Mr. Thompson was a mining man, and when he talks about getting hold of raw materials he is talking about his own interest in the McIntyre project up in the Adirondacks which drifted around for years trying to find a father and mother but had to wait until this war came and made it the essential and vital source of supply of ilmenite. So if Mr. Locke has in mind these references to raw materials as having some connection with that Brazilian supply we were talking about yesterday, or that Mr. Lobstein was talking about in his letter to Mr. McCarty or about the Travancore deposits referred to in the case of these shares of Hopkins and whatever their name was, that is an entirely different subject. Here is a man writing from Niagara Falls in 1926 about somethi[ng] utterly different.

640 Another thing about the letter is that Mr. Thompson is referring primarily to the patents which he knew about, namely the Barton-Rossi patents at Niagara Falls. And it is true that certain of those patents would expire and did expire about 1934 or 1935 or 1936. But there was an enormous amount of work going on in connection with the Jebsen patents, and even with reference to the Barton patents, which made that whole group of patents so desirable that our friends in the du Pont Company were glad in 1933 to come to us and say, "We want to have the use of your patents." Now they did not want patents for one year that were expiring in 1934. Presumably they thought, and the record will show conclusively, that they decided that we had patent rights in 1933 looking to the future, as well as know-how, which we could contribute to them. They said: "We think we want to join" what your Honor has rather aptly described as "the enterprise." I don't think it can be said for a moment that Mr. Thompson was writing, and this record will refute any implication that can be drawn from what he

said, that these people were all washed up so far as patents were concerned in 1934 and 1936.

Now there are some rather interesting things in this letter that have not been called to your Honor's attention, apart from the ones that I had intended to
641 mention, but which Mr. Whitney mentioned, about improving the position of our company, meaning the Titanium Pigment Company, which Mr. Thompson was hoping Mr. McCarty would take a somewhat greater interest in than he had at that time.

Over here on the fourth page of the original exhibit, as distinguished from the printed exhibit, there is some very interesting discussion which Mr. Thompson is bringing to the attention of Mr. McCarty for the first time: things Mr. McCarty apparently did not fully apprehend about the value of his investment. He says:

"Of course there are a great many factors which determine the value of a pigment for use in paints, enamels and so forth, but assuming that a certain pigment has proven available for either exterior or interior exposure the degree of opacity would have a considerable or possibly controlling bearing on the value of a pigment to the trade. The best measure for testing comparative opacity except actually spreading tests is the tinting strength method, i.e., mixing the required amount of black with a definite amount of the pigment being tested and comparison with standard."

Then he goes on and gives a comparative table
642 of the tinting strength of Titanox, C-pigment, titanic oxide as compared with white lead, zinc oxide and lithopone and instructing Mr. McCarty for the first time, and then he goes on to say:

"To sell same unit value as lithopone, on this basis, Titanox would have to sell at $3.5 \times 2.083 = 7.2905¢$ per lb., whereas C-pigment at 8¢ per pound is cheaper than lithopone at 5¢ per lb.

"One other point in connection with the development in the use of Titanox in paint formulae that does not seem to have been given sufficient consideration is the fact that combinations of white lead and Titanox, either with or without small percentages of zinc oxide, have proved exceptionally durable."

He is trying to relate this business to Mr. McCarty's white lead business so that Mr. McCarty will begin to pay attention to him.

And then he refers to some report Mr. Barton had made

and that Mr. Edgerly had made about these combinations, and winds up with this paragraph which I do ask your Honor to let me read again:

"While I appreciate my lack of experience in this
643 field in which that of others in our organization has been so great"—in other words deferring to Mr. McCarty—"I cannot escape from the conviction that failure to develop the market for titanium pigments to the fullest extent, during the patent protection period, by maintaining high prices and low production, is a policy which will be regretted at a not distant date."

Now he is not saying that that is his policy. He is not saying that is the policy which will be regretted, but, I should like to state to your Honor now, that this record will show fully that this is precisely the policy that was adopted. I am not talking about the patents, but the policy was to sell as much Titanox as possible at reasonably low prices.

The COURT. All right.

Mr. LOCKE. May I proceed now, if the Court please? I have offered the next succeeding exhibit, Exhibit 70.

The COURT. The same objection to that?

Mr. WHITNEY. I take it I do not need to repeat mine, your Honor.

The COURT. No. I will receive it in evidence.

(Marked Plaintiff's Exhibit 70.)

Mr. LOCKE. With the Court's permission I am going to read part of this. I am starting reading from
644 the first page of this exhibit written by Mr. Cornish, the president of National Lead, to Mr. McCarty, the vice-president, and, as Mr. Webster says, the executive vice-president:

"Dear Mr. McCarty:

"To correct any erroneous impressions I have and to suggest matters for further discussion, kindly permit the following:

"1. The Titanium patents expire in 1936 unless extended in ways not at present known to us.

"2. Dr. Jebsen's proposal would leave us free to adopt and pursue whatever policy we may desire.

"3. Probably the patent rights would fail unless manufacturing is done in Germany, England and possibly other countries.

"4. Arrangements can be made for the manufacture of Titanium pigments by one of two companies now existing

in Germany; one of which being the chemical corporation (probably the most important in the world),"—
and that, if the Court please, is obviously IG——
"one of whose products now being manufactured is lithopone. The other is a smaller corporation near Berlin."
645 That I think the Court will discover refers to Sachtleben.

"5. Arrangements with either of these companies would contemplate payment of royalties.

"6. Nothing definite is at present in contemplation to manufacture or market, either in England or other parts of Continental Europe; although efforts have been made to sell and familiarize the public with Titanium pigments.

"7. The Norwegian company has been losing money.

"8. It probably will continue to lose money until it reaches a point where it breaks even, and thereafter increasing sales will result in rapidly increasing profits.

"9. On a conservative analysis of the business and prospects, you estimate that, should we buy these properties, there would be no profits above cost of promotion for the first two years. That for the first five years we could reasonably expect a return of 6% on our investment. That for the following four years we could reasonably expect 20% to 25% on our investment; so that we would get our money back by the time the patent rights expired, and would have as our profit whatever prestige or good-will or other properties the Norwegian
646 company might possess at that time.

"10. You called attention to the fact that, if the Norwegian company or its successor enters into license arrangements for the payment of royalty during the life of the patents, at the expiration thereof the company manufacturing the goods would have the plant, the experience and the working force, and could easily recover the trade of all the concerns that had theretofore been selling the goods to the consuming public.

"If in the foregoing I have correctly reproduced your statements, it seems to me that there could be but one answer to Dr. Jebsen's proposition. I would be sorry, however, to dismiss it in this way. I believe in the future of Titanium pigments, but their development will be slow. The inertia of ignorance and prejudice cannot be overcome except over a term of years. European brands of white lead were imported into the United States for fifty years after prohibitive duty had been placed upon them. Ti-

tanium pigments will probably not find their ultimate place in this world for two or three generations. With all our advantages—by means of which we have caused between three and four hundred different concerns
647 to experiment with Titanox—we still find a fear and misgiving that has apparently stopped further increase in sales until the test of time and reaction of consumers justify a further aggressive sales policy.

"Therefore, with us in the United States and with the Norwegian company, there is a common need to exploit Titanium pigments and, at the same time, protect ourselves; so that after the expiration of patent rights, we may have the manufacture and sale thereof under our control so as to continue to reap the harvest from the seed we are now sowing. If you, therefore, could formulate a plan satisfactory to Dr. Jebsen, whereby we could arrange to pay a royalty to the Norwegian company similar to that he proposed to ask from the German company, under an agreement that the National Lead Company would endeavor to organize companies in Germany, England and such other European countries as it desired —in each of which companies the National Lead Company should acquire and own at least one-half of the capital stock outstanding—I would personally look with favor upon such an arrangement.

"I would be willing to buy the physical assets, including the mine of the Norwegian company; so that the only thing remaining in that company would be
648 its right to draw royalties until the termination of its patent rights.

"In the formation of companies in Germany, England and elsewhere, I would be glad to have the present stockholders in the Norwegian company join us to the extent they desire, subject to the limitation that the National Lead Company should own one-half the stock in such companies, and that there should be a local ownership by residents of the country where such plants are located who would have the active management of the company.

"I would also desire that arrangements should be made with Dr. Jebsen to retain his interest and continue as manager of whatever business the National Lead Company should acquire. This last is particularly urgent, as we have no one in mind to promote the work that we consider Dr. Jebsen, both by education and character, is especially fitted to do."

Mr. WEBSTER. Are you offering the notes on the bottom of that?

Mr. LOCKE. Again we do not mean that any of the notes shall be part of the exhibit.

The COURT. Strike it out. Is there any other comment?

Mr. WEBSTER. No comment.

649 The Court: You may proceed.

MR. WEBSTER. I assume it would be appropriate now, Mr. Locke having introduced these two exhibits, 69 and 70, to make the motion that your Honor suggested might be entertained this morning to strike out Exhibits 52 to 64 inclusive, and 66 to 68 inclusive. We do not move to strike out Exhibit 65, which was a letter from Mr. McCarty to Mr. Cornish, to which we took no objection. I don't think there is any point in going over all the grounds mentioned yesterday.

The COURT. I have reflected upon the matter. I have not read the mail over. If it were not going to take so much time I think I would more seriously consider it, but I think we will lose more time by a motion to strike and arguing about it and then probably reversing it at a later date so that I have decided to let it alone. By that I do not mean I have made my suggestion cavalierly but I think the purpose has been accomplished in indicating we are going to scrutinize this material and receive only such documents that I think seem to be of some degree of pertinence. Some of the material in the exhibits you have mentioned suffer not so much from any test of admissibility as they suffer from plain lack of content and it is just a plain burdensome thing to read it and the reason I do not want to more seriously entertain your

649a motion is I would have to sit down and reread these letters at another time. That I really want to avoid.

650 MR. WEBSTER. What I am afraid of, if your Honor does not act on this motion either now or at some convenient time, they will take a statement like Mr. Thompson's statement with reference to control of raw materials and say "Aha, he is talking about that Travancore, that stock of the company that had some Travancore ilmenite, or he is talking about that Brazilian ilmenite." I am not afraid of your Honor being misled by that in any way, but having had some experience with these cases before, I should be shocked, perhaps, but not astounded to find references in briefs at some time in the future of just that character, of trying to tie things together that have no

real materiality and make it difficult for us to brief the case.

The COURT. All right. I will reread them and act on your motion. I do not want to take the time to do so now. You may proceed.

Mr. LOCKE. The Government wishes to offer next, if the Court please, a photostatic copy of minutes of the regular meeting of the board of directors of National Lead Company, held November 17, 1927, and I might explain that we are skipping one exhibit as they are set up in the printed copy. We are not going to offer that.

Mr. WEBSTER. No objection.

(Plaintiff's Exhibit 71 received in evidence.)

The COURT. Is there any comment?

651 Mr. LOCKE. I wish to call the Court's attention only to the resolution that is the last paragraph on the first page and it continues on the second page.

The COURT. Beginning with "Resolved"?

Mr. LOCKE. That is right, if the Court please.

The COURT. Well, will you tell me in one sentence what these minutes accomplish?

Mr. LOCKE. It merely is a consummation of the purchase of SIT, approved by the board.

Mr. WEBSTER. I think you are mistaken. It does not have to do with that. Doesn't this have to do with Titan A/S?

Mr. LOCKE. Also we are offering it now more to show that the board approved the purchase of SIT. We will refer to it again when we get to the development of the other picture.

The COURT. Is there any comment, Mr. Webster?

Mr. WEBSTER. No comment, your Honor.

The COURT. Mr. Whitney?

Mr. WHITNEY. No, your Honor.

Mr. WEBSTER. The only comment I make is it is hitting a tack with a sledgehammer.

The COURT. I understand.

Mr. LOCKE. That ends, if the Court please, our development of the purchase of SIT. There is an allega-

652 tion in the complaint that National Lead Company purchased a controlling interest in the stock of TAS. The documents are here and we will offer them now, having to do with the development of that purchase.

The COURT. Do they show more than the purchase itself?

Mr. LOCKE. Well, they show facts that lead up to the purchase and the peculiar circumstances attending the purchase.

The COURT. All right.

Mr. LOCKE. We wish to offer first, if the Court please, a letter from Jebsen to McCarty, dated October 2, 1926.

(Government's Exhibit 72 received in evidence.)

The COURT. Is there any comment, Mr. Locke?

Mr. WEBSTER. No objection by us.

The COURT. A continuing one by Mr. Whitney.

Mr. WHITNEY. Yes.

Mr. WEBSTER. If Mr. Locke is not going to comment about it, I would like to say a word briefly about it. It is rather interesting as bearing on what I endeavored to outline yesterday on the basis of the agreements which now finds support in this exhibit; that Dr. Jebsen's company was having these financial difficulties and that the
653 business had been interfered with and that there had been a financial reconstruction of the company, and so forth, and then he comes down here:

"My investigations this summer as well as my pending negotiations with the Interessengemeinshaft have shown clearly that titaniumwhite can be more advantageously made outside of Norway than here.

"During the negotiations with I.G. the aboyementioned largest shareholder and creditor has been approached by an intermediary here in Norway with the purpose of a purchase of their interest in the Titan Company."

In other words, a purchase by the I.G.

"The approach is such that a disposal of the interests is considered.

"When I was informed of this I thought it only fair to let you know and give the National Lead Company or Titanium Pigment Co. the first opportunity, and as I have received the mandate to sell their interest, I write you herewith to ask if the matter is of interest to your companies."

In other words, Dr. Jebsen was notifying the Lead Company that the I.G. was concerned with purchasing the Titan A/S. Now I submit to your Honor that had that been done then we would have had a real cartel.

Mr. LOCKE. We wish to offer next, photostatic
654 copy with confirmation by a telegram from McCarty to Jebsen, dated October 23, 1926.

May I explain to the Court that these exhibits will now run in the succession that appear in the printed document unless I make some comment to the contrary.

Mr. WEBSTER. No objection.

Mr. LOCKE. No comment on this except it is further evi-

dence of the development of that purchase, if the Court please.

The COURT. No objection has been taken, but would you mind telling me, and this is the last time I am going to put the question, supposing it does show further developments of the sale. We know the sale took place. This letter does not show anything about motive or intent or scheme. Why do you want this telegram in evidence? I am just consumed with curiosity as to why you think you want it in.

Mr. LOCKE. Our only thought was to have the elements that went to make up the whole picture, if the Court please. If they have no particular significance perhaps it would have been better to leave it out and we are studying these exhibits more carefully so we can delete those which do not add something of considerable strength to the picture.

655 The COURT. What you might do as you move along, when you find one of these telegrams likely to prove valueless, but may subsequently prove valuable, mark it for identification, and if you find before the case is over you want to go back to one of them because it fills a gap or constitutes a color or constitutes a footnote or anything of that character, offer it then. It is a short telegram. I don't mind it. I have read it.

Mr. WEBSTER. I don't mind it either. We rather like it.

Mr. LOCKE. As I say, we are scrutinizing all these exhibits with the idea of withdrawing from the prepared development something that does not add something to the picture.

(Plaintiff's Exhibit 73 received in evidence.)

Mr. LOCKE. We wish to offer next, photostatic copy of a letter purportedly from Mr. McCarty to Jebsen, dated October 25, 1926.

Mr. WEBSTER. No objection.

Mr. WHITNEY. Mr. McCarty says they "might be interested"?

Mr. LOCKE. Yes.

The COURT. If there is no objection it will be received.

656 Mr. WHITNEY. I was wondering, your Honor, if instead of having a wasteful afternoon, we might not adjourn and let Mr. Locke come back in the morning after he has had his opportunity to go through these documents and cut them down to relevant material. He could go to work at them by two o'clock and probably be done by morning; just a practical suggestion.

Mr. LOCKE. What we start on this afternoon will be pretty well cleaned out.

The COURT. All right.

(Plaintiff's Exhibit 74 received in evidence).

Mr. LOCKE. We wish to offer next, if the Court please, photostatic copy of a letter purportedly from McCarty to Cornish, dated January 13, 1927.

Mr. WEBSTER. No objection.

The COURT. Is there any comment on it? There being no objection, it will be received.

(Plaintiff's Exhibit 75 received in evidence.)

The COURT. We will suspend at this time until two-fifteen.

(Recess until 2:15 p.m.)

657 AFTERNOON SESSION

The COURT. Have you concluded with Mr. McCarty's letter of the 13th of January?

Mr. LOCKE. Yes, your Honor.

The COURT. All right, proceed.

Mr. LOCKE. We want to eliminate the next 12 documents that have been printed up. The next one that we will offer will be dated May 10, 1928. This is a letter from Jebsen to McCarty dated May 10, 1928, and I wish to offer it at this time, if the Court please.

Mr. WEBSTER. Your Honor, I hadn't intended to object to any of Dr. Jebsen's letters, but I do object to this one on the ground of materiality, simply because it contains a lot of speculations about a company called Anglo-American Corporation which does not feature in this case in any way that I can tell; and remarks about Montecatini and ruminating about possibilities that are not alleged to have ever eventuated.

The COURT. A good deal of it is irrelevant. Which part do you want to call my attention to?

Mr. LOCKE. If the Court please, we allege in the complaint that National Lead and the co-conspirators used TAS and subsequently Tinc to organize new companies.

658 We also allege in Paragraph 52 of the complaint that negotiations were commenced sometime prior to 1913 with the different Blumenfeld companies. This letter is a review of the facts that existed that prompted the various actions that were taken by the conspirators subsequent to this. It casts light on almost every phase of the situation. For instance, in the next to the last paragraph of the letter Mr. Jebsen says, "There

is also the question of making use of our patents to prevent imports." There is sentence after sentence in this letter that goes to the heart of the conspiracy and we think the whole letter should be studied carefully by the Court.

Mr. WEBSTER. I submit that speculations by Dr. Jebsen on what might be done under German patent laws with reference to import into Germany do not seem to have much connection with the case.

The COURT. I will take it.

(Marked Plaintiff's Exhibit 76.)

Mr. WHITNEY. I have two or three comments to make. On the first page of this there is reference to du Pont & Company, but I am sure your Honor will have observed that it is an immaterial reference.

The COURT. I rather thought you would want to call it to my attention.

Mr. WHITNEY. Yes. "I wonder why the du Pont Company, which is so closely connected with the ICI"—
659 as I told your Honor, we were in the explosive field—"has not taken a part in the company."—whatever it is.

On the next page, next to the bottom paragraph, "Montecatini"—which of course was the big Italian company—and I don't know whether it was explained to your Honor the other day that Montecatini is the name of a very great Italian chemical company, and the Societa Anonima Titan, that is apparently a subsidiary or part or branch that related to titanium—"Montecatini seems to be the most interesting because of the importance of the company and its sulfuric acid position, and it is also to be presumed that the policy of Mussolini will be in their favor."

That is the sort of thing that caused business men as early as 1928 to realize that they were not going to be very welcome trying to develop American export trade into Montecatini's territory in Italy where Mussolini would take care of you in his way.

In the next paragraph, "A fight on the basis of our patents cannot very well be started in Germany before we manufacture there." Your Honor will quickly grasp the significance of that. Unless an American manufacturer is in a position to manufacture in Germany, it is the opinion
of this very experienced Dr. Jebsen, it is not a very
660 good idea for him to start a patent litigation there. And that is very important in its bearing upon the

du Pont applications in Germany as they turn up later in the case.

Then in the next to the last paragraph, "There is also the question of making use of our patents to prevent imports, but this a more complicated procedure, as a lawsuit will be conducted in a country"—let us suppose that is Germany—"where the infringers do not produce"—the infringers would be producing in the United States and selling in Germany and that would be foreign trade and commerce; "and the proof being on the basis of a manufacturing process will mostly need evidence taken in another country." That would be in the United States. The great significance of that is this, that under the laws of almost all civilized countries other than our own a patent on a process gives one a right to prevent the shipment of a product that was made by that process or by any infringing process. It is precisely the opposite of our law, because the Supreme Court used to apply roughly the same law here, as your Honor knows, and then Henry v. Dick Company in 1912 was overruled, and the Motion Picture Patents case in 1915, and ever since that we have had the chain of authority that has culminated in the Mercoid and Morton Salt cases. That process
661 patent gives the patentee in this country only the right in respect of his process and not on the product thereof. But in almost all other civilized countries precisely the opposite rule applies. And that means that if du Pont produces in America and ships into Germany a product made by a process which the IG in its own country can say is an IG patented process, then du Pont's product is an infringing product in Germany and very severe consequences apply. The last point is of critical importance when it comes to the du Pont agreements in 1937 to 1941 and the whole reason why du Pont did not as a practical matter on account of political and legal difficulties ever ship into Europe. And then he illustrates it:

"I looked into this matter in Denmark last year, and understood that any evidence we wanted from Germany for a lawsuit in Denmark necessitates the aid of the diplomatic representatives."

Obviously he was there thinking of a suit in Denmark against a product manufactured by the IG in Germany and shipped into Denmark. So that this letter, which is new to us, and we haven't seen before, is of interest for the very fundamentals of the case.

The COURT. All right.

Mr. WEBSTER. There is one other thing, inasmuch as we have gone into this letter in some detail, that I
662 think is of some importance and that is, reference was made in the last paragraph to a conference somewhere in Europe of zinc manufacturers and indicates very clearly what a concern engaged in business in Europe was up against. Obviously titanium pigments had to be sold in Europe with some reference to the price of zinc and lithopone and competing products, and therefore had to take into account things that were being done by European zinc manufacturers.

Mr. LOCKE. We skip the next three in order in the printed record. The next document we purpose to offer is dated December 23, 1926; three documents we skip.

The COURT. Four pages. December 23rd, on the letterhead of Titan Company.

Mr. LOCKE. That is right, your Honor.

The COURT. You just skip one document.

Mr. WEBSTER. No objection.

Mr. LOCKE: This is a letter from Jebsen to Titanium Pigment Company, Inc., dated December 23, 1926. We wish in offering this to call the Court's attention to the first three paragraphs on page 1 of the document that is offered and to the next to the last paragraph of that letter. We are offering the whole document, merely calling the Court's attention to those particular paragraphs.

662a Mr. WEBSTER. Is there something attached to that letter?

Mr. LOCKE. We are not offering that.

663 Mr. WEBSTER. Your Honor, in the second paragraph of the letter there is reference to the negotiations with the IG and the Titan Company regarding a license. Your Honor recalls from the fact that this letter was written in December, 1926, that this matter of the relations between IG and Titan Company, Inc., first originated in the form of a request from the IG for a license and there was some negotiation about it. What Dr. Jebsen is saying, in pointing out that the IG, being a limited company formed by a fusion of the important German dye manufacturing concerns, is that its activities are manifold and that therefore some revision of the definition of the Licensed Field, as used, say, in the 1920 agreement would be appropriate, because of course

the IG has interests outside its titanium pigment business and it is being careful in these negotiations which never culminated in a license, or at least were superseded by the contract, that the IG is saving itself from throwing all of its patents and know-how into this particular field.

The COURT. Any comment, Mr. Whitney?

Mr. WHITNEY. No, your Honor.

(Government's Exhibit 77 received in evidence.)

Mr. LOCKE. I now wish to offer photostatic copy of a letter signed by Jebsen, addressed to Evans McCarty, dated March 3, 1927.

664 The COURT. Is there any objection to this letter?

Mr. WEBSTER. Except I don't think it advances us very far.

The COURT. Probably not. Plaintiff's Exhibit 78 is received in evidence.

(Plaintiff's Exhibit 78 received in evidence.)

The COURT. Any comment, Mr. Locke?

Mr. LOCKE. Except this, that again it gives a general picture of the situation that existed, the facts that impelled these people toward the ultimate end they achieved, that is, the combination in restraint of trade. It is interesting to note particularly the paragraph where Mr. Jebsen, without challenging it, quotes the understanding with Mr. Warburg, coming to the conclusion——

Mr. WEBSTER. Where is that?

Mr. LOCKE. It is the second paragraph on page 3 of the exhibit that is printed. It is about halfway through the letter. It starts "I understand that Mr. Warburg, coming to this conclusion, considered it a great advantage that we then will have no competition with JG in the other countries, but that JG's interest with us would rather be an important advantage in these countries."

That I think points to the things that were important in the considerations and reflections of the
665 conspiracy when they made their deal which ultimately resulted in TG. That is the purpose in offering it.

Mr. WEBSTER. The comment by Mr. Max Warburg.

The COURT. I understand.

Mr. WHITNEY. Of course that only carries to my mind, your Honor, the setup that we would have had to face if we had been so foolhardy as to go into business in Germany or these countries. That is the great truth about the '30's you are reading there.

Mr. WEBSTER. Of course you understand, your Honor—

I hate to mention things that I think ought to be clear to Mr. Locke, but perhaps are not—that Mr. Warburg is talking about Germany and Central Europe.

The COURT. Well, of course I can't tell. "In other countries——"

Mr. WHITNEY. Look two pages before. He says, Mr. Warburg had quite an open eye for the imperialistic tendency of IG.

The COURT. Yes.

Mr. WHITNEY. Something about Southern and Eastern. I am just as lost as your Honor is, but reading it through——

The COURT. It might be, but I can't come to that conclusion at this quick glance.

Mr. WHITNEY. Yes. Just this next sentence—

666 neighboring countries to the east and southeast, east and southeast of Germany. And this was in 1927, when things were supposed to be very peaceful.

The COURT. All right.

Mr. LOCKE. I wish to offer next photostatic copy of a letter which purports to have been written by Mr. Jebsen to McCarty, dated March 12, 1927.

Mr. WEBSTER. I have no objection to the letter.

The COURT. Any comment? Plaintiff's Exhibit 79 received in evidence.

(Plaintiff's Exhibit 79 received in evidence.)

The COURT. Mr. Locke, any comment?

Mr. LOCKE. No.

Mr. WHITNEY. I would like to ask Mr. Locke to tell me what construction he puts upon the two references to du Pont. I have to put it that way because there is no witness to ask that question, and I think it is quite ambiguous here.

Mr. LOCKE. Where is the reference?

Mr. WHITNEY. It is on page 2 in the fifth and eighth paragraphs.

The COURT. The first reference I see to it is manifestly just hypothetical and illustrative.

Mr. LOCKE. There is no intention or any suggestion that the mention of du Pont's name in this letter

667 in any way implicates them in the conspiracy.

The COURT. All right, we have that statement. Mr. Webster, have you any comment?

Mr. WEBSTER. I do wish Mr. Locke would give us some indication of what it is in this letter that he attaches some

importance to, because it might give us some idea as to whether we should take further time to comment.

Mr. LOCKE. I only make the general statement that it is a picture, if the Court please, of the situation that existed at that place at that time which prompted and resulted in the making of these various contracts that we charge are conspiracy.

Mr. WEBSTER. There is a paragraph here that I might mention, just to show the sort of problem Dr. Jebsen was up against and trying to guard against. He says on the third page of the printed copy:

"If IG should find an ideal medium to replace linseed oil for paint purposes in general and which also solves for instance our problem of chalking—shall the IG then be bound to give it to us or can IG exploit it for themselves provided they do not act in such way that we are prevented from marketing our titanium white to the producers of paints made with such a new product?"

668 In othe words, Jebsen is protecting himself against a misuse.

The COURT. He is describing thoughts that are going through his mind more than anything else.

Mr. WEBSTER. Yes.

The COURT. All right.

Mr. LOCKE. We skip the next one in the printed order. We offer next, if the Court please, photostatic copy of a letter purportedly written by McCarty to Jebsen, dated March 25, 1937.

Mr. WEBSTER. I object to it only on the ground of materiality. It simply concerns some details, the arrangements that McCarty was making to send Mr. Washburn, a research man then connected with the company——

The COURT. It is the second paragraph that Mr. Locke is interested in, I take it, isn't it?

Mr. LOCKE. The second paragraph, that is right. That is the only purpose in considering this, to show that the National Lead was in sympathy with and approved the negotiations being had by Dr. Jebsen.

The COURT. All right. Plaintiff's Exhibit 80 received in evidence.

(Marked Plaintiff's Exhibit 80.)

Mr. LOCKE. We wish to offer next, if the Court please, copy of a letter from Jebsen to McCarty, dated

669 March 16, 1927. There is a German telegram attached, and we are not offering that.

Mr. WEBSTER. No objection.

The COURT. Plaintiff's Exhibit 81 received in evidence.
(Marked Plaintiff's Exhibit 81.)

Mr. LOCKE. The next to be offered, if the Court please, is a letter dated April 8, 1927, with a radiogram attached.

Mr. WHITNEY. How does the telegram begin?

Mr. LOCKE. "Believe best time your arrival Norway." We skipped three from the last one.

Mr. WEBSTER. No objection. You are not offering the radiogram; only the letter?

Mr. LOCKE. Only the letter.

Mr. WEBSTER. No objection.

The COURT. The radiogram is not offered. No objection. Plaintiff's Exhibit 82 will be received in evidence.

(Marked Plaintiff's Exhibit 82.)

The COURT. Any comment.

Mr. WHITNEY. Your Honor, I think you would be interested to note in passing in the last sentence, "That it is one thing to make a little titanium oxide in the laboratory and quite another thing to produce
670 commercially a titanium pigment of high quality."

Mr. WEBSTER. I don't think I am looking at the same letter.

The COURT. April 8, 1927.

Mr. WHITNEY. So that, of course, when it came to producing a commercial pigment of high quality——

The COURT. I don't think that is the letter I saw.

Mr. WEBSTER. The letter I am talking about is one that relates to Mr. McCarty's trip to Norway.

Mr. LOCKE. That is the one that has been offered.

The COURT. Yes. And I was told that it is on page 139, but that can't be.

Mr. WEBSTER. I don't think I would have overlooked this little remark that Mr. Whitney has seized upon.

Mr. WHITNEY. This is the only April 8th in my book. Have you any idea where it is in the book?

Mr. LOCKE. I just skipped three from the previous one and it should be there.

Mr. WHITNEY. This one baffles me as to why it is in evidence. Otherwise, no comment.

Mr. LOCKE. It is just a follow-up, if your Honor please, to show the conferences that were had.

The COURT. All right. Plaintiff's Exhibit 82
671 received in evidence.

(Marked Plaintiff's Exhibit 82.)

Mr. WEBSTER. It shows Mr. McCarty went to Europe.

Mr. WHITNEY. Your Honor, my comment with reference

to page 139 of the book is none the less pertinent. It bears upon the need for know-how to develop this new art and industry.

The COURT. All right.

Mr. LOCKE. We skip two now. Our next exhibit is a letter from Cornish to Warburg, dated April 29, 1927.

Mr. WEBSTER. No objection.

The COURT. Is this character evidence?

Mr. WEBSTER. I wondered if it was to be taken as a testimonial for our Mr. McCarty.

Mr. LOCKE. It is just an attempt to establish the identity of the parties in the fullest sense, if the Court please.

The COURT. All right. Plaintiff's Exhibit 83 in evidence.

(Marked Plaintiff's Exhibit 83.)

Mr. LOCKE. We skip the next three documents. The next letter to be offered is a letter purportedly written from Jebsen to McCarty dated August 17, 1927.

672 Mr. WEBSTER. I am not objecting to this but there is a matter of self-interest involved in this letter, apparently a dispute with Dr. Matthews over a bill for 300 marks, and finally they went to the poor man and told him that National Lead Company back in New York did not approve any such bill. And I rather hate to have these matters called to my client's attention by merely incorporating them in the record.

The COURT. Oh. "Dr. Matthews charged me 300 marks."

Mr. WEBSTER. And I hope that that is not going to be cited against me.

Mr. LOCKE. We do not offer it for that purpose, if the Court please.

The COURT. No objection. It will be received as Plaintiff's Exhibit 84 in evidence.

(Marked Plaintiff's Exhibit 84.)

The COURT. Have you any comment to make on it now?

Mr. LOCKE. I just want to call the Court's attention to the statements made having to do with an interpretation of what ultimately was resolved into restrictions on imports, starting about the third paragraph, where Mr. Jebsen writes,

"In order to exclude misunderstanding, we beg
673 to lay down"——

The COURT. That is not Mr. Jebsen. He is quoting IG.

Mr. LOCKE. He is quoting. It appears in his letter a translation from the German. (Continuing):

"beg to lay down in writing our understanding regarding agreement D-2, Section 4."

And then from there on for another five or six paragraphs.

The COURT. All right. Mr. Webster.

Mr. WEBSTER. No, I am not going to comment.

Mr. LOCKE. We skip the next six documents. We offer next in evidence, if the Court please, a letter from Jebsen to McCarty, dated November 3, 1928.

Mr. WEBSTER. I wonder if Mr. Locke would be so good as to point out what he has in mind as being relevant.

Mr. LOCKE. The whole letter again is an over-all picture of the situation as it existed, but we point particularly to the paragraph on page 3 of the exhibit. The paragraph starts, "With reference to your interview with Dr. Kuhne and Dr. Raspe". There for the first time they begin to talk about enlarging the licensed territory, or, rather, the territory by way of amendment under the 1920 contract, in the TG contract, which eventually resulted in giving to TG and IG South America. We point to that first development.

674 Mr. WEBSTER. I don't see how it could possibly be material. There was some discussion at this time about TG selling its product in Poland and Portugal. I don't know what Mr. Locke means by this over-all picture. It really is simply a picture of business men dealing with a lot of business details—costs, prices and so forth.

The COURT. Plaintiff's Exhibit 85 in evidence.

(Marked Plaintiff's Exhibit 85.)

Mr. WEBSTER. Is there something attached to your copy of that?

Mr. LOCKE. No.

Mr. WEBSTER. The translation comes off?

Mr. LOCKE. Yes. We are not offering any translation. I skip the next seven documents. The next document we offer, if the Court please, are minutes from conferences re titanium white matters delivered to Leverkusen, signed by Kuhne, Bruggemann and Jebsen, dated May 3, 1930.

The COURT. Am I over optimistic in assuming that those skipped are actually abandoned?

Mr. LOCKE. Certainly for the time being, subject to a closer analysis of them and a reservation of a right to offer them at some subsequent time. The present
675 indication and inclination is that they will not be offered.

The COURT. Is there any objection? No objection. It

will be received as Plaintiff's Exhibit 86 in evidence.

Mr. WEBSTER. May I ask again if there is any particular part of this that is offered or relied on?

Mr. LOCKE. I was trying to find the paragraph in this letter where there is discussion about giving Montecatini certain rights, Montecatini being one of Blumenfeld's licensees. The consensus was that they would grant him such rights on certain conditions, that he keep away from other countries. I can't find that.

Mr. WHITNEY. Next to the last paragraph.

Mr. LOCKE. Yes. The last paragraph, if the Court please.

Mr. WEBSTER. It is objected to as immaterial. It relates to the European situation exclusively. I might say, however, that apart from paragraph 5 which Mr. Whitney called my attention to, the connection with the engagement of a secretary for Dr. Raspe, in paragraph 12 it says:

"In order to reduce patent expenses foreign patents of small importance are to be dropped."

The COURT. All right. Exhibit 86 is received in evidence.

676 (Marked Plaintiff's Exhibit 86.)

Mr. LOCKE. We offer next, if the Court please, letter written by a man whose signature I can't decipher, I think it is Hendrickson, addressed to McCarty, dated June 18, 1930, and it is on the letterhead of Titan Company A/S, with an enclosure.

Mr. WHITNEY. Your Honor, I am afraid we fall down there because the print said he could not read the first page, the first German article, so we will have to ask Mr. Locke for it.

The COURT. Are the minutes the important thing?

Mr. LOCKE. Yes.

Mr. WHITNEY. I think the black copy was illegible, but the white copy is quite legible, so that was the difficulty.

The COURT. You will have to tell me about it.

Mr. LOCKE. If the Court please, these are, as Mr. Whitney suggested, minutes of conferences in Leverkusen, re titanium matters, January 4th, 6th and 7th, 1930, recited for its reference in paragraph 6th of the minutes to the South American situation.

Paragraph 6th reads: "With regard to South America, Dr. Jebsen mentioned that the question put forward by the gentlemen of the IG could not be decided at
677 present in view of the objection of the Titanium Pigment Company. The Titan Company is represented

in some South American countries by branches of the IG and Dr. Jebsen discloses himself ready, subject to the approval of his board of directors, to transfer to the TG m.b.h. the profit realized by sales made through these representatives."

I pointed out before that the question of the South American territory going to TG was of singular importance here, and I want the Court to be informed how that situation developed. That is the purpose of this offer.

The COURT. Any further comment?

Mr. WEBSTER. It is the contention that that simply means that Dr. Jebsen was willing to permit the IG to exercise the rights that Titan Company A/S had under the agreement of 1920 with reference to South America? Is that what it is offered for?

Mr. LOCKE. The final agreement comes subsequently. At this time, all we are pointing out to the Court is the time that the question arose, and when it becomes resolved there is evidence with regard to the details of that.

Mr. WHITNEY. Your Honor will observe that as late as 1930 these gentlemen, who were in the heart of this business as shown in paragraph 9, had in view the making of tests as to the possibility of using their standard product as a paint for indoor use. It shows that the state of the art was very, very primitive.

678

Mr. WEBSTER. It is objected to as immaterial.

The COURT. I will allow it.

(Marked Plaintiff's Exhibit 87.)

Mr. LOCKE. I skip the next four.

I wish to offer next a letter written by Jebsen to McCarty, dated July 23, 1931.

The COURT. I commend the political discussion at page 245.

Mr. WHITNEY. Also 243, in the middle of the page, your Honor; another paragraph in the middle of the page.

Mr. WEBSTER. There are lots of things mentioned in here. The things that occur to me, apart from the details, are that they show the perfectly extraordinary confidence that Dr. Jebsen had in titanium and his efforts to overcome difficulties in his prediction that some day titanium would overtake lithopone. It also shows great activity with reference to invention and technical investigation and so forth. I do not object to it.

The COURT. Plaintiff's Exhibit 88 is received in evidence.

(Marked Plaintiff's Exhibit 88.)

Mr. LOCKE. This again, if the Court please, is
6.9 a review of all of the facts. It treats with Sachtleben, it mentions the South American situation, all being problems that were subsequently developed, all in furtherance of the conspiracy.

Mr. WHITNEY. A minor additional matter, your Honor. Your Honor may recall in the last exhibit in 1930 when they had a conference about a year before that indicated that they were going to do some tests on standard "T". Here they had a year to work. In July, 1931, at the very beginning of this letter, they only got the first product out, and that is a daily production of 40 tons. It is further evidence of the slow way this developed.

Your Honor took account of the political points, but in addition to that I hope your Honor will particularly notice on page 249 of the print in the second P.S., the next to the last paragraph of the entire document, that already in the summer of 1931 the Germans had put into effect regulations under which it is not merely a criminal offense to take money out of the country, but a criminal offense to know about someone taking money out of the country and not to inform upon them. And your Honor will appreciate that the consideration of that character, purely financial and businesswise, quite apart from the
680 political or colorful features, would conclusively prevent any prudent board of directors in America such as that of the du Pont Company from planning an invasion of the German market in the hopes of making money there. And, therefore, had du Pont after this date entered into an agreement not to compete in Germany I think your Honor would hold that it could not have been in restraint of trade. It would fall within the class of cases of the Appalachian Coal and the National Window Glass, Mr. Justice Holmes' opinion, the Chicago Board of Trade, Mr. Justice Brandeis' opinion, and the other cases in which it is held that the defendants could not enter a market anyway because the market was restrained against them, it was not an unreasonable restraint of trade for them not to enter it, or to make such agreements in respect of it as they could not otherwise make. But du Pont of course did not do that, so that there is a double string to our bow.

The COURT. I have your point.

Mr. LOCKE. I wish to offer next translation from the German minutes of a conference of September 24, 1928, at

Leverkusen, Present: Jebsen, Bruggemann and Raspe. I should like to explain that we do in this particular exhibit mean to make the notation found on the left-hand margin of the first page of the exhibit a
681 part of the exhibit.

Mr. WEBSTER. Have you any way of knowing who wrote that?

Mr. LOCKE. We think it is indicated that Mr. Charles Kaegebehn wrote it. The initials under the notation appear C.F.K., 8-7-34.

Mr. WEBSTER. If Mr. Kaegebehn wrote it we will accept that. Let us ask him right now.

Mr. KAEGEBEHN. That is mine.

Mr. WHITNEY. It is not in the print.

The COURT. Yes, it is. It is in the footnote.

Mr. WHITNEY. It is a different footnote, your Honor.

Mr. LOCKE. The marginal note reads, "With reference to not continuing validity of patents."

Mr. WEBSTER. "and applications," it says. "App."

Mr. LOCKE. And "App." That is opposite the line drawn along the first paragraph.

Mr. WEBSTER. We might as well get this right. You said. "With reference to not continuing validity."

Mr. LOCKE. "contesting", that is what I meant.

Mr. WEBSTER. "contesting" is the word.

Mr. LOCKE. That is right.

Mr. WEBSTER. Of the patents and app.

682 Mr. LOCKE. The significance of the marginal note becomes apparent on reading the first paragraph, if the Court please.

The COURT. Are you going to assume that the words in quotes mean oral?

Mr. LOCKE. That is going to be our contention, if the Court please. A gentlemen's agreement.

The Court asked if we were going to content if that means an oral agreement. I say that is going to be our contention.

Mr. WEBSTER. I must say on short notice that I do not apprehend the significance of the note or the text.

The COURT. Is there objection?

Mr. WHITNEY. No objection, your Honor, but we are not concerned in this in the slightest, but I thought I might call attention to the fact that Mr. Kaegebehn did not join their company until 1930.

The COURT. This note, that is the marginal note, is dated 1934.

Mr. WHITNEY. What they are doing is putting in Mr. Kaegebehn as a witness on what people meant in 1927. But we are not concerned. I am only mentioning that.

The COURT. Plaintiff's Exhibit 89 in evidence.

(Marked Plaintiff's Exhibit 89.)

Mr. WEBSTER. May I just finish reading the second
682a page of it?

The COURT. We will take a short recess.

(Short recess.)

683 The COURT. We are talking now about Exhibit 89.

Mr. WEBSTER. If the Court please, that marginal note which has been identified by Mr. Kaegebehn as having been made, I believe, in 1934, six years after the memorandum was written, I am now advised was dealt with in a letter from Dr. Jebsen to Mr. McCarty from Paris, dated October 15, 1928, and in a response from Mr. McCarty to Dr. Jebsen, dated October 24, 1928, and because of the fact that some significance may be attempted to be attached to this notion that there was some sort of an improper gentlemen's agreement, I would like to ask Mr. Locke if he has in mind offering those letters. Those are copies of letters which have been furnished to the Department of Justice but have not apparently got a subpoena number, to explain exactly what it was that Mr. Kaegebehn was referring to when he put that note there.

The COURT. Offer it to the Government. If they want to offer it all right; if not you will have a chance to do it yourself.

Mr. WEBSTER. I hand Mr. Locke the letters.

Mr. LOCKE. May I have a minute to read them?

The COURT. Very well.

Mr. LOCKE. May I suggest, if the Court please, that we consider this after we adjourn for the evening?

The COURT. You can do it either way you wish.
684 You do not have to offer it unless you choose, and if you do not choose to Mr. Webster will have a chance to offer it in due time.

No other comment on Plaintiff's Exhibit 89? (No response.) Is there any comment you want to make, Mr. Locke?

Mr. LOCKE. None, if the Court please.

The COURT. All right, let us proceed.

Mr. LOCKE. We wish to offer next copy of minutes of a special meeting of the board of directors held November 12, 1929. We have skipped two to get to this exhibit. We wish only to offer in evidence the resolution that appears at the bottom of page 49 of the exhibit as we are presenting it.

The COURT. It is all one document?

Mr. LOCKE. Yes, it is all one document.

The COURT. And you are offering all of them?

Mr. LOCKE. No, if the Court please. It is a voluminous document. There is not anything of importance except one resolution and that resolution appears at the bottom of page 49 of the exhibit we are offering.

Mr. WHITNEY. How does it begin?

Mr. LOCKE. "Resolved, that the action of Dr. Gustav Jebsen."

The COURT. I have it.

685 Mr. LOCKE. I think it might clarify it if I read that resolution.

The COURT. You may.

Mr. LOCKE. "Resolved, that the action of Dr. Jebsen, at a proprietors' meeting of Titangesellschaft m.b.H., held October 22, 1929, in consenting to and effecting on behalf of this corporation an increase in the capital of said Titangesellschaft m.b.H. from One million five hundred thousand Reichsmark (R.m. 1,500,000) to Three million Reichsmark (R.m. 3,000,000), and assuming in the name and on behalf of this corporation one-half of said increased capital or Seven hundred and fifty thousand Reichsmark (R.m. 750,000), be and it hereby is in all respects approved, ratified and confirmed, and that the officers of the corporation be and they hereby are authorized and directed to execute and deliver such instrument as may be proper to confirm said action."

The COURT. That is the only resolution offered?

Mr. LOCKE. Yes, your Honor.

The COURT. Any comment? (No response.) If there is no objection it will be received and marked Plaintiff's Exhibit 90 in evidence.

(Government's Exhibit 90 received in evidence.)

686 Mr. LOCKE. We wish to offer next copy of minutes of a special meeting of the board of directors

of Titan Company, Inc., held June 25, 1931, and as to this exhibit we wish to offer that portion which starts at page 67 of the exhibit as we have offered it, and reads:

"At the request of the Chairman, Dr. Jebsen thereupon reported upon the general conduct", etc.

We want to then continue to include the two first resolutions which start, "Resolved that the various acts and proceedings of Dr. Jebsen as general manager of the business and affairs of this corporation" etc.

The COURT. There being no objection, it will be marked Plaintiff's Exhibit 91.

(Marked Plaintiff's Exhibit 91 in evidence.)

Mr. WEBSTER. As I understand it, he is not actually offering all the rest of that at all; that it is being taken out.

The COURT. I suppose he offers the title to indicate what it is.

Mr. LOCKE. Yes.

The COURT. Is there any comment from you, Mr. Locke?

Mr. LOCKE. None, if the Court please.

The COURT. Mr. Whitney and Mr. Webster?

687 Mr. WEBSTER. No comment.

Mr. LOCKE. We wish to offer next a letter from Dr. Jebsen to McCarty, dated March 30, 1928. We have skipped eleven documents in the printed order.

Mr. WEBSTER. This is a document of about twelve pages. I have not even read it, your Honor, it not being on our list.

The COURT. You have not any advantage of me. Without objection it will be received and marked Plaintiff's Exhibit 92. Mr. Locke, tell us about that briefly.

(Plaintiff's Exhibit 92 received in evidence.)

Mr. LOCKE. If the Court please, we are now starting our developing of the BTP picture. This is a history that Mr. Jebsen writes of things that were important in the development of the problem of National Lead Company and Titan Company in the development of the titanium picture and discusses his conversations with Englishmen who eventually became contracting parties; that is as representatives of ICI and ISC, etc.

The COURT. Is there any comment?

(No response.)

Mr. REA. We have not had a chance to read it yet.

Mr. LOCKE. If the Court please, I don't want the implication to be that we have been holding out——

688 Mr. WHITNEY. Oh, no.

The COURT. There is no such implication. It is a long document and they would like to read it. You handed them a big book and many of the things in there you have not offered before today and they fell behind.

Mr. WHITNEY. We read letters until we were blind last night and many of these have been skipped today.

The COURT. I suspected as much, but it is worth the trouble. I think we have given as much time as we ought to to this. He writes in a very discursive fashion.

Mr. WEBSTER. I would like to say in passing that the charge was made that the ICI was on the point of going into this business and it constituted a threat on the competition, and in here it appears very clearly that the ICI was reluctant to take the matter up, and Major Barley said if the matter was put before their board they probably would not be interested in it now. In other words, there was not any real intention there on the part of ICI to go into this business at all. Jebsen's statement that the Germans came to him is there. I don't think really there is anything else I can comment. Jebsen says he really does not know anything about the Canadian situation.

The COURT. All right. Mr. Locke.

Mr. LOCKE. I offer next copy of letter from

689 McCarty to Jebsen, dated April 11, 1928.

The COURT. You notice the word "du Pont" in this, Mr. Whitney?

Mr. WHITNEY. Oh, yes.

The COURT. But it is not "Inc." Is there any objection? There being none, Plaintiff's Exhibit 93 will be received.

(Marked Plaintiff's Exhibit 93 in evidence.)

The COURT. Is there any comment, Mr. Locke?

Mr. LOCKE. Except for the reference to the luncheon party given by Mr. Felix du Pont, which Mr. McCarty evidently attended and enjoyed, we only want to remark about the second succeeding paragraph in which Mr. McCarty says "I have felt for some time, and I think on one occasion mentioned to you that we would probably have an opportunity to make some connection with the Imperial Chemical Industries if we desired to do so. I am not sure, however, that it would be a better connection

for us than Mr. Robinson and his friends. It is a situation in which I think we can keep our own counsel and await developments."

Then again a little further on he says:

"I think that the time has arrived for us to actively enter the Canadian market, and we are making
690 arrangements to do so."

That indicates their awareness of the entire situation and the plans that had already then been conceived.

The COURT. Is there anything you want to add, Mr. Webster?

Mr. WEBSTER. No, your Honor.

Mr. WHITNEY. I would like to just say this, your Honor will observe that there is nothing whatsoever to indicate that in either of these British or Canadian plans of Mr. McCarty he is in any way planning to have du Pont join in. In other words, a lunch is a mere social occasion.

The COURT. I do not draw any inference from the lunch and I do not think Mr. Locke intended me to.

Mr. WHITNEY. I do not either, but I go beyond that, that as he had just in mind the place that he met McGowan was at lunch given by Felix du Pont, he would certainly, had he been planning for Britain and Canada with du Pont, have referred to it, and the best evidence that they were completely dissociated is the fact that it is not in the very letter where Mr. Felix du Pont was referred to.

The COURT. There was opportunity and you claim that shows no inclination.

Mr. WHITNEY. Yes, precisely.

Mr. LOCKE. We offer next, if the Court please, a letter by Jebsen to McCarty, dated October 3, 1929.

691 The COURT. All right, gentlemen. What about this?

Mr. WEBSTER. There are two or three paragraphs that I would like to refer to. It is page 340 of the print, your Honor:

"Monday I told Mr. Robinson senior confidentially, what our terms were with the I.G. and that in my opinion we should be interested in the erection of a factory in England because of the advantages it presumably has to provide the British Empire with British goods, and the position it will give us in England. We could probably

not expect to manufacture cheaper in England than on the Continent, but when putting up a factory we ought as far as it could be foreseen, ascertain that the conditions were such with regard to raw materials, labour and distribution facilities, that any competitor is not better placed and we were at least on equal foot with competition from the Continent."

Then on that same subject, on the next page, 341, at the bottom, next to the last paragraph:

"I told him that I should have mentioned the long years it had taken us to introduce the Titanium White into the English market, the conservative nature of this—we were now selling at a rate of about 2500 tons Standard
692 T p.a. and it looked as if it was"——

The COURT. Does that mean per annum?

Mr. WEBSTER. Per annum, I think, your Honor.

"and it looked as if it was a matter of price reduction to have this consumption considerably increased within a few years. Every English paint manufacturer was familiar with our material.

"Mr. Robinson said that he found it perfectly justified that we should have a compensation for this."——

Which we did get, as your Honor will recall, in the shape of those B shares.

Mr. WHITNEY. For various considerations, and the letters generally, the inference that I think proper to be drawn as bearing upon us is that they are cumulative evidence of how extraordinarily difficult it would have been for us, starting up a few years after this, to seek to penetrate these foreign markets, this British market. We have here a consideration similar to that I mentioned a half-hour ago in respect to Germany. And, of course, the charge is that we restrained trade by not exporting to these countries. This shows how impractical it was for us to do so.

Mr. LOCKE. With respect to Mr. Robinson, whose name appears now, that Mr. Robinson and his father, if that is the father, and then the son were with ISC, Imperial Smelting, who eventually became one of the group
693 that formed the BTP. I point only to the fifth paragraph in which Jebsen says that he told Robinson that "with the old friendship between him and you" —referring to McCarty—"we ought to be able to find a basis for an arrangement. Mr. Robinson said that if we

would go together with him he would be glad to do so. If we preferred to put up a factory alone he would like to see it at Avonmouth."

The COURT. Go ahead. The exhibit is in evidence.

Mr. LOCKE. We offer next a letter from Jebsen to McCarty dated March 28, 1930. Attached to that is a copy of a letter which is part of the exhibit.

The COURT. Who is the purported author of the annexed?

Mr. LOCKE. Jebsen, if the Court please.

The COURT. Is there any objection? I hear none. The exhibit will be received.

(Marked Plaintiff's Exhibit 95.)

Mr. WHITNEY. May I just state so that it appears on the record at this point that I assume when your Honor says "I hear none" you mean except the continuing one from du Pont?

The COURT. You are quite right.

Mr. WHITNEY. Thank you, your Honor.

Mr. LOCKE. The exhibit is so short we have no
694 comment. It speaks for itself.

The COURT. No comment. All right.

Mr. WHITNEY. The only comment I have is that this is the first appearance of what your Honor will now see constantly in the exhibits—the determination in Great Britain to obtain, as they did ultimately obtain, a protective tariff. He says of the ICI that they think they will get protection. "It is exactly the same as with the Imperial Smelting, they are all out for protection, so that is that." And then your Honor will find it arose just before we get into this. That was the deathknell of any idea of breaking into Great Britain.

Mr. WEBSTER. That explains another reason why we were interested in having an investment in a factory in England instead of simply shipping to England.

The COURT. All right.

Mr. LOCKE. We offer next a copy of a letter from McCarty to Jebsen dated April 11, 1930, three paragraphs.

The COURT. Is there any objection? There being none, plaintiff's Exhibit 96 is received in evidence.

(Marked Plaintiff's Exhibit 96.)

Mr. WHITNEY. This letter prompts me to the fear lest your Honor's praise of Mr. Locke in which we all so happily join, may have had an unhappy effect, because

since that moment he has not omitted anything.
695 This thing seems pretty remote. I wonder if he is backsliding. I hope not.

The COURT. The "we shall have to do something" about England is the sort of foundation for what they propose to do and no lawyer can resist the temptation to put that in.

Mr. LOCKE. We skip one and offer copy of minutes of regular meeting of the board of directors of National Lead Company dated October 23, 1930.

Mr. WEBSTER. I do object to this, your Honor, as irrelevant and immaterial. It appears to show that the action of the officers of the company in buying some shares of ISC was approved, ratified and confirmed. I submit the fact that the National Lead Company saw fit to make an investment in ISC on October 23, 1930 long before any arrangement with reference to BTP is immaterial and irrelevant.

The COURT. What about it, Mr. Locke?

Mr. LOCKE. We do not consider it quite so immaterial. Here is one of the contracting parties, one of the co-conspirators. It is of some significance that the National Lead Company, we think, in order to further the enterprise on which they had set themselves took the precaution of buying an interest in one of the companies that could help put across the deal.

696 The COURT. It is the old quarrel between means and end. Maybe it is a means, I don't know.

Mr. WEBSTER. I think it is the same sort of means that Mr. McCarty, being acquainted with Mr. Robinson of the ISC—well, it really doesn't push any further forward on the route we are traveling. It seems to me it just clutters up the record with things that may be used prejudicially and unfairly some time later.

The COURT. 50,000 shares of common and 50,000 shares of preferred, I haven't any information yet as to whether that represents anything substantial in ISC or not. If it is substantial it might have some bearing. It may be remote.

Mr. WEBSTER. I do not believe it is claimed that it is substantial. It is really a small amount.

Mr. LOCKE. We haven't yet information as to what the actual value of it was at the time, but we are making inquiry to determine that with respect to the capitalization and the preferred shares outstanding.

The COURT. If it should appear that the purchase of 50,000 common and 50,000 preferred will entitle National Lead to have a look-see into the affairs of ISC, that might be material.

Mr. WEBSTER. Your Honor, way back in 1930? This is three years before these arrangements, and long
697 after this, as the record already shows, these Englishmen were telling Jebsen that they did not really have any interest in the subject at all. And it was at a time when they were concerned with lithopone and zinc and Jebsen was trying to sell titanium. It seems very remote to me.

The COURT. Here is the way it seems to me. In March 1930 Jebsen and McCarty get a little concerned about the English situation; one writes, I hear that they are all hot about titanium, and the other one responds, I thought they were cold on it. And the next thing I hear is that McCarty says, "Perhaps we ought to begin to think seriously about the English situation." The next thing I know is that National Lead acquires 50,000 shares of common and 50,000 shares of preferred in one of the principal English companies which might engage in the titanium business. It might be utterly meaningless and yet in its proper setting might be meaningful. I am not prepared to answer it. Objection overruled.

(Marked Plaintiff's Exhibit 97.)

Mr. WHITNEY. It comes before the President Herbert Hoover and Laval conference that was going to save the world. You remember the conference when Premier Laval of France came over to meet with President Herbert
Hoover, and it was about that time. So that I am
697a sure it would be very useful for present international purposes to have all those things straightened out in this court.

The COURT. We will adjourn until tomorrow morning.

(Adjourned to December 13, 1944, at 10.30 a.m.)

(CONTINUED IN VOLUME II)

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC.; AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

No. 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC., APPELLANTS

vs.

THE UNITED STATES OF AMERICA

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY, INC., APPELLANT

vs.

THE UNITED STATES OF AMERICA

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

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698 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, et al.

NEW YORK, *December 13, 1944, 10.30 o'clock a. m.*

Trial resumed.

Mr. LOCKE. I wish to offer in evidence next a letter written by Jebsen to McCarty, dated January 26, 1931, together with a typewritten enclosure signed Alfred J. Thomsen, addressed to Jebsen, dated London, January 23, 1931.

The COURT. Of course the enclosure on its face reports rumor, and the writer of the information says "the information is vague in its character, but is passed on for what it is worth." So I am taking it, and I think it is correct, that it is offered as not being proof of its contents but for proof that Mr. McCarty and Mr. Jebsen had heard on January 26, 1931, a rumor, true or false.

Mr. LOCKE. For no other purpose. He says in substance that they were interested in Titanium Pigment in some vague way, but that is all that it does prove.

Mr. LOCKE. We offer it for no other purpose, if the Court please.

699 The COURT. Without objection it will be received as Plaintiff's Exhibit 98 in evidence.

(Marked Plaintiff's Exhibit 98.)

Mr. WHITNEY. From our point of view these matters are welcome, and the more the merrier, because they consistently carry to your Honor that we are not in them. In other words, there is no connection.

The COURT. Very well. I do not take it that you withdraw your formal objection.

Mr. WHITNEY. Oh no, your Honor. The curious thing is because that is the ground of the objection.

The COURT. I understand.

Mr. WEBSTER. I have no comment. The Court has stated in better words the comment that I was about to make.

Mr. LOCKE. We offer in evidence next letter written by Jebsen to McCarty, dated July 15, 1931, together with the enclosure therewith attached, which purports to be a memorandum re Interview with Mr. W. S. Robinson, on July 7, 1931, had by Jebson, the memorandum being signed by Jebsen.

The COURT. This is, as usual, a rather long letter. Do you want to tell us very briefly, Mr. Locke, what this letter and memorandum purports to state?

Mr. LOCKE. Briefly it is a description of the circumstances under which the Robinson interests, that is ISC., found themselves as regards the titanium field and the possible development of that field, and there is reference there to the situation as it existed in Germany. All those facts I think are important in the National Lead people determining on the progress that we will show followed these conferences and this information that came to them.

The COURT. Mr. Robinson is connected with what company?

Mr. LOCKE. ISC.

Mr. WEBSTER. There are two or three things I might mention about the letter, if the Court please. At the foot of the first printed page Jebsen is discussing some of the sales difficulties that they are having with Greeff and he says, "The Sale of Standard 'T' has improved somewhat in the last month, so that they reckoned the sales were the same as last year during the same period."

Then he talks about the sale of Extra "T" having gone back due to the competition with TiO_2. That, of course, is competition with what is the pure pigment.

Then they are introducing the TiO_2 product from Leverkusen "and have hitherto sold about 40 tons. It is appreciated in the paint trade. In the rubber trade the opinion differs—some prefer the Montecatini product,
701 whereas others find our material competitive. In the linoleum trade the product from Leverkusen does not, as mentioned, give the same effect as the Montecatini product. The reason for this is under investigation."

Then there is a question of reduction of prices which is perhaps of some moment:

"Mr. Heaton expressed as a preliminary opinion, that in case we will fully compete with Lithopone in England, the price must allow a paint manufacturer to make a mixture of Standard T and Barytes of the same tinting strength,"

and so forth, and that is connected with a statement near the bottom of the page:

"The Lithopone Convention will have a meeting at that time and it may also be advisable to wait till that has taken place."

Of course the lithopone convention was in the European cartel with reference to which these companies had to operate in Europe—in competition, of course.

Now on the memo attached to the letter there are one or two things that are foreshadowed which may be of some moment. Reporting his interview with Mr. W. S. Robinson Dr. Jebsen says on the first page of the memo (page 354 of the print):

"We must count that a tariff will be imposed
702 within two years."

Of course they are worried all the time about the tariff and realized that if a tariff would be imposed it would be absolutely necessary to establish manufacture in England.

Then in the last full paragraph on that page Dr. Jebsen says:

"I explained the difference between the situation of IG re the English market by the existing arrangements with us in titanium, and their situation as lithopone-manufacturers selling in the English market for their own account, and thought no such claim could rightly be raised in our case. He was glad to hear this."

Now of course Dr. Jebsen was talking about sales by Titan Company A/S in England. That is what the reference is.

703 Then there was some talk about the compensation that Titan, Inc. at that time would receive if there was an English company. And on the next page there was some discussion of what should be paid for the English properties in business, the going concern of Titan, Inc., and there is this statement:

"There were certain matters in his letter to Mr. Cornish"—that I think is Mr. Robinson's letter—"in which I could not see clearly what he meant:

"(1) That he was afraid of being 'left out' by not having the composite pigment included—he will remember that the compensation for the same could not be agreed upon—he had not accepted the formula of eight times the profit, as he will do in case of Frickers zinc oxide business."

I think that is simply a reference to eight times the profit for the purpose of figuring the compensation that should be paid to a concern called Frickers that was engaged in the zinc oxide business in which Mr. Robinson was also interested.

The Court. That is a formula of establishing the value of the business of a going concern.

Mr. Webster. That is right. This memorandum goes on and points out that of course such a formula would not

be appropriate in our case because there were no
704 profits, that is, there were profits but not profits that bore a correct relation to the value of the business, and it would be necessary to take into account potential profits, and a suggestion was made either here or a little later that an opinion of chartered accountants should be obtained on that subject.

Also on the last page of this memorandum, page 357 of the print, Dr. Jebsen makes it very clear that he had no authority from the National Lead Company except with reference to the titanium business, that he was not competent or authorized to speak about anything else. And in the next rather cryptic paragraph Dr. Jebsen says:

"I told him I did not know how National Lead Company will look upon bringing all into one pot."

Robinson was making a suggestion there which will reoccur to the effect that it might be feasible from the English standpoint to have a company that would be concerned not only in the titanium business but also in the zinc oxide and the lithopone business, and Jebsen was simply remarking that he did not know what the National Lead would say about it. As a matter of fact that was not done and the subject was not referred to—well, it was referred to again but nothing was done about it.

705 I think he suggests in the next paragraph that the same idea was suggested with reference to France, and that neither McCarty nor Pisart, whose name reoccurs through all his correspondence, and who was a manufacturer of lithopone I believe in France, were interested in it.

The COURT. No comment from you, Mr. Whitney?

Mr. WHITNEY. No, thank you.

The COURT. All right. Plaintiff's Exhibit 99 in evidence.

(Plaintiff's Exhibit 99 received in evidence.)

Mr. LOCKE. We skip two of the printed list. We offer next a letter written by McCarty to Jebsen, dated November 6, 1931.

The COURT. Mine is dated 1938.

Mr. REA. 1931 is correct.

The COURT. The date on page 364 should be corrected to read November 6, 1931.

Mr. LOCKE. We offer this, if the Court please, merely to show what the conditions were that the National Lead Company and the other conspirators and co-conspirators were faced with at the time these negotiations were had.

Mr. WEBSTER. Mr. Locke says what the conditions were.

The condition that Dr. Jebsen or that Mr. McCarty I believe was evidently referring to is this; he says:
706 "We are at a certain disadvantage in our English business in buying in a country that is on the gold standard and selling in one with a depreciated currency."

Now that means that Titan, Inc. was buying from TG at cost on a gold standard basis and selling in England, where at that time England had then I believe gone off the gold standard, and there was about a 20 per cent depreciation in the pound. And then he goes on to say:

"All of these indications indicate to me the desirability of manufacturing in England at an early date but I find that my associates are not entirely in accord with this idea."

The COURT. Plaintiff's Exhibit 100 received in evidence.

(Plaintiff's Exhibit 100 received in evidence.)

Mr. LOCKE. We offer next a letter by Jebsen to McCarty, dated November 17, 1931. We wish to call the Court's attention particularly to the statements made in this letter on the second page, under a subheading (2), "The erection of a factory by competitors," the first and second paragraphs subsequent on that page.

Mr. WEBSTER. Just one or two remarks about this exhibit to which we have not objected. Of course Jebsen revives the tariff question and all the problems
707 that arise out of that, and then on the next page, 367:

"In Germany the situation is most seriously considered as to what measures should be taken to keep up their exports.

"As the factory at Leverkusen is not yet fully occupied and in view of the low production prices, I am most inclined to think that we should still wait some time for further developments before making any decision as far as being influenced by the English tariff policy."

In other words, Jebsen was concerned to obtain under his arrangement with TG a product at the lowest available cost.

Now in the next paragraph there is a reference to Associated Lead. That, as I think Mr. Locke will point out now or later, if necessary, is a reference to Goodlass Wall—GW. And then, in case your Honor has overlooked it, in the next paragraph reference is made to National Titanium Pigment Company in England. National Titanium Pigment Company is Laporte.

The COURT. All right. No objection. It will be received.

(Plaintiff's Exhibit 101 received in evidence.)

Mr. LOCKE. We offer next photostatic copy of a letter written by Robert Brown to Mr. Cornish, dated
708 November 21, 1931. Our information is that this Robert Brown was interested in some manner in the National Lead Company, but what his interest is we have not any specific information on. We offer with that as part of the exhibit a copy of a telegram to which Brown refers in his letter.

Mr. WEBSTER. I do not object to this, though the matter contained in the letter was never carried out and the plan, whatever it was, or the proposal, was completely abandoned.

Now I might amend what Mr. Locke says about Mr. Robert Brown by saying that my information is that Mr. Brown was an associate of Tasker in the Goodlass Wall Company, that he was not a person connected in any way with the National Lead Company, and I don't believe Mr. Locke has any information to the contrary. I don't know just what significance Mr. Locke will attempt some day to attach to this copy of a telegram that was sent from Mr. Tasker to Mr. Robert Brown. Of course National Titanium Pigments is the Laporte company, and it appears that the Laporte company had approached the Associated Lead Company, which is Goodlass Wall, about some sort of an arrangement that might be made between them, and some suggestion that the consideration of an arrangement would be left open for six months. Well, I should think Mr. Locke knows there was some ten-
709 tative arrangement which did remain open for a short period between Goodlass Wall and Laporte and then was abandoned, but we had nothing to do with it. The suggestion is made here that some effort be made to bring National Lead into this possible arrangement between Laporte and Goodlass Wall, and then at the bottom of page 371 there is a reference to the fact that Mr. Tasker proposes that the National Lead Company's contracts for ore be not disturbed. I suppose, without much basis for knowledge, that he is referring to the fact that the National Lead Company at that time had some contract to obtain some ore from the Travancore deposits. What bearing that may have on the case I can't see.

The COURT. Is there any objection?

Mr. WEBSTER. No.

The COURT. No objection. It will be received as Plaintiff's Exhibit 102.

(Plaintiff's Exhibit 102 received in evidence.)

Mr. WEBSTER. I may explain my failure to take an objection——

The COURT. You need never do that.

Mr. WEBSTER. Your Honor indicated this morning and yesterday that you thought there might be an objection on materiality, and I am not reasserting that objection simply because of the view that the Court took yesterday, that while a lot of this material may not have much weight, you would rather not have to read it and rule on it at the moment.

710

The COURT. You are quite right.

Mr. LOCKE. We skip one. We now offer a letter by McCarty to Jebsen dated December 14, 1931, together with a telegram signed Jebsen to McCarty, dated December 2, 1931.

The COURT. What is the date of the telegram?

Mr. LOCKE. December 2, 1931.

The COURT. Not the copy I have.

Mr. WHITNEY. Page 381, your Honor.

The COURT. 378 is the letter of December 14, 1931.

Mr. WHITNEY. That is right.

Mr. LOCKE. No; take the top part off.

Mr. WEBSTER. If your Honor please, take 377 off. Mr. Locke is not offering 377.

The COURT. I haven't looked at 377. I understand now you are offering 378 and 381 together; that is the telegram dated December 2nd.

Mr. LOCKE. Yes, your Honor.

The COURT. All right. Can you tell us briefly about it.

Mr. LOCKE. This again shows the situation as far as the competitors were concerned, if the Court please. And we call the Court's attention particularly to the first four paragraphs, five paragraphs, and again to the paragraph fourth at the end of the letter which starts "I do not know just how far it is wise for us to attempt" and so forth, and it goes on to say, "to go and gather all interests into one camp before starting an English factory."

711

Mr. WEBSTER. There are just one or two things I might mention. On page 378 Mr. Jebsen says that

"Mr. Robinson writes that there is a very wide move throughout the United Kingdom to extend local manufacturing, and Titanium is definitely included."

Of course that is the fact and really controlled to a large extent our subsequent operations in England.

Now, lest it pass unnoticed now, and be renewed at some later point, I would like to refer to the first full paragraph on 380 where Mr. McCarty says—by the way, I referred to Mr. Jebsen saying that Mr. Robinson writes, with reference to 378, but I meant that Mr. McCarty refers to what Mr. Robinson wrote him.

The COURT. All right.

Mr. WEBSTER. And again on 380 he says:

"As I wrote you some time since, we have again been approached by Mr. Chase and his associates on
712 the subject of an arrangement with respect to the Blumenfeld patents. These gentlemen would like to secure a working arrangement in the United States, and in order to get it are willing to be of any assistance they can in helping us to secure a similar arrangement in Europe. They claim that they have no interest in the European situation whatsoever. I understand that there is a possibility that Mr. Blumenfeld may be in New York on his way back from Japan before the end of this month, in which case an opportunity will be afforded to discuss the matter of his personal interest with him. I have told Mr. Chase that this was his part of the project, and we would await some definite suggestion from him."

Now, Mr. Chase was a man with whom Mr. McCarty was acquainted, but the fact is that we never made any arrangement with Mr. Chase or his associate Ticknor, and I think the facts concerning that may perhaps develop later.

Toward the bottom, Mr. McCarty says:

"In connection with the negotiations with Mr. Robinson, it will interest you to know that we have decided not to join him in his lithophone and zinc white businesses."

That is what I referred to a few moments ago.

713 The COURT. Very well. No objection. It will be received as Plaintiff's Exhibit 103.

(Plaintiff's Exhibit 103 received in evidence.)

Mr. LOCKE. We offer next photostatic copy of a letter written by McCarty to Robinson, dated December 15, 1931, and in this letter we wish to call the Court's particular attention to the paragraph that appears the fifth from the end, which reads:

"Another question for us to decide is whether we wish to make an attempt to bring the several groups of patents under one control before embarking on the enterprise. This may be possible, but it is likely to delay matters, and it

may be better for us to make a start and deal with competing interests later."

The COURT. Who writes this letter?

Mr. LOCKE. McCarty.

The COURT. To Robinson.

Mr. LOCKE. Yes, your Honor.

Mr. WEBSTER. There is one thing that Mr. Locke has not referred to. There is quite a bit of reference throughout this correspondence with Mr. Robinson about Mr. Robinson's ability to supply certain facilities to a British titanium manufacturing enterprise, and refers throughout to a factory site at Avonmouth. The patents
714 that may be referred to, although I submit that the reference is entirely speculative that Mr. Locke has referred us to, is, well, possibly a reference to some Blumenfeld patents, and what might conceivably be done about them in England. As far as I can tell, it hasn't any relation that it might be in the United States.

Mr. WHITNEY. I am sure your Honor is fully aware of it but to be doubly sure the paragraph that Mr. Locke referred to of course is confined to England. Mr. Locke, I observed, called your Honor's attention whenever there is a naughty word in the papers, notably the word "control." Well, it is a curious fact that the same law of restraint of trade has developed in what might be called the opposite direction in England. It is there permitted for all the companies to combine together if they wish to do so, although the Government through the Board of Trade exercises supervisory control in the event they then find the prices are too high. I think it is really the result of scarcity economy where they can't afford the luxury of unrestrained competition. But so far as du Pont is concerned, who were interested in the American market, it is a matter of no relevance as to whether or not there is an attempt being made in England, within English law, to control in England. Of course by someone else other than
715 ourselves.

I just wanted to make sure that your Honor was clear that it does not prove anything even prospectively along the lines that we were discussing yesterday morning, that there should have been in these early years or at any time some discussion looking to a grouping in England, unless only we later enter into that grouping for the purpose of preventing the English manufacturers selling into the United States.

716 The COURT. Or with knowledge thereof?

Mr. WHITNEY. Yes.

Mr. WEBSTER. Of course they actually did not do what Mr. McCarty was speculating upon. What happened I think, to be quite frank with your Honor now, inasmuch as this has been the subject of some discussion, is that subsequently in England, with reference to English trade, over which presumably they still have some measure of control in the making of a quota arrangement with Laporte, that is what happened.

(Plaintiff's Exhibit 104 received in evidence.)

Mr. LOCKE. We offer next a letter written by Jebsen to McCarty dated January 4, 1932. There appears to be a page attached to that letter with a caption "Freight rate from Avonmouth." We do not offer that in evidence.

We wish to call the Court's particular attention to a paragraph——

The COURT. You do not offer the schedule?

Mr. LOCKE. That is right.

We wish to call the Court's attention to the seventh paragraph which reads:

"It will of course be unfortunate if an English titanium factory should be erected by competitive interests,
717 and the idea with the British Titan Product Company —as a sign that we intend to put up a factory in England—not meet the purpose."

Mr. WEBSTER. I may say I am somewhat startled by Mr. Locke's concern over the competition within England.

There are one or two other things about the letter that perhaps merit reference.

The COURT. Before you go any further I would like somebody to translate that paragraph which Mr. Locke read.

Mr. WEBSTER. Perhaps he will translate it before I go on.

The COURT. What does that mean?

Mr. LOCKE. If the Court please, there has been evidence already introduced, and there will be further evidence, that the National Pigment Company or Laporte interests were then contemplating building a factory——

The COURT. But what do the words "and the idea with the British Titan Product Company—as a sign that we intend to put up a factory in England—not meet the purpose" mean?

Mr. LOCKE. Our construction is that they had then organized the British Titan Product Company. It was merely a name, a corporation. The purpose of organizing it was as

a threat, or to be used as a threat, against competi-
718 tors of the National Lead and others interested that they were going into the titanium business and so discourage the competitors from developing their plant.

The COURT. He says, "It will of course be unfortunate" if this ghost plant did not serve the purpose of frightening off competition.

Mr. LOCKE. That is right.

Mr. WEBSTER. Of course they did erect such a plant and it ceased to be such a ghost, but I suppose if all the hundreds of certificates of incorporation that are filed each week at Albany were searched for possible competition, ghosts, lawyers and their clients would go mad.

But I would like to refer to a paragraph on the first page:

"Personally I am at present inclined to think that when the economic war is over—"

Dr. Jebsen was a great optimist and not only thought the economic war might be over, but in one of his letters which I believe we already have in evidence, or will have, writing from Paris in 1941 he says, "Of course the Germans will be thrown out of Norway in a few weeks." Some of his predictions were of about that character of optimism which I think shows a pleasant character but not altogether accurate.

719 He says: "Personally I am at present inclined to think that when the economic war is over, we may find the various important European countries with moderate tariff barriers."—this is interesting as to what did happen—"which make it advisable to erect factories in markets like England and France when these markets are sufficiently developed. This development has, as you know, not been so rapid as it looked like some years ago and, although there may be a general change in 1932, we need also a considerable increase of the sales before this point is reached. In the meantime, it will probably be more economical to base ourselves on the factory in Leverkausen, which is not fully occupied."

In other words, he was acting as a business man might be expected to act as distinguished from predicting what might happen of the predicting what might happen politically.

The COURT. Leverkausen of course was TG's plant.

Mr. WEBSTER. That is right, yes, sir.

He says at the bottom of page 386 of the print:

"It is difficult to understand that the Associated Lead

Manufacturers will start a titanium manufacture, knowing as we do, what it costs to get a factory well
720 operating as to time and money,—and with us as competitors."

Dr. Jebsen was not only an optimist but he had confidence in his ventures and he thought the threat would not be the fact that a company had been incorporated as a ghost but that it was going to make a showing in England.

Then he talks over here about Laporte. I think that is fairly interesting. It is on printed page 387:

"Laporte's position in Luton seems to me not favorable for a titanium factory—it being in the middle of the country, with extra costs of transport for incoming materials and probable difficulties with the disposal of our sulfuric acid—Iron Sulphate solutions."

In other words, Dr. Jebsen was sizing up the business situation in a characteristic way.

Now on page 388 he refers again to the Commercial Solvents' interest in England and says:

"Commercial Solvents' interest in England was, according to Blumenfeld, limited so, that they could do nothing without him. It seemed, though, that Commercial Solvents had some rights to Blumenfeld's English patents."

Now I think if Mr. Locke is acquainted with the
720-A fact that he ought to tell the Court that that just is not true; that there would be nothing in the record to show that that is true—that Commercial Solvents had any rights to Blumenfeld's English patents.

Now just below that he says:

"Montecatini entered, though, also into the picture, as it had a right for some years to export to England."

721 I just pause to remind your Honor that Montecatini was exporting to England and it was operating under the Blumenfeld patents.

Now an interesting—I say "interesting", but I sometimes wonder if these things have any general interest. Perhaps we can make them interesting in this case or Mr. Locke will help us to make them interesting. They do not seem to be interesting in the sense they push us forward on the road toward a decision, but they have to be mentioned; otherwise these letters will rise to haunt us in the form the Government uses them.

"On Mr. Ticknor's and Mr. Chase's suggestion, based on their talks with Donegani, it was assumed by them that Donegani would accept a certain arrangement. When I met Donegani with Blumenfeld—"

Donegani I take it is the Montecatini man—

"it appeared, though, that Donegani demanded considerably more and seemed to have no regard for his agreement with Blumenfeld, as this has been represented to me by B." (which I assume is Blumenfeld) "Blumenfeld did not seem to have sufficient strength to keep Montecatini to their agreements, and suggested that we should make an arrangement with him and fight Donegani together afterwards. I declined to buy a lawsuit, and
722 the other alternative was to try to conciliate the two. Mr. Burton made an attempt with not much result. I would not follow their suggestion to go between."

In other words, here was Jebsen recognizing here a situation in which he had no legitimate interest, and not permitting Blumenfeld and Donegani, who had relations in the deal, to use him as a sort of mediator to bring some sort of order out of their particular chaos.

So this helps to explain, however, the arrangement which they made later in Europe affecting Montecatini and Blumenfeld and so forth.

The COURT. It will be received.

(Plaintiff's Exhibit 105 received in evidence.)

Mr. WHITNEY. If your Honor please, there is one part of this letter which is useful for an understanding of the du Pont problem in this case. At the bottom of page 389 Mr. Jebsen says:

"Mr. Ticknor"—that is of the Commercial Solvents Company—"said to me last Autumn"—that would be the Autumn of 1931—"that Mr. Ewing, du Pont's representative in London, would see Donegani this Autumn"—that is talking in the Autumn of 1931 he tells Jebsen
723 Mr. Ewing would see Donegani in the Autumn of 1932—"and, as du Pont has many points of interest together with Montecatini"—which, as I mentioned the other day, is the largest chemical company in Italy—"Mr. Ewing might influence him."

The speculative character of that will be apparent, your Honor, from every point of view.

"It seems to me that Commercial Pigments or du Pont are nearest to clear up the matter between Blumenfeld and Montecatini."

Now, as usual, how speculative that is in July of 1931. Du Pont had acquired a 70 per cent interest and Commercial Solvents a 30 per cent interest in Krebs, and for all that appears here Dr. Jebsen knew nothing about it at all, because it was Krebs that was operating in the United

States at that time and had been for many months, and he goes on writing in this interesting but irresponsible and chatty way with his American associate about what he is thinking about as the years roll by in London.

The next sentence:

"They must have a clearer view of the relations between the two, and should have influence with both."

That is influence with the French gentlemen of
724 Mr. Blumenfeld who had made these other inventions, and Montecatini. What the influence was for does not appear. Then comes the critical sentence:

"If du Pont took over Blumenfeld's European interests, we would have some more responsible people to deal with."

There you have Jebsen speculating in conclusion that if only du Pont would come over there and take over Blumenfeld's interests they would have more responsible people to deal with. The short answer to that is that that never happened, or anything like it. And this is written in January of 1932.

Now the Government has an exhibit that shows that in October of 1932, ten months later when a du Pont vice-president, Mr. Pickard, was in Europe on general du Pont matters, he was brought into a conference with Mr. Donegani of Montecatini, and this Mr. Ewing, the du Pont representative in London. In other words, everything to which this paragraph related by way of speculation headed up into that conference ten months later, and Mr. Pickard said that any suggestion of du Pont entering into this European-Blumenfeld-Montecatini relations must be completely repudiated; that this would be absolutely illegal according to American laws and therefore du Pont would not be interested regarding this price agree-
725 ment in Europe which would take place between European producers. Du Pont was precluded from taking any share in it due to American laws.

The COURT. That exhibit is not yet in?

Mr. WHITNEY. No, but doubtless it will come in. And it just puts the quietus on this speculation which comes up here, and it is characteristic of our problem here. What got us into this is speculations in London and Paris against the background of countries where there are no antitrust laws, and about "if they could only go over and get du Pont to do these things," and then one finds there is nothing to it.

Mr. LOCKE. I should just like to say this in answer to

Mr. Webster's challenge that we develop our full theory of the whole case as we offer each successive exhibit.

The COURT. You are not obliged to answer anybody's challenge.

Mr. LOCKE. I am hopeful we have discussed the exhibit sufficiently so that the Court might have an understanding of the purpose of the exhibit as it relates to the case up to the point where we have at this time developed it. True evidence of all of these facts that both Mr. Webster and Mr. Whitney have discussed will appear in the
726 record, but I have not seen fit to discuss them until they get into the record being afraid of the challenge I would get from these two gentlemen, if I did.

We next offer a letter from Mr. McCarty to Jebsen dated January 8, 1932, and call the Court's attention to the fourth paragraph which reads:

"It may or may not be possible or desirable for us to clear up the patent situation before we start. Nothing has been heard from Mr. Blumenfeld since my last letter to you on the subject, and yesterday I suggested to Mr. Chase that he attempt to formulate some proposal for the rights to the Blumenfeld patents in England so that we might have something definite to begin with. I fear that the European situation is too complicated for us to deal with all countries at one time."

Then again, if the Court please, in the second succeeding paragraph it reads:

"We have no desire to have the "Associated Lead Manufacturers share in the management of the English business, but should we form an English company it might be wise to allow them to participate to a small extent as they are large potential buyers as well as potential competitors. In addition to this they are largely interested, as
727 you know, in Hopkins & Williams Travencore, Ltd."

The Court will remember they were the owners of ilmenite deposits.

Mr. WEBSTER. I fail to see the significance of the paragraphs my friend referred to, but I leave that to your Honor. Mr. McCarty again says:

"My own opinion is that we will sooner or later we will have to have an English factory if we wish to maintain our position in the British market, and that the necessity for it may come sooner than some of us now anticipate."

I think the next paragraph is important where it says: "yesterday I suggested to Mr. Chase that he attempt to formulate some proposal for the right to the Blumenfeld

patents in England so that we might have something definite to begin with,"
which simply means that McCarty thought that Chase might have some influence with Blumenfeld. I think that is the only significance that can be attached to it and is in accordance with the fact.

The COURT. I suppose Mr. Locke sees in it the early budding of the plant which grew into the Blumenfeld-Barton-Rossi coagulation.

Mr. WEBSTER. I do not think that coagulation
728 ever occurred.

The COURT. Well, whatever did.

Mr. WEBSTER. But he may think that is what it shows.

The COURT. All right. Any further comment?

There being none, Plaintiff's Exhibit 106 will be received.

(Plaintiff's Exhibit 106 received in evidence.)

Mr. LOCKE. We offer next a letter from McCarty to Judson, dated January 12, 1932, and call the Court's attention to the second paragraph which reads:

"Although I have not compared them carefully the agreement dealing with the license appears to follow the lines of the agreement of 1920."

That emphasizes the fact that the primary concern of the National Lead was to have all their future dealings rest on and conform to all terms of the 1920 agreement.

(Plaintiff's Exhibit 107 for identification marked.)

Mr. WEBSTER. No objection; no comment.

Mr. WHITNEY. Now, your Honor, I welcome that statement by Mr. Locke. It is one of the most helpful statements that has been made. He said, "We take the position that National Lead wished all these agreements to
rest upon the 1920 agreement." And a great prob-
729 lem that your Honor mentioned yesterday morning, and is going to grow as we go along, is the effort to define what is the partnership or enterprise, to use two of the words your Honor referred to yesterday, because the question is going to be for us, did we or did we not enter into the partnership or the enterprise. Mr. Locke has now again very tersely defined it. The enterprise is to create a situation that will, as he says, rest upon the terms of the 1920 agreement. I would offer to your Honor a test of this all the way through, as to whether we enter into the terms of the 1920 agreement at any time.

The COURT. Exhibit 107 will be received.

(Plaintiff's Exhibit 107 for identification received in evidence.)

Mr. LOCKE. We offer now a copy of the minutes of a regular meeting of the board of directors of National Lead Company, dated February 18, 1932.

(Marked Plaintiff's Exhibit 108 for identification.)

Mr. WEBSTER. No objection and no comment except to say that this is not the proposal that was carried out.

The COURT. That is the formation of the company?

Mr. WEBSTER. That is not the proposal for capitalizing the company that was carried out. It was one of the preliminary suggestions.

730 Mr. LOCKE. This is merely offered to show the awareness of the officers of the company of the actions of Mr. Robinson who eventually became president of BTP.

The COURT. It will be received.

(Plaintiff's Exhibit 108 for identification received in evidence.)

Mr. LOCKE. We offer next copy of a letter from Jebsen to McCarty, dated February 18, 1932, and call the Court's attention to the second and third paragraph on the first page and to another paragraph, seven or eight paragraphs further along, which starts "Considering the advantages and disadvantages I believe an arrangement on the above lines is interesting to us".

Then the next paragraph, which reads:

"It does not appear from Mr. Robinson's conversation that he would be willing to give us a price for sulfuric acid cheaper than what may be considered reasonable in consideration of the quantities we may consume,"

and the rest of the paragraph. And also the next succeeding paragraph:

"If a combination with these two companies prevents anybody else from entering the industry—anyhow on
731 a basis representing serious competition—it can be worthwhile to have them as partners also in view of the strength and influence they otherwise can exercise."

May I explain there is a final page attached to that exhibit, but we do not offer that—a schedule of "Deliveries to Customers."

Mr. WHITNEY. While Mr. Webster is looking at it and while your Honor has that last sentence fresh in mind, I would just like to thank Mr. Locke and tell him I think I will put that in verbatim if we ever have to write a brief.

The COURT. "If a combination"—in England—with these two companies prevents anybody else from entering the industry—anyhow on a basis representing serious competition—it can be worthwhile to have them as partners also in view of the strength and influence they otherwise can exercise."

Mr. WHITNEY. Not merely these two companies did of course enter later into this partnership in England—all these companies did—but this shows that we are an American manufacturer confronting that letter and would appreciate not only the ostensible elements, but also what might be called the otherwise elements. They are pretty strong in England.

Mr. WEBSTER. I mention first that I note at the
732 top of the page Mr. Cornish has a copy of Dr. Jebsen's letter which is in longhand. I just make that note for the record. It might become of importance.

Now on the next page there are some rather interesting remarks concerning the attitude of the British industry or the British people and the Government. There has been some discussion as to the division of control, and in addition to that some discussion of the compensation that Titan, Inc. was to receive for its going concern. On this question of control Dr. Jebsen says:

"I told him that I personally would prefer to have 51% interest as I thought this would be of advantage to all on the point of your management, but I did not make it a condition."

That is, he thought this might be arranged by voting shares.

"He mentioned that I.C.I. might say that this being a British industry, the majority ought to be in British hands. On my reaction that that would be the end of our negotiations he expressed the view that we might always talk about it. We finished up that he would say to the I.C.I. that there was an opportunity for them and him to make an arrangement with us on the basis of 50:50 interest."

733 Now that is related to the statement that Mr. Locke already mentioned on page 403, and which he did not read the whole of:

"Considering the advantages and disadvantages I believe an arrangement on the above lines is interesting to us. Apart from both companies' general position it will represent a combination with the two most important sulfuric acid manufacturers in England who can, presumably, make acid cheaper than anybody else—I.C.I. in Billingham

and Imperial Smelting Corporation in Avonmouth."

So that Jebsen was looking out again for the cost.

Now there is one other thing which this either expresses or clearly foreshadows and that is that it was the policy of the British Government at that time that companies like I.C.I. and I.S.C. should not divide in their consideration of new English enterprises of this character but that they should consider each other's interest and the public's interest in taking up a new industry like titanium pigments. That will be borne out, if not completely borne out, by this other correspondence which I expect Mr. Locke to offer later.

733a The COURT. Exhibit 109 will be received.

(Plaintiff's Exhibit 109 received in evidence.)

(Short recess.)

734 Mr. LOCKE. We offer next copy of a letter from E. J. Cornish to Dr. Jebsen dated March 5, 1932 and call the Court's particular attention to the third paragraph of this letter which reads:

"I would not like to make any arrangements whatsoever with people whom I would distrust if they had more than one-half the stock. If there is any reason in the laws or customs of England to preserve the theoretical control of the company in people living in England, I know of no reason why we should complain of that condition at this time. I therefore would not make it a sine qua non that we must have 51% of the stock—or even more than 49%—if the laws of England make that desirable."

That is just by way of explanation of—

Mr. WEBSTER. I might comment on that if I may.

The COURT. If Mr. Locke has concluded.

Mr. WEBSTER. I think it very fair of Mr. Locke to offer this letter and I would like to read the remainder of the letter. Mr. Cornish says:

"I think that the sales that they have been making in England, and the profits made thereon, justify the demand for £125,000 for the good will and knowledge of our people. The losses suffered in this business"—this

735 is 1932, if your Honor please—"in learning about its various conditions, our ability to overcome those losses and reduce the cost of making titanox from 28¢ a pound to its present price, entitled us to a fair compensation for that experience which would become available to a newcomer."

Yesterday I referred to a drop in the price of titanox from 18 cents to 10 cents and I must have been mistaken

about that, because here is Mr. Cornish talking about a drop from 28 cents to I think less than 10 cents, as shown by that exhibit we had talked about yesterday, and referring to the losses that were incurred in order to bring that about.

I do not know just what significance Mr. Locke attaches to this next paragraph, wherein Mr. Cornish says:

"I would not like to make any arrangements whatsoever with people whom I would distrust if they had more than one-half the stock. If there is any reason in the laws or customs of England to preserve the theoretical control of the company in people living in England, I know of no reason why we should complain of that condition at this time. I therefore would not make it a sine qua non that we must have 51% of the stock—or even more than 49%—if the laws of England make that desirable."

736 I don't know about the laws of England but it is certainly not suggested in this letter that Mr. Cornish has any doubt these English companies. He simply says that he would not like to have less than half the stock if they were people whom he distrusted.

The COURT. I see no more in this than simply the mental development of the arrangement which resulted in a particular stock distribution. History, yes, but not very material.

Go ahead. Plaintiff's Exhibit 110 is received in evidence.

(Plaintiff's Exhibit 110 for identification received in evidence.)

Mr. LOCKE. We offer now a letter written by Jebsen to Edward J. Cornish dated April 7, 1932, to which is attached a copy of a letter written by L. B. Robinson to Dr. Jebsen dated April 4, 1932.

Mr. WEBSTER. Your Honor, there are quite a few longhand notes on the photostatic copy of the letter, and I assume that Mr. Locke is not offering any of those and that they should not be contained in the print.

The COURT. They are not contained in the print, are they?

Mr. WEBSTER. They are not contained and I assume that they should not be contained in the print and

737 are not offered.

Mr. LOCKE. They are not offered, your Honor.

The COURT. Very well. This being one of Dr. Jebsen's letters, you had better tell us very briefly what it contains.

Mr. LOCKE. I think I can read very briefly and as quickly as I can tell the Court the third paragraph:

"It is of course not chiefly the patent situation which should be taken into account by the I.C.I., but our total position in the titanium industry, our sales and goodwill in the English market and our many years' experience from manufacture on a large scale.

"I hope and think the I.C.I. will realize the fight they will have with us in case they want to take up the titanium industry with no agreement with us."

Then, skipping a paragraph:

"If their reference to several of our basic patents expiring in a year or two, means that we should have to reckon with lower profits, it should be remembered that the profits I have taken as a basis are in ratio to the profits from lithopone, or even lower, and a reduction of the titanium profits would presumably lead to a still larger proportion of the lithopone business to be taken by titanium."

738 Then reading from the letter attached, Mr. Robinson's letter, the third paragraph:

"'With regard to titanium white, for instance, our conclusions show that 6000 tons of pigments could be provided for by an investment of the order of £150,000 which would not justify a scheme on the scale put forward by Dr. Jebsen. The point, therefore, arises, would the National Lead Company agree to a scheme which was capitalised on the actual requirements of the situation and which would take into account the fact that the patent situation in this country becomes extremely weak by next year.'"

The COURT. Mr. Webster, have you anything to add?

Mr. WEBSTER. Well, of course the patent situation did not become weak, and Major Barley who is being quoted here as the authority for that was not an authority. The reference to the capital arrangements I think is simply a suggestion that it would be prudent instead of raising a fixed amount to raise an amount that would seem to be sufficient for the time being and then have arrangements for further calls or credit later.

Now in connection with a matter that has been mentioned before, there is a paragraph on page 409 which says:

739 "It may interest you Major Barley called on me'"—this is in Dr. Jebsen's letter—"in Norway in 1924 or 1925, to the purpose of I.C.I. taking an

interest in titanium at that time. I told him then that it was too early to start a factory in England and he asked me to keep in contact with I.C.I. and remember them when we thought the time was ripe."

Well, the approach was from I.C.I. to Jebsen, back in 1924 and 1925, and this present correspondence was the ultimate consequence of that.

Mr. WHITNEY. Just a brief word, if your Honor please, upon the bearing of the patent situation in England upon this case. Mr. Locke has read two paragraphs from the two letters which cause one to infer that he considers it part of the Government case to establish in respect of England what would perhaps make a case in favor of the Government were it established in respect of the United States, to wit, that a proposed joint agreement between two or more large competitors cannot be suported upon the basis of their total position in the industry or their sales and goodwill when they admit that it is not chiefly the patent situation upon which they propose to support it. Or, more simply, that he is pointing out that he has contemporaneous evidence which Mr. Webster has criticised as to its expertness to the effect that the patent defense was dying in England.

740 Now that is, with great respect to Mr. Locke, a total misconception of the Sherman Act. The point of the American banana case, a unanimous decision of the United States Supreme Court, written by Mr. Justice Holmes, was that even where the United Fruit Company procured the Costa Rican Government to drive the poor little American banana company out of its vineyards by sending in a file of soldiers was no concern of our courts under the Sherman Act. That is as far as this goes—it is talking about something inside England, a proposal inside of England in accordance with the law of England to have two or more large English companies combine in their efforts, notwithstanding that they have a weak patent situation in England.

Now the point at which a question of that sort becomes relevant to an American proceeding under the Sherman Act is illustrated by the Sisal Sales case in the Supreme Court in which it was proven as a fact that the Equitable Trust Company in New York and a group of other importers of Sisal entered into a conspiracy and made an agreement to take all the sisal in Yucatan, Mexico, off the market so that they could sell at a high price in the American market the sisal which they landed here when

they had taken over the stocks of companies that they had to liquidate as bankers. And therefore, there
741 was proven the intent of the American group directly to stop imports into the United States by the means of buying up all the sisal available in Yucatan, where our sisal comes from, and holding it here; so that although the act was local in Yucatan the purpose with which the act was taken was in order to take it off the market in the United States. Present Circuit Judge Augustus Hand decided wrongly in that case through an inadequate understanding of the banana case, relying upon the banana case, and the Supreme Court, which was to a large extent the same court that decided the banana case, pointed out the distinction clearly.

Now this has none of the elements of the sisal case.

The COURT. If you mean by "this" this document——

Mr. WHITNEY. Exhibit 111.

The COURT. I say on this exhibit there would be no argument. I don't think Mr. Locke would dispute that with you. But I assume Mr. Locke would respond to you and say that this is a case of the banana case plus an intention to keep the poor little banana fellows out of the United States, plus an agreement to keep them out, plus the policing by United Fruit that they should stay out, plus an agreement by United Fruit to stay out of the little fellow's place and not to compete with him. I suppose he would say that is what makes his case.

742 Mr. WHITNEY. That would be right. Now my conclusion simply is that your Honor will have observed that although we had entered this business in 1931, almost a year before this, through our investment in Krebs in America, there hasn't been and there won't be a word in any of these documents to suggest that second element.

The COURT. As far as du Pont is concerned.

Mr. WHITNEY. Yes. And that is what we will be looking for, and when it comes it has got to be much more than a word; it has got to be some facts.

Mr. WEBSTER. If the Court please, I subscribe to all of what Mr. Whitney says except in answer to your Honor "that will be right" or "that is right." Of course I have had in mind at some appropriate time discussing this question with the Court but had thought it would be premature to do so now.

Having said that, and having a reservation of that discussion, I might add by way of a personal note that Mr. Whitney has good reason to be proud of the sisal case

because, while it may not appear from the report where his name is, perhaps third or fourth in line of counsel, having been his successor in office in the Department of Justice at the moment that that case was argued, I happen to know that he wrote the brief.

743 Mr. WHITNEY. I think his Honor will take judicial notice that customarily the last name on the brief is the one that does the most work.

The COURT. I thought that was the usual rule.

Exhibit 111 in evidence.

(Plaintiff's Exhibit 111 for identification received in evidence.

Mr. LOCKE. We offer now the letter from Jebsen to Major Barley dated April 27, 1932.

Mr. WEBSTER. I do not object to it but I would appreciate Mr. Locke telling what parts of it he thinks are material.

Mr. LOCKE. The material parts occur under the part of the letter that has a sub-heading "Period," starting there, and particularly under that heading, some seven or eight paragraphs later, where this paragraph appears: "The agreements provide"—he is now discussing other agreements, the provisions of which are made a condition for the agreements in connection with BTP——

"The agreements provide that export of products within the Licensed Field outside the territory of the licensee cannot be undertaken by the licensee"——

The COURT. Are you reading from the section entitled "'Period"?

744 Mr. LOCKE. Oh, I was in error. That was under the paragraph entitled "Licenses." I skipped one that I want to call the Court's attention to. Under the sub-heading "Licenses," the third paragraph begins:

"In order to avoid competition and friction, it was agreed that each company should confine its activity of manufacture and sales to a definite territory; the Titanium Pigment Company to North America and the Titan Co. A/S to Europe, Asia, Africa and Australia. As regards South America, this was left open for both companies."

And then skipping eight paragraphs we come to the paragraph that I started to read:

"The agreements provide that export of products within the 'Licensed Field' outside the territory of the licensee cannot be undertaken by the licensee which also shall endeavour to prevent its customers from doing so."

The next paragraph goes on:

"Articles manufactured by the customers of the licensee can be freely"——

The COURT. Wait a minute. Is this supposed to be descriptive of one of the agreements now in evidence?

Mr. LOCKE. No, if the Court please. These are
745 negotiations, these were discussions had in anticipation of the execution of that agreement, and these were conditions that were offered to Major Barley as necessary elements to be incorporated into the BTP agreement.

Mr. WEBSTER. No. I think Mr. Locke is mistaken about that. He says, "I beg to quote the definition of the Licensed Field agreed upon with the I. G. Farbenindustrie," and then he goes on to say, "The agreements provide"—and I suppose he is referring——

The COURT. He is referring to the IG agreement.

Mr. WEBSTER. I assume he is talking about the IG agreements. And the top of page 417 and the bottom of 416 indicate the same relation.

The COURT. Is there anywhere where he suggests that the British should enter into an identical arrangement?

Mr. LOCKE. In the second paragraph of the letter:

"National Lead Company is willing to co-operate with Imperial Chemical Industries and Imperial Smelting Corporation in the development of a titanium industry in the British Empire on the following basis:"

And then with an uninterrupted continuity he suggests the various terms and conditions.

746 The COURT. All right. Plaintiff's Exhibit 112.

(Plaintiff's Exhibit 112 for identification received in evidence.)

Mr. LOCKE. Our next exhibit is a letter written by Jebsen to Cornish dated April 29, 1932. With reference to this exhibit we call the Court's attention to the third page, the paragraph appearing after the tabulation of "Net Profits," some 10 or 12 paragraphs long, which paragraph reads:

"I have the impression that it is not the intention of the I.C.I. to start in competition with us in case we do not come together, as they have their hands otherwise full up and will hesitate to make a fight—the matter not being of sufficient interest to them in such case, at the present. I believe, though, that, as time goes on, their interest in Titanium will be increasing, and therefore it would be wise to have an arrangement with them and their assistance already now, as they presumably can assist considerably in the development of the uses of Titanium."

Mr. WEBSTER. I had intended to call your Honor's attention to that. I am glad Mr. Locke did.

Mr. LOCKE. I am glad to oblige, Mr. Webster.

The next paragraph:

747 "With regard to G. W."—that is Goodlass Wall —"& Lead Ind., I do not feel so certain that they will not try to develop a production on the basis of the National Pigments Co."—the Court will remember that is Laporte Company—"—if they do not come together with us—although they no doubt will hesitate before doing so. I believe they feel that they do not know much about production and costs of Titanium. Mr. Tasker expressed to me that they considered they should take up Titanium, but felt the situation was difficult, in view of the National Lead Company having not shown any reaction to their suggestions (or proposals)."

Then again, about the third paragraph from the end, I wish to read the paragraph which starts:

"I have the impression that Major Barley does not consider the National Pigments Co.'s patents and position to be of any interest and, on Mr. Clive Cookson's question as to Blumenfeld, he answered that they had no trade in the British Empire. He said that du Pont had a factory based on Blumenfeld and also Montecatini; du Pont, however, was not interested in the information that du Pont and National Lead Company were good friends, and

748 I have the idea that he may ask du Pont's point of view before I.C.I. takes a standpoint. This may lead to some complications, in view of du Pont's desire to make an arrangement with you for U.S.A. and the difficulty there is in doing so, without an arrangement also on this side.—I just mention this, in case you should hear anything from du Pont."

The next paragraph:

"Major Barley expressed very definitely that a company formed with National Lead Co., I.C.I. and I.S.C. as partners, in his opinion, would leave no chances for National Pigments Co. or Blumenfeld, and you will know from my previous letters, that this seems very likely also to me."

Mr. WEBSTER. I have just one or two comments.

The COURT. First I assume and want you to note that Mr. Whitney wants to read the last paragraph that Mr. Locke just read, too.

Mr. WHITNEY. I would like to refer to it very briefly in a moment.

Mr. WEBSTER. I thought Mr. Whitney would mention it. I think for the purpose of understanding I should refer to the bottom of page 421, where Dr. Jebsen says:

"Mr. Cookson and Mr. Tasker talked about their patents and National Pigments Co.'s patents, which
749 did not seem to interest anybody else much, except that W.S.R."—that is Robinson I think—"seemed inclned to buy them out against a small sum, in order to get rid of a possible nucleus of competition."

Well, the fact is, as I indicated before, that Goodlass, Wall, and Tasker did have some sort of an option or refusal of the National Pigments Company's patents and let them go. I mean, they never did come into this or come into BTP, and it is rather interesting that instead of simply buying them out they did let them go regardless of Mr. W. S. Robinson's suggestion about them. I think that is all I have to say about that.

Mr. WHITNEY. In reference to your Honor's comment, here were Major Barley and Dr. Jebsen sitting together in Europe, and there is something they did know about and that they were qualified to be expert upon and that was the subject matter to which your Honor called attention—whether their proposed combination would be strong enough to keep any possible competitor out of their market. So that on that subject I think their testimony is expert.

Now there is something that they did not know anything about and that was the subject of what du Pont might or might not be thinking about over in America, and the best evidence of that is that this Dr. Jebsen,
750 who confessedly knows nothing about it, is the one that is telling Major Barley that he thinks that "you and du Pont are good friends." Well, you see, as I mentioned before, du Pont had of course some other exchange of patent knowledge and invention with ICI. That is how we got some of the British inventions, very fortunately in this war. So that Major Barley of ICI, if anyone had thought that there was anything unusual between National Lead and du Pont, would have been the one to know it, but he didn't even know anything about it, but received from Jebsen, who speaks exclusively through a National Lead lens of what purports to be the news. And what is the news? That we are good friends, which of course is meaningless. So that what we have is the same old story. In respect to du Pont it is only chatter, but in respect of the British market it is the most expert possible evidence.

The COURT. Very well. Plaintiff's Exhibit 113 in evidence.

(Plaintiff's Exhibit 113 for identification received in evidence.)

Mr. LOCKE. We offer next a letter written by W. S. Robinson to Dr. Jebsen dated May 2, 1932, and call the Court's attention to the second paragraph which reads:

751 "In determining what might prove to be so, one must bear in mind that notwithstanding our repeated advice to establish some form of works in this country, you have not done so. You are therefore today facing the certainty of competition unless an agreement is made with your most likely competitors. The latter, we are bound to say, are not likely to accept any proposal which did not give cash capital a first charge on profits."

Mr. WEBSTER. I think what is perfectly obvious about that letter is that W. S. Robinson, who was a good old-fashioned British business man, was doing some pretty heavy trading with Jebsen and saying, Now, Jebsen, you have been playing around with this and writing a lot of letters home and having a lot of correspondence with Mr. McCarty and we want to see some action; and he is putting the heat on to Mr. Jebsen.

The COURT. Also, that he has not read the Sherman Antitrust Act, particularly some of the decisions of the Supreme Court under it. I think he establishes that pretty satisfactorily.

Mr. WEBSTER. And that he is not in the least concerned with it.

The COURT. Plaintiff's Exhibit 114 received in evidence.

(Plaintiff's Exhibit 114 for identification received in evidence.)

752 Mr. LOCKE. We skip the next five exhibits appearing in the printed record and take up the exhibit which appears at page 437. This letter which we offer from Jebsen to Cornish dated May 10, 1932, in which we wish to call the Court's attention——

Mr. WEBSTER. May 6, 1932.

Mr. LOCKE. May 10.

The COURT. Briefly tell us about it.

Mr. LOCKE. Well, again, just reading a line or two will cover it, if the Court please. The third from the last paragraph:

"Talking of the 50-50% or 49-51% interests, I repeated some of my previously mentioned arguments, and added that it might well be that W. S. Robinson was right in his view that the National Lead Company would not insist

apon 50%"—that paragraph, again explaining that position.

The last paragraph:

"I asked him, when leaving, whether the linking up of Titanium with Lithopone and Zinc Oxide was such that it could lead to I.C.I. considering only all three, or if they might take interest in one and not in the other. He first thought they would have to take the stones with the plums, and not only pick out the plums. This has been said in
753 connection with the question of Lithopone and Zinc Oxide. He did not know his father's point of view as to Titanium, but anyhow they were not partners in Titanium yet."

Mr. WHITNEY. I think your Honor must be clear on the fact, at the bottom of page 439, that reference to du Pont having a 49% interest in a factory in England in which ICI had 51% is not a factory operating within the scope of this complaint, that is, it is not a titanium factory. It is in some other industry.

Mr. WEBSTER. There are one or two things I would like to mention. The last paragraph on page 438, the middle of the paragraph says:

"Major Barley mentioned that they"—that is ICI—"for instance had been developing a new method of making linoleum; which they will give to the linoleum manufacturers and alter their industry, and they might in that connection be able to create a large outlet for Titanium, which it would take us considerably more time to open up. I agreed to his point of view there."

Now that of course is precisely one of the major reasons why this arrangement was made with ICI, with its vast facilities for research and distribution.

Now at the top of page 439 there is this:

754 "I asked him if his remark, that the Titanium is linked up with Lithopone and Zinc Oxide, was to be understood so that if they did not agree to W.S.R.'s proposal re these last, they would not be interested in Titanium. He thought he could not answer this at present. I.C.I. was looking over various industries at present, in groups, and they considered them in groups. It may be that they would also consider Titanium separately."

Now I think that the inference is clear from that that what I said a moment ago is true—that during this period the British business, concerns like ICI, ISC and Goodlass Wall were not, pursuant to the Government policy, acting individually but were acting more or less in groups.

755 The COURT. Do you understand that the word "groups" refers to companies or to products?

Mr. WEBSTER. I think it refers to groups of industries and I think the sense of this is, if all of it is read, that these companies were acting more or less together for the purpose of considering which of them would take up interests in these new companies.

Your Honor recalls that the ICI, and I think this is just a matter of public knowledge, was organized after the last war for that precise purpose, to bring together the theretofore divided interest of the British chemical industry, and this is in line with that.

Now I think this next paragraph is interesting also:

"Major Barley thought they could be of much assistance to us in the development. I showed some difference in accepting this view, as I considered the development of the manufacturing part would be done by the company's own organization, and the advantage to the Titanium Industry of I.C.I.'s experience generally would much depend upon the chemists I.C.I. put in, and their ability to make this experience available to us, but anyhow I felt that we were more or less of the same family."

The COURT. Exhibit 115 is in evidence.

756 (Plaintiff's Exhibit 115 received in evidence.)

Mr. LOCKE. We skip one now and take up the exhibit that is found on page 442. This is a letter from Jebsen to Cornish, dated May 10, 1932.

The COURT. It is addressed to Jebsen.

Mr. LOCKE. This document is a letter written by Beschorman to Jebsen, dated May 14, 1932.

The COURT. Who is Beschorman?

Mr. LOCKE. He is the vice president who succeeded McCarty. McCarty became ill and subsequently died.

I wish to call the Court's attention to the second paragraph in this letter, the second and third paragraphs, and they read:

"There is one other point I think is necessary to emphasize. In your letter of April 27th to Major L. J. Barley of the Imperial Chemical Industries Limited, copy of which you also sent to the Associated Lead and to Mr. Robinson, you specify the division of the capital, on the last item, as National Lead Company or its subsidiary £125,000 for compensation for patents, trade mark and good-will. This is not strictly a true statement of what the £125,000 is being paid for. This amount is being paid

to the National Lead Company or its subsidiary for
757 its established business in Great Britain, for its trade marks, good-will and technical knowledge which will be given the new company to enable them to start off without all the trouble that we have had in the past.

"We think it is absolutely essential for them to thoroughly understand that we are asking nothing for the patents. Unless this is thoroughly understood by them you will have the A.L.M. and National Pigments people, if taken in, making a demand for payments for their patent which must be avoided as our laboratory people attach no importance to these patents whatever."

The COURT. If he hadn't read the last paragraph I suppose Mr. Webster would have. He has read them both, so we are all right. Plaintiff's Exhibit 116 is received in evidence.

(Plaintiff's Exhibit 116 received in evidence.)

Mr. LOCKE. We offer next a letter from Tasker to Beschorman, dated June 10, 1932, and call the Court's attention to the third and fourth paragraphs, which read:

"You will remember that so far as National Titanium Pigments Limited were concerned, we had arranged to have an option over their position for a six months' period. We had kept them fully advised of the position, and, to the best of our belief, they were completely
758 satisfied with the line of action that was being followed, but, somewhat to our surprise, immediately on the expiry of the option period, they advised us that they had made an arrangement with Messrs. Laporte, of Luton, who are manufacturers of Blanc Fixe, for the establishment with them of a plant.

"It will not, therefore, be possible to get hold of this outfit—at any rate for the time being."

Mr. WEBSTER. No comment, your Honor.

The COURT. All right. Plaintiff's Exhibit 117 in evidence.

(Plaintiff's Exhibit 117 received in evidence.)

Mr. LOCKE. We offer next a weekend letter sent by Cornish to the National Lead representative in London, England, dated June 25, 1932.

The COURT. June 26 is in mine.

Mr. LOCKE. This is June 25.

Mr. WHITNEY. The print is wrong.

The COURT. It should be the 26th.

Mr. LOCKE. This is a long weekend letter suggesting the formation of BTP, and outlining——

The COURT. Who is Cartvan?

Mr. LOCKE. He was the National Lead representative in London as I understand. (Continuing) Giving details of the organization that would be acceptable
759 to the National Lead.

Mr. WEBSTER. I don't think that is true. I am advised that we had no such employee. I assume it is a cable name.

The COURT. That is what I would suppose. It is somebody's cable address. Whose is it, do you know?

Mr. LOCKE. I would like to explain that some place, I can't remember where, in the files, I had seen that name before and it was so used that it indicated that it was the name of a man. I may be entirely in error.

Mr. WEBSTER. I have no knowledge on that subject, but it is a cable address of some sort. One other thing that might be said about it is that it is a great long week-end letter that relates to negotiation on this subject that sets up a plan that was not approved and never became a part of the 1933 arrangement. It seems to me that it is the sort of thing that could well be omitted from the record because it is difficult to read.

Mr. LOCKE. We do not think that it has any particular significance. We were just concerned with having as full a record as we could prepare on the negotiations that led up to the arrangement.

Mr. WEBSTER. With the thought that it is sufficiently important to justify its being in the record, I would
760 like to refer to page 448 where Mr. Cornish, who was formerly president of National Lead Company, says:

"Regarding the payment of £125,000 to us for our good will, etc., I can only say that our technical knowledge has been very costly resulting in our having over six million dollars invested in the manufacture of titanium pigments involving losses of over two million dollars before they began to pay. I am informed that two of the best reputed accountants of Great Britain (one suggested by you) have placed £125,000 as the fair value of the business that we have been doing in Great Britain."

The COURT. Exhibit 118 received in evidence.

(Plaintiff's Exhibit 118 received in evidence.)

Mr. WHITNEY. May I just point out, your Honor, that on page 447, in the middle, beginning about the eighth line, your Honor will find that the economic situation was that

the German costs of production were so low that it was unwise to conduct a plant in Britain unless the protective policy of England cut the German manufacturer out so as to make the plant worth while. Those were the sort of economic considerations that were operating.

Mr. LOCKE. We offer next a letter from W. S. Robinson, to Edward Cornish, dated July 16, 1932, and
761 in this letter we wish to call the Court's attention to the last paragraph, which reads:

"The Imperial Chemical Industries state that it is very desirable to eliminate competition in the relatively small British market, and subject to your concurrence, they will do this by offering a small participation to the Blumenthal people, who are desirous of entering the business."

There is a copy attached to the exhibit that we are offering. We are offering just one of those documents.

Mr. WEBSTER. I just point out that here is a letter from W. S. Robinson, President of a British company, Imperial Smelting, to Mr. Cornish, telling him what Imperial Chemicals told him about what conditions are in England and what is desired there.

The COURT. Exhibit 119 is in evidence.

(Plaintiff's Exhibit 119 received in evidence.)

Mr. LOCKE. We offer next a letter from Cornish to Robinson dated July 20, 1932. We offer this merely for the purpose that it includes a statement in there that the Canadian situation should not be considered in the negotiations for the development of BTP, because the Americans have the exclusive right to the Canadian market.

Mr. WEBSTER. Do you offer the telegram attached to that?

762 Mr. LOCKE. Not as part of that exhibit. We are not going to offer that telegram, no.

Mr. WEBSTER. This reference to Canada may be of some importance:

"Inasmuch as our sales department is thoroughly organized in Canada and negotiations have been pending with other Canadian interests to manufacture in Canada, and we have $550,000 par value of Canadian gold bonds with which to build the plant (if necessary) in Canada, I think probably this feature will adjust itself by letting our Canadian company, instead of building a plant, buy from the American company or the new plant to be constructed in England, whichever may prove to be more advantageous to it" etc. Of course, what actually happened throughout the war and prior to the war is that we have supplied

very large quantities of titanium required in Canada and the plant has not been built.

The COURT. All right. Exhibit 120 received.

(Plaintiff's Exhibit 120 received in evidence.)

Mr. LOCKE. I offer next a letter from McCarty to Robinson, dated August 12, 1932, with a memorandum attached, and the memorandum is dated August 12, 1932.

Mr. WEBSTER. I don't think it appears that McCarty wrote it.

763 Mr. LOCKE. There isn't anything to indicate that, except the use of the word "Vice-president" at the bottom, and we assume that it was McCarty because he signed his name over "Vice-president."

We are now advised by the attorneys for National Lead that on their copy the name Beschorman appears, so we will accept as the author of that Mr. Beschorman.

Mr. WEBSTER. The name Beschorman does appear, but it does not appear to be Mr. Beschorman's signature. Nevertheless we do not contest it.

Mr. LOCKE. We offer this for the information contained on the memorandum. It is a memorandum which describes the Blumenfeld position as it existed at that time.

Mr. WEBSTER. Your Honor, I have no objection, but at the top of the second page it ought to be "memorandum for Mr. W. S. Robinson."

The COURT. Instead of "J.S." Exhibit 121 is in evidence.

(Plaintiff's Exhibit 121 received in evidence.)

Mr. LOCKE. We skip the next two documents that appear in the printed record and now offer a letter written by H. T. Warshow, to E. J. Cornish, President, dated November 10, 1932.

Mr. WHITNEY. That has not yet been furnished
764 the printer.

Mr. GESELL. There is a note about it on 461.

Mr. LOCKE. We are offering it and calling the Court's attention to the second paragraph, the last part of the second paragraph.

Mr. WEBSTER. No objection.

The COURT. Exhibit 122 will be received.

(Plaintiff's Exhibit 122 received in evidence.)

Mr. LOCKE. If the Court please, that concludes the development of the organization of the European companies up to and including 1933. Mr. Dixon will now develop the picture in America.

Mr. DIXON. May it please the Court, before I start to go into this phase of the proof, I am wondering, and I am now directing my remarks to counsel for National Lead, whether you have been able to as yet locate or have with you No. 354 on your subpoena which is in our order of proof. We do not have it in our file.

I might also say, while they are checking that, that you will find in the printed material a letter dated October 19, 1927, to which are attached two other letters dated April 28th and August 12th. Those appear to be out of order. Twenty-one pages down, I am informed, your Honor.

The COURT. Is this in the newly printed
764a matter?

Mr. DIXON. That is right. It consists of six printed pages and is the first document which we expect to offer, and that is the only one that apparently is out of order.

765 Mr. WEBSTER. This is October 19, 1927?

Mr. DIXON. That is correct.

The COURT. Signed by Jebsen and addressed to McCarty?

Mr. DIXON. That is right, your Honor, to which are attached two other letters dated April 28th and August 12, 1927.

The COURT. Is that what you are now offering?

Mr. DIXON. That is what we are discussing. I have not yet offered it, but will in a moment.

Mr. REA. I find that we were unable to find the document called for in response to No. 354 of the subpoena.

Mr. DIXON. Let the record show that the document requested purports to be a letter dated December 22, 1927, Andrew Thompson to McCarty containing a complete report relative to the patents of Titan Company and Titanium Pigment Company, which will be referred to in one of the subsequent exhibits. It was called for merely so that, if available, the entire file in connection with the subsequent patent investigation might be available.

Mr. WEBSTER. Has the Government got a copy of this letter which we have been unable to find?

Mr. DIXON. We do not have, your Honor, and that is the reason we called for it.

766 The COURT. I understand from counsel that it is mentioned in another connection and that is his knowledge of it, and limited to that.

Mr. DIXON. That is right.

We now offer in evidence as Plaintiff's Exhibit 123 a

letter dated October 19th, which should now be at the head of the printed exhibits, with, of course, the two enclosures referred to in this letter, namely, one dated April 28th and the other August 12th, 1927.

Mr. WEBSTER. That is all offered as one exhibit?

Mr. DIXON. That is right.

Mr. WEBSTER. I think your Honor will find it interesting to look at this correspondence, particularly the code letter dated August 12, 1927. In the first place this appears to be a re-written letter addressed to somebody at I. G. Farben by somebody who calls himself "R" concerned apparently with a lot of gossip and rumor and hearsay that "R" is communicating to someone in IG, and it just has a lot of speculation and comment in it that has no materiality whatever, and I think is prejudicial as being confusing. I submit it ought to be kept out. It is incompetent as hearsay, several times removed.

The COURT. I will have to look at it. That goes through two letters?

Mr. DIXON. That is right. I don't know as your
767 Honor cares to have me discuss the exhibit or tell you what is in it, but if you car to I will be glad to do it now.

The COURT. If you want to do it briefly it will save me the trouble of reading it.

Mr. DIXON. This letter from Dr. Jebsen to Mr. McCarty dated just after the completion of the German contracts and the execution of those contracts shows the door which was opened and the method whereby information apparently circulated among those who were in the titanium pigment business.

The COURT. What was that door?

Mr. DIXON. That, in this particular instance, your Honor, the IG Company with whom a deal had already been made with the National Lead Company in Europe was receiving information concerning the American venture in the titanium pigments which was, as we shall show, in competition—that it was just commencing—with the project referred to here, namely, the creation of the Commercial Pigment Company, was immediately transmitted to IG for the purposes of endeavoring, if possible, to make a deal, and it was suggested in the August 12th letter to IG that this new company in the United States was expected to be in definite competition with the National Lead Company, and that National Lead might

perhaps, or even should, attempt to make a deal
768 with this new company. Now this information then immediately is transcribed via IG to Jebsen, who, in turn, sends it back to McCarty in New York; so the circle is complete for that purpose.

Now we want to show the early date of commencing of the cooperation which ultimately led to the making of the deals and the combinations that are referred to in the complaint, and to show how they started and how they got under way, and this is one of the early exhibits, and I might say, your Honor, to show you how correct they were the subsequent evidence will show that all of the things referred to in these unsigned letters were in fact true.

Mr. WHITNEY. May I ask Mr. Dixon if in all this welter of words he is to be understood as referring to du Pont?

The COURT. We will suspend on that question.

Mr. WHITNEY. Well, your Honor, if I could get that I could do some useful work. He has talked of the combinations and deals and cooperation that are going to merge in answer to your Honor's question as to "What is it about?" I am asking the short question, "Is he referring to du Pont at this particular time," in all fairness to counsel for the defendant and to the party du Pont, for apparently in 1927 they had no connection
769 with this enterprise in the United States. You said "leading up to all these deals or agreements." Is du Pont one of those suggested parties to whom that is leading up?

The COURT. We will suspend on that note.

Mr. WHITNEY. You see, your Honor asked him with a view of aiding in all this quite ununderstandable and unintelligible comment, to take out of the National Lead Company's files a passage with initials, and he says in answer to your Honor's question that this refers to some future deals and agreements, and I would like him to say yes or no whether I am to study this exhibit; whether it refers to a du Pont deal?

The COURT. I take it his answer is no.

Mr. DIXON. No.

(Recess to 2.15 P.M.)

770 AFTERNOON SESSION

The COURT. Have you any objection, Mr. Webster?

Mr. WEBSTER. Yes, your Honor.

The COURT. This is not admissible as proof of the

contents of this communication, but if it is intended to prove the kind of gossip that Mr. McCarty heard, if that is material, why I will receive it for that limited purpose.

Mr. DIXON. That is all it is offered for, your Honor.

Mr. WEBSTER. That is just about what I was going to say. I think that what Mr. Dixon said before indicated he seemed to attach a kind of mystery to this letter apart from that, and I believe the next letter he has in his list explains the whole affair and shows there was no mystery to it.

The COURT. Very well, Plaintiff's Exhibit 123 will be received.

(Marked Plaintiff's Exhibit 123 in evidence.)

Mr. DIXON. We offer Plaintiff's Exhibit 124 in evidence, which is a letter from McCarty to Jebsen, dated November 4, 1927. This is the reply to the previous letter, your Honor.

The COURT. Is there any objection?

Mr. WEBSTER. No objection.

771 The COURT. It will be received.

(Marked Plaintiff's Exhibit 124.)

Mr. DIXON. I just want to point out that in this letter Mr. McCarty, whose name will appear considerably from now on in these negotiations, and whose position with Titanium Pigment Company has been previously shown in evidence as an officer and director of that company, reference is made to the new factory of Commercial Pigments in the United States and that McCarty had asked Chase, who was the head of the new company, whether Commercial Pigments was prepared for patent litigation and had been advised by Chase that they were, and that this report led to the comment from McCarty to Jebsen that this new enterprise is apparently a serious undertaking and brings us "face to face with a problem that will have to be dealt with as soon as the production of the company is on the market," and that if the information given to McCarty by Chase concerning the European situation is correct, that Jebsen will have the European Blumenfeld group to deal with in Europe in the following year or immediate future.

Mr. WEBSTER. If I wanted to be rude I think I might say, "So what?"

But passing from the references that Mr. Dixon made there are two or three things I would like to refer

772 to. In the first place he explains completely the previous document from the mysterious Mr. "R" to the IG. Then on page 477 he says:

"I was further informed by Mr. Chase that his company had made a contract with Travancore Minerals, Ltd., for their supply of ilmenite. This statement has been confirmed by information given to us through European representatives of American railroads. We have reason to think that the Commercial Pigments Co., tried to obtain some ilmenite deposits in Virginia, which the Titanium Pigment Co., acquired during the spring."

Now I mention that simply to show that so far as Travancore is concerned, Mr. Chase had no difficulty in getting all the ilmenite he seemed to want; that there was no problem there.

Now another interesting observation, in connection with the last page of the letter, page 478, namely:

"I cannot quite make up my mind whether Mr. Chase's object in telling me all this was to let me have first-hand instead of hearsay information, or whether he was building up a background for a proposal to sell the plant to us a little later on."

Now there you will see Mr. Chase was apparently giving Mr. McCarty an opportunity to buy out this new
773 site, and I may say that Mr. McCarty did not take advantage of that opportunity.

Mr. WHITNEY. It seems to me, your Honor, that the important paragraph in this letter, from Mr. Dixon's point of view, is the one of which he read the first two sentences, to wit, the paragraph at the bottom of page 477. The sentence he read or paraphrased is as follows:

"I asked Mr. Chase if his company were prepared for patent litigation, and he told me that their counsel had assured them that they were secure on that point. Mr. Chase went on to say, however, that he personally had no connection with the patents having been engaged simply as an engineer."

I take it Mr. Dixon's purpose is to establish by this kind of evidence that Commercial Pigments Company was not afraid of National Lead patents. If so the evidence is valueless as it would appear if Mr. Dixon had read the second paragraph:

"That he personally had no connection with the patents having been engaged simply as an engineer."

Now these National Lead patents were numerous, potent and menacing and the weakness of the Government's suggestion to the contrary is given emphasis by their use of such rubbish evidence as this to support it.

774 The COURT. Strong language.

Mr. WHITNEY. Well, I modulated it for my previous thoughts. Incidentally, who is Mr. Chase? There is nothing in the evidence about him that I have seen.

The COURT. There has been some talk about his being connected with Commercial Pigments; the company of the team of Chase and Ticknor.

Mr. DIXON. I think that is as good a description as any of Mr. Chase, although I have asked defendant National Lead to get up a list of all the connections and so on of any of the persons named and we are still waiting for that, and a complete list from du Pont before we introduce both of them. Suffice to say at this time that Mr. Chase, from our understanding of the documents, was a close associate of Mr. Ticknor who was president of Commercial Solvents Company and president of Commercial Pigments Company, and I believe Mr. Chase was also an officer in Commercial Pigments Company.

Mr. WEBSTER. If the Court please, we not only gave Mr. Dixon the names he requested, but we amended the list at his request, notwithstanding the terms of the subpoena, and he has offered it in evidence as Government's Exhibit 50. That is the complete and final list. Now Mr. Chase is not and has never been connected with the National Lead Company. He was not named on this list.

775 Mr. DIXON. I have not said he was.

The COURT. All right.

(Marked Plaintiff's Exhibit 124.)

Mr. DIXON. We offer Plaintiff's Exhibit 125 in evidence, the same being a letter from Jebsen to Mr. McCarty, dated November 25, 1927, page 479 of the printed exhibits. These exhibits should or will follow right along.

The COURT. Is there any objection? There being none Exhibit 125 is received in evidence.

(Marked Plaintiff's Exhibit 125.)

Mr. DIXON. The only thing I wish to point out in this letter is that McCarty is advised that the Blumenfeld competition seems to be increasing and that Montecatini is producing for export.

Mr. WHITNEY. That is not in the evidence. Maybe Montecatini is, we do not know, but this is no evidence of it whatsoever. It is only revealing of how this case is made up.

776 Mr. DIXON. We will connect this all up, your Honor.

Mr. WHITNEY. Well, get going, please.

The COURT. This letter says it is a report from Mr. Jebsen to Mr. McCarty in which he tells him he understands the Blumenfeld competition is increasing. As I said before, this goes to show that Mr. McCarty had a report which told him that the Blumenfeld competition was increasing. Whether in fact it was I do not know, and whether in fact Mr. McCarty believed Mr. Jebsen when he told him so I do not know. He may have simultaneously received a report from another agency telling him the Blumenfeld competition was decreasing, but we have the information at least that Jebsen told McCarty the Blumenfeld competition was increasing, and it proves no more than that; and if anybody cites me this letter as a proposed finding for more than that he is going to find himself on the wrong side of the finding. Go ahead. Is there any other comment?

Mr. WEBSTER. No comment.

The COURT. The next exhibit.

Mr. DIXON. We offer in evidence Plaintiff's Exhibit 126, the same being a letter from McCarty to Jebsen dated December 14, 1927—page 481.

Mr. WEBSTER. No objection.

777 The COURT. It will be received.

(Marked Plaintiff's Exhibit 126.)

Mr. DIXON. The only point in offering this, your Honor, is to indicate that McCarty advises Jebsen of the American situation and that they expect competition of an active nature from this new company in the immediate future.

The COURT. Is there any other comment? There being none, the next exhibit.

Mr. DIXON. We offer Plaintiff's Exhibit 127 in evidence, the same being letter from Mr. Peck to Mr. Meredith, the president of Titanium Pigment Company, dated December 19, 1927.

The COURT. Is there any objection?

Mr. WEBSTER. Your Honor, owing to the Government now having skipped a good many exhibits, they have gotten ahead of my home work and I will have to take a moment to look at this again.

The COURT. All right.

Mr. WEBSTER. Now, your Honor, I am not going to take time now, or take your Honor's time, to read and analyze this letter with extreme care, but I base my objection upon a statement made at the conclusion of the letter by this lawyer, Philip C. Peck, which I think epitomizes other

778 things that might be said. Does your Honor care to have me read it?

The COURT. Is that the part marked "Conclusions"?

Mr. WEBSTER. "Conclusions." Page 493.

The COURT. Just let me read it. (After reading) What were you going to say?

Mr. WEBSTER. One other reference of the same sort on page 482:

"The only information as to what comprises the Blumenfeld procedure in the manufacture of the simple product is obtained from recent letters of Mr. Jebsen as to what a Dr. Raspe told him regarding the operation used at the Montecatini plant in Italy, such information coming from a man of the 'I.G.' who had visited this plant. Hence the vagueness and uncertainty as to what detailed procedure was actually employed, and the hearsay character of the proof is manifest."

The COURT. Well, your objection is well taken if this is offered to prove infringement by Commercial or non-infringement by Commercial of the National's or Titan's or TP's patents, but I do not understand that it is offered for that purpose.

Mr. DIXON. It is not.

The COURT. I understand it is offered and can be received only for the purpose of showing that Titanium
779 Pigment was at the time concerned with Commercial Pigment's competition and was investigating whether it could defend itself by way of patent monopoly against this competition looming up in the immediate future. Beyond that I do not know what else there is in this exhibit which throws any light on the case. If there is Mr. Dixon will tell me.

Mr. DIXON. There is none, your Honor. It is offered for the precise purpose you have stated.

The COURT. For that limited purpose have you any objection?

Mr. WEBSTER. No. It just shows that he consulted patent counsel.

The COURT. That is right, with a view to ascertaining what their probable relationship with this new competitor was going to be.

Mr. WEBSTER. I think that could be proved, however, without putting 15 pages of material in evidence.

Mr. DIXON. We do not ask that anybody read all of that report unless you care to. We are offering it only to show that they consulted patent counsel at that time, and your Honor can determine from the subsequent evidence what, if anything, was done from there on.

The COURT. For the limited purpose——

Mr. WHITNEY. On Mr. Dixon's statement and your
780 Honor's ruling I take it it is abundantly clear this falls within the class of exhibits that cannot be admitted against du Pont on any theory. If later du Pont be connected with this conspiracy this is not, on any theory, a paper in furtherance of the conspiracy or, call it the enterprise. This comes from an outside independent lawyer advising an alleged conspirator, one of A, B or C, as to the patent lawyer's independent opinion as to certain then existing patents, and therefore I object to it on any ground; not subject to connection; on any ground against du Pont.

Mr. WEBSTER. May I add a word to that. I would like also to impress upon your Honor the question of materiality. What possible bearing can it have on the issues in this case, even on the theory, as now limited by the concession of Mr. Dixon, that Mr. McCarty should ask competent counsel to give him an opinion as to certain American patents in a field in which Mr. McCarty was interested? It seems to me that it has no weight at all on the issues before your Honor.

The COURT. Let me see if I can deal with the two situations in order:

First, as to Mr. Whitney's objection. If it should appear that A, B and C, to wit, National Lead, Titan, and so
781 forth, conspired, and if this document helps prove that conspiracy on the two hypotheses then of course the conspiracy, once having been established, if it should then appear that Mr. du Pont appeared on the scene tentatively and said, "Gentlemen, I am one of you hereafter," and obtained knowledge of the character and scope of the conspiracy, in that sense this document is admissible against du Pont as well as against everybody else. I know it is a very remote sense.

Mr. WHITNEY. With no sense at all, with great respect.

The COURT. When that situation develops this letter would not make any difference so far as du Pont is concerned. That is the way I see some of the rulings as this case develops. I will say after you have established the conspiracy, and after you have established, aliunde that the new one has joined the conspiracy, then the evidence of prior acts, and so forth are admissible against that additional conspirator. Of course by that time you do not need it, because you have everything else you need in the case to establish that situation as far as the new

joiner is concerned, but in that remote sense this document, I suppose, could be admitted subject to connection.

Now as to Mr. Webster's objection——

Mr. WHITNEY. Can I be heard on that later, your Honor?

The COURT. Yes. I will give you an opportunity.

782 I can conceive of a situation in which it may become important to prove that in December of 1927 TP was concerned with the completeness of its patent production in the light of an actual or possible challenge or whether it could use its patents as an efficient offensive weapon in the light of a prospective competition. Now you might say, how can that be material? Well, it would indicate, or might indicate that they were there and joined the market, a prospective competitor rises up, they become alarmed, and their first recourse, of course, is to see whether they can stop it by patent control. I suppose that the Government may ask me to infer that having failed to accomplish it by way of patent protection they seek other methods, to wit, conspiratorial arrangement in violation of the Antitrust Act and this document may therefore be a sand in the scales and indicates that they had first explored the patent situation before they had recourse to the business transaction and to indicate that the business transaction had as its object the same object which was to be expected from exertion of the patent powers, to wit, restraining of the competition.

Mr. WEBSTER. If your Honor please, if I may address myself to that right now, before you get into this somewhat more intellectual question that Mr. Whitney will argue, what is the inference to be drawn from the

783 fact that a patent holder asks its counsel for advice as to their patents. Now I assume that every patent holder of any importance asks questions of that sort every day and patent lawyers give that kind of answers every day, and the right of the patentee being a right to exclude he is concerned to get answers to those questions. Now it seems to me that this is peculiarly a case where, even if your Honor thought it be a sand in the scales against the National Lead Company, even that weight could not be attached to it if it is taken, that a transaction of that sort between patent counsel and patentees is wholly consistent with innocence.

The COURT. Yes.

Mr. WEBSTER. Certainly, your Honor, even in this situation will take that view of the evidence where the evidence

has so little weight, or if consistent with innocence, where all of the patents practice and the rights of patentees support precisely what was done here.

The COURT. Well, I am not now deciding questions of weight, of course. I am deciding questions of relevance. It seems to me that it is possible that the inference may be drawn, provided the other facts are established in the context, that National Lead or Titan Product said, "I want to stop competition of Commercial Pigments, of the newcomer on the field." You may not go into it.

784 Well, supposing there were two letters, one letter addressed to patent counsel saying, "Will you examine the patent front?" And another letter, addressed to Mr. Webster, saying, "Will you examine the antitrust front?" You can see how such letters might be admissible, except that they might be privileged, but no such argument as that is addressed to me here, but it might throw light on the question whether the intention was to protect the patents or whether the intention was to stop competition, patent or no patent, legal or illegal, and if not legally, then illegally. I think it is admissible and relevant.

Mr. WHITNEY. Your Honor, the point to which I was going to address myself, which I hope is as much a practical as an intellectual point——

The COURT. I do not concede the inconsistency.

Mr. WHITNEY. Nor do I.

Mr. WEBSTER. Nor did I imply it. I am referring to the discussion between your Honor and Mr. Whitney.

The COURT. Thank you.

Mr. WHITNEY. We will try to get it down to the level that we can all understand. That is this, your Honor: I understand, and submit to your Honor that the rule is that any act or declaration done or said by a co-conspirator in furtherance of the object of the enterprise, denominated the conspiracy, becomes evidence against any

785 party who joins the conspiracy, because the problem of the Government is to define and delimit the conspiracy that they are charging, and, secondly, to identify those who joined it, by analogy to a partnership from the law of which is taken the law of conspiracy, but that acts or declarations not in furtherance of the enterprise are not evidence against parties other than the actors or declarants, no matter when made. It is not a question of time. It is equally true, whether it be true during the conspiracy or before it or after it. Those are admissible only as admissions against the party declaring, or if under

some other rule of evidence, against the party acting or declaring.

Now your Honor has admitted this afternoon Exhibits 123 through 126, in each case expressly ruling that you were refusing to admit it upon the basis for which Mr. Dixon first offered it, but were admitting it, and only admitting it, as evidence of the fact that Mr. McCarty on behalf of National Lead at the time in question had had brought to his attention, and therefore had within his knowledge, what was stated in the letters. What your Honor said as to the first letter, and what Mr. Dixon repeated in the phrase "kind of gossip." Now I did not raise this point on Exhibits 123 through 126 because of decent regard for the exigencies of time. I shudder at this case otherwise as it has developed and is developing.

786 The good intentions are gone and we have every single document in order and we have not done 10% of the documents the subpoena discloses, so in the interests of time I have not by any means talked whenever I should.

Now on Exhibit 127 I want to raise the point that was equally applicable to all the others, that the question of what was known to Mr. McCarty or any other officer of National Lead, what they thought, what was told them, is not a question with which an even assumed subsequent, or even then existing, conspirator could be concerned. Mr. Peck is not charged with having been a conspirator, nor is it charged in the complaint nor in Mr. Dixon's statement about this document, that Mr. Peck was making these statements in furtherance of the objects of the conspiracy. He only claims that he wants these statements in to show what Mr. McCarty then knew, and on that basis I submit to your Honor under the cases that do not admit of discussion or dispute it is not admissible against du Pont on any ground anywhere.

787 The COURT. I don't quite see it your way. Let me think it through a moment and see whether I can put it down in words. If you mean that it does not prove that du Pont joined the conspiracy, of course you are right and it is not admissible as against du Pont on that issue. I think perhaps we get lost sometimes because the language of these cases is general when it says "admissible" and "inadmissible" without specifying with respect to what issue it is admissible. Now, clearly, this is not admissible to show that du Pont joined the conspiracy. But as I read some of the cases, it strikes me as follows: that this is of course admissible as showing

what Mr. McCarty had in his mind, assuming that that is a relevant issue in this case, and helps to establish what the cases call the origin and history of the conspiracy, or perhaps what the Government sometimes calls under its caption "background." I don't know, but, anyway, certainly origin and history.

Now, once the conspiracy between A, B and C is established by evidence including proposed Exhibit 127 and then once it is independently established that du Pont joined the conspiracy, then I take it that all the evidence which established the conspiracy becomes available as against du Pont.

Mr. WHITNEY. Your Honor was kind enough to
788 give me my exception in advance. I don't think I ought to waste more time. I disagree with that viewpoint. I think it is error.

The COURT. You think it is wrong.

Mr. WHITNEY. And I except, with great respect.

The COURT. Well, I should like to demand your time just a little bit longer for you to indicate to me wherein that error lies because——

Mr. WHITNEY. It lies in saying that any evidence that goes to establish the presence of the conspiracy of A is admissible against B, whereas, as I understand the cases, and as I reread some last night, they say that only that evidence which is in itself in furtherance of the conspiracy is admissible against others than the actors or narrators.

The COURT. You are now talking about the law relating to declarations.

Mr. WHITNEY. There is nothing here to——

The COURT. Of course you are now dealing with admissions and declarations need not necessarily be admissions, or an admission may be independently received.

Mr. WHITNEY. The cases say acts or declarations. By declarations they include no doubt admissions which are a form of declarations. Acts or words.

The COURT. I understand. I used the word
789 "presence" but I did not mean to use the word "presence" because that gives me a different angle altogether. I mean conduct of the conspirators, including their mental conduct of the conspiracy, it having been established that A, B and C conspired and did certain things in furtherance of their conspiracy; then, if it independently is established that D joined the conspiracy, I am under the impression at this moment that the conduct of A, B and C becomes admissible as against the new-

comer, D, provided it is independently established that D joined the conspiracy.

Mr. WHITNEY. The conduct of A, B and C in furtherance of the conspiracy, your Honor.

The COURT. Yes.

Mr. WHITNEY. But only the conduct of A, B and C in furtherance of the conspiracy. That was the subject matter of yesterday morning and it is again the subject matter now. My objection is grounded upon the proposition that this letter is not in furtherance of the conspiracy.

The COURT. That is not the question before us. The question is whether the acquisition of this information by Mr. Meredith or National Lead is in furtherance of the conspiracy, not the letter. But the acquisition of the information transmitted in the letter—whether that
790 was an act in furtherance of the conspiracy. And to me, on that issue——

Mr. WHITNEY. Your Honor, that is not an act, Mr. McCarty hasn't either acted or spoken.

The COURT. Yes. He learned.

Mr. WHITNEY. But that is not an act. The fact that Mr. McCarthy knew—your Honor is suggesting that every piece of knowledge that is within the mind of every partner is evidence against another partner; that if I have a guilty thought and express it in my sleep, although I never do anything about it, that Mr. Swaine can be indicted for it. I don't think your Honor is right.

The COURT. No, I don't go quite that far at all.

Mr. WHITNEY. All your Honor has admitted this exhibit for is to show that something got into the mind of Mr. McCarty.

The COURT. And National Lead.

Mr. WHITNEY. And National Lead.

The COURT. In the mind of National Lead.

Mr. WHITNEY. That is right. In the mind of Mr. McCarty on behalf of National Lead.

The COURT. Or whoever it is. National Lead received the report. I think that is an act, like any other act
791 —like sending a report. I think receiving a report is just as much an act like sending a report.

Mr. WHITNEY. That depends upon whether the report itself is in furtherance of the conspiracy. Receiving a report other than a report in furtherance of the conspiracy is not in itself an act in furtherance of the conspiracy.

The COURT. That is true. Well, if investigation of the

patent situation is a necessary step in furtherance of the conspiracy, then the receipt of a report on the patent situation is an act in furtherance of the conspiracy.

Mr. WHITNEY. Well, your Honor, anybody as keen as your Honor can find a form of words, like counsel, to express any viewpoint, and it is only with great respect that I think you have expressed an erroneous one.

The COURT. I am not finding fault.

Mr. WHITNEY. I almost prefer that your Honor rule against me because it saves me a delightful exception. I think I have pressed your Honor as far as I can. The subject, among other places, is well discussed in Hitchman v. Coal & Coke, 145 United States—I have forgotten the pages—it is a page and a half.

The COURT. I know the case.

Mr. WHITNEY. It is discussed in many places and your Honor will find always the phrase "in furtherance of the conspiracy," a phrase that is always included when speaking of——

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The COURT. More completely, "in furtherance of the objects of the conspiracy."

Mr. WHITNEY. In furtherance of the objects of the conspiracy. Your Honor is quite right.

Now, for Mr. Peck to say, in my opinion the patents of the other party do or do not infringe, is not in itself in furtherance of the object of the conspiracy. Maybe later Mr. McCarty and Mr. Meredith may themselves say something or do something in furtherance of the objects of the conspiracy based on that knowledge, but Mr. Peck's report isn't in furtherance of the objects of the conspiracy, it is my submission to your Honor.

The COURT. Very well. The thing is still cooking in my mind. Maybe it will boil down before we are through.

Exhibit 127 in evidence.

(Plaintiff's Exhibit 127 received in evidence.)

The COURT. I suppose I have to a certain extent usurped the functions of Government counsel in meeting these objections. I should really give you an opportunity to state the Government's position in this matter, but we have discussed these matters so many times——

Mr. WEBSTER. Your Honor's position is more important to us than Mr. Dixon's.

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Mr. DIXON. I am sure I would much rather listen to you, your Honor.

The COURT. I know I should have the benefit of it. Very well.

Mr. DIXON. Your Honor will recall that a few moments ago we called for a certain document from National Lead, dated December 22, 1927, which was the report by Andrew Thompson of Titanium Pigment Company to Mr. McCarty, which concerned the general patent situation. The only reason I refer to it now is in part the reason your Honor has already given, which is the Government's purpose in offering this evidence, and that this letter of December 22, 1927 which we do not have was referred to in February of 1932 when the defendants or co-conspirators, Titanium Pigment Company, were again going into the patent situation.

Mr. WEBSTER. We haven't got it.

Mr. DIXON. I am just explaining to your Honor the reason why we called for that exhibit.

The COURT. Very well. We haven't got the exhibit, nobody can read it, and I am not going to even try to speculate as to what it contains.

Mr. DIXON. We offer in evidence Plaintiff's Exhibit 128, being a letter from Mr. Barton to McCarty,
794 dated January 17, 1928, on page 494.

The COURT. Is there any objection?

Mr. WHITNEY. I don't have to mention again the second type of objection, do I? I have one objection——

The COURT. You mean to which you have a continuing objection.

Mr. WHITNEY. The one that it was not connected, that was the continuing objection. And the objection that this being a declaration to the conspiracy and in my view not in furtherance of the conspiracy, I object to it on that ground. I do not see anything to be gained either by your Honor or anyone else by repetition of it.

The COURT. You are quite right.

Mr. WEBSTER. Your Honor, this letter appears to be even more remote, to be an even smaller grain of sand, for the reason that on its face, so far as I can tell, it relates to a patent called the O'Brien patent, that Mr. Barton, who was the author of this letter, referred to as the Glidden patent. I do not recall anything being alleged in the complaint or stated in Mr. Dixon's opening, or brought out by any of the other correspondence in the case, that justifies us in construing an action by Mr. Barton in analyzing an O'Brien patent as an act in furtherance of any conspiracy.

795 The COURT. Who was Barton at that time? I

know who he was originally, he was one of the inventors, but who was he then?

Mr. WEBSTER. He is still an inventor.

The COURT. Is he an officer of the company?

Mr. WEBSTER. He was the director of research of the Titanium Pigment Company. Now it would certainly fall within his sphere to take a look at other people's patents if they had any relation to this field of manufacture at all.

The COURT. Mr. Dixon, what do you say about that? I haven't read the letter.

Mr. DIXON. Your Honor, this refers briefly to one of the patents which subsequently will come into discussion here, the Rossi-Schroeder patent of National Lead Company. That is on page 495. You will find that reference there. We merely put it in at this time for that purpose.

Mr. WEBSTER. I would like to ask Mr. Dixon a question: If it is claimed that an inquiry by Mr. Barton into the claims of a patent that appear to have some connection with the Rossi and Schroeder patents of the Titanium Pigment Company is within the issues of the case and material to them?

Mr. DIXON. Well, we think that what the parties thought and the information that they had available from
796 their various experts, whether they be chief chemists, inventors, or patent counsel, upon which they may have or may not have made a decision to do certain things is competent evidence that the Court should have in considering and in passing upon the question of what the intention of the parties was at the time they entered into the agreement.

Mr. WEBSTER. He says, "It would seem that this patent would be invalid."

The COURT. He thinks the O'Brien patent is.

Mr. WEBSTER. Yes. Based upon the rules of the Patent Office, and speculates about it.

The COURT. Yes. And he also says that even if they are valid he thinks they would infringe upon——

Mr. WEBSTER. Rossi and Schroeder.

The COURT. ——this patent owned by the National Lead.

Mr. WEBSTER. And Titanium Pigment Company.

The COURT. It is a little remote. I can't see just exactly how it will become material now, but I will receive it on credit.

(Plaintiff's Exhibit 128 for identification received in evidence.)

Mr. DIXON. I wish to offer Plaintiff's Exhibit 129 in

evidence, being on page 496, and being a letter
797 of Mr. McCarty to Jebsen dated April 13, 1928.

Mr. WEBSTER. Your Honor, I really regret taking up time but I think if your Honor reads this letter you will see all of the objections I might see and perhaps more, and probably state them more effectively.

Mr. WHITNEY. I would like to ask one thing, your Honor, and that is if Mr. Dixon would be so kind as to tell us what conspiracy this page is furthering. I will perhaps be able to discern some time whether we will get into it.

The COURT. Well, you are at liberty to answer.

Mr. DIXON. Thank you, your Honor. This exhibit shows that Mr. Ticknor, the president of Commercial Solvents Corporation, has just left for Europe.

The COURT. No, it doesn't show anything of the kind. I read the line but it doesn't say that, as I construe this exhibit. I certainly won't receive them for that sort of thing. It says that Mr.——

Mr. DIXON. I am sorry, your Honor. He has been informed of that and is therefore advising Dr. Jebsen.

The COURT. He thinks Ticknor is going there. For all I know, he is taking somebody down to the Riviera.

Mr. DIXON. In other words, it is advice from McCarty to Dr. Jebsen in Europe to keep his eyes and ears open
for any developments or anything that Mr. Ticknor
798 of Commercial Solvents may be up to, if anything, in Europe in the titanium pigment field.

Mr. WHITNEY. That is completely unresponsive to the question, your Honor. The question is, what conspiracy is this document in furtherance of? Now, that is critical. We have here a complaint of a conspiracy. No document is admissible except relevant to the complaint. The question for us to meet under the complaint is whether we joined the conspiracy, the enterprise defined in the complaint. And I want to ask what is the conspiracy to which this document is supposed to be connected? Mr. Dixon didn't answer it at all, did not even attempt to.

Mr. DIXON. I am trying to make my remarks brief, your Honor, because the same question will come up from time to time.

Mr. WHITNEY. I am asking that he particularize the conspiracy at this time. If I had made a motion before answering to ask him to particularize the conspiracy in accordance with the modern equity rule it would probably have been denied upon the basis that that was not the

appropriate time. And I am now asking Mr. Dixon to particularize the conspiracy—what is it—using this exhibit as his text.

Mr. WEBSTER. And after he answers that question—

799 Mr. WHITNEY. Let us see if he does answer it. Let us take one at a time. It is a very critical question.

The COURT. I suppose the practice of counsel is to ask the Judge the question.

Mr. WHITNEY. I will make it formal. I am making a motion to your Honor that, having regard to the utter remoteness of this paper to anything that either your Honor or we may have in mind about this case, that your Honor grant me a bill of particulars addressed to Mr. Dixon at this time as to what is the conspiracy. That is my motion, addressed to the United States to define the conspiracy in support of which this exhibit is offered.

The COURT. So that we do not have a pending motion undisposed of, the motion is denied. That is my formal ruling.

Mr. WHITNEY. Will your Honor give me an exception?

The COURT. Certainly. Now, let us look at this document and see whether we can find anything in it. Let us forget du Pont for a minute and deal with National Lead and Titan Company. McCarty is certainly an officer of National Lead and Titan in the situation. And all we get from here is that he writes to his colleague

800 abroad to be alert about the competitive situation. Isn't that about right? And let us suppose that McCarty is on the stand and——

Mr. WHITNEY. Where is that?

The COURT. I have of course summarized, very violently, but that is what I gather is the nub of his letter.

Mr. WEBSTER. That is the epitome.

The COURT. Yes. Suppose Mr. McCarty is on the witness stand, because you are now dealing with an officer of a defendant corporation, and he is on the witness stand and he is asked this question. Would it be subject to the objection for lack of relevance and materiality? We can forget for the moment that this is a letter declaration because it is a character of letter——

Mr. WEBSTER. I think there are other questions but that one is at the threshold.

The COURT. The question is: Didn't you on April 13, 1928, ask your colleague abroad, Dr. Jebsen, to be alert to the competitive situation arising out of the formation of

ICI and the visit of Mr. Ticknor abroad?

Mr. WEBSTER. And I object to that as immaterial.

The COURT. It is awfully thin, Mr. Dixon; you will agree with that.

801 Mr. DIXON. Yes, your Honor. I think some of these documents are and I am frank to admit that. Some of them are in their probative value and their contents are much stronger than others. This document standing alone perhaps does not mean very much—what your Honor would call a very small bit of evidence, and we frankly concede that. But certainly it is evidence here in 1928 after the German companies had been formed and they had notice of the formation and active competition in the United States of Commercial Pigments, and here in the British Empire, or England, of the formation of ICI that—well, as your Honor so aptly put it, "Just keep your eyes open or see what happens here so that we can take such steps as are necessary as they develop to deal with any threat of competition in this field. Now, that is all this document means beyond that.

Mr. WEBSTER. Your Honor, what I am about to say now is without any personal reflection on Mr. Dixon——

The COURT. Of course not. You don't have to say that.

Mr. WEBSTER. —or any of his associates. But one of the vices about a document of this sort, in fact the vice I think about letting into the record a document to which your Honor attaches so little weight, is this: that this document will be used or may be used in some way

802 to drag into this case a lot of names and a lot of sums. Now he tells us here about

"The New York papers this morning published the news of the formation by the Imperial Chemical Industries and certain American financiers of an Anglo-American corporation with a capital of $10,000,000—which has been formed for the purpose of developing and exploiting new enterprises, chemical and otherwise, in the United States and Great Britain."

What this Anglo-American corporation is I haven't the slightest information about. It is something that is recited by Mr. McCarty; it appears to have no connection with any agreement in evidence, it has no connection whatever with any fact that is pleaded, and so all through the letter.

Now, he refers to Sir Harry McGowan. Some use may be attempted to be made of that. And Mr. Weisman and Sir Alfred Mond. That I think is the great vice of putting into the record immaterial documents of this character.

Mr. WHITNEY. Your Honor, a moment ago I made a motion to your Honor and your Honor overruled it and I took an exception. In view of your Honor's great patience throughout this trial and the usefulness, in
803 my humble view, of the method that your Honor has followed, having us all assist your Honor in understanding it as we go along, I am unhappy to leave the situation just like that, and if your Honor will allow me I would just like briefly to submit reasons in support of that motion very briefly.

The COURT. All right, very briefly.

Mr. WHITNEY. And they are these: As I say to your Honor it is well recognized now in the practice that bills of particulars before answer are not favored.

The COURT. Only before answering. You get bills of particulars now only before answering.

Mr. WHITNEY. Exactly. They are not favored by the courts.

The COURT. That is true.

Mr. WHITNEY. Particularly in this case, which was brought on very rapidly to trial. The understanding in this case by the parties was that it would be brought on very rapidly to trial and with that view we answered very promptly.

Now, then, we are in this situation. There is a complaint which was answered promptly by a general understanding between the Government and the parties. They go together before the calendar judge and he sets the case for early trial on the understanding that there
804 will not be a great deal of pretrial procedure, and the only pretrial procedure which was suggested, which was only informal, by the Government was that we try to work out a stipulation to facilitate their introducing evidence, and we did.

Now, then, your Honor will observe that if we had raised points of evidence of the same character that were raised before the District Court in Washington in the Gypsum case that is half finished after two years, we wouldn't have gotten anywhere yet in this trial. Now the heart and soul of any defense in these cases must be an understanding of the issues of the defendants. Your Honor will observe that, although your Honor has been very kind, you haven't made one single, solitary ruling in our favor; every single solitary piece of evidence has been admitted, and in admitting it your Honor——

The COURT. Except to the extent that there wa a cer-

tain amount of self-denial on the part of the Government as a result of some talk we had the other day.

Mr. WHITNEY. That only went to remote materiality, it went to materiality less than this document, in my view. And your Honor would not have excluded it if they had taken the other view, with great respect.

The COURT. That I don't know.

805 Mr. WHITNEY. You have given no indication of it and I don't blame you.

Now the effect therefore is that in practice we haven't here since the documents began, since the agreements were finished—I asked your Honor's pronouncement to the effect that you were going to rigidly hold the Government to a certain position—that we have had absolutely everything in, and that when the materiality was so remote that Mr. Dixon or Mr. Locke were utterly at a loss to explain the materiality and couldn't do so, your Honor with your great ability has said in so many words: I am perhaps making Mr. Dixon's statement for him, I am perhaps making a statement that Mr. Dixon should have made. You did that this afternoon.

The COURT. Yes. But I do not want to suggest that I thought Mr. Dixon could not handle it himself. I did that to save time.

Mr. WHITNEY. I am not suggesting it either, your Honor, not for a minute. I think Mr. Dixon is extremely capable.

Now, that is what makes my motion a fair and reasonable one. Where the district attorney is extremely capable there is the greatest reason for him to be fair enough to the citizen to tell him what the conspiracy is that he

806 is alleging. Now, we are going to be here at this rate for weeks and weeks and weeks. Your Honor, there are 269 exhibits subpoenaed from du Pont and not one single, solitary one of them has yet been offered. We have been here now six and a half days. There are 1309 documents subpoenaed from National Lead, other than the agreements, and we have had in evidence about 75 of them, or about one in 18. Now, here and there a few have been cut out, but very few, and my friends on the other side have told me that they expect now to go steadily along but that everything from here in is important, and that means we have about 1500 exhibits to go in one at a time.

Now if your Honor is going to follow the ruling that your Honor has followed you will observe that it is a waste of time for us to make these objections and that what we

ought to do, as a practical matter, is to print up this file of paper, let the Government sit down and go through with a pencil and mark numbers on them and then let us just go ahead and comment on them one at a time, and Mr. Webster and I take a blanket objection and exception, and we will save endless time. Now, that is what we ought to do if it is going on as it has, your Honor. I respectfully urge that upon your Honor and Mr. Dixon to save the time of everybody, the District Court and the defendants.

Alternatively, if your Honor does not follow
807 that course then it means that we are to present our arguments to your Honor, and I then submit to your Honor that the simplest, the broadest, the most helpful possible item that could be presented would be my very simple one-sentence motion. Now, where are defendants caught these days? If they make motions before trial the district judges downstairs, where we go every Tuesday and Friday, tell us, "Well, don't bring up all this; the modern rules of federal procedure are meant to liberalize procedure in favor of the plaintiffs." We are told that again and again. The Federal Supplement is full of it. "We don't want these motions; go to trial," which is a kind of grand inquest now, not a trial any more in any old-fashioned sense, but a kind of grand inquest. Therefore, that means that the appropriate place to make reasonable and helpful motions is in the courtroom at the trial.

And I ask your Honor, what possible motion could be imagined that could do more to clarify and simplify and help along a vast, gigantic documentary antitrust suit than a motion that the Government attorneys—there are five of them in this room—who have brought the whole proceeding and whom your Honor has so rightly and justly called as able to take care of themselves, should state to us, should take one minute out of 48 hours or five
808 minutes, but state on the record what is the conspiracy that we are talking about.

Now, your Honor and I talked for at least an hour and a half to each other yesterday morning and the main upshot of it was that your Honor brought forward that the point of all importance here was—what is the enterprise? That is what your Honor brought forward. Now then, my motion is that your Honor direct the Government to give us a bill of particulars orally or in writing as to what is the enterprise. In other words, what is the conspiracy charged? And to aid the Government for the

present I can confine the motion to saying, What is the conspiracy in furtherance of which it is alleged that the offer of Exhibit 129 is made? That motion is not jocularly made, your Honor. It is made in the utmost seriousness.

The COURT. Do you want to be heard on that, Mr. Dixon?

Mr. DIXON. I do not think that there is anything I can say, your Honor, about the motion. It seems to me it is highly improper. We have made a full, and I thought rather complete, opening statement, extending some three hours or more, and we are endeavoring to expedite the trial in every way that we possibly can. It is unfor-
809 tunate from du Pont's point of view that we have so many documents perhaps; but that is not an unusual thing in any antitrust case, and we have to develop them in as general a manner as we can, and that is what we are trying to do. And I think in due course of time du Pont will be reached. And I have here in the ones that went to the printer over I believe two days ago now the documents bringing the du Pont Company into this trial in a direct manner. But we can't get to them here if we are to have, as counsel for du Pont says, extended debates or argument on every document. And I merely say to your Honor that in our judgment the motion certainly does not lie and it would serve no purpose even if it were granted.

Mr. WHITNEY. Your Honor will observe he has not said one, solitary word about the motion. The motion was that he particularize the conspiracy. He hasn't said one, solitary word about it.

The COURT. The motion is denied. The Court will see counsel in chambers immediately the recess is begun, which we will take right now.

(Short recess.)

810 (The following exhibits were marked in evidence in the absence of the Court, pursuant to the Court's instructions:)

Exhibit No. 130, May 8, 1928, from Jebsen to McCarty.
Exhibit 131, 5/28/28, from McCarty to Jebsen.
Exhibit 132, October 18, 1928, Jebsen to McCarty.
Exhibit 133, October 31, 1928, McCarty to Jebsen.
Exhibit 134, November 9, 1928, Jebsen to McCarty.
Exhibit 135, November 23, 1928, McCarty to Jebsen.
Exhibit 136, November 27, 1928, Jebsen to McCarty.
Exhibit 137, December 5, 1928, McCarty to Jebsen.
Exhibit 138, September 18, 1929, Peck to Barton.
Exhibit 139, February 11, 1930, McCarty to George A. Martin.

Exhibit 140, April 1, 1930, Jebsen to McCarty.
Exhibit 141, April 12, 1930, Peter Spence
811 Limited, to Titanium Pigments.
Exhibit 142, April 15, 1930, McCarty to Jebsen.
Exhibit 143, April 26, 1930, Thompson to Barton.
Exhibit 144, August 4, 1930, Jebsen to McCarty.
Exhibit 145, August 5, 1930, McCarty to Jebsen.
Exhibit 146, August 13, 1930, McCarty to Jebsen.
Exhibit 147, August 20, 1930, McCarty to Jebsen.
Exhibit 148, September 3, 1930, McCarty to Jebsen.
Exhibit 149, September 13, 1930, Jebsen to McCarty.
Exhibit 150, September 26, 1930, McCarty to Jebsen.
Exhibit 151, September 26, 1930, McCarty to Jebsen.
Exhibit 152, October 1, 1930, Thompson to McCarty.
Exhibit 153, October 3, 1930, McCarty to Jebsen.
Exhibit 154, October 8, 1930, Jebsen to McCarty.
Exhibit 155, November 21, 1930, telegram, McCarty to Jebsen.
812 Exhibit 156, November 25, 1930, McCarty to Jebsen.
Exhibit 157, December 10, 1930, Jebsen to McCarty.
Exhibit 158, December 2, 1930, telegram, Jebsen to McCarty.
Exhibit 159, December 16, 1930, McCarty to Jebsen.
Exhibit 160, December 10, 1930, Jebsen to McCarty.
Exhibit 161, December 24, 1930, McCarty to Jebsen.
Exhibit 162, January 7, 1931, Ryan to McCarty.
Exhibit 163, February 18, 1931, McCarty to Jebsen.
Exhibit 164, February 2, 1931, M. F. Chase to McCarty.
Exhibit 165, February 5, 1931, McCarty to Mr. March Chase.
Exhibit 166, April 9, 1930, McCarty to Moses?
Exhibit 167, April 20, 1931, March Chase to Evans McCarty.
Exhibit 168, April 14, 1931, McCarty to March Chase.
Exhibit 169, October 12, 1928, Extract from
813 minutes of ICI.
Exhibit 170, March 2, 1929, Extract from minutes, March 2, 1929.
Exhibit 171, March 25, 1929, from Development Department to Executive Committee Krebs Pigment and Chemical Co.
Exhibit 172, April 3, 1929, du Pont Executive Committee memo; question of purchase of assets of Krebs.
Exhibit 173, April 8, 1929, from Development Department to Executive Committee; memo on Krebs Pigment & Chemical.

Exhibit 174, April 13, 1929, from Executive Committee to Finance Committee; question of purchase of assets of Krebs.

Exhibit 175, March 24, 1927, Agreement between Commercial Pigments and Blumenfeld.

Exhibit 176, December 17, 1929, Agreement Commercial Pigments and Terres Rares.

Exhibit 177, February 18, 1931, Development Department to Executive Committee, re Commercial Pigments to Terres Rares.

Exhibit 178, February 17, 1931, Arthur Young, Broads, etc., to Arthur Young & Company.

Exhibit 179, February 18, 1931, Development Department to Executive Committee, re Commercial Pigments.

814 Exhibit 180, February 19, 1931, WSS to Lammot du Pont.

Exhibit 181, February 19, 1931, Sparre to Grasselli.

Exhibit 182, April 18, 1931, Sparre to Executive Committee re Commercial Pigments Corp., one enclosure.

Exhibit 183, April 22, 1931, Cornish to Jebsen, with telegram attached.

Exhibit 184, April 22, 1931, Sparre to Executive Committee, Commercial Pigments Corporation.

Exhibit 185, June 11, 1931, Fisher to Sparre, re proposed consolidation.

Exhibit 186, June 16, 1931, Jenney to Sparre.

Exhibit 187, June 16, 1931, Sparre to Board of Directors, Grasselli, re Commercial Pigments.

Exhibit 188, June 16, 1931, Sparre to Executive Committee, re Commercial Pigments.

Exhibit 189, June 24, 1931, excerpt from Directors' Minutes of Commercial Solvents.

Exhibit 190, June 24, 1931, memorandum from H. Bradshaw, with the heading, Experimental Station, E. I. du Pont, re Commercial Pigments Patent Situation, consisting of 6 pages.

Exhibit 191, June 25, 1931, a report from Neilsen,
815 Assistant Comptroller to J. B. Eliason, re Agreement of Reorganization between Grasselli, Commercial Solvents and du Pont, consisting of 9 pages.

Exhibit 192, June 3, 1931, from Development Department to Executive Committee, Grasselli, re Commercial Pigments.

Exhibit 193, July 8, 1931, Resolution of du Pont re Proposed Consolidation of Pigments Business of Grasselli with that of Commercial Pigments.

Exhibit 194, July 7, 1931, Ticknor to Grasselli.
Exhibit 195, July 7, 1931, Agreement, Grasselli, Commercial and du Pont, 13 pages.
Exhibit 196, July 8, 1931, Beadle to Sparre, re Commercial Pigments.
Exhibit 197, July 9, 1931, Grasselli to Commercial Solvents.
Exhibit 198, July 13, 1931, Development Department to Executive Committee, re Krebs Pigment.
Exhibit 199, December 8, 1931, Travancore Minerals' Co., Ltd., long memorandum with appendix.
Exhibit 200, September 11, 1931, Jebsen to McCarty.
Exhibit 201, October 30, 1931, McCarty to Jebsen.
Exhibit 202, November 17, 1931, McCarty to Jebsen.
816 Exhibit 203, January 15, 1932, McCarty to Jebsen.
Exhibit 204, February 10, 1932, Thompson to Barton.
Exhibit 205, February 15, 1932, Barton to Thompson.
Exhibit 206, February 20, 1932, Barton to Meredith.
(Adjourned until Thursday, December 14, 1944, at 10:30 a.m.)

817 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, ET AL.

NEW YORK, *December 14, 1944, 10.30 o'clock a.m.*

Trial resumed.

Mr. DIXON. On reading the record yesterday I see that Plaintiff's Exhibit 129 was not formally offered or admitted in evidence. I wish to offer it at this time.

The COURT. Very well.

(Plaintiff's Exhibit 129 for identification received in evidence.)

The COURT. Do I understand that you gentlemen have a stipulation to present?

Mr. WEBSTER. We have no stipulation, your Honor.

The COURT. Did you go through with the discussion we had yesterday in chambers?

Mr. DIXON. Yes.

The COURT. Let me state on the record that counsel and the Court having conferred in chambers with respect of methods of expediting the trial of the issues of this case, they agreed to mark all the exhibits tendered by the Gov-

ernment in evidence, reserving to each of the defend-
818 ants respectively an objection to each and every exhibit so tendered, and that the exhibits being so deemed received in evidence shall then be commented on in rotation by counsel for the respective parties. And if there be an objection relating to the authenticity of a document or the authority of the author of the document to declare what is attributed to him, then such objection shall be taken at that time.

You may add anything you like to my conception of the understanding.

Mr. WEBSTER. Inasmuch as the rules require us to give our reasons for our objections, it occurs to me that perhaps the statement should indicate that we may be deemed to have stated our reasons in full for our objections to each and every document and not be taken to have waived the objection on that ground.

The COURT. Such grounds of objection, however, to exclude the ground of best evidence, genuineness, authority, and other items commonly included within the idea of competence, in that sense, unless expressly asserted at the time the document is commented on.

Mr. WEBSTER. I am now talking particularly about objections in the nature of relevancy and materiality of the sort that have been heretofore mentioned.

The COURT. Very well. It will be so deemed.

893 Exhibit 170.

Mr. DIXON. This, your Honor, is the minutes of a meeting held at Wilmington, Delaware, on March 2, 1929, in which it was agreed that any Canadian rights in any patents owned by du Pont or ICI, should be granted freely to CIL unless prior commitments to third parties prevented such an arrangement, and it was agreed that CIL was obligated to give du Pont and ICI similar rights.

894 We just want you to have that before you when we come to the Canadian agreements and discussions of the negotiations relating to the acquisition of Commercial Pigments.

Mr. WHITNEY. If your Honor please, in other words I take it Mr. Dixon is saying, consistently with the complaint, that he is not making any claim that these agreements were in themselves restraints on the United States trade or foreign trade or commerce in it or out from it, and that he is giving them as a background for an understanding of the Canadian agreement.

The COURT. Very well.

Mr. WEBSTER. I take it your Honor is giving me a continuing objection to all evidence of this character?

The COURT. The same as Mr. Whitney has with respect to yours.

Mr. WEBSTER. Yes.

903 Mr. WEBSTER. I understand my objection runs to all of these without repetition.

The COURT. Have you any need for any special one along the line, especially since you have a very universal, all-comprehensive, objection to everything that is going in—moving in behind a shield all the time.

1076 Mr. DIXON. We would like to call upon defendant du Pont pursuant to the request of paragraphs 12 and 23 of the subpoena to produce any memoranda of conferences, if any, made by du Pont & Company or any official connected with that company, or Krebs Pigment & Color Corporation, concerning or relating to any negotiations had with National Lead Company or Titanium Pigment Company, relating to the contract Exhibit No. E previously admitted in evidence.

Mr. WHITNEY. The answer to both those questions is that there are no such documents. 12 related to the—well, as to both, the answer is there are none.

Mr. DIXON. I take it that may be so stipulated in the record; it won't be necessary to call anyone.

Mr. WHITNEY. Yes.

The COURT. It is so stipulated.

1208 The COURT. 226?

Mr. DIXON. We now come to an exhibit which I am 1209 sure my friend Mr. Whitney is not going to object to, one in which, among other things, du Pont gets the low down on Dr. Blumenfeld firsthand, via Dr. Blumenfeld's friend Donegani.

The COURT. Who is the author of it?

Mr. DIXON. This is a report by another Mr. Chase. This is P. H. Chase, and, as I understand it, he is in no way related to the team of Ticknor and Chase. He was the head of the Paris office, as I understand it.

Is that correct?

Mr. WHITNEY. Correct.

1429 The COURT. Why don't you let Mr. Webster speak first?

1430 Mr. WHITNEY. I should have done that. I will tell you why. Because I thought that perhaps technically this was within the field of objection which your Honor hasn't heard since we started the new system a week ago.

and that I was entitled perhaps to call to your Honor's attention that here we were coming back to a type of exhibit, of which we will have a great many, that fall within the second continuing objection, the first one being the timing objection that we had not yet been connected, which I always maintain, and the second being an objection that—perhaps they are really one objection—that because we are not connected we are not bound by statements in furtherance of the conspiracy.

Now I do want to comment on the letter, but I have come to the end of it, calling to your Honor's mind the objection side of it, so I will subside and come back to the other later for only a few minutes.

1435 The COURT. Exhibit 271.

Mr. DIXON. Your Honor, this exhibit, the original of which was subpoenaed from the defendant du Pont, as I understand it, was not in the du Pont files. A copy of this letter was in the National Lead files. It is my understanding that the requirements of proof of practice and mailing of National Lead have been deemed to be or are
1436 waived by the defendant du Pont on this exhibit. Is that correct?

Mr. WHITNEY. That is correct, Mr. Dixon. I should only say, to clarify to his Honor, that that is not the consequence of the stipulation.

The COURT. I understand.

Mr. WHITNEY. That is due to the fact that we cannot find this exhibit anywhere. There are about a dozen or so like that here and there. Mr. Rupprecht is dead and we decided that we would waive the objection that the stipulation reserved and assume for the purpose of the case that we did get it.

The COURT. National Lead says they sent it to you?

Mr. WHITNEY. And we stand upon our continuing objection that we are not bound by what Mr. Beschorman said.

Mr. DIXON. In view of the fact that this was outside of the stipulation I wanted the record to be clear on that point, your Honor.

The COURT. I understand that.

1467 The COURT. 278 is marked for identification.

(Exhibit 278 marked for identification.)

Mr. DIXON. We will endeavor to introduce or to produce that letter. I had it under subpoena today and I did not know whether we were possibly going to reach it or I would have had the party here.

Mr. WHITNEY. I would like to say to your Honor, in order

to be ultra fair to the Government, we went out of our way to tell them this on Monday specifically that we were not going to agree to this letter which we have not seen. And the substance behind it, as your Honor also——

The COURT. Well, I won't read it. I have folded
1468 it over for the very reason—I won't even read it by accident.

Mr. DIXON. You are quite right, Mr. Whitney. And I again state that I could perhaps have produced that here this afternoon. I have told the company not to bring it. But I will do it.

The COURT. As far as I am concerned, it is not here. You can assume throughout the case, gentlemen, that I don't read exhibits marked for identification. Therefore, don't make an argument based on it and assume that I know what you are talking about, because if it is not in evidence I do not read it, unless I am obliged to read it in order to determine whether to receive it in evidence.

Mr. WHITNEY. I just say, having passed 277 exhibits, I didn't object to this purely because of its incompetence, but because I thought substantively it ought not to be in the case, and my objection is upon the ground of incompetence.

The COURT. The objection is good and it is sustained.

1503 GEORGE G. FOWLER, called as a witness on behalf of the Government, being first duly sworn, testified as follows:

Direct examination by Mr. DIXON:

Q. Will you state your address, Mr. Fowler?—A. My business address is 551 Fifth Avenue, New York.

Q. What is your position?—A. I am secretary of Imperial Chemical Industries, New York, Ltd.

1504 Q. Imperial Chemical Industries Ltd. of New York was served with a subpoena to bring with you the original, or copy thereof if the original was not available, of a letter dated August 3, 1933, from E. I. du Pont de Nemours & Company, Inc., European manager, initials HHE with additional initials AAD thereon, addressed to Leonard Smith, Esq., Imperial Chemical Industries Ltd., Milbank S.W.I., the caption on said letter being "Titanium Pigment Agreement," and also bring with you the enclosure referred to in said letter.

Do you have the original of said letter with you?—A. I have a letter, a copy of a letter, dated August 3, 1933, on a flimsy of the old address of I.C.C. New York, Ltd.

Q. Now, as secretary of Imperial Chemical Industries, Ltd. of New York you are in charge of the files and the records of that company?—A. Of certain files.

Q. Was such a letter or a copy thereof found within your files by you?—A. This was found in files set aside by the company because they contained letters and documents extracted from our files by employees of the Antitrust Division, subject to a subpoena served on I.C. New York, Ltd. in September, 1941, and I found them in those files when I arrived in this country in December, 1941.

Q. But you were not with the company prior to
1505 that time here in the United States?—A. I was not prior, no.

Q. But this letter which was subpoenaed and the enclosure therein was in the files of Imperial Chemical Industries, Ltd. of New York?—A. I presume they were prior to that because—I should amend that. This letter of August 3rd, the copy we have, is in a separate file; the letter of July 24th headed "Titanium Pigment Agreement", which is also on a flimsy of I.C.I. New York at the old address, 285 Madison Avenue, that letter of July 24th was in the files of our company in a separate file from this letter of August 3rd, which had been extracted by the agents of the Antitrust Division. This has been extracted by the agents of the Antitrust Division.

Mr. DIXON. We offer in evidence Plaintiff's Exhibit 278. I might add, your Honor, that the enclosure also subpoenaed is already in evidence as Exhibit 276 on page 1146.

Mr. WHITNEY. I think you mean a letter of the same tenor as the enclosure is in evidence. You don't mean that the letter annexed to this so-called flimsy——

The COURT. He means a duplicate.

Mr. DIXON. That is right.

Mr. WHITNEY. Yes. Now, your Honor, in submitting my objection to this offer I will say right away that Mr. Ewing is in the courtroom and can testify. I think
1506 this evidence is incompetent, and I object to the introduction of this exhibit. It is, as described by the witness in his own words, a flimsy, in other words a piece of paper, with no signature, found by the witness in the office of a New York corporation to whom, if there were an original, it was not addressed. In other words, it is simply a piece of paper picked out of the files of the company in New York, which is no evidence whatsoever that a letter was written, addressed and sent of that character

in London between two parties, neither of whom is on the witness stand.

The COURT. Now, Mr. Dixon, just how do you understand that you have cured the problem of competence by the line of proof that you have offered? As I gather it, the witness is an officer of a company which is not the addressee of the letter and is not an official of the company of the sender of the letter. If I am to draw the inference that the company named is in some way an agency or affiliate or something of the address company on the document, on Exhibit 278 for identification, it would simply prove custody at most. That is not quite sufficient to permit its receipt without more. There may be some circumstances under which custody alone might be sufficient, but I doubt that sufficient foundation has been laid for it in this case.

1507 Mr. DIXON. The reference to this exhibit, your Honor, I believe has been previously shown through Exhibit 276, namely, that there is such a letter, and Exhibit 276 is shown to be, that is at least a copy of that letter, in the files of this witness or of this corporation. The original of the letter of which this apparently is a copy is not within the jurisdiction of this Court, it having been addressed, and showing on its face the address, to I.C.I. of England, I mean in England; therefore it is obviously not within the jurisdiction of this Court.

The COURT. That does not prevent an examination of a person. We have gone way beyond that in our jurisprudence.

Mr. DIXON. I was not aware that Mr. Ewing was here in the courtroom, but——

The COURT. I don't want to put you to the necessity of putting him on, if you will indicate to me in a way that I can comprehend just how you understand that the proof elicited from the witness on the stand has corrected the deficiency in making this document competent. Maybe I just don't grasp the point. This is, after all, the second of January, 1945, and we may be all somewhat sluggish.

Mr. DIXON. May we put it this way, your Honor. This exhibit purports to be, if the original were avail-
1508 able, a letter from the European manager of the defendant du Pont to I.C.I. of London.

The COURT. That is right. Of course, we are not dealing with relevance; we are dealing here with authenticity, the existence of this paper. That is what you are now trying to establish.

Mr. DIXON. Correct. Now, that there was such an exhibit as we are endeavoring to introduce here I submit is evident from the fact that this corporation has within its files a copy of Exhibit 276, already admitted in evidence as a letter from the defendant to H. H. Ewing, European manager of the defendant du Pont.

The COURT. 276? You are wrong about 276. 276 is a letter written from the Foreign Relations Department to Mr. Rupprecht.

Mr. DIXON. If your Honor will look at the next page, it is on pages 1146 and '7, which are part of that exhibit——

The COURT. Oh, I see.

Mr. DIXON. And 1148, you will find, that the letter dated July 24, 1933, to Mr. Ewing which as I stated is a part of Exhibit 276, a copy thereof is in the files of the defendant corporation.

The COURT. All right. That is Exhibit 276.

Mr. DIXON. That is right.

1509 The COURT. How does that prove to identify 278? You are referring to the last paragraph?

Mr. DIXON. Now, Exhibit 278 which we are offering in evidence, if the original thereof were available, would of course, it seems to the Government, be admissible in evidence assuming the original could be produced.

The COURT. Oh, no. It goes beyond that as a matter of fact. We are not dealing with it on the best evidence rule. That is not what I understand the objection of Mr. Whitney is. That is all that original and copy business would be concerned with as to whether this would be the best evidence. For all we know this is a piece of paper that one of the junior filing clerks in the office of du Pont typed out in order to get practice on the machine; for all we know at this stage of the proceeding, and manifestly if that were the fact this would not be admissible. You must therefore go further and show that Exhibit 278 for identification was in fact a communication made by a person authorized to make it on behalf of du Pont if you want to use it against du Pont. It is that link that is lacking in the face of objection, a link which we sometimes overlook when there is no objection. Now that is the problem, and I do not see how Mr. Fowler is going to supply it for you.

1510 Mr. WHITNEY. By the way, your Honor, it is a ribbon copy; it is not a carbon; it is an original typed paper.

The COURT. I would not care if it was a carbon. I would

not care if it was a photostat. I do not think I am permitted to draw the inference that simply because it is in existence that it was created by persons authorized to create it.

Mr. WHITNEY. Had your Honor looked at Exhibit 276 to which Mr. Dixon called attention, because it was written several weeks before the offered paper purports to have been written and it says:

"no doubt I.C.I. are familiar with it and may be discussing it with Ewing, resulting in some embarrassment to him through his ignorance in the matter."

I don't think that goes anywhere to support the offer of this piece of paper.

Mr. DIXON. On the question of authority, which I assume is the question on which the objection is based——

The COURT. It is authority and authenticity both, neither of which has yet been established. All that has been established, assuming that Mr. Whitney is willing to overlook the distinction between I.C.I. of New York and I.C.I. of London, is custody. Sometimes that serves the
1511 purpose. I don't think that serves the purpose here.

Mr. WHITNEY. With very great respect, in view of the fact that we have brought Mr. Ewing here so that Mr. Dixon can find out the truth about this matter if he so wishes, I am not waiving the distinction between I.C.I. of New York and I.C.I. of London, or anything else. On the very point of authenticity I am prepared to furnish a witness who knows the story and under the Federal Rules he can cross-examine him all he likes.

The COURT. If that is the fact then even custody is not established.

Mr. WHITNEY. No.

The COURT. Of course I am not permitted at this stage to draw any distinction between the identity of I.C.I. of New York and I.C.I. of London. For all I know they are two antagonistic and hostile corporations.

Mr. DIXON. In view of the fact that Mr. Whitney has stated Mr. Ewing is here, your Honor, we are perfectly willing to withdraw this witness and to call Mr. Ewing to the stand to determine whether or not this letter was ever written by Mr. Ewing.

The COURT. Is there any cross-examination of this witness?

Mr. WHITNEY. No.

The COURT. You are excused, sir.

1511a (Witness excused.)

The COURT. Do you want to mark for identification the document he has produced?

Mr. DIXON. Oh, this has already been marked for identification.

The COURT. No. The document he produced?

Mr. DIXON. No, your Honor.

The COURT. You don't want that marked for identification?

Mr. DIXON. No, if your Honor please.

1512 HOMER H. EWING, called as a witness on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct examination by Mr. DIXON:

Q. Will you state your present address, Mr. Ewing?—A. My present business address is Wilmington, Delaware.

Q. And by whom are you employed?—A. E. I. du Pont de Nemours and Company.

Q. And in what capacity?—A. My present capacity is Commercial Investigator, Development Department.

Q. Directing your attention to the period of August, 1933, by whom were you employed at that time?—A. I was employed by E. I. du Pont de Nemours and Company.

Q. And in what capacity were you employed?—A. As European manager and also manager of the London office.

Q. And as such you were in charge of the affairs of the du Pont Company in that area, that is in the European area and the London office at that time?—A. Indirectly.

Q. I will hand you what has been marked as Plaintiff's Exhibit 276, and ask you if you ever saw that letter or document before?—A. I have no recollection of ever having seen this letter.

Q. You say you do not recall ever having received that document?—A. That is right.

The COURT. You mean the letter of July 24, 1933?

1513 The WITNESS. That is right.

Q. That is addressed to H. H. Ewing, Manager of London Office, dated July 24, 1933.—A. That is correct.

Mr. DIXON. That is on page 1145.

Mr. WHITNEY. He asked the witness about 276, which is addressed to C. H. Rupprecht, President.

The COURT. It happens to include more than one document. He is referring to the document now on page 1146.

Mr. DIXON. Yes. A part of that exhibit.

Mr. WHITNEY. I think the record will show he said 1145.

The COURT. Referring to the document printed on page 1146.

Mr. DIXON. Which is a part of that exhibit.

Q. Will you read that again, Mr. Ewing, and see if that refreshes your recollection as to whether you ever received such a letter?—A. I may have received this. I have no definite recollection of it.

Q. Are you acquainted in a general way with the subject matter of that letter?—A. No. Probably this was the first information I had had on this subject.

Q. You mean that is the only information, according to your recollection, that you ever received about the titanium agreement or proposed agreement between Krebs
1514 and National Lead?—A. There may have been others, but I have no recollection of any at the moment.

Q. Well, did you ever discuss this agreement with anyone while you were at the London office connected with du Pont or Imperial Chemical Industries Limited?—A. I do not believe I ever did.

Q. Did you ever write any letters or have any correspondence with Imperial Chemical Industries Limited concerning this proposed agreement between Krebs and National Lead?—A. I have no recollection at this time.

Q. In other words you want this Court to understand that you have no recollection at all about this agreement, is that correct?—A. That is correct.

Q. Do you recall any meetings had in London in 1931 at which titanium was discussed, say September of 1931?—A. There were meetings in London when we discussed the European situation with regard to titanium.

Q. Then you do now recall some such meetings, or at least some discussions had with reference to the European titanium situation?—A. Only with reference to that.

Q. And as early as 1931?—A. That is correct.

Q. The fall of 1931. And it is a fact, is it not, that you received correspondence from the Wilmington office, the foreign relations department of du Pont, with reference to this proposed agreement between National
1515 Lead and Krebs? That is the fact, is it not, Mr. Ewing?—A. There were some letters came over about that, much later; later than 1931, however.

Q. So that you did receive from say September 1931, up until July of 1933, correspondence from the foreign relations department of du Pont at Wilmington, to yourself as director of the London office and the European office of the du Pont Company, is that correct?—A. On what subject?

Q. On the subject, of course, of titanium.—A. As regards Europe?

Q. That is right.—A. Only as regards Europe.

Q. Now don't you recall some correspondence with reference to the proposed agreement in the United States between the Krebs Corporation and the Titanium Pigment Company and the National Lead Company, engaged in the titanium business?—A. There was one letter to my recollection, only one, and that was in 1933; nothing before that.

Q. Did you ever have any conversations with anyone of Imperial Chemical Industries Limited at London with reference to the proposed agreement between Krebs and Titanium Pigment Company in the United States?—A. Not directly.

Q. Well, did you ever have any indirectly?—A.
1516 Yes. They spoke to me about it.

Q. And what was the substance of your discussions, generally, if you recall?—A. The recollection is quite faint but it had to do more particularly with the European phase of the business. I knew nothing of the agreement in the United States if, in fact, there was one at that time.

Q. Well, it is a fact, is it not, Mr. Ewing, that you did receive advice from the foreign relations department of the du Pont Company at Wilmington concerning the possibility of this proposed agreement being executed?—A. Only one letter.

Q. That is the only one you recall?—A. That is the only one I recall.

Q. Now you say you do recall some further conferences or discussions relating to titanium matters in London commencing with September of 1931, Do you recall who was present at those discussions?—A. The only discussions that I ever had in London during that year, according to my recollection, are meetings with Mr. Ticknor and Mr. Chase of Commercial Solvents, together with Mr. Burton, their European manager.

Q. And Mr. Burton was, you say, the European manager of what company?—A. Commercial Solvents Corporation.

Q. And he was also connected with Travancore
1517 Minerals Company, was he not?—A. That is correct.

Q. Did you ever hear of that company before?—A. Oh, yes.

Q. And in what connection?—A. As manager of the London office it was our function to represent the com-

pany in dealings with Travancore Minerals, Inc. We were not members of the board, however.

Q. When did you leave the London office, Mr. Ewing?—A. December 15, 1935.

Q. So that you were in charge of the London du Pont office until what time?—A. Between July 1930 and December 1935.

Q. Now coming back to this exhibit that I have shown you some time ago, or a short time ago, Plaintiff's Exhibit 276: Do you recall whether you ever had any conversations or transmitted any correspondence to Imperial Chemical Industries Limited with reference to the titanium pigment agreement?—A. I have no recollection. I may have done so.

Q. I will hand you what has been marked for identification Plaintiff's Exhibit 278, and ask you to examine the same?—A. This is a copy of a letter.

Mr. WHITNEY. May I just look at this paper?

Mr. DIXON. Yes (exhibiting).

The COURT. A copy of a letter you wrote?

1518 The WITNESS. I have no recollection of having written this, sir.

The COURT. What did you say when this is a copy of a letter?

The WITNESS. Well, it is not signed. It has not any signature.

The COURT. It is a photostatic copy of a copy, is that what you mean?

The WITNESS. Yes, sir.

Q. The initials HHE are the initials for your name, are they not, Mr. Ewing?—A. That is correct.

Q. Examining that letter, would you say that you did write such a letter to the Imperial Chemical Industries Limited?—A. The chances are that I did write this letter.

The COURT. The chances are you did?

The WITNESS. I did, but I have no recollection.

The COURT. Who is AAD? Is that your secretary?

The WITNESS. That is Anna A. Davidson.

The COURT. A girl who worked in your employ?

The WITNESS. That is right.

Q. Where is she now, if you know?—A. She is still in England as far as I know.

Q. Now you say you think you did write this letter?—A. I may have.

1519 Q. Now will you just tell the Court where you got the rather complete information indicated in that

letter relating to the titanium industry throughout the world, to use your specific language?

Mr. WHITNEY. I object——

The COURT. I suppose there will be an objection to that, but before you get to that, are not you prepared to offer that exhibit?

Mr. DIXON. Yes, your Honor. We are offering it in evidence.

The COURT. Is there any objection?

Mr. WHITNEY. No objection.

The COURT. All right, Exhibit 278 is received in evidence.

Mr. WEBSTER. If the Court please, I suppose I should once again after the holidays——

The COURT. Renew your objection?

Mr. WEBSTER. Reserve my objection to all these du Pont documents on all the previously urged grounds.

The COURT. All right, you have an objection and exception. It is received against du Pont and received against the other defendants subject to the reservation you have made.

(Plaintiff's Exhibit 278 for identification received in evidence.)

1520 The COURT. Now what was the question?

Mr. WHITNEY. I objected to it because he described the letter by saying, "the rather complete information indicated in that letter."

Mr. DIXON. Yes. I will withdraw that question.

The COURT. Very well.

Mr. WHITNEY. Your Honor, my friends point out to me that I have overlooked an objection that I am presuming your Honor will want to overrule, but I do want to make it seriously, if your Honor will permit, as to Exhibit 278.

The COURT. Yes.

Mr. WHITNEY. I do want to object on the ground that Mr. Ewing in his capacity as European manager, as described in the evidence, had no authority to bind the du Pont Company to any act or statement of this character—lack of authority.

The COURT. Very well. The objection is overruled in the light of the suggestion in Exhibit 276, and for other reasons.

1521 Q. Handing you Plaintiff's Exhibit 278, will you state to the Court if you can where or from what source you secured your information expressed in the second paragraph of this exhibit with reference to the

titanium pigment industry generally?—A. From time to time Mr. Ticknor came over to Europe and told me of the interest of the various Blumenfeld interests in Europe, especially Donegani in Italy, and it was from that source and from my contact with Blumenfeld and Donagi and I.C.I. that most of this information about the situation throughout the world on titanium was gathered.

Q. Did you have any conversations with Mr. Pickard about the titanium business in Europe or the United States?—A. In Europe, yes. He would come over to Europe about once a year, and on one occasion I do recall that we met Mr. Donegani in Paris.

Q. Do you recall when you met Mr. Donegani in Paris?—A. I believe it was in '33. It may have been 1932; I am not sure.

Q. Do you know what business Mr. Donegani was then engaged in?—A. Oh, yes. He was a leading figure in the Italian dynamite companies. We were associated with him in a small Duco company in Italy. He was director or the chairman of that board, and I was one of the directors.

The COURT. The reference I take it was to the 1522 chemical and not to the political aspects of the situation.

The WITNESS. Quite right, sir.

Q. Again referring to this Exhibit 278, I notice that you state therein that:

"the move which has culminated in this agreement in the U.S.A.,"

and by that time the agreement, the Krebs agreement, had been executed; is that correct?—A. I had been advised by Mr. Swint, and that was the first advice I had had.

Q. That is by Exhibit 276?—A. Yes.

Q. In this letter you referred to a patent pool. Now, just what patent pool were you referring to in this letter, Mr. Ewing?—A. That seems to be a loose phrase—"patent pool," but the licensees——

Q. You mean it is loose now?—A. Yes.

Q. But not at that time you didn't regard it as a loose phrase. All right, go on.—A. Mr. Donegani——

Mr. WHITNEY. Wait a moment. Is that a comment or a question?

Mr. DIXON. It is a question.

The WITNESS. I didn't reply.

Mr. WHITNEY. Just wait until the next question—until he has replied to the last.

The WITNESS. Pardon me.

The COURT. Do you regard——

1523 Mr. WHITNEY. "Did you——"

The COURT. Did you regard that as a loose phrase?

The WITNESS. We spoke quite freely in 1932 about patent pools.

Q. So you didn't regard it, as I take it, as a loose, as you describe it, phrase at that time?—A. That is right.

Q. At least the time you wrote the letter.—A. That is right.

Q. Just what did you mean by "patent pool" then at the time this letter was written, Mr. Ewing?

The COURT. And in this letter.

Mr. DIXON. That is right. In this letter.

A. This is only my opinion and it goes back to 1932. In those days if one group had a certain type of patent, another corresponding group had a type of patent, they could and did in a good many instances cross-license one another for the purpose of efficiency in the manufacture of the product, because each patent was supposed to add some part of efficiency to the chemical operation.

Q. So that according to your conception of the term "patent pool" as used on Plaintiff's Exhibit 278, you regarded it merely as a means of establishing cooperation between the parties who entered into the pool?—A. Technical cooperation only.

Q. You mean only technical cooperation?—A. That is right.

1524 Q. Will you explain to the Court just what you mean by technical cooperation.—A. Patents cover only a part of discovery, and there are certain additional know-how not disclosed in patents through perhaps the inability to disclose it, which can be imparted by cooperative work, and the exchange of patents one with another company opens the door for disclosure of all the know-how as well as the patentable idea.

Q. So that the patent pool as used in your letter of August 3, 1933, means to you a combination of patents and the exchanging of technical information between the parties who own the patents so that they can be, shall we say, more efficiently worked by the parties to the pool?—A. That is correct.

Q. Do you have anything else to add to your understanding of the words "patent pool" as used in this letter of August 3rd?—A. No.

Q. How long had you been with the du Pont Company before you took over the management of their London office?—A. I came with the company April 8, 1918; so between 1918 and 1930—a period of 12 years.

Q. Well, had you during that period of time had any other experiences with agreements such as the titanium pigment agreement which you referred to as a patent pool?—A. We had many agreements, not of this
1525 particular type but different types.

Q. So that this was not the first time that you had had occasion to use or at least refer to the term "patent pool" in the sense that you have described it?—A. That is correct. That was a recognized term.

Q. And you want this Court to understand that that was the only understanding that you had of the term "patent pool", as you used it in this exhibit?—A. That is the only understanding that I had at that time.

Q. Well now, if that is the fact will you kindly state to the Court what you meant when you stated further in this letter that:

"We look upon this patent pool as a definite advance in cooperation and the strengthening of both parties' position to the exclusion of outsiders"?

A. Only as regards technical information.

Q. So that this "to the exclusion of outsiders" does not add anything or does not broaden, shall we say, the interpretation that you previously gave to the Court as your interpretation of a patent pool as used in this letter?—A. Not at all. It doesn't add anything.

Q. So I assume we might call that surplusage, is that right?—A. Yes; so much gratuitous information tacked on.

Q. Just a mere gratuity that doesn't mean a thing?—A. So far as I am concerned.

1526 Q. It might well have been left off the letter?—A. Quite right.

Mr. DIXON. That is all.

Cross examination by Mr. WHITNEY:

Q. Mr. Ewing, did you have authority on behalf of the du Pont Company during the years 1930 to 1935 to negotiate the terms of any cross-license agreement?

Mr. DIXON. I object to that, your Honor.

The COURT. I will allow it.

A. I had no authority directly to negotiate anything. I was merely an agent for the company in the United States and all authority had to originate here.

Q. By the word "directly" do you mean that the authority had to originate here?—A. Yes.

Q. Were you given authority to negotiate with any European company a cross-license agreement in the field of titanium at any time?—A. No.

Q. Did you ever execute on behalf of the du Pont Company any agreement in the field of titanium?—A. No.

Q. Did you ever execute any letter or memorandum meant to express or designed to express any commitments on behalf of the du Pont Company?—A. I was not permitted to.

Q. Or any informal agreement?—A. No.

Q. Now with reference to your letter and the statement that the phrase "to the exclusion of outsiders" was
1527 gratuitous information, who gave you the information?—A. I received apparently information from Mr. Swint that an agreement had been signed in the United States. That was the first knowledge that I ever had of it.

Q. By "apparently" do you mean that you were referring to Exhibit 276, pages 1146 to '8 that were shown you by Mr. Dixon on the direct examination?—A. Yes.

Q. You mean by "apparently" that you do not now remember receiving that letter but that apparently you did receive it?—A. That is correct.

Q. And that therefore that letter was the source of your information?—A. That is it.

Q. Did you receive any other letter prior to August 3, 1933, from Mr. Swint on this subject—A. I can't recall now.

Q. Do you think you did?—A. I don't believe I did.

Q. Did you receive any other letter from any other officer of the du Pont Company prior to August 3, 1933, on this subject?—A. That to my recollection is the only advice that I had of this National Lead-duPont agreement.

Q. Now the paragraph in the letter which Mr. Dixon was reading to you begins: "The titanium business throughout the world seems to be divided into two groups—the one which may be classified as the 'Blumenfeld group', including: in addition to Krebs Co; Monte-
1528 catini in Italy, Terres Rares and United Chemical * * *, Aussig, and the other: the 'IG', or 'National Lead group'" et cetera. What was the source of your impression expressed by your word "seems" to that effect?—A. That information was gathered from various talks with Messrs. Ticknor and Chase, Blumenfeld, Done

gani in our regular work throughout the European Continent at that time.

Q. When you say "We look upon this patent pool as a definite advance in cooperation", are you referring to yourself and Mr. Ticknor?—A. I very seldom ever used the word "I" in writing any of my letters. "We" should be translated as "I." It is used collectively but refers to no one else in particular that I can designate now.

Q. You mean that you yourself, Mr. Ewing, sitting in London in August of 1933, personally regarded this so-called patent pool as a definite advance in cooperation?—A. That is right.

Q. And the rest of it—A. That is right.

The COURT. Mr. Webster?

Mr. WEBSTER. No questions.

The COURT. You are excused, sir.

(Witness excused.)

1577 Mr. CAPLAN. The next group of exhibits relates to the Leuchs patent which was purchased. The first exhibit of this group, Exhibit 322, is by Barton to the Technical Committee and says that the Technical Committee at its meeting February 8, 1933, decided that it would not be advisable to acquire an interest in the Leuchs patent, but upon final review it appeared the principal reason why the Mecklenburg and Blumenfeld patents were granted may have been because the Leuchs German patent, although applied for at a much earlier date, was not published until September 11, 1931, and therefore may have an important bearing upon the validity of the Mecklenburg and Blumenfeld patents. Mecklenburg and Blumenfeld were owned by Krebs and were among the 17 patents in the so-called patent controversy.

In the last paragraph of the exhibit Barton says:

"As this Leuchs patent seems to have a definite disclosure which would anticipate the Blumenfeld and Mecklenburg features of separately preparing accelerators of titanium precipitation, it is recommended that the Leuchs patent and related patents be submitted to Mr. Peck for study and opinion."

1578 Is it understood that I will proceed through this Leuchs group?

Mr. WHITNEY. Yes. I think you will agree that the words "Technical Committee there mean a National Lead committee?

Mr. CAPLAN. Yes, that is right.

2086 Mr. DIXON. This next Exhibit, 710, from CTP to

National Lead, is an inquiry as to whether CTP can sell Blanc Fixe manufactured by PTP in Canada.

Exhibit 711 is the reply of National to that inquiry in which he points out again what we have already seen, that the Licensed Field in the Canadian agreements did not include extender pigments as such and that presumably the Canadian Company would undertake to sell the British product only with the consent of the board of directors, and that that group would probably want to know the attitude of CIL and National Lead upon that question.

The next exhibit, 712, is a memorandum relating to the Canadian agreements prepared by Mr. Asselin of CIL in which he points out what will be——

Mr. WHITNEY. Pardon me, Mr. Dixon. Is that produced from the files of National Lead?

Mr. DIXON. Yes.

Mr. WHITNEY. The same comments go to that one as to the other one, your Honor. It is the same type of exhibit. Indeed, this I think carries internal evidence of its sketchy, and I think it right even to say irresponsible, character. The use of the words "will grant" is utterly unwarranted by anything that we know, and I must say that having sat here all morning we know a great deal. This cannot remotely be read literally as having any weight in the case. It is
2087 the sort of thing that a man sits down after a great long series of conferences and sketches out without any effort to be correct.

I suggest again to your Honor that in this case I think if we can find a boxing term lower than "feather" I would like to offer your Honor that that be the weight of this exhibit. This is just plain junk to me, this three-page memorandum.

Mr. DIXON. Still commenting on this exhibit, your Honor, this summarizes the discussions apparently had with reference to the matters under discussion between the——

Mr. WHITNEY. What possible right have you got to say that?

Mr. DIXON. (Continuing)——titanium pigments, titanium tetrachloride, titanated lithopones and titanium compounds which cannot be used as pigments, all of which in the previous exhibits were amply referred to as being subjects of discussion for an exchange of patents and patent rights, the broadening of the Licensed Field as defined in the agreements between the Canadian companies and National Lead.

Mr. WHITNEY. Mr. Dixon, may I just say this: This does not go to the comment. I don't think Mr. Dixon perhaps catches my point which I submit to your Honor.

2088 The COURT. This was written by Asselin.

Mr. WHITNEY. That is right. But there is no basis for Mr. Dixon saying this summarizes the discussions.

The COURT. That is right. I understand.

Mr. WHITNEY. There is no reference to this three-page memorandum in any letter by Mr. Asselin.

Mr. DIXON. Correct.

Mr. WHITNEY. This may have been Mr. Asselin's personal conception of——

The COURT. What ought to be done.

Mr. WHITNEY. Exactly.

The COURT. I understand.

Mr. WHITNEY. It may be any number of things.

The COURT. Maybe it is the sort of memorandum that he wanted to bring to a discussion.

Mr. DIXON. Exactly.

Mr. WHITNEY. Yes.

The COURT. Rather than what he carried away from a discussion.

Mr. WEBSTER. I hope we lawyers are not always bound by our notes as to what we are going to talk about or what we think may be true, because very frequently they are discarded.

Mr. WHITNEY. Your Honor, the drift of my remarks was that second only to the exhibit about Mr. Ewing
2089 which I felt we had to carry to the point of having the witness here, because he was available, if I had Mr. Asselin sitting around here, I would carry the objection this far. In other words, I think that in the case of this three-page memorandum, phrased as it is, in the light of Mr. Dixon's own proof that most of these things never did in fact happen, the materiality is so evanescent that the exhibit should be actually rejected.

Now I think we all understand here that this record is made on the basis that your Honor is not rejecting exhibits as to materiality or relevance and that you are allowing us the continuing objections as to connection and the other objections of that character. I only am taking your Honor's time because this exhibit I believe if it came up by itself and we did not have a continuing rule, your Honor would exclude it, and it is so long since we have mentioned it that I do want to mention that I think that it comes within that subject matter. If your Honor does not care to exclude it——

The COURT. No. I do not see any point to exclude it, as a practical matter. If excluding it meant that it was

physically taken out of this volume to make this volume one thousandth of a millionth of a millimeter thinner, it might be worth the effort, but it won't result in that.

2090 It will simply result in further argument at the end of the case as to why it should be included.

Mr. WHITNEY. Let us just remember then that the actual agreement that was made is Exhibit B to the du Pont answer and is in evidence in some appropriate initial under E.

The COURT. All right.

Mr. DIXON. Your Honor, I might say in reference to this discussion, and again I refer to the fact that I am still commenting on that exhibit——

The COURT. 712.

Mr. DIXON. That is right. (Continuing) That these are offered in connection with the du Pont exhibits. I mean, we have already submitted as part of this record exhibits from the du Pont files including memoranda from Mr. du Pont in connection with the Canadian situation and the relations of du Pont with CIL as well as ICI.

Now, here it is not in dispute that du Pont has a stock interest in CIL along with ICI. Here is a memorandum, for whatever value it may have, taking its part in all these exhibits dealing with the Canadian situation which relates to subjects then under discussion between the various parties involved in this litigation. At this particular time it was National Lead and the Canadian Company. We submit it for whatever value it may have in that connection.

2091 The COURT. Let us put it this way. In other words this is a memorandum, but we do not know at this time whether these are the communicated or uncommunicated cogitations of Mr. Asselin. To the extent that these comments are established by other exhibits they have merit or value or weight; to the extent that they are not, they haven't any weight. You might say it is purely surplusage, perhaps. Very likely.

2124 The COURT. No comment. Exhibit 828.

Mr. DIXON. Exhibit 828, minutes of a meeting held in 1936 in Germany, or at TG, it is of passing interest to note discussed here the fact that the Japanese engineer would not be permitted to visit the plant until the contracts had been made providing for the creation of the Japanese company.

Also, in paragraph 2 the minimum prices are referred to again.

In paragraph 5 we find a discussion and report on the Hong Kong situation previously referred to. Also, the Pinchin Johnson contract which was, as your Honor recalls, an exception to the general rule that no company should sell in the territory of the other company. And the usual clause in that contract providing for cancellation in the event of export by Pinchin Johnson was provided for.

The next Exhibit, 829, is a sales report in 1927 in which under "competition" we find reference to the activity of Laporte in the Swedish market, and that, however, any further difficulties with Laporte apparently would not
2125 arise because, as is shown here in this report, by arrangement with Laporte they have withdrawn from the markets of Titan A/S.

The next one is page 2902, Exhibit 830. It was pointed out in this exhibit, which is a market report to the international sales committee in June of 1937, that no competition is met in Belgium apart from that arising from Thann which under the agreements in chart No. 3 was allocated to that territory, and that some customers had been transferred to Thann in accordance with that agreement of the Titan companies. They do refer here, as your Honor sees, to this Dutch company that we saw develop some kind of competition in Holland shortly after and through the 1938 and 1939 period until it finally ceased operations in 1940.

2126 In Exhibit 831, page 2903, International Sales Committee, minutes of a meeting in June 1937, further reference is had in paragraph 33—and I might add that these are excerpts taken from these reports, that the full report is in evidence as part of the official record, but these are the parts that we are directing to your Honor's attention—to reports concerning production in the United States.

On page 2905 it is proposed that actual sales information or statistics on imports and exports be furnished the Paris office by the various companies. Mr. Edgerly of TP points out on page 2906 that it is rather difficult in the United States to trace delivery of their competitors. And Thompson points out that with regard to Laporte, it is not impossible that there could be one or more customers untraced, but that it was highly improbable. In other words, we have had occasion to see in the Zirconium exhibits, for example, that inquiry was directed there with reference to certain small exports, and that is undoubtedly what Mr. Edgerly is referring to.

Prices were also discussed at this meeting, and in view of the discussion, page 2907, it was found not necessary to reduce prices at the present time. However, with regard to export prices, there is no urgent need for
2127 a price reduction except occasionally in countries such as China, where they have to compete with a very cheap Japanese pigment. In other words, we find as we read these reports that the price of the product sold in these markets allocated to these companies was constantly under the control of the parties to these meetings, and that when it was deemed advisable to lower the price or to raise it, as the case might be, although that was seldom the practice based upon the policy set forth in Mr. Cornish's letter back in 1926 to expand the market as much as possible, we find that policy being followed here, but nevertheless the power, the actual fixing of that price is a matter of agreement among the various parties to this combination as far as these meetings are concerned.

It is rather interesting to read on page 2909 that with reference to the English market Mr. Thompson had said that many buyers had expressed the opinion that in adopting titanium in their formula they might place themselves in the hands of a monopoly which would be in a position to put prices up against them and that this fear had not been removed by the existence of Laporte, because, according to Mr. Thompson, the customers in England knew that there was a working arrangement between BTP and Laporte.

2128 The policy with regard to titanated lithopone is also set forth on page 2911. It is pointed out there that that type of competition is something that would have to be—well, it was not so easy to deal with in a sense because the lithopone makers do not have between themselves marketing arrangements covering the world, as he puts it, to such an extent as we, and that there are fairly strong outsiders in the titanated lithopone market.

Exhibit 832 is a letter from Dr. Jebsen to Mr. Beschorman in December of 1937, enclosing a memorandum of the results of a discussion had in Paris in December of that year, and points out, on page 2914, that the situation in the German market as far as its territory is concerned, is such that it does not call for any price reduction at the present time. In discussing the English situation on the same page, he refers to the sales in the English market exclusive of Canada, and points out that it is the desire of Tasker and Barley to bring Laporte, as he calls it,

to their heels with a view to the quota arrangement, and the relation of prices between titanium products and lithopone is not nearly so favorable as in Germany, where lithopone is somewhat higher priced.

However, he concludes on page 2916:

"As regards the price policy for countries outside of Germany, with the exception of France and the
2129. Scandinavian countries, that that will more or less have to follow the English prices. And that is particularly true in Holland and Belgium, where this Dutch company has renewed its activities, offering at prices of 12 per cent below their prices." In other words, they will have to make an exception generally to the price structure in Holland to meet that situation, and possibly also in Scandinavia, where this new Dutch company is endeavoring to enter the market.

Exhibit 833 is the minutes of a meeting held in Frankfort in March 1939, in which reference is made to the addition of Canada to the International collaboration. And there your Honor will recall there was some discussion in the Canadian exhibits with reference to Canada joining the International Committee and getting the benefit of the general exchange of technical information and patents which we have previously discussed in the Canadian exhibits.

Mr. WEBSTER. Mr. Dixon, it is clear that there is no mention at any place in here of prices in the United States, is there?

Mr. DIXON. No.

Mr. WEBSTER. You do not mean to indicate that there is or that any inference of that sort can be drawn.

The COURT. Mr. Dixon assents to that comment.

2308 CHARLES F. KAEGEBEHN, recalled as a witness on behalf of the plaintiff, having been previously sworn, testified further as follows:

Direct examination by Mr. DIXON:

Q. I will hand you what has been marked as Plaintiff's Exhibit 881 and ask if you will examine the same and state to the Court after you have examined that as to whether that was prepared by you?—A. It was.

Mr. DIXON. That is all.

The COURT. Any questions?

Mr. WHITNEY. Yes, indeed.

Cross examination by Mr. WHITNEY:

Q. Mr. Kaegebehn, this document, Exhibit 881 is

marked "Notes re du Pont situation." For whom, if anyone, did you write those notes?—A. Dr. Jebsen.

2309 Q. Did you mail them to Dr. Jebsen?—A. No, sir.

Q. Did you hand them to Dr. Jebsen?—A. That is right.

Q. He was in America at the time?—A. He arrived two days later, on May 17th.

Mr. Dixon. If the Court please, with reference to the scope of the cross examination of the witness I object. We base our objection on that ground.

The Court. The worst that can happen is that he becomes Mr. Whitney's witness. That won't upset me unduly. Of course I should not like him to exploit this opportunity for a completely different connection, but even that he probably could do. As long as he is addressing himself to the document before us I have no objection.

Q. Upon what was the document based?—A. A series of conversations that I had had with du Pont people during the winter of 1937-1938.

Q. And which du Pont people?—A. Particularly Mr. Rupprecht.

Mr. Dixon. May it please the Court, I don't want to interrupt except for the purpose of submitting to your Honor a memorandum on this question which may arise further and I would like to submit it to the Court at this time (handing).

Mr. Whitney. What do you mean by "this question"?

Mr. Dixon. Scope of the cross examination.

2310 Mr. Whitney. I think I will withdraw the objection. Your Honor said "Go ahead"?

(Witness excused.)

2319 Mr. Dixon. Exhibit 882 is an outline of the procedure for granting licenses under the du Pont-Titan prospective arrangement which is dated June 1, and it is pointed out that the licenses by Titan to du Pont under the patents owned by Titan are subject only to the consent of National Lead and that the sub-licenses by Titan to du Pont under patents of its associates, there the consent of National would also be required.

Mr. Webster. No comment.

Mr. Whitney. I still do not understand whether Mr. Dixon is saying that this describes existing agreements or is an idea in the mind of the author as to what might

2320 be an appropriate thing in future agreements, but there is no doubt that it should be the latter.

The Court. It manifestly is. Exhibit 883.

Mr. Dixon. This, your Honor, is a memorandum dictated by Dr. Jebsen——

Mr. WHITNEY. Just a moment. It is not at all.

Mr. DIXON. I appreciate Mr. Whitney's comments, but here again I rise to state that the exhibit itself indicates—

Mr. WHITNEY. You better not state until we look at it. We have an exhibit in which notes are made and it does not have any word "Jebsen" on it. I object to that on the ground of competence.

Mr. DIXON. May I finish? What I started out to say, your Honor, was that this exhibit says on its face, although the printer——

Mr. WHITNEY. I object to comments. The exhibit can be marked for identification and handed to the Court.

The COURT. Has this been marked in evidence?

Mr. DIXON. It has, your Honor, and under the ruling——

The COURT. The proper motion now is to strike.

Mr. WHITNEY. Reserving all the other grounds of motion which your Honor has for me continuing, because the understanding was they were to be reserved to the end of
2721 the case——.

The COURT. Certainly.

Mr. WHITNEY. I now make a motion to strike this Exhibit 883 on the ground that it is incompetent because it is an unsigned memorandum.

The COURT. All right. I will look at it.

(Document handed to the Court.)

Mr. DIXON. We had better submit a clearer copy because I doubt very much whether you could read that under the ruling.

Mr. Whitney is quite right in objecting to it as an unsigned document. I am merely here to state that it is not unsigned in the sense that there are notes thereon which indicate the source of the document and which will fully explain it.

The COURT. Are you producing the original?

Mr. DIXON. We will have to go to our files to get it unless the National has a little better copy.

Mr. WHITNEY. As Mr. Dixon has made a remark about the face of the exhibit, I will supplement it by the remark that what I can read begins "Memo on the principles to govern relations between du Pont and Titan" and as I explained to your Honor, before I would raise objections of competence in cases in which I thought the ground of competence was sound, and in addition thought that the
2722 exhibit was unreliable, because this is a mere expression by whoever wrote it of what he thought ought to govern somebody in the future.

The COURT. That is true, but if it is a statement by Dr.

Jebsen of his state of mind it may be, and probably will, throw light upon his intention in doing certain things which are done, because this is simply a reflection of his cogitation and does not pretend to be anything more than that.

Mr. WHITNEY. Well, your Honor, on principle I do not like to be prejudiced by the remarks of gentlemen not associated with us except in cases in which I have to be for the convenience of the trial.

The COURT. I don't want you to forego any proper objection that you may have.

Mr. WHITNEY: I think that 98 per cent of the evidence that has come in is irrelevant and immaterial. I think that the trial has been unduly prolonged; that a fearful expense has been cast upon my client, running into many thousands of dollars because the Government has chosen to cast in this mass of stuff——

Mr. DIXON. Just a minute.

Mr. WHITNEY. That is why I am objecting.

The COURT. You don't have to argue that.

Mr. WHITNEY. All right, your Honor.

2323 The COURT. No ruling is required on the application. Have you the original?

Mr. DIXON. This is still not the original, but it is the best we can get.

The COURT. I understand I am dealing with a document marked by the clerk.

Mr. DIXON. This is the one that is marked in evidence (exhibiting). It is the same thing. Your Honor has our photostat from which the one in evidence was marked, which is the best one we have.

The COURT. I still cannot read it.

Mr. WEBSTER. May we have a recess for just two minutes?

The COURT. All right. Two-minute recess.

(Short recess.)

Mr. WHITNEY. Mr. Webster says he has a copy with the writing legible. He just discovered it this minute.

Mr. WEBSTER. We have here the grandfather of all the copies that have been produced here this morning.

The COURT. Can I look at it as an aid to read this photostat?

Mr. WEBSTER. Yes, sir, I was just about to hand this to the clerk. This is the copy with the initials at the foot of the antitrust representative, Mr. Murphy, who extracted the document from the Lead Company files and

2324 made the original negative from which all the illegible positives and negatives were made since

[handing to the Court].

The COURT. Well, did the pencilled note appear on it at the time it was taken out of your file?

Mr. WEBSTER. It did.

The COURT. Has Mr. Whitney seen it?

Mr. DIXON. I have not seen this one, your Honor. All we have is the photostat but we know what the writing is.

The COURT. I take it then that National admits the genuineness and authenticity of this document as a statement by Dr. Jebsen? Is that correct?

Mr. WHITNEY. No. That is not what appears.

The COURT. Doesn't it say this was prepared by Dr. Jebsen?

Mr. WHITNEY. No. The note does not say that.

The COURT. What does it say?

Mr. WHITNEY. It says "This memorandum dictated by Dr. Jebsen June 1938, prior to June 8, 1938, but not brought forward."

The COURT. What does that mean? Does National admit this memorandum was dictated by Dr. Jebsen?

Mr. WEBSTER. Yes, and that the note was made by Mr. Kaegebehn.

Mr. WHITNEY. Will Mr. Kaegebehn tell us what 2325 "not brought forward" means?

The COURT. We may go into that in a moment and maybe we can explore that, but for the present we have it that this paper was dictated by Dr. Jebsen. Now of course under our stipulation that does not bind du Pont. Am I correct on that? So you can still have an objection to that document.

Mr. WHITNEY. Well, your Honor, I think your Honor will agree at once that we only have what your Honor quoted in company with the statement "but not brought forward."

The COURT. All right. Call Mr. Kaegebehn back to the stand.

Mr. WEBSTER. I think that is the solution and I hoped the Government would do that.

CHARLES F. KAEGEBEHN, recalled as a witness on behalf of the plaintiff, having been previously sworn, testified further as follows:

Direct examination by Mr. DIXON:

Q. You made the pencilled notations contained on the document Plaintiff's Exhibit 883, Mr. Kaegebehn?—A. I did.

Q. Will you explain to the Court what the words "not brought forward" mean on that exhibit?—A. Dr. Jebsen dictated these notes to me and I redictated them to my secretary and they were typed in my office. It was
2326 proposed that they would constitute the statement of principles which Dr. Jebsen proposed to bring forward in conferences to be had subsequently with representatives of the du Ponts, but he did not bring this forward; that is to say, he did not submit this.

The COURT. The memorandum to the gentlemen representing du Pont?

The WITNESS. That is right.

The COURT. Can you say that that is an accurate transcription of what Dr. Jebsen dictated?

The WITNESS. Yes, sir.

The COURT. Very well.

Mr. DIXON. That is all.

Your Honor, I think we should have the record show the language contained upon this document.

The COURT. All right. You may read it into the record.

Mr. DIXON (reading). "This memo dictated by Dr. Jebsen June 1938," (with an arrow pointing to "prior to June 8, 1938") "but not brought forward."

Mr. WHITNEY. That should be deemed to appear on page 3047?

The COURT. Correct, as a superscription.

Mr. WHITNEY. Right, your Honor. Then we have no further objection on the ground of competence.

2342 Mr. DIXON. Exhibit 887 is a memorandum regarding the understanding between the du Pont, Titan and National Lead companies and covers conferences, or a conference had on June 8th.

Mr. WHITNEY. Will you pardon me, Mr. Dixon?
2343 I have an objection here. I do not want to hold this up now that we have worked out ways of clarifying these things, but beginning at page 3056, the exhibit marked 887, is something which contains on 3056 the words "Memo to Understand."

Mr. DIXON. That is "Memo re Understanding."

Mr. WHITNEY. It contains at page 3059 the phrase "Memo re Handling of Licenses" and so forth, and contains annexes at 3061 and 3062 respectively, and in capital letters at 3063 another word "Memorandum", and I am afraid we must have further clarification before we can avoid presenting our objection.

The COURT. Mr. Kaegebehn's initials were at the end of the whole thing?

Mr. WHITNEY. I don't know, your Honor. They were at the end of something.

The COURT. All right.

Mr. DIXON. Mr. Kaegebehn, will you give us the pleasure of your presence on the stand for a moment?

CHARLES F. KAEGEBEHN, recalled.

Direct examination by Mr. DIXON:

Q. I hand you what has been marked Plaintiff's Exhibit 887 and ask you if that exhibit bears your initials at the end thereof?

2344 Mr. WHITNEY. May I see that paper?

Mr. DIXON. Yes [handing].

Mr. WHITNEY. If your Honor please, one cannot lift one's self by one's bootstraps. Each one of the five points I picked out begins a separate page.

The COURT. The simple question asked Mr. Kaegebehn is whether he is the author of each and every one of this collection of papers.

Q. Will you answer the question as the Judge put it to you, Mr. Kaegebehn?—A. I would say, sir, I am the sole author of the memorandum which in the printed record begins on page 3063.

By the COURT:

Q. What about the preceding documents?—A. Now there is joint authorship between Dr. Jebsen and myself.

Q. But did you have a hand in each one of these memoranda?—A. Yes, sir.

Q. And you saw the final text of each one?—A. They were prepared in my office.

Q. And then you stapled the several memoranda together?—A. That is correct. They were not stapled; they have a Gem clip.

Mr. WHITNEY. They were prepared by Dr. Jebsen and yourself?

The COURT. Doctor Jebsen and Mr. Kaegebehn,

2344a down to the middle of page 3063, and by Mr. Kaegebehn evidently from 3063 to the end of 3064. Is that correct?

The WITNESS. Yes, sir.

Q. And when did you prepare that?—A. On our return from Wilmington the following day; that is to say, on June 9th.

Q. All of these were prepared on one day?—A. Yes, sir.

Mr. DIXON. That is all.

2345 Cross-examination by Mr. WHITNEY:

Q. Mr. Webster says that after you and Dr. Jebsen had cooperated, the last memorandum was intended to represent your own memory of the conference of June 8th. Is that correct?—A. It was my memory of the conference of June 8th but constituted an acceptance by Dr. Jebsen inasmuch as it was a working resume of this conference we had in Wilmington on the preceding day.

Q. Did Dr. Jebsen see the last memorandum on page 3063?—A. Yes, sir.

Q. Was it a complete resume of everything said at Wilmington?

Mr. DIXON. I object to that question.

The COURT. I will allow it.

A. To the best of my recollection it covers our conversations at Wilmington.

Q. Was anything said at Wilmington on the subject of territorial limitation?

Mr. DIXON. I object to that, your Honor.

Mr. WHITNEY. On what ground? That it is not material to the question in the case?

The COURT. Overruled.

A. I believe there was.

2346 Q. What was said to the best of your memory as to substance?—A. I think Mr. Rupprecht told us not to worry about those things.

Q. Was that in answer to an inquiry from you or Dr. Jebsen?—A. I should think it was in answer to an inquiry of Dr. Jebsen.

Q. Can you remember the substance of Dr. Jebsen's inquiry?—A. I would not attempt to quote him on it.

Q. And the extent of your recollection would be that Mr. Rupprecht said not to worry about that subject?—A. Gave us a reassuring reply.

Q. Did he say something to the effect that it was not the intention of du Pont to sell abroad?—A. I do not recall that he mentioned that at that time.

Q. Did he say something to the effect that you could take it that he was agreeing with you on behalf of du Pont not to sell abroad?—A. I could not say that, sir.

Q. Were any of these papers handed or delivered or mailed to Rupprecht or anyone else in du Pont?—A. No, sir.

Q. Were any of these papers discussed at a meeting

with Rupprecht or anyone else of du Pont after they were written?—A. Not to my knowledge.

Q. When Rupprecht gave you reassurance, or said you were not to worry about du Pont selling in Europe, did he give you any reason as to why you should not
2347 worry?—A. I do not recall that he gave us any reason at that time. I think he had previously stated reasons to me.

Mr. DIXON. If the Court please, I object. I think we are getting now away from the memorandum.

The COURT. Yes, but he may go away from the memorandum.

Q. Had that expression been during the preceding winter?—A. To the best of my recollection, yes.

Q. There is in evidence a memorandum written by you of May 15, 1938, containing this phrase: "They will not make commitments with respect to unpatented territories, the reason given being the antitrust laws," and also containing this phrase——

Mr. DIXON. If the Court please, I do wish to object to the scope of the cross-examination. I think as far as this document is concerned it ought to be confined to this document. Otherwise we will be opening up perhaps all the documents already in evidence, and I make my objection on the ground that the cross-examination should be confined within reasonable limits, and the scope of the cross-examination now entered into by this question certainly does not relate to this memorandum.

The COURT. Well, there is nothing sacred about
2348 this memorandum. This happens to be a document which you did not prove in the summary fashion but which you produced the witness to prove and he has proved it. Now he is under cross-examination. Mr. Whitney has the right to cross-examine him as to his observational opportunity when he made the memorandum, as to inconsistencies in other contemporaneous memoranda in order to impeach this memorandum; he may examine him with respect to his capacity to put down in the English language that which he heard or saw; he may impeach his credibility. So you have it three ways. Objection overruled.

Q. (Continuing) —and in that memorandum of May 15, Exhibit 881, Mr. Kaegebehn, you add: "du Pont cannot undertake any commitment with respect to the exportation of finished articles by its customers as, for example, is provided in the Agreement of 1920, the reason

for this attitude is the antitrust laws." Have you anything now that you can add as to what Mr. Rupprecht said other than what I have read from the exhibit?—A. I would like to have the question reread. I don't know whether you read from one part or two parts.

The COURT. The reporter will restate the question.

(Question read as follows:

"Q. There is in evidence a memorandum written
2349 by you of May 15, 1938, containing this phrase: 'They will not make commitments with respect to unpatented territories, the reason given being the antitrust laws,' and also containing this phrase: 'du Pont cannot undertake any commitment with respect to the exportation of finished articles by its customers as, for example, is provided in the Agreement of 1920, the reason for this attitude is the antitrust laws.' Have you anything now that you can add as to what Mr. Rupprecht said other than what I have read from the exhibit?")—A. Nothing to add.

Mr. WHITNEY. That is all.

Redirect examination by Mr. DIXON:

Q. I believe this memorandum, you testified, Mr. Kaegebehn, was made the day after you returned from this conference in Wilmington? A. That is the memorandum beginning——

Q. This exhibit we are now discussing, 887, the one that we originally asked about when you took the stand a few moments ago. A. That is correct.

Q. And it correctly represented, did it not, your understanding of what occurred at that conference at the time you put these understandings down in writing with Dr. Jebsen in this Exhibit 887?—A. The memorandum that begins on the page 3063——

2350 Q. No.——

Mr. WHITNEY. Just let him finish.

Mr. DIXON. I would like to have him answer my question yes or no.

The COURT. The reporter will restate the question.

Q. (Question read.)

The COURT. Does it or doesn't it?

Mr. WHITNEY. May I say a word?

The COURT. Surely.

Mr. WHITNEY. We are not trying a murder case. We are trying an antitrust case in which we are now on page 3056 of the Government's papers. We have here the wit-

ness who has written a large part of it. Now I took a big chance. I asked this witness about the heart and soul and substance of this case, and I submit to your Honor sitting here in this court of equity on the twentieth day of the trial that the first and only witness the Government has ever put on the stand ought to be allowed to testify as he likes in his own way in answer to counsel's questions as to what is the sum and substance of the critical meeting as reflected in his memorandum, and not forced to answer yes or no.

The COURT. I will let him do both. Meanwhile the question is, and it is unexceptionable, does it or
2351 doesn't it reflect your understanding of what was agreed or what you heard in Wilmington at the conference?

The WITNESS. To answer either yes or no, sir, I think requires some explanation.

The COURT. The answer is, you cannot answer it that way?

The WITNESS. That is correct.

The COURT. Do you want him to explain?

Mr. DIXON. I would like to ask another question.

Mr. WHITNEY. May I respectfully submit that under the circumstances I have given, this trial in equity, under all these circumstances, the witness ought to be allowed to explain when counsel asks a question right then and there.

The COURT. Of course he will be allowed to explain. The only question is whether he should do so on Mr. Dixon's time or Mr. Whitney's.

Mr. WHITNEY. Oh, but, your Honor, we are both under the rules entitled to cross-examine. Here is an adverse witness to both of us. He is an adverse witness to Mr. Dixon and he is an adverse witness to me, but he is Mr. Dixon's witness. Now it will be like the strict rules of the common law evidence if we have to go back and forth.

The COURT. We will cut the Gordion knot.
2352 What explanation do you want to offer?

None of you are now bound by the question.

The WITNESS. It contains what was agreed to not only on June 8th at Wilmington, but on June 3rd in New York. It also contains some expressions of how Dr. Jebsen and I expected or hoped that this cooperation which we believed had now developed with du Pont and Titan, Inc. would work.

The COURT. Very well. Is everybody content?

Mr. DIXON. It satisfies me, your Honor.

The COURT. Are there any further questions?

2353 Re-cross examination by Mr. WHITNEY:

Q. Do the first two paragraphs at page 3056 fall within the class of what you and Dr. Jebsen hoped for?—A. No, sir, they do not.

Q. What do they represent?—A. Paragraph 1 is a statement of Titan Company's operations as set forth in its agreements, particularly the agreement of 1920. The second paragraph is what we had understood was du Pont's operations, as limited by their agreement with us of 1933, particularly the field of sale therein expressed.

Q. Now the second part of that second paragraph contains this statement: "and they"—being du Pont—"will endeavor to prevent that products within the Licensed Field are exported except as constituents of bona fide manufactured articles."

What if anything was said on that subject as between Mr. Rupprecht, Dr. Jebsen and yourself on June 3rd or June 8th?—A. Mr. Rupprecht's attitude with respect to that is set forth in my memorandum of May 15th.

Redirect examination by Mr. DIXON:

Q. These first two paragraphs of this memorandum, Mr. Kaegebhen, were those prepared by you or Dr. Jebsen?—A. I can't distinguish between the authorship in that finding.

Q. Does this memorandum represent an accurate transcript of your best recollection of what occurred at
2354 that conference in Wilmington on June 8th?—

Mr. WHITNEY. That is objected to as duplication of the question that has already been asked and answered in the same form.

The COURT. Yes, I think so. I think it has been answered.

Q. Now, who was present at that conference, Mr. Kaegebehn, apart from yourself and Dr. Jebsen?—A. At Wilmington?

Q. Yes.—A. Mr. Rupprecht and Mr. Hancock.

Q. Was anyone else there?—A. Not during the period when we considered these matters. There was a subsequent luncheon, but nothing of a business nature was discussed at that luncheon.

Q. Were there any other conferences had to your knowledge between Dr. Jebsen and Mr. Rupprecht?—A. Yes.

Q. When were those other conferences held?—A. There was on on June 3, 1938.

Q. You were not present at that conference, were you?—A. Yes, I was.

Q. That was the one in Mr. Rockwell's office?—A. That is right.

Q. Were there any other conferences that you know of between Dr. Jebsen and Mr. Rupprecht at which you were not present?—A. Not during this visit of Dr. Jebsen's to the United States.

2355 Q. That is, in June of 1938?—A. He arrived in May 1938.

Q. Was that the first conference that was had with Mr. Rupprecht and Dr. Jebsen, namely, the one on June 3rd?—A. To the best of my knowledge, yes.

Q. Would you say there were no other conferences had between Dr. Jebsen and Mr. Rupprecht?—A. I would say that if there were, I should have known about them, and I didn't know of any.

Q. So, to the best of your knowledge, the only conferences were those of June 3rd and June 8th?—A. To the best of my knowledge.

Q. Were there any thereafter?—A. Not to my knowledge.

Q. Well now, these first two paragraphs in which the operations of du Pont are referred to; did you ever have any discussions particularly with reference to the second paragraph of this memorandum with Mr. Rupprecht?—A. Yes, I did.

Q. When?—A. During the winter of 1937 and 1938.

Q. And Dr. Jebsen of course was not present at that time—A. No, sir.

Q. And at that time was it stated by Mr. Rupprecht that the operation of du Pont with reference to the manufacture of titanium pigments and the sale thereof would be confined to the United States, Central and South

2356 America?—A. As regards the sale, it is my recollection that Mr. Rupprecht represented that the agreement of 1933 prevented them from selling outside of the territory therein specified.

Q. In other words, that was the territorial limitation recognized by the du Pont Company; is that correct?

Mr. WHITNEY. I object to that, your Honor.

The COURT. Objection sustained.

Q. Now, did you have any other discussions with Mr. Rupprecht with reference to paragraph 2 at any other

time, Mr. Kaegebehn?—A. It is my recollection that I discussed this matter or the general idea of a license agreement, a general agreement, between du Pont and Titan, Inc. about four times during that winter. The result of those conversations is embodied in that memorandum of May 15th.

The COURT: Which exhibit is that?

The WITNESS. 881.

Q. Now this memorandum of understanding between du Pont, Titan and National Lead which you made on June 9th after you returned from the meeting with the du Pont men at Wilmington, does that represent in toto—I mean beginning with the first portion of this exhibit and ending with the last portion thereof, does that represent your understanding of the understanding arrived at with the du Pont people in Wilmington after your meeting
2357 of June 8th?—A. It includes that, but it goes beyond it.

Q. Now in what sense does it purport to go beyond that understanding, Mr. Kaegebehn?—A. I can give you an instance of that in the——

Q. Will you so state to the Court such an instance?—A. Yes. The "Annex Concerning Exchange of Technical Information" which begins on page 3061 sets out a rule, if you wish, by which this contemplated exchange of technical information between du Pont and Titan, Inc. should be carried out. Now I know that that was not discussed with du Pont.

By the COURT:

Q. This was your analysis of what you understood the agreement to imply?—A. It was that, sir, and in addition it was the application of the same principles that applied between National and du Pont.

Q. In any event, what you contributed out of your mind which you thought was consistent with what was agreed to on June 8th; is that what you want to tell me?—A. Yes, sir.

By Mr. DIXON:

Q. Were there any other respects, Mr. Kaegebehn, in which this exhibit might differ from any understanding that you carried away with you concerning the understanding between du Pont and Titan after this conference in Wilmington on June 8th?—A. It is difficult to point out

each single instance without going through each
2358 page, but I do think that in the second paragraph the statement that du Pont would endeavor to prevent their products from being exported goes beyond anything that they said to us.

Q. Well, was that inserted there just out of your mind, Mr. Kaegebehn? Just how did you get any notion that there might be any possibility of that happened before you reduced it to writing in this memorandum?—A. I should say that that is the result of Dr. Jebsen's and my discussions, put down more or less for his guidance.

Q. Well, this purports to be a memorandum of the understanding reached between you——

Mr. Webster. It doesn't say that. It says "Memorandum re undersfanding." It doesn't say "Memorandum of understanding."

Mr. Dixon. Just let me ask my question, please.

Q. This purports to be, does it not, Mr. Kaegebehn, a memorandum, or a memo as it is called, re the understanding between du Pont, Titan and National Lead Company, doesn't it?—A. That is correct.

Mr. Whitney. I object to that upon the ground that it shows on this face what it purports to be. Counsel has slipped in the word "the". It says "Memorandum re understanding", not "Memorandum re the understanding."

The Court. Yes.

Mr. Dixon. I believe he answered the question
2359 that it does.

The Court. I think so. Go ahead.

Mr. Whitney. I objected to the question.

The Court. Manifestly, this witness can't tell us what this instrument purports to be.

Mr. Whitney. Precisely.

Q. In other words, Mr. Kaegebehn, when you got back from this conference what you put down in this memorandum, with the exception of your testimony with reference to this "annex" portion of the exhibit, was a transcript in a sense of what understanding was reached at the conference at Wilmington between the parties at that conference; isn't that a fact?—A. No, sir.

Q. Well, in what respects, then, did you put down on paper something that did not occur at that meeting apart from what you have already stated?—A. What occurred at that meeting is set forth in my memorandum beginning at page 3063.

Q. Well, that is what you put down, is it?—A. That is correct. Now what is included in pages 3056 to 3063 represents what ground had been covered in two conferences, the first of June 3rd, the second of June 8th, plus how Dr. Jebsen particularly and I secondarily considered that this cooperation might work out.

Q. And if that was your understanding, presum-
2360 ably the du Pont people attending that conference had the similar understanding when you left; is that not so?

Mr. WEBSTER. I object to this as argumentative.

The COURT. Objection sustained.

Q. Were you in accord, Mr. Kaegebehn, when you left that meeting?

Mr. WHITNEY. Was he what?

Mr. DIXON. In accord.

Q. (Continuing) Was there any disagreement between Dr. Jebsen and Mr. Rupprecht after you left the meeting in Wilmington?—A. I don't know what was in the mind of Dr. Jebsen.

Q. No. I am just asking you, were you in accord? Were there any disagreements or unsolved questions that were still in the air after you left that meeting?—A. They left in a very friendly way, I should say.

Q. That is what I wanted to know. On page 3058 of this memorandum the following language appears: "The above principles of understanding have been reached between Mr. Rupprecht and Dr. Jebsen, with a reservation by Dr. Jebsen that they are subject to approval" of the "associated companies."

Now that actually happened at that meeting, didn't it?—A. In the sense that each of these things set forth preceding that language was taken up and agreed to, I
2361 can't say yes. I can say that the statement as contained here preceding that language was presumably what Dr. Jebsen and I considered had been agreed to by Mr. Rupprecht and Dr. Jebsen.

Q. At that meeting in Wilmington?—A. No, sir,——

Q. Well, at the last meeting—— A. ——as the result of their conversations.

Mr. WEBSTER. I must object. I am not taking any active part in this because I think Mr. Kaegebehn is a competent and honest witness, but I do think that he should be given the opportunity to finish his answer before Mr. Dixon interrupts him.

The COURT. His last answer was "No, sir." That is a

very complete answer. In fact, I don't know anything that you can add to make that more complete; anything you add to that tends to qualify.

Q. I am turning to page 3058. Do you have that before you, Mr. Kaegebehn?—A. Yes.

Q. You will find at the bottom of that page: "The above principles of understanding have been reached between Mr. Rupprecht and Dr. Jebsen".

Is that a correct statement in this memorandum, Mr. Kaegebehn?—A. It is a correct statement as to what Dr. Jebsen and I had in our minds.

Q. As to what your impressions were of the agree-
2362 ment arrived at at the conferences in Wilmington; is that correct?—A. That is correct.

Mr. DIXON. That is all.

Recross examination by Mr. WHITNEY:

Q. Now, Mr. Kaegebehn, just lay aside the book and let us look at the exhibit itself if you will, kindly. It begins with four pages, three or four pages, and on page 1——

Mr. WHITNEY. I show it to his Honor first.

Q. ——in the middle it says: "Licensed Field: Notes: Mr. K. will specify this."

The COURT. And the handwritten words "see annexed." There is an annex to that.

Mr. WHITNEY. Yes, your Honor.

The COURT. Go ahead.

Q. Do you see that?—A. Right.

Q. At the bottom of page 3 you see: "The above principles of understanding"?—A. Yes.

Q. Now does that refresh your recollection as to who wrote the first three pages?—A. I haven't any doubt about that, Mr. Whitney.

Q. Well, who did?—A. I said that the first three pages were the joint authorship of Dr. Jebsen and myself.

Q. Who dictated the top two paragraphs; who commenced the dictation preceding the phrase "Mr. K. will specify this"?—A. As I recall this conference, Dr.
2363 Jebsen conducted the dictation and I took it down in notes from his dictation, making such contributions as he would question me about or I would volunteer.

Q. Did he request you or did you volunteer a contribution in respect of the second paragraph?—A. I don't recall.

Q. Now you testified in answer to a question of Mr. Dixon's that Mr. Rupprecht had told you during the winter that his agreement of 1933 prevented du Pont from

selling outside of North America, Central or South America.—A. Yes, sir.

Q. Can you remember whether in words or substance Mr. Rupprecht stated whether that was a written agreement or an oral agreement?—A. Why, he would refer to the agreement of January 1, 1933, between Titanium Pigment Company and Krebs.

Q. The written agreement?—A. Yes, sir.

Q. Because there is no mystery between his Honor and Mr. Dixon and me about the fact that that is different from the second paragraph, where it doesn't say that Mr. Rupprecht is prevented, but it says: Mr. Rupprecht will endeavor to prevent that products within the field are exported.—A. That is correct.

Q. Now, did Dr. Jebsen at the meeting on June 8th in Wilmington say anything in words or substance to Mr. Rupprecht to the effect that Mr. Rupprecht had orally agreed in 1933 to prevent exports outside of North or Central or South America?—A. No, sir, not that I remember.

2364

Q. Did Dr. Jebsen tax him with it? Did he go after him and say, "You and I have an agreement that you will prevent exports to those countries"?—A. I don't recall that.

Q. You say you do not recall any such happening?—A. That is right.

Q. The meeting was before the luncheon, was it?—A. That is right.

Q. Did you meet again after the lunch?—A. No, sir.

Q. Then when you said that the meeting broke up in a friendly way, you were referring to the feeling between the parties, were you not?—A. That is right.

Q. Now taking again the book, page 3056, it says at the middle of that page: "D's pigment division will give licenses to manufacture, use and sell to T. Co., Inc. at T. Co., Inc.'s request for the territories in which T. Co., Inc. operates with the exception of Central and South America."

Referring to that phrase, that I take it we would all agree is to be taken as not confined to T. Co., Inc. but to all the foreign associates?—A. I think it should be taken as meaning that du Pont will give licenses to Titan, Inc. with the right to sub-license its foreign associates.

Q. Now, did Mr. Rupprecht say anything in words or substance to the effect that du Pont would give such a license, referring to countries other than those

2365

in which du Pont had patents applied for?—A. No, sir, at no time.

Q. Turning to the next page, there is at the top the first specific quotation of Mr. Rupprecht: "Mr. Rupprecht declared that du Pont's Pigment Division dealt with all pigment matters of du Pont."

Mr. Rupprecht did so declare, did he not?—A. It is my recollection that he did.

Q. And on the next page, at the top, the third line, it says that: "Mr. Rupprecht expressed the view that the reservation pertaining to du Pont's patent rights in the territories of T. Co., Inc. was of a formal nature and will have no particular importance."

Do you remember those words?—A. I don't remember those exact words but I do recall that Mr. Rupprecht said something to that effect.

Q. Did he say in that connection what he meant by there being no particular importance to the reservation?—A. I don't recall whether he explained it at that time or not, but he had at other times, if not then, told me what he meant in connection with that.

Q. And what was that?—A. Mr. Rupprecht would represent that this reservation was of no practical importance because of the economic conditions preventing du Pont from taking commercial advantage of it.

2356 Q. Now reverting to the second paragraph on page 3056, will you look at Dr. Jebsen's own memorandum on page 3047, the third paragraph?

Mr. WHITNEY. For his Honor I will read that. Dr. Jebsen wrote:

"DuPont will operate in the United States, Central and South America only and will endeavor to prevent that their products in the Licensed Field are exported except as constituents of *bona fide* manufactured articles."

Q. (Continued) Now, that was not brought forth on June 8th, was it?—A. No, sir.

Q. Now reverting to the second paragraph on page 3056, which reads:

"D's operations as regards manufacture and sale will be in the United States, Central and South America only and they will endeavor to prevent that products within the Licensed Field are exported except as constituents of *bona fide* manufactured articles."

Does that in any way refresh your recollection as to who dictated the second paragraph?—A. I believe I testified that Dr. Jebsen dictated both of those, as I recall it now.

By the COURT:

Q. Do you know whether Dr. Jebsen had his mem-
2367 orandum in his pocket when he went down to Wilmington?—A. I think he did, sir. He took quite a few papers.

Q. Was the discussion casual and fugitive in character or did you go point by point?—A. It was more casual, sir, than going point by point. You see, Dr. Jebsen had gone over a considerable part of the subject at the conference of June 3rd, so there remained some loose ends to consider.

By Mr. WHITNEY:

Q. This memorandum was dated June 9th. How long did Dr. Jebsen remain in America after that?—A. Not very long, sir. I could not give you the date, but my recollection is that he left shortly thereafter.

By the COURT:

Q. Did Mr. Rupprecht make any notes during the conference?—A. No, sir.

Q. Did Dr. Jebsen?—A. None of us did, as I recall it.

Q. Did Dr. Jebsen tell Mr. Rupprecht that he was going back to his office to make a record of what he understood the understanding was?—A. No, sir.

Q. Mr. Rupprecht did not say anything of the kind either?—A. That is right.

Q. Was anything said as to whether the matter should remain unwritten?—A. Not there as I recall it; it was generally understood that we did not want to reduce
2368 too much of our conversations exhaustively.

The COURT. All right.

Mr. WHITNEY. I did not hear the last word, after "too much of our conversation."

The WITNESS. Exhaustively.

Mr. WHITNEY. I move to strike out the part about "it was generally understood."

The COURT. I will grant your motion.

Mr. WHITNEY. But I don't want to hide it.

The COURT. Do you want to strike it out?

Mr. WHITNEY. I don't want to hide the subject matter, but I want to elicit it by asking him——

The COURT. I will grant your motion.

By Mr. WHITNEY:

Q. What do you recall being said in substance on the subject of not reducing it to writing?—A. I recall Mr.

Rupprecht cautioning me not to keep any notes on my conferences during 1937 and 1938.

Q. Did he give you any reason?—A. I don't know that he did.

By the COURT:

Q. Will you look at page 3058, the sixth line. "If D felt itself able to make a written general agreement"——

2369 was that said in connection with the general problem of reducing the understanding to writing, or did it refer to some other subject?—A. You see, sir, the idea that Titan, Inc., and du Pont might possibly enter in a general agreement providing for the exchange of licenses was not fully abandoned until the conference of June 3, 1938, wherein Mr. Rupprecht stated that if we could make a general agreement—so, that statement I take it refers to the fact that du Pont as reported by Dr. Jebsen in his memo of June 3rd stated that they could not——

Q. Make a written agreement?—A. A written general agreement.

Q. Did he say "written" or did he say "general"? Which is it?—A. Both, sir.

Q. He said both?—A. Written general agreement.

By Mr. WHITNEY:

Q. When did he say that?—A. At the conference of June 3, 1938, as reported in the memo, Mr. Rupprecht informed us for the first time of the impossibility of entering into any general written agreement, that is, an agreement between Titan, Inc. and du Pont.

Q. You say as reflected in the—— A. My conversations during the winter were all directed towards ascertaining a basis for a general written agreement between du Pont and Titan, Inc.

2370 Q. You say as that was reflected in the memo. By that do you refer to Exhibit 884 at page 3049?—A. That is correct.

Q. Do you refer, for example, to the middle of page 3050:

"Rupprecht wanted to make it clearly understood that exchange of licenses was limited", etc.?

A. No.

Q. What do you refer to in the "Memo"?—A. On the top of page 3050 "Rupprecht answered that it had been du Pont's policy for their own reasons to make this reser-

vation, but he considered that if an agreement could be made today"——

Q. That is, if a general agreement "could be made today"?—A. That is right.

Q. And what did he assign, if any, as a reason that a general agreement could not be made today?—A. The reluctance of their legal department to sanction such a general agreement at that time.

Q. But he did say, did he, that they were perfectly willing to make an oral agreement?—A. No, sir, I don't think he said that. No, I don't remember him saying that.

Q. In other words, in your answer to his Honor about a written general agreement you were not answering "Yes" to the word "written" as opposed to the word
2371 "oral"?—A. That is correct, sir.

By the COURT:

Q. I was addressing your attention to the word "written" as opposed to the word "oral." That was precisely the purpose of my question.—A. I see. But——

Mr. WHITNEY. Of course he is not of our profession, your Honor.

The COURT. He is doing all right.

Mr. WHITNEY. One believes that he won't presume to interpret the decisions of the Court, in which perhaps we can envy him, but precise words come slowly.

Q. Did Rupprecht say that he didn't want to make a written agreement?—A. Yes; he said that he couldn't enter into a general written agreement.

Q. Because his legal department won't sanction it?—A. That is right.

Q. Did he indicate to you and did the conference of June 3rd and June 8th follow thereupon because he was willing to reach an informal oral understanding?—A. He did not indicate that he would reach any informal oral understanding embodying the conditions of a written agreement as a substitute for the written agreement. He was ready to discuss how far he would go and on what basis he would go with Titan Company, Inc.

Q. But that he wanted it left in an oral state?—A. Yes.

2372 Q. And when you left the meeting on June 8th was it your personal understanding that you had reached an understanding?—A. We had reached an understanding as far as——

Q. As far as it went.—A. That is correct.

Q. And did Rupprecht say anything which would indicate to you that he understood that he had reached an understanding?—A. Oh, yes.

Q. So that if the following day Rupprecht did something which was contradictory of what had been said on June 8th you would have felt free to call him up and say "How come"?—A. That is right.

By Mr. WHITNEY:

Q. Is the oral understanding to which you refer embraced within the subject matter which follows your phraseology on page 3063:

"The following is a resume of the remarks of Mr. C. H. Rupprecht":

or was there something additional that he orally agreed to?—A. What follows is embraced within the understanding and something additional, namely, what was agreed upon at the conference of June 3rd plus what Mr. Rupprecht told me was the extent that du Pont could go or would go,

Q. All right. Are you saying that in addition to what is in the memorandum beginning at page 3063 that Rupprecht orally agreed to two additional things that
2373 you did not write down in 3063?—A. I am saying that the relations to which du Pont would go as we understood them are contained in my memo of June 13th the memo of June 3rd.

Q. May 15th. Take your time. A. May 15th.

(Continuing) The memo of the conference of June 3rd, plus my memorandum beginning on 3063.

Q. All right.—A. Now, I will stop there.

Q. Now, there was something, was there not, that you thought he had agreed to and that he thought he had not agreed to?—A: Yes, there was.

Q. And was that in the field of the exchange of technical information?—A. Yes, sir.

Mr. WHITNEY. That is all.

The COURT. You are excused.

(Witness excused.)

The COURT. Exhibit 888.

Mr. DIXON. Before I take that up, your Honor, I am not certain of my recollection but I think we have previously asked of du Pont under the subpoena that any memoranda in connection with these negotiations be returned under the subpoena, and as I recall the return to the subpoena the answer thereto was that there were no memoranda. Is that correct?

Mr. WHITNEY. Other than what you already took from our files.

2501 JOSEPH BLUMENFELD, called as a witness on behalf of the plaintiff, being duly sworn, testified as follows:

Direct examination by Mr. DIXON:

Q. Where do you live, Mr. Blumenfeld?—A. I am now living in New York City, 322 West 77th Street.

Q. Will you raise your voice if you can so that they can hear you back in the courtroom?—A. Yes, except I have to apologize for my very bad English.

Q. How long have you lived at that address, Mr. Blumenfeld?—A. Since September 1942.

Q. And where did you reside prior to that time?—A. In France.

Q. And what was your address in France?—A. My address in France was in Paris. My business address was 67 Rue de Prony.

Q. And what was your occasion for leaving France to come to this country?—A. The occasion for leaving France was the miltary events, the occupation of France by the Germans.

Q. Are you employed at the present time?—A. I am working here in the capacity of a consultant with my friends in French potash imports.

Q. What is your business or profession—A. I am a chemist.

2502 Q. How long have you been practicing that profession?—A. Since 1912.

Q. As a chemist did you do any work or secure any patents relating to the manufacture of titanium pigments?—A. Yes.

Q. And to what company, if any, did you transfer those patents?—A. I did all my work on titanium as an employee of a French company called Societe de Produits Chimiques des Terres Rares, and all my patents were assigned to this company.

Q. What position, if any, did you hold with that company?—A. I was, what is called in Europe managing director.

Q. And what generally did you do in that capacity?—A. I directed all technical and industrial and commercial activities of this company.

The COURT. You were its chief executive officer?

The WITNESS. Yes.

Q. Did your company give any licenses under the patents in the titanium pigment business to any other companies?—A. Yes, our first licensee was a French company called Fabriques de Produits Chimiques de Thann et de Mulhouse.

Q. I will hand you what has been marked for identification as Plaintiff's Chart No. 4——

(Marked Plaintiff's Exhibit 1201 for identification.)

2503 Q. —and ask you to examine the portion thereof at the bottom of said chart where you will find the names which we call Aussig—— A. Aussig, and here is Bovisa, and there is Thann and Laporte, Kogyo and Commercial Pigments.

Q. I will ask you to state to the Court if you can whether the companies so named and designated on plaintiff's chart No. 4, Exhibit 1201 for identification, were licensees or assignees of the patents of Terres Rares relating to the titanium pigment business?—A. Yes.

Q. Are the dates appearing upon the chart No. 4, previously designated, the approximate dates at which such licenses or assignments were made to the companies whose names appear on said chart and to which we have just referred?—A. I see only one date. It seems to me not quite correct.

Q. Will you so state which one it is?—A. It is Fabriques de Produits Chimiques de Thann et de Mulhouse. It was not in 1924. It was early—either late in 1921 or the beginning of 1922.

Q. Are the companies named on this chart, exclusive of the Commercial Pigments Company, the holders or assignees of the patents of Terres Rares Company relating to the manufacture of titanium pigments all of the companies holding said patents as assignees or licensees
2504 from Terres Rares?—A. Yes.

Q. Were there any other companies in Europe producing titanium pigments other than those we have just named?—A. Yes. One of the companies was——

Q. Will you state to the Court what the names of those companies were?—A. There was at this time in the early twenties a Norwegian company, working in Norway.

The COURT. Do you remember the name?

The WITNESS. I don't remember the official name. It was a company directed by Mr. Jebsen. And up to the creation——

Q. Might that have been Titan A/S?—A. May be. I don't remember the official name of the Norwegian company.

Q. Proceed.—A. There was later a British company and a German company working according to the patents belonging partly to Dr. Jebsen and friends of Dr. Jebsen.

Q. Were there any other companies manufacturing or engaged in the titanium pigment business in Europe to your knowledge in 1931?—A. In 1931, if I am not wrong, the German company Titangesellschaft was already formed.

Q. Were there any other companies to your knowledge engaged in the titanium pigment business in Europe other than those that we have mentioned, say in 1931?—A. No.

Q. Were there any other companies in 1933 other than those we have mentioned?—A. I don't recollect ex-
2505 actly when Laporte started with production, but it was between 1931 and 1934 some time, but I cannot give you an exact date on it; I don't remember.

Q. What business was the company which we will refer to as Aussig engaged in? Can you state to the Court? Apart from the titanium business.—A. Aussig was a very big chemical concern of the old Austro-Hungarian monarchy. Commonly in the chemical world Aussig was called Austrian IG.

Q. What about the IG? I mean, what position did it have in the European Continent in the chemical field?—A. Titanium or generally——

Q. Generally.—A. The most prominent position. It was certainly the biggest chemical organization in the world.

Q. What about the company that we will call Montecatini in Italy?—A. Montecatini was also a very important Italian company engaged in different chemical production, having about 20, 22 different factories in Italy.

By the COURT:

Q. Did they hold a license of yours?—A. Yes, sir.

Q. You did not mention Montecatini before.—A. Oh, yes.

Mr. DIXON. I thought we had, your Honor.

The WITNESS. I mentioned Bovisa. The name is Bovisa.

2506 Mr. DIXON. That, your Honor, is just another name for Montecatini.

The COURT. I remember it now.

By Mr. DIXON:

Q. So that in 1931 through 1933 the companies that you have named constituted the only companies manufactur-

ing and producing titanium pigments in Continental Europe?—A. To my knowledge, yes.

Q. Now coming to the Commercial Pigments Company in the United States, did you have an agreement with that company at any time?—A. Yes, sir.

Q. Do you know a Mr. Chase and a Mr. Ticknor?—A. Certainly, yes.

Q. How did you first become acquainted with either of these two men?—A. I met Mr. Chase and Mr. Ticknor in London in the home of my brother-in-law, Dr. Wiseman. It was, if I am not wrong, in the year 1924 or the beginning of 1925.

Q. Did you have any negotiations with either of these two persons with reference to the granting of the rights on the titanium pigment patents of Terres Rares in the United States?—A. Yes. Mr. Ticknor and Mr. Chase were interested to get an exclusive license for production of titanium pigments according to our process for this country.

2507. Q. Again handing you Plaintiff's Exhibit marked for identification 1201, you will find Commercial Pigments thereon in the letters 1927. Was that the approximate date at which you made an arrangement with Commercial Pigments in the United States?—A. It is the date of the foundation of this company. And of course previous to this date we had a series of discussions and investigation about our process. It lasted for at least one year.

Q. You mentioned the arrangement that you had with Aussig, Montecatini, Thann, Laporte and Titan Kogyo, and I will hand you what we will mark for identification as Plaintiff's Chart No. 2; Exhibit 1202 for identification.

(Marked Plaintiff's Exhibit 1202 for identification.)

Q. (Continuing) I will ask you to examine this exhibit and state to the Court whether or not the countries mentioned thereon underneath the name of the company were the territories in which the companies named were authorized to operate by Terres Rares?

Mr. WHITNEY. I object; it is much too wide. My friend has drawn up an exhibit here for identification which in effect is his final brief and he is asking the witness whether he will confirm the exhibit en bloc as to the countries thereunder.

The COURT. Let me ask you, aren't all these
2508 agreements now in evidence?

Mr. DIXON. They are, your Honor.

The COURT. Objection sustained. It is unnecessary unless you intend to vary the agreement.

Mr. DIXON. No, sir.

The COURT. Do you mean to confirm it?

Mr. DIXON. I wanted to get the exhibit in evidence.

The COURT. Objection sustained. You don't need it.

Mr. DIXON. Of course, apart from some references, your Honor, in the contracts 4 and 6 which recite the territories, there isn't any other evidence——

The COURT. Well, that is sufficient evidence.

Mr. DIXON. All right, your Honor.

Q. Directing your attention to March of 1931, Mr. Blumen 'd, did you have or participate in any meeting at that t e in Paris between any of the men from the companies n ned previously that were engaged in the titanium pigment business?—A. I had several meetings and conversations about the possibility of making an international agreement.

The COURT. This is in 1931?

The WITNESS. It was during 1930 and 1931.

The COURT. In Paris?

The WITNESS. Yes. I am speaking about the 2509 meetings at which I was present. It was in Paris.

The COURT. Very well.

A. (Continuing) And in the beginning of the year 1931 there was a meeting of the various interests involved in this industry——

Mr. WEBSTER. I am sorry. I can't hear you.

A. (Continuing) At the beginning of the year 1931 there was a general meeting of the various interests involved in the titanium industry including Mr.——I think either Mr. Chase an. Mr. Ticknor both or one of these gentlemen was also present.

Q. I will hand you what has been marked Plaintiff's Exhibit 208 and ask you to examine the same and after you have done so to state to the Court whether that in substance represents a transcript of what occurred at that meeting in Paris in March 1931?

Mr. WEBSTER. Is that the exhibit that shows Dr. Latka's notes of a meeting in Paris in 1931?

Mr. DIXON. That is right. Both Dr. Latka and Dr. Jebsen.

Mr. WEBSTER. I say, are those Dr. Latka's purported notes, by Dr. Latka?

The COURT. Is there an objection? I hear none. If

you want to look at the exhibit he is showing the witness, of course you may be permitted to do that.

2510 Mr. WEBSTER. May I do that, please?

Mr. DIXON. Surely (handing).

Mr. WEBSTER. May I ask one or two questions about this?

The COURT. To what end?

Mr. WEBSTER. On the voir dire.

The COURT. He is not going to offer this document in evidence; it already is in evidence. He has been asked to confirm the report. That would not be a ground of objection to his testimony.

Mr. WEBSTER. I will reserve any questions I have about it.

The COURT. Very well.

2511 Q. Now do you have my question, Doctor?—A. You asked me——

Q. (Question read.) A. I think I can confirm that it was so, and as a matter of fact this document of what was discussed during this conference was taken as a basis with certain alterations for the establishment of a subsequent contract.

Q. Now Mr. Chase and Mr. Ticknor and Dr. Jebsen were present at that conference, I believe you stated, Doctor?—A. Yes.

Q. When was the next time that you saw Mr. Chase or Mr. Ticknor, if you recall?—A. I saw Mr. Chase, and a few weeks after Mr. Ticknor in July—if I am not wrong July of 1931 in Paris.

Q. I will hand you what we are going to mark for identification Plaintiff's Exhibit 1203——

(Marked Plaintiff's Exhibit 1203 for identification.)

Q. ——and ask you if you received that cablegram?—A. Yes.

Mr. DIXON. We offer Plaintiff's Exhibit 1203 for identification in evidence.

Mr. WHITNEY. Your Honor, first may I inquire on the record whether we may be assumed to have the continuing objections applicable to documents offered through witnesses, so that we won't have to repeat them each time?

2512 The COURT. Except as to authenticity and authority?

Mr. WHITNEY. Right.

The COURT. Yes, you have such objection.

Mr. WHITNEY. Now, if your Honor please, I object to this on the further ground that it has no weight whatsoever in that it states a general proposition and then says to disregard the rumors and wait until a certain individual arrives when he will tell you, so that the exhibit shows on its face that it has no weight.

The COURT. Overruled.

Mr. WEBSTER. I would like to object on the ground that it appears to relate to a transaction in which the National Lead Company has no interest and took no part, and incompetent.

The COURT. I will allow it.

(Plaintiff's Exhibit 1203 for identification received in evidence.)

Mr. DIXON. I would like to read this exhibit into the record, your Honor.

The COURT. There is no need of that.

Q. Dr. Blumenfeld, after you received this cable I believe you stated you had a conversation with Mr. Chase and Mr. Ticknor?—A. Yes.

2513 Q. Where did that take place?—A. In Paris.

Q. And can you recall what was discussed at that meeting?—A. Mr. Chase explained me all about the amalgamation of Commercial Pigment with Krebs Company insisting that such amalgamation is in the common interest of both companies and indirectly in the interest of our company also, because it will strengthen the position of the whole group working according to patents belonging to my company.

Q. And did you ever see Mr. Rupprecht, Mr. Blumenfeld?—A. I met Mr. Rupprecht twice.

Q. When was the first time that you saw Mr. Rupprecht?—A. I saw Mr. Rupprecht in New York in September 1931, in the offices of Mr. Chase and Ticknor.

The COURT. And the other time?

The WITNESS. And two years later, in 1933, in the same offices.

Q. Do you recall what was discussed with Rupprecht in the first time you saw him in September of 1931?—A. Certainly I cannot give you any details about the conversation that took place about fourteen years ago. It was first of all an occasion to introduce me to Mr. Rupprecht. We discussed the general problem of the industry in which our companies were engaged and also the practical way

2514 of realizing for certain of the agreement between our company and Commercial Pigment, an agreement

which was ipso facto in the hands now of a new company.

Q. Do you recall whether any assistance was given to this new company by any of your European associates after this meeting?—A. Yes, I went——

Mr. WHITNEY. I object to that. Of the new company. A meaningless question.

The COURT. Do you want to withdraw your question and reframe it?

Mr. DIXON: Yes.

Q. Do you recall whether either your company, Terres Rares, or any of your European associates that you have described as being in the titanium-pigment business, gave any assistance to this new company, the Krebs Pigment and Color Corporation, in the United States after you met Mr. Rupprecht?—A. Yes. At the request of Mr. Chase and Mr. Ticknor when we were both in Paris, I took with me coming to this country our chemist, chief chemist, de Roïden, and he remained here a few months, I cannot tell you exactly how long, but it was anyhow several weeks.

By the COURT:

Q. You turned him over to Mr. Rupprecht?—A. Yes, and he worked in the factory.

Q. He worked in Mr. Rupprecht's factory?—A. Yes, sir.

Q. In the Krebs factory?—A. Yes, sir.

2513 By Mr. DIXON:

Q. Do you recall who paid the salary?—A. Oh, we continued to pay the salary to our chemist, and his living expenses were paid by the Krebs Company, I presume.

The COURT. You presume? You do not know?

The WITNESS. It was paid. But he worked for the Krebs Company. I did not see the checks.

Mr. WHITNEY. Your Honor appreciates this is all already in evidence and no question was ever raised on it.

The COURT. All right.

Q. I believe you testified you next saw Mr. Rupprecht in July of 1933. What was the occasion for your seeing Mr. Rupprecht at that time?—A. It was——

Mr. WHITNEY. I object to that, your Honor. What was the occasion.

The COURT. I will allow it. He is going to give us the general scene.

Mr. WHITNEY. That is what I am afraid of, too general.

The COURT. We will stop him if he gets too general.

A. The reason why I went to see Mr. Rupprecht here——

Mr. WHITNEY. I object to his reasons.

The COURT. Objection sustained. Tell us the occasion.

2516 The WITNESS. Occasion?

The COURT. Yes. Not the reason.

The WITNESS. All right, if there is any difference. How would you say.

The COURT. At whose invitation did you come? Was it on your own initiative your own invitation?

The WITNESS. I suppose it was the result of an exchange of correspondence.

The COURT. In any event, you came to New York——

The WITNESS. I came to New York in July, and I saw Mr. Rupprecht because there were several problems to be discussed, and the main problem at this time was the international agreement which was in suspense since 1931 after this conference in Paris, and it was very important for all my friends, our licensees, the company to which I referred previously, to know if in the case of an international agreement the American producers will not interfere by exporting in their territory any titanium products. It was obvious that such agreement can only be reached if such security will be given to us and Enropean producers will give the same assurance to American producers.

By Mr. DIXON:

Q. What, if anything, was said by Mr. Rupprecht at that time, if you recall, with reference to the subject
2517 that you have mentioned?—A. Mr. Rupprecht was quite prepared to——

The COURT. What did he say? Not what he was prepared to do.

The WITNESS. I cannot tell you exactly.

The COURT. What was the substance?

The WITNESS. The substance was that the American producers—he will not export in our territory.

Mr. WHITNEY. May we have that read?

The WITNESS. Look here, if I can speak in French it would be much easier for me.

The COURT. Do you want an interpreter.

Mr. WHITNEY. I would just as soon take the French.

The WITNESS. Because if you are——

The COURT. Just a minute, Dr. Blumenfeld. Do you want an interpreter?

Mr. WHITNEY. The question is whether Dr. Blumenfeld will just speak a little louder.

The WITNESS. Certainly. I will try my best.

Mr. WHITNEY. Because we do not always hear clearly.

The COURT. I want to be very sure, however, Dr. Blumenfeld, that you will call my attention to it if any question is put to you that you do not completely understand, and also that you will call my attention on any occasion if you feel that your command of English does not permit you to give a complete answer.

2518

The WITNESS. Yes, thank you.

(Question and answer read.)

Q. Can you state to the Court, Mr. Blumenfeld, what you meant by "he" would not export into our territory?

Mr. WHITNEY. May he reframe that question, your Honor? In other words, I am objecting. It is framed in substance "what did you mean?" I would just as soon press him further on what Mr. Rupprecht said, but not what Mr. Blumenfeld meant.

The COURT. Very well.

Q. Do you think you can state in substance what Mr. Rupprecht said?—A. Mr. Rupprecht spoke about his company——

The COURT. The Krebs Company?

Mr. DIXON. The Krebs Pigment and Color Corporation?

The WITNESS (Continuing)——and that the Krebs Company will not export to the market belonging to the European producers—not only in Europe.

Q. Now did you have any conversation with him at that time with reference to any arrangement under discussion with all of the European producers?—A. During this conversation I informed Mr. Chase and Mr. Rupprecht about the whole history of the European, of the project of the European agreement, general agreement——

2519

Q. Of the what?—A. I informed Mr. Rupprecht about the general scheme of such proposed agreement.

The COURT. When you say the "European producers" you include not only those who operated under your license but also those who operated under Dr. Jebsen's patents?

The WITNESS. Yes, sir.

The COURT. Very well.

Q. And what, if anything, did Mr. Rupprecht say, if you recall, with reference to those conversations about the plans of the European producers, including Dr. Jebsen's companies and your companies or associates?—A. By answering that he will not export outside the United States I think he gave his answer. I did not follow quite clearly your question.

The COURT. Generally the question, Dr. Blumenfeld, was, did he say anything more on the subject?

The WITNESS. No. It was the main point of the answer.

Q. Now this conversation, I believe, or conference, took place in Mr. Chase's office?—A. Yes.

Q. Was Mr. Chase present?—A. Mr. Chase and I think also Mr. Ticknor. I cannot recollect exactly but I
2520 think Mr. Ticknor was also.

Q. Will you state to the Court in what manner you left this conference with Mr. Rupprecht and Mr. Chase and Mr. Beschorman? That is, was there any disagreement?—A. No. We left very friendly with all this conversation, and after this conversation I saw, Mr. Beschorman——

Mr. WHITNEY. May I have that read?

(Answer read.)

The WITNESS. Excuse me, Mr. Beschorman was not present in this conversation.

The COURT. Strike out "Beschorman" from the question.

The WITNESS. It was only a conference between Mr. Rupprecht, Mr. Chase and maybe Mr. Ticknor and myself.

The COURT. And after that you saw Mr. Beschorman?

The WITNESS. After that I saw Mr. Beschorman in the offices of Mr. Beschorman with Mr. Chase, and I think that Dr. Jebsen was present. I don't remember if he was present but I think he was present.

2521 Q. What did you discuss in Mr. Beschorman's office with Mr. Chase?—A. The object of our conference with Mr. Beschorman was also this proposed general agreement.

Q. I will hand you what has been marked Exhibit 534 and ask you to examine the third page thereof and state to the Court if you can what that is.—A. This memorandum in this form was made by Mr. Chase, and it was the whole question discussed during the meeting between Mr. Beschorman and Mr. Chase and myself. After this meeting in Mr. Chase's office I prepared some notes in French and Mr. Chase put it in this form.

The COURT. Is it an accurate summary?

The WITNESS. Yes, it was an accurate summary. I never contested it.

Q. I will ask you to refer to No. 6 of this memorandum, Plaintiff's Exhibit 534, and state if you will to the Court what you meant by the words "U.S.A. out," as stated on that exhibit?—A. The result was our understanding of what the United States producers of titanium pigment will

not export in other markets except it was a common market in South America, and the European producers will not import in the United States territory.

Q. After this conference which you have described in New York in July of 1933, were there any agreements entered into between the Titan companies so-called
2522 in Europe and your companies or associates?—A. Yes.

Q. I will hand you what has been marked for identification Plaintiff's Exhibit 1204——

(Plaintiff's Exhibit 1204 marked for identification.)

Q. ——chart No. 3, and ask you to examine the same and state whether the Aussig agreement stated therein was entered into as specified on that exhibit for the territories covered in and described on chart No. 3.—A. Aussig?

Mr. WEBSTER. Your Honor, I believe that is all covered by the agreement, contracts 4 and 6, that are in evidence.

The COURT. I will allow it only to the extent of his tying it up with this meeting.

Mr. WHITNEY. With what, your Honor?

The COURT. With this meeting.

Mr. WHITNEY. Which meeting did your Honor have in mind?

The COURT. Mr. Beschorman's meeting.

Mr. WHITNEY. Thank you, your Honor.

(Question read.)

A. Yes, it is covered.

The COURT. The answer is Yes. All right.

Q. Will you state whether the same is true with
2523 reference to contracts 4 and 6 as shown on Plaintiff's Exhibit 1204 for identification.—A. With regard to the contract a Quatre and contract six also, I make just some slight reserve. I have not under my eyes a contract. So I presume it is correct in the general spirit. There may be someone took this——

Q. In any event, after the meetings in New York these contracts shown on chart No. 3, Plaintiff's Exhibit 1204, were entered into in Europe?—A. Yes. It is practically a repetition of what was already discussed even in 1931, the same principle.

The COURT. Let me look at 534.

By the COURT:

Q. Dr. Blumenfeld, these 11 points that you have on this memorandum that were shown to you a minute ago, those were discussed by you with Mr. Beschorman?—A. Yes.

Q. Did you also discuss all these 11 points with Mr. Rupprecht?—A. Certainly, yes.

Q. At least you told him about them?—A. Yes.

Q. But from him you asked only for a statement as to whether Krebs would export to the markets of the other countries?—A. It was one of the specific questions what I put to Mr. Rupprecht.

Q. You did not discuss with him for instance—— A. With Mr.——

2524 Q. Mr. Rupprecht. Did you discuss with him the division of tonnage under item 1? Did you discuss that with him?—A. I can't tell. Possibly. I can't tell.

The COURT. Very well.

By Mr. DIXON:

Q. In the discussion with Mr. Rupprecht did you state anything to him with reference to the conversations that you had with Mr. Jebsen previous to your meeting with Mr. Rupprecht in July, 1933?—A. Yes. I said what—I informed Mr. Rupprecht about the proposed agreement. Now, the positions of Mr. Rupprecht and Mr. Beschorman were not exactly the same. There were some questions discussed only with Mr. Beschorman.

Q. Did you discuss with Mr. Rupprecht some of the general things under discussion between the European producers previous to the meeting with Mr. Rupprecht in July of 1933? Do you understand my question?—A. I understand it; I think I have already answered it. Yes.

Q. Now I believe you also testified that thereafter you made the contract with TG or Titangesellschaft, for the creation of the Japanese company?—A. Yes, sir.

Q. And was the Japanese territory the territory of Terres Rares and Thann?—A. Yes.

Q. Now, what cooperation, if any, did you have with the Titan companies in Europe with reference to aiding
2525 in serving their markets after the outbreak of the war in 1939?

The COURT. We will suspend at this point. We will take a short recess.

(Short recess.)

Mr. DIXON. Will you read the last question to the witness, please?

Q. (Question read.)—A. At the beginning of the war the companies represented by Dr. Jebsen were cut from their source of supply of titanium dioxide. During this time I offered to Dr. Jebsen to continue the supply of titanium

for his commercial profit from our production in order to insure a very friendly cooperation that we had always with him.

By the COURT:

Q. Did he accept the offer?—A. Yes, sir.

Q. And you did supply certain of the titanium companies with titanium dioxide?—A. Yes, produced by our company.

Q. Produced by companies operating under your patents?—A. Yes.

Q. Which companies did that include to whom you extended such offer?—A. Well, to Dr. Jebsen. He was, according to our agreement, for the European zone; he was the man who represented them.

2526 By Mr. DIXON:

Q. Do you recall to what companies, Dr. Blumenfeld, this aid was given? That is, you made deliveries, in other words—was it to BTP—— A. No, not the British company. It was on the Continent.

Q. Just one more question, Doctor. Do you know or can you state to the Court what the approximate productive capacity of the plants of the companies associated with your group, as distinguished from those of the Titan or Dr. Jebsen group, was in 1933?—A. In 1933?

Q. About what it was.—A. One second——

MR. WEBSTER. Is this question limited to Europe?

Mr. DIXON. Europe, yes.

The WITNESS. Yearly production?

Mr. DIXON. That is right.

The WITNESS. The production—of course approximate figures——

The COURT. Are you going to give us actual production or production capacity?

The WITNESS. Actual production. I cannot correct—it may be 20 per cent less or more. Our French factory in Thann produced 1500 to 1700 tons of titanium oxide.

The COURT. In the pure form?

The WITNESS. In the pure form. All these companies were producing the pure titanium oxide. Bovisa,
2527 the Italian factory, about 2,000 tons, and Aussig about 1,000 tons.

Q. And do you know or can you state to the Court what the approximate productive capacity of those plants were that you have mentioned in say 1938?

The COURT. Are you talking about capacity or produc-

tion, because your last question was addressed to capacity and the witness gave production. Is that what you want? The actual production?

Mr. DIXON. That will perhaps be better. As close as you can give the production.

A. Roughly speaking it was an increase of about 20 or 25 per cent.

Mr. DIXON. That is all. Thank you very much. Your witness.

Cross examination by Mr. WEBSTER:

Q. Dr. Blumenfeld, I want to ask you a few questions about companies and conditions in Europe. I understand the company in which you had an interest, the company which we have called Terres Rares, is the company to which you assigned your patent rights.—A. Yes.

Q. And you owned stock in that company, did you not?—A. Very small stock.

Q. But that was the company that was entitled to license your patents?—A. Yes.

2528 Q. And then that company sold certain patent rights that it had in the United States to a United States company, is that true?—A. Yes, sir.

Q. And it also permitted a company known here as Aussig to use its patents in certain territories in Europe?—A. Yes.

Q. Now you mentioned the size of Aussig. Aussig next to the IG was the largest chemical company in Europe, was it not?—A. Yes, sir.

Q. And it was certainly the largest chemical company in Czechoslovakia?—A. Yes.

Q. And it had enormous industrial and manufacturing capacity, did it not?—A. Yes.

Q. You also referred to Montecatini. Montecatini was the most powerful chemical company in Italy, was it not?—A. Yes.

Q. And it had the right to operate in certain areas using the so-called Blumenfeld patents, is that correct?—A. Yes.

Q. And Montecatini likewise had a very large manufacturing and industrial capacity, did it not?—A. Yes.

Q. And very energetic management?—A. Yes.

Q. And when you licensed the Montecatini Company to use the Blumenfeld patents, a new company was formed, was it not?—A. Yes.

2529 Q. And your French company took a percentage of the stock in that new company?—A. Yes.

Q. In consideration of the Blumenfeld patents, is that correct?—A. That is correct.

Q. Can you recall the date of the contract of Four and the contract of Six?—A. The exact date I do not recall.

Q. I mean the year.—A. Yes, it was in 1933, I think.

Q. Now, in 1933 had the Titangesellschaft built up a large capacity for the manufacture of titanium pigments?—A. Yes.

Q. And your understanding is that that company is operating under its own patents and under the so-called Jebsen patents, the Norwegian patents?—A. Yes, sir.

Q. Now at that time in 1933 Aussig was not engaged on a substantial scale in the manufacture of pigments, was it?—A. No.

Q. And one of the purposes, was it not, of the Contract of Four and Contract of Six was to permit Aussig to take advantage of the manufacturing capacity at that time of Titangesellschaft, is that correct?—A. I shall ask you to repeat this last.

Q. (Read.)—A. Yes, it is correct.

Q. Perhaps I have confused you somewhat by referring to the Contract of Four and Contract of Six. I
2530 should have referred to the Aussig contract.—A. Yes, Aussig and Titangesellschaft.

Q. Which was another contract made in this same general connection, was it not?—A. Yes.

Q. And that was in the nature of an accommodation to the Aussig Company?—A. Yes, sir.

Q. Whose operations at that time were on a pilot plant basis?—A. Yes, sir.

Q. Now, Dr. Blumenfeld, your interests in the field of chemistry are not restricted, or were not restricted, to titanium, were they?—A. No.

Q. You did not understand?—A. Yes, I understood and say "No" to the question.

Q. You had other interests?—A. Yes.

Q. And they were of a substantial character with reference to your titanium interests?—A. Yes, sir.

Q. Now were these arrangements that were made in the Contract of Four and Contract of Six and in the Aussig contract comparable generally to other arrangements that were made by European companies during this period?—A. Yes.

Mr. DIXON. I object to that, your Honor.

The COURT. I will allow it.

The WITNESS. Certainly, yes.

Q. Had you been in business in Europe from the
2531 period following the last World War, that is from 1920 on?—A. Yes.

Q. And had you followed the industrial development of Europe during the twenties and thirties?—A. I think so.

Q. And do you recall in 1926 or 1927 the League of Nations had certain meetings relating to what was called rationalization of industry in Europe?—A. Yes.

Q. And also there was a word that was commonly used at that time with reference to France and Germany called "rapprocheinent"?—A. Yes.

Q. And there was a movement, was there not, in Europe designed to bring about a closer industrial cooperation between European companies?—A. Yes.

Q. And that was in the interest of rationalizing, if I may use that word, European economy?—A. Yes. It was one reason.

Q. Now you were asked certain questions about a meeting in Paris in 1931. You were present at that meeting?—Yes.

Q. And during part of the time Dr. Jebsen was present?—A. Also present, yes.

Q. And you were shown a sheaf of papers marked Plaintiff's Exhibit 208, consisting of 26 pages. You did not undertake this morning to read every page, did you?

A. No, certainly. I just look on some parts.

2523 Q. And you would not be able to state what portions of that were written by different persons, would you?—A. No.

Q. Now, all of that exhibit which Mr. Dixon showed to you related to the proposed arrangements in Europe, did it not—all of this material?—A. Yes. Certainly it was the understanding between the European producers.

Q. And this was all preliminary to the Contract of Four and Contract of Six?—A. Correct.

Q. And the Aussig agreement?—A. Yes.

Q. And you understood that Dr. Jebsen was representing the Titan companies in Europe, did you not?—A. Yes.

Q. So that when you came to New York in July, 1933, and saw Mr. Beschorman, you understood that the conference with Mr. Beschorman related to the proposed European contracts, did you not?—A. Yes.

Mr. WEBSTER. That is all.

Cross examination by Mr. WHITNEY:

Q. Dr. Blumenfeld, before 1931, you personally had

made a number of inventions in the field of titanium pigments, had you not?—A. Yes, I had.

2533 Q. And in addition to that you had formed this company called Terres Rares, is that right?—A. It was not in addition. It was——

The COURT. Did you form Terres Rares?

The WITNESS. Yes.

Q. You are not trying to correct me in the use of language, are you? We want to get the facts.—A. No, but I would like to understand.

Q. Let us get the facts as best we can.—A. Yes. I founded the company, Societe de Produits Chimiques des Terres Rares.

Q. You assigned these inventions of yours to that company? Did you assign the inventions to that company?—A. Yes.

Q. Did either you or the company apply for patents on those inventions in France?—A. I think I applied. I am not quite sure. I don't remember.

Q. One or the other?—A. Yes.

Q. And in a great many other countries?—A. I beg your pardon?

Q. And in a great many other countries?—A. Yes.

Q. Including Germany?—A. Yes.

Q. Italy?—A. Yes.

Q. Great Britain?—A. Great Britain, yes.

Q. The United States?—A. The United States.

2534 Q. Eventually Japan?—A. Not all.

Q. Some?—A. Very few.

Q. A few?—A. Yes.

Q. Canada?—A. Yes. Also not all of the patents.

Q. Also, only some, of course.—A. Some, yes.

Q. And Italy?—A. Italy.

Q. One of those patents was for a process for producing crystalline titanyl sulfate, was it not?—A. Yes.

Q. Was that a valuable invention in your opinion?—A. It had some importance, yes.

Q. One was for making solutions substantially free from colloidal suspended matter, was it not?—A. Yes.

Mr. DIXON. If the Court please, I wish to rise to object to this line of questioning. I don't know just what the purpose of it is, but if it has any object it would seem to me to relate to passing upon the validity or weight of patents.

The COURT. No, I don't take it that that is Mr. Whitney's purpose. I think I can see his purpose. I will allow the question.

Q. For a solution substantially free from colloidal suspended matter?—A. Yes.

Q. That was a valuable invention, wasn't it?

Mr. DIXON. I object to the form of the question.

A. It is very difficult to answer yes or no. I
2535 don't know what is valuable.

Mr. WHITNEY. May I say to Mr. Dixon that he qualified him as an expert chemist and I was very free in allowing most leading questions on direct, and I would be most grateful to be allowed to conduct this cross examination, which will be lengthy.

Mr. DIXON. Might I say, your Honor, so that there will be no misunderstanding, that we did not endeavor to qualify Dr. Blumenfeld as an expert.

Mr. WHITNEY. You succeeded, whether or not you endeavored.

The COURT. I will let Mr. Whitney qualify him. I am not going to let myself worry unduly about that sort of thing. Do you want to qualify him as an expert on your own behalf, Mr. Whitney?

Mr. WHITNEY. No, certainly not, your Honor.

The COURT. All right. However, I will let you ask him whether he regarded the patent as valuable. The answer was a shrug of the hands with some comment. I forget the exact comment.

The WITNESS. It is difficult to evaluate exactly.

Q. Would you just say that again? I did not hear it.—A. It is very difficult to answer yes or no on such a question.

2536 Q. I don't ask you to answer yes or no; answer in your own way.—A. I suppose it has some value.

The COURT. By that you mean, I take it, that it was not an epoch-making invention?

The WITNESS. Certainly, yes, it was not.

The COURT. You agree to that, it was not an epoch-making invention?

The WITNESS. Yes.

Q. What about seeding hydrolysis? Was that a valuable invention?—A. I think yes.

Q. You think yes?—A. Yes.

Q. We agree. And the patent that related to salt treatment was also a valuable patent?—A. What do you call the patent relating to salt treatment? Can you give me the exact——

Q. What is sometimes called the Blumenfeld and Meyer patent.—A. Oh, yes, calcining in the presence of titanium sulfate.

Q. Calcining in the presence of titanium sulfate.—A. Yes, it was important.

Q. What were some of the other inventions that you had made at or about that time?

The COURT. In this field?

Mr. WHITNEY. In this field of titanium pigments.

A. Clarification—a patent for clarification of a
2537 solution with some—you know the question of patents is very difficult, some very secondary question presents some interest in the particular process. For instance, a patent for clarification, certainly it is not a basic patent but it is very valuable from the practical point of view. As a patent I will not say whether it is very valuable. I think the application to the process in question, it was very interesting.

Mr. DIXON. Your Honor, just for the record may I have a continuing objection to this line of questioning on the part of counsel?

The COURT. All right.

Q. Dr. Blumenfeld, does that last patent that you mentioned, or the invention, enable a manufacturer to manufacture more economically than if he did not have the benefit of it?—A. I suppose all the patents have a tendency to render—either to find something basically new or to improve the existing method of production. The improvement can be either in the economical sense or in the sense of improvement of quality.

Q. These patents of yours in the United States had been sold by you or you had given exclusive rights thereunder to the Commerical Pigments Corporation, had you not?—A. Yes.

Q. That was the company with which Mr. Ticknor
2538 and Mr. Chase were associated?—A. Yes.

Q. Were they sold to it or did you give them exclusive licenses?—A. I don't remember if it was assigned or an exclusive license. Really, I can't tell you.

Q. Then that company in turn sold them or its rights under them, you don't remember which, to Krebs, did it not?—A. Yes. I think it was assigned.

Q. This assignment of patents included a number of inventions that you or the French company owned or controlled, other than those made by yourself, is that not so?—A. Yes.

Q. Do you remember some of those?—A. Specifically the name of the person who took the patents?

Q. Yes, just a few.—A. I think it was one patent of De Rohden; I think it was Curisson.

Q. Those would be examples. There were others, were there?—A. May be. Really, I did not go through this question.

Q. You don't clearly remember, I suppose?—A. Yes.

Q. When you say you did not go through this question, what do you mean?—A. Since from a long time I didn't touch, like, on titanium patents.

Q. You mean you did not discuss it with Mr. Dixon?—A. No. I say personally, since a very long time, since about 1938 I was not in direct contact with the titanium question technically.

2539 Q. That makes it difficult for you to remember what happened before 1938, does it? A. To give you the names of the people who applied for patents.

Q. That would apply of course necessarily to all these patents?—A. Even to my personal patents. I don't remember the year when it was specifically applied.

Q. However, at the time, about 1931 and in that period, these patents were sufficiently strong so that they enabled you to conduct rather extensive negotiations with Dr. Jebsen's group, did they not?

Mr. Dixon. I object to that question, your Honor.

A. In my opinion, yes.

Mr. Dixon. Just a moment.

The Court. All right. I will let the answer stand.

Mr. Dixon. All right.

Q. And such negotiations did in fact take place, did they not?—A. Yes.

Q. Looking to a division or allocation between you and Dr. Jebsen of the various markets?—A. Yes.

Q. That is in Europe I am speaking of now.—A. Yes.

Q. Now, was there any third group of patents that rivalled yours and Dr. Jebsen's groups at that time in Europe?—A. I don't think so.

Q. And did there grow up afterward—— A. In Europe.

2540 Q. —during the later 1930s any third group of patents that rivalled yours and Dr. Jebsen's in Europe?—A. In Europe——

Q. Yes.—A. There were some few patents taken in Germany, but—Auergesellschaft—but our opinion may be wrong, was that they were not very solid; maybe we are wrong; it was our judgment.

The COURT. That they were not much?

The WITNESS. No.

Q. And the only substantial manufacturing in Europe of titanium pigments has been either by companies affiliated with your group or by companies affiliated with Dr. Jebsen's, is that not so?—A. Yes, I think it is so.

Q. Just for a few: Was there during the 1930s any large manufacturer, any manufacturer of a tall size in France other than Thann & Mulhouse or Dr. Jebsen?—A. Dr. Jebsen was never producing in France.

Q. Only Thann & Mulhouse?—A. Yes.

Q. No other companies.—A. Yes.

Q. You were more familiar with France than with any other country, were you?—A. Yes.

Q. You lived there.—A. Yes.

Q. And I suppose that you would file patent applications there as quickly as anyone else—as anywhere else; your filings would be first in Paris, wouldn't they, or at

2541 least as soon as anywhere else?—A. No. I don't think so. We filed, as I say, British or American patents or German because according to French patent legislation it is no preliminary examination of the patents, and we were always interested on the objection of the Patent Office, so—what in this country or in England or in Germany such examination exists.

Q. And this was in accordance with the general policy to file in all important manufacturing countries, was it not?—A. No; to get the examination of the Patent Office on the prior art because in France it was impossible because French legislation does not include the preliminary examination.

Q. In France if any other party filed an application on a titanium invention you would not know about it, would you not?—A. When the patent is published.

Q. Not until the publication in France?—A. Certainly not.

Q. Would you know it before the publication in Germany?—A. Certainly not.

Q. In France?—A. No.

Q. I mean, in Great Britain?—A. No.

Q. In the United States?—A. Certainly not.

Q. Never?—A. Never.

Q. What if an interference were declared in the

2542 United States, wouldn't you know about it then? Suppose you filed in the United States an application

and another party filed an application on the same subject matter and the United States Patent Office declared an interference between them, you would know about the other filing then, wouldn't you?—A. Only in this particular case when called by an official of the Patent Office, yes.

Q. That would also be true in the other countries, would it?—A. No, because in France it was no examination of the patent.

Q. Would it be true in Great Britain?—A. I don't know how it is in Great Britain, the legislation, no.

Q. In Germany. Opposition proceedings I am talking about.—A. Opposition, yes.

Q. Then you would know?—A. I would know that somebody is opposing the patent.

Q. You would have an opportunity to contest the other party's filing, would you not?—A. Opposition, yes.

Q. You kept reasonably close track of all these filings, did you not? You kept as close track as you could of all filings in the principal countries in the titanium pigments field?—A. Yes.

Q. That is certainly so, isn't it?—A. Yes. If not I personally my technical assistants.

2542 Q. Turning back to the manufacturing, we spoke of France. In Germany had there been any manufacturing of any material importance done other than by Titangesellschaft?—A. Titangesellschaft—no, I don't think so. It was the only one.

Q. Czechoslovakia, the Verein, Aussig?—A. The Verein, yes.

Q. In Italy the only one was Montecatini?—A. Montecatini, yes.

Q. Societa Anonima Titanium.—A. Yes.

Q. And in Great Britain?—A. Two.

Q. Two. One being the Laporte Company—— A. One the Laporte Company and another British Titan Products.

Q. Then small manufacturing in Norway, I take it, by Dr. Jebsen?—A. Closed since I don't remember what time, but closed since a great many years already.

Q. Any other manufacturing in Europe?—A. Yes, it was a small, the beginning of the manufacture in the year, if I am not wrong, 1937, in Holland, I think it was in 1937; I am not quite certain. But I think it was in 1937 by a company called Noury van der Lande.

Q. That company also entered into an understanding with the Titan and Blumenfeld groups for Europe, did it not, for Holland?—A. No.

Q. It was a competitor in Holland?—A. It was no understanding.

2544 Q. Back in 1937 did it have rights under the Jebsen patents?—A. I don't think so.

Q. Did it have any rights under your patents?—A. No.

Q. That is the only one you recall that was——A. Yes.

Q. What was the production of that company before the war broke out, approximately?—A. Maybe a few hundred tons per year.

Q. Now, if a company in America exported into France a product made by a process on which you owned the patents in France, would you be in a position to object in France?

Mr. DIXON. I object to the question, your Honor.

The COURT. I will allow it.

A. It can be done, but it is very hard, and it is——

The COURT. Which is hard, the importation or the objection?

The WITNESS. No. To object legally.

The COURT. It is hard to object?

The WITNESS. Very hard to object because it means a lawsuit and we have to prove that really it was just produced according to such and such patent. The very fact that a company has a patent does not prove what the company is producing according to this patent. So it is always very difficult in cases. But theoretically it is possible.

2545 Q. Now suppose that the company, the American company in that case, has a license under patents of yours and then exports products into France and, further, suppose that you have not licensed that American company to export into France, would you then be in a position to object in France?

Mr. DIXON. I object to the question, your Honor.

The COURT. I will allow it.

A. May I ask you again to repeat it?

Q. Suppose on the same subject, that you have in America a company that you have given a license to under all your patents, and then suppose that you have not licensed it to export into France and it then does export into France?—A. I can object.

Q. You can object in France?—A. I can object in France, certainly.

Q. Now, when you saw these gentlemen in New York in 1931——

The COURT. 1933.

The WITNESS. No. 1931 the first time.

The COURT. In New York?
The WITNESS. Yes.
Mr. WHITNEY. Yes, your Honor, in September 1931.
The WITNESS. September, yes.

Q. Mr. Ticknor, Mr. Chase and Mr. Rupprecht I
2546 believe you said.—A. Yes.

Q. Where was the meeting?—A. In Mr. Ticknor's and Chase's offices.

Q. Which one? Was it in Mr. Ticknor's or in Mr. Chase's?—A. In what room I don't know.

Q. What was the room like? Where was it? Just describe it.—A. It was in a building near Grand Central, where—offices of Commercial Pigments and Commercial Solvents Corporation. What was the room I don't know.

Q. Was that the only time during that trip to America that you saw Mr. Rupprecht?—A. Yes.

Q. Was that the only time during that trip to America that you saw Mr. Chase and Mr. Ticknor?—A. No. I think I saw Mr. Chase and Ticknor—I was a very short time here, a few days; I think I saw Mr. Ticknor and Mr. Chase two or three times, but I saw only once Mr. Rupprecht.

Q. You were on your way to Japan, were you not?—A. Yes.

Q. The purpose of leaving France was to go to Japan?—A. Yes.

Q. In other words, you did not leave home in order to come to the United States?—A. No.

Q. You had the opportunity to come because it was on the way to Japan?—A. Yes.

2547 Q. Now did you make any agreement on that trip with Mr. Ticknor or Mr. Chase or Mr. Rupprecht?—A. No.

Q. You already had your agreement with the Commercial Pigments Company?—A. Yes.

Q. And the Krebs Company had acquired the properties of the Commercial Pigments Company?—A. Yes.

Q. And that situation remained as it was at that moment?—A. At that moment?

Q. At the moment in 1931.—A. Yes. I was told by Mr. Rupprecht that it will be necessary to adjust the question of an exchange of that technical information to a new situation, and we have to find the most practical and effective way of doing so.

Q. This was in September, 1931, meeting?—A. 1931, yes.

Q. And was it then understood that you would discuss

that upon your return from Japan?—A. Yes.

Q. That being the exchange of technical information and the new adjustment of the method of having it?—A. Yes.

Q. Now did you see Mr. Rupprecht upon your return from Japan?—A. No.

Q. Did you try to see him?—A. No, because I was—the traveling arrangement was such that I did not come across those countries.

2548 Q. So there just was not time?—A. It was no question of time that I was not—previous I thought I will come back exactly the same way, but I go through Suez.

Q. So that coming back the same way did not happen until 1933?—A. Yes.

Q. That was your first opportunity to reopen the discussion about the terms upon which you would exchange technical information with Mr. Rupprecht, was it not?—A. With everybody, yes.

Q. On the trip back here in 1933?—A. Yes.

Q. Now in the meantime you had had some correspondence with Mr. Rupprecht?—A. Yes.

Q. For example, he had written you in May, 1932, had he not?—A. Yes.

Q. That he had expected to see you on your return from Japan?—A. Yes.

Q. And that they would arrange at a later date that exchange of information?—A. Yes.

Q. And then you replied, did you not, to that letter, probably about June 1932?—A. Yes.

Q. And you took the position, did you not, that Mr. Rupprecht was wrong in saying that he was free to change the arrangements for exchange of information?—A. Yes.

Q. You felt that he was bound—A. By the previous agreement.

Q. By the agreement with Commercial Pigments?

2549 —A. Yes.

Q. And that was a very important matter of principle, wasn't it? You called it a matter of principle.—A. Yes.

Q. And you wrote also to Mr. Ticknor on the subject, didn't you, and he replied that the matter was in Mr. Rupprecht's hands?—A. Yes, several times I asked Mr. Chase and Mr. Ticknor to assist me in this.

Q. And then you later wrote another letter, in the latter part of the summer of 1932, to Mr. Rupprecht, did

you not, in which you told him that his letter surprised you greatly?

Mr. DIXON. What is the date of the letter?

Mr. WHITNEY. July 27th.

A. I should have a copy of this letter.

Q. I will just give it to you. Exhibit 843-B, page 2955. I want to get the history all straight (handing): "Your letter of May 23rd was received on time. My great delay in replying——"—A. Yes.

Q. I am just reading a few sentences (continuing): "is due to the fact that since my return from the far East I have had to go from one place to another almost constantly.

"I shall not deny that your letter surprised me greatly. When I had the pleasure of meeting you
2550 in New York, we attempted to see how we could most effectively bring about technical collaboration"—what do you mean by technical collaboration? Don't try to be exact. I promise I am not going to pin you down.—A. Technical cooperation means exchange of all technical information, the visits to the factories and all pertaining to the patents, in a very broad way.

Q. I think that is a very excellent definition. That was what was on your mind at the time.—A. Yes.

Q. (Continuing reading) "Unfortunately, my too short stay in New York did not allow us to lay a definite plan; however, we did decide that, in order to safeguard our respective interests, we would limit the exchange of all technical information to 3 European plants," namely Thann & Mulhouse, Aussig and Montecatini?—A. Yes.

Q. That was your understanding of what you had discussed and understood at the meeting in New York with Mr. Rupprecht?—A. September 1931, yes.

Q. And then you tell that you had ordered your department to send him an outline. In other words, you did give him some cooperation?—A. No, I think what I am writing here refers to our organization, to send him an outline which would serve as a basis for discussion
2551 roughly means for effecting this collaboration. It was the scheme,——

Q. That was to be the basis of a further agreement between you on that subject?—A. No, it is not a basis. It is a way of effecting this cooperation, a practical scheme; how we will cooperate, I think it is.

Q. In other words, I understand the distinction you make between an agreement that commits a man and

something as a practical scheme that he is going to work along with, and you were just suggesting a practical scheme to work along together.—A. Mr. Whitney, you must read this letter——

Q. I will strike out my question. I only want to make sure I understood what you were saying and I think his Honor understands and we all do.

"We also continued to send you all information as in the past."

A. Yes.

Q. I had reference to that before, that you gave him technical collaboration.—A. Yes.

Q. (Continuing) "not only because of the conversations which I had the pleasure of having with you in New York, but also because of the formal agreement with the Commercial Pigments Corporation."—A. Yes.

2552 Q. As a matter of fact, in your view it was rather unfair, wasn't it, for technical collaboration to be only one way without any return from the other side?—A. That is a question of my judgment. It is not a question of effects.

Q. I should think that unless you were more than a human being you would think it unfair to give another company collaboration and get none back. You did feel it was unfair?—A. You can conclude as you like.

Q. I am asking you did you consider it unfair?—A. Really I cannot recollect my feeling 15 years ago. It is rather difficult.

Q. Now we want to leave it there, do we? That you cannot recollect your feelings of 15 years ago—too long ago?—A. Yes.

Q. (Continuing reading)

"Krebs Pigment & Color Corporation having succeeded the latter company"—that is Commercial Pigments—"it is rather difficult for me to understand how such an important part of the contract could be purely and simply cancelled"——

and then the translator says that is "suppressed".—A. Yes, I suppose it was "supprimer".

Q. (Continuing) "as you seem to do in your 2553 letter, and this, as I have just said, after a conference which was to be considered a beginning, not of a suppression of the principle of exchange, but on the contrary, of a search for the most efficient means of effecting said exchange."

So that confirms, does it not, what you indicated, that the

1931 conference was supposed to be the beginning of what might be a series of conferences, or at least there might be another one, on this subject of exchange of technical information?—A. Not necessarily further conferences. It can be also affected by writing and sending in reports.

Q. Arrangements to be worked out.—A. Oh, arrangements, yes.

Q. And as you said, a practical scheme?—A. Yes.

Q. Now in about September Mr. Rupprecht replied to you. That is page 985, Exhibit 219 (handing). This is from Mr. Rupprecht to Dr. Blumenfeld in Paris, and it says:

"Your letter of July 27th is received"——

that is the last letter we were considering——

"and I regret that there should be any misunderstanding in your mind relative to Krebs Pigment & Color Corporation entering into an agreement with you and your
European associates covering exchange of technical
2554 date.

"I can only respectfully repeat that the situation as stated in my letter of May 23, 1932, explains our position."

I left out that letter because it is already in evidence and he says here he was repeating. (Continuing reading):

"Your former agreement with Commercial Pigments Corporation did not permit of assignment and you were informed that it would be necessary to negotiate an entirely new agreement with the Krebs Corporation."

Now I understand that that is Mr. Rupprecht's statement of his understanding of the September, 1931, meeting, is it not? He understood that he had informed you that you would have to negotiate an entirely new agreement?—A. Apparently we understood differently.

Q. And his memory therefore was entirely different from your memory? I am not saying which is right.—A. Yes, yes.

Q. I am not in any way reflecting upon your memory.—A. Yes, yes.

Q. Although it was 15 years ago; anybody could forget. But at the time you took different views as to what had been said at the meeting?—A. Yes.

Q. (Continuing reading):

"It was also clearly explained to you that because
2554a of earlier commitments of the du Pont Company, it
was impossible for the Krebs Corporation to undertake in their entirety such obligations as were covered in

your former agreement with Commercial Pigments Corporation."

That does conform to what you remember of the meetings, doesn't it? That he explained they could not take all the Commercial Pigments obligations.—A. No; I did not say so. Anyhow, my understanding was that Mr. Rupprecht was willing to work out a new scheme for the practical realization of this technical exchange of information.

Q. And then the only difference between you is that he said that it was to be an entirely new agreement?—A. Yes, and even according to this letter of July 27th, I agreed during this conversation to restrict only to the three companies working under my process, licensees of our company, the benefit of this exchange.

Mr. WHITNEY. Dr. Blumenfeld is just emphasizing in his letter of July 27th that he had made this concession that he restricted the exchange to the three Blumenfeld companies.

Q. That is you excluded from the exchange the European Titan companies, is that right?—A. Oh, certainly. It was absolutely no question about the European Titan companies, because I have no agreement about ex-
2555 change of information with those companies. With Dr. Jebsen I never had such agreement.

Q. Then Mr. Rupprecht continues:

"At my meeting with you in New York in September 1931, we talked over a possible agreement in a preliminary way, and it was understood that you would return for another conference in December 1931, at"——

A. Yes.

Q. We can skip over that.—A. Yes; but apparently he was very angry.

Q. "As you did not pay us this promised visit." Do you agree you had promised to visit him in December?—A. Certainly my plan was at that time to come back from Japan exactly by the same route. It means through Canada and the United States. If you call this a promise, I promised it.

Q. Did you make him a promise that you would come back in December?

The COURT. The question is did you say, "I promise to come back" or did you say "I plan to come back."?

A. I plan to come back.

Q. Is there much of a difference between the two?—A. I do not know. Precisely I cannot understand your question.

Q. I mean what we are talking about—— A.
2556 Maybe it is my bad English or bad knowledge of English.

Q. Well, I have the greatest sympathy with you, because there are occasions where I have had to do business in the French language, and I should say I did much worse than you are doing here.—A. No, I cannot understand what you ask me.

Q. It is a very small matter, but I would like to clear it up. In September of 1931 you and Mr. Rupprecht were talking together?—A. Yes.

Q. And afterwards Mr. Rupprecht said, "You promised me to come in December" and you said—— A. No. Maybe I promised. I do not really know.

The COURT. You know the difference when you say to your wife, "I plan to take you out to dinner," or you say, "I promise to take you out to dinner"?

The WITNESS. No. I said to Mr. Rupprecht, I have to leave because the accommodations at the boats were such it was necessary to leave New York at a definite date. "I will come back here and we will continue our discussion." What do you call this; promise or plan? I do not know.

The COURT. Let us say you told him what your then intention was.

The WITNESS. Yes, exactly.

Q. And according to this letter he received it and he understood it as a promise?—A. Maybe.

2557 Q. And do you now remember that he was right or wrong?

The COURT. Meaning by that (referring to witness's gesture) "I don't remember"?

The WITNESS. Really, no.

The COURT. The reporter could not take down your gesture.

Mr. WHITNEY. I felt that he was sort of warming up.

Q. I take it that the gesture his Honor and I were talking about meant "We cannot expect you to remember whether, as you say, 15 years ago, it was a promise or a mere statement of what you intended to do"?—A. (No answer.)

Q. Let me repeat, that when you make a gesture of spreading your hands, that his Honor and I were talking about, it means, does it not, that we cannot reasonably expect you to remember—— A. If it was a promise or a plan?

Q. Right. Is that right?—A. Yes.

Q. Now the letter goes on:

"You undoubtedly realize that because of the changed conditions, a number of new factors must be considered, and it is impossible to attempt by correspondence, an outline of the limited agreement we are now permitted to discuss."

2558 That meant there were a number of new factors that you and he had still to consider together in the future, did it not, and that he was only permitted to discuss a limited agreement, "but if you care to visit us again we will be glad to go into the matter." You did visit him again, didn't you?—A. In 1933.

Q. In order to go into the matter of the further working out?—A. Yes.

Q. Now when you saw him in 1933, in July, was it in the same office in which you had seen him in September of 1931?—A. Yes.

Q. Do you remember any more clearly, going a second time, just which office it was? What room?—A. No.

Q. Do you remember any of the furniture?—A. No.

Q. The way the room was arranged?—A. No.

Q. Do you remember the way the parties sat; who sat where?—A. No.

Q. Do you remember whether it was the morning or afternoon or the evening?—A. I don't remember.

Q. Do you remember whether Mr. Ticknor was there? —A. As I said already once, I am sure that Mr. Chase was there. I think that Mr. Ticknor was also.

Q. And was anyone else there with you?—A. No.

Q. Are you sure of that—from Europe?—A. From my company?

2559 Q. Yes.—A. No, nobody. It was only my man of the technical staff went with me, but he was not present at the conversation.

Q. Was that Mr. Curisson?—A. Oh, 1933? It was Mr. Currison was here.

Q. He was at the meeting, was he?—A. Maybe, but he does not speak at all. Maybe.

Q. When you said there was nobody with you, you meant nobody who spoke at all?—A. Yes. If he was there he was a silent person.

Q. Do you now remember whether or not he was there? —A. No, I don't remember if he was.

Q. So you do not remember whether or not Mr. Ticknor was there? Is Mr. Ticknor a man who does not speak at

all?—A. Oh yes, he speaks.

The COURT. I know not only that he speaks but that he writes.

Q. Let me see: You don't remember whether Mr. Curisson was there, because he is a man that does not speak at all?

The COURT. English?

The WITNESS. English.

Q. You don't remember whether Mr. Curisson was there, your technical man, because Mr. Curisson does not speak?

The COURT. I got it. We are devoting considerable more time to it that the subject merits.

2560 Mr. WHITNEY. I am glad to hear that from your Honor.

The COURT. I assume most of these questions are designed to test the memory of the witness; within the limits that you are entitled to that, but let us not overdo it.

Mr. WHITNEY. Your Honor, with great respect I am trying to get what happened at the meeting, and he was there. That is to say the first meeting that has ever been testified to in this case under an examination from the Government which brought the case, so I say although I attach no importance to the meeting, and therefore agree with your Honor, I am paying a sort of respect to Mr. Dixon's enormous importance that he evidently attaches to it. That is all I am doing.

2561 The COURT. If the witness knows the exact arrangement of the furniture, the exact color of the tie he wore, and the suit he wore, I still would not ascribe an undue degree of memory of events that occurred in 1933, because I proceed on the mortality table of memory.

Mr. WHITNEY. And in that you are in harmony with the witness himself, who has said that.

Q. Well, Dr. Blumenfeld, I take it then that in any event you, Chase and Rupprecht were there?—A. Yes.

Q. And we are not to know whether Mr. Ticknor and Mr. Curisson were there. Did Mr. Rupprecht bring anyone with him?—A. No, I do not think so.

Q. How long did the meeting last?—A. It was a meeting maybe one hour, or maybe one and a half hours or two hours, something like that.

Q. You had come, as you say, to the United States in order to follow through the subject that had been under discussion between you, and correspondence between you, about this exchange of technical information, is that right?—A. I said what I went to see Mr. Rupprecht for was

several reasons, and the main reason was the very difficult position in which I was in Europe about the proposed general agreement, and for this reason it was deemed
essential for me to know what will be the atti-
2562 tude of the Krebs Company regarding the export
in other territories outside of the United States because it was the first question that all my associates put before me before signing any agreement.

The COURT. That is, they did not want to make an agreement with you if your position was not secure on the question of American importations?

The WITNESS. Yes. So what was the main question, the single question, was the question of technical information, and we also mentioned this question, and Mr. Rupprecht—it was a very friendly conversation—and Mr. Rupprecht said that he will work out something; that the situation is very difficult because lots of other obligations are involved and he will give very, very careful consideration to this question in order to find some solution.

Q. You remember clearly that it was a friendly discussion?—A. Absolutely, because I remember, and I had opportunity to write him a letter thanking him for this very friendly——

Q. It was not a matter of sort of trading one against the other?—A. No. It was very, very, friendly.

Q. It was not a matter of negotiating a difficult agreement or anything of that sort?—A. No, not at all.

Q. It was a situation in which you had concern
2563 about the question and asked Mr. Rupprecht his attitude, was it? I think that is what you said; what would be his attitude?—A. Yes.

Q. And he told you, did he, what his attitude was?—A. And he told me what his attitude was.

Q. Now do you remember in 1931 there had been a question of what you intended to do about coming back from Japan? Did Mr. Rupprecht say something about what he intended to do?—A. In 1931?

Q. In 1933.—A. In 1933, no. He said what do I think about the technical cooperation. He said the situation was very complicated because Krebs was connected with du Pont and it was a rather complicated situation and he will find the proper way of—he will try to find the proper way of settling this question.

Q. He put you off, in other words?—A. I was not under this impression because as I was told always by Mr. Ticknor and Mr. Chase, that when the deal was done be-

tween Commercial Solvents and Krebs the whole situation about the continuation of the technical information was secure by them.

Q. And so that when Mr. Rupprecht talked with you on the subject of the technical information you took on the whole a favorable or a comfortable view of what he said, because you had in mind all the time what Mr.
2564 Ticknor and Mr. Chase had often told you before?—A. Absolutely, not only often, but at the time when after this cable informing me that Chase is coming to the views, we produce a memorandum about this conversation.

Q. Now in fact afterwards Mr. Rupprecht did not give you full technical cooperation, did he?—A. Not even full—not at all.

Q. Were you displeased by that?—A. Certainly, and you see in my letters that I was displeased.

Q. Now before you had come to America you had had in the earlier years conversations in Paris with Mr. Ticknor and Mr. Chase about agreements with the American manufacturers that they would not sell in Europe, had you not? I say before this time.—A. Before 1931?

The COURT. Before 1931 or——

Mr. WHITNEY. Before 1933.

The WITNESS. Between 1931 and 1933?

Mr. WHITNEY. No, between 1925 and 1933 when you were dealing with Ticknor and Chase in Paris off and on.

The WITNESS. Ticknor and Chase appeared up to 1931 as Commercial Pigments. Only after the amalgamation it [redacted] changed and Rupprecht appeared.

Q. Now during those years they had often discussed with you the question of the American manufacturers agreeing not to export into Europe, had they not?—
2564a A. Our contract was such a one.

Q. Your contract so provided with them?—A. Yes.

The COURT. With Commercial Pigments?

The WITNESS. Yes.

(Recess until 2:15 p.m.)

2565 AFTERNOON SESSION

JOSEPH BLUMENFELD, resumed the stand.

Cross-examination continued by Mr. WHITNEY:

Q. Dr. Blumenfeld, there is in evidence a letter of October 9, 1933 to you from Mr. Rupprecht. I hand you a copy so you can follow. It is Exhibit 286 for the Govern-

ment, page 1166 of the printed papers. I would like to run over it with you:

"Dear Mr. Blumenfeld:"—this of course was three months after the New York meeting of 1933——

"I beg to acknowledge receipt of your letter of September 18th, 1933. I regret very much that apparently some misunderstanding remains in your mind as to the relationship between Krebs Pigment & Color Corporation and Societe Terres Rares and you.

"Our position in respect to the subject matter of your letter is simply this:

"Krebs Pigment & Color Corporation purchased all of the assets of Commercial Pigments Corporation on August 1, 1931, free of any contractual obligation. Included in these assets were the patents and inventions to which Commercial Pigments Corporation was entitled under their agreement of March 24, 1927 with Societe Terres Rares and you. You will note by reference to this agree-
2566 ment that Commercial Pigments Corporation was entitled to all inventions, patentable or not, relating to titanium oxide, which you or the French company discovered or possessed. The patents and inventions received by Krebs Pigment & Color Corporation from the Commercial Pigments Corporation were in the same category as its buildings, plants and physical property.

"There is not nor has there ever been any contractual relationship between Krebs Pigment & Color Corporation and Societe Terres Rares and you."

That is true, isn't it?

The COURT. You are not asking his opinion as to the legal——

Q. Is it true that there never had been any contractual relationship between Krebs and Societe Terres Rares and you?

Mr. DIXON. If the Court please——

The COURT. Objection sustained. I am not going to let this witness decide whether a close legal question of assignment of a patent carried with it a possible burden or whether it did not carry any such burden imputed by law in the transfer of an inchoate right or a choate right like a patent.

Mr. WHITNEY. Right, your Honor. As this letter was addressed to him, may I ask him this question?

Q. When you received this letter were you in
2567 agreement with Mr. Rupprecht in what he says here, that there had been no contractual relations be-

tween his company and yours, or were you in disagreement with him?—A. My company was absolutely in disagreement.

Q. But there was no doubt in your mind as to what Mr. Rupprecht was saying, was there, in this sentence? This sentence was clear to you? The sentence that I have just read.—A. If we understood the letter; certainly we understood the letter.

Q. "Such a relationship did exist between you and Societe Terres Rares and Commercial Pigments Corporation but was not assumed by Krebs. This position, you will recall, was made clear to you by Messrs. Ticknor and Chase upon their visit to you in France in August 1931, when they stated that you would have to make a new arrangement with the Krebs Pigment & Color Corporation. Moreover, as we have previously advised you, the agreements between Commercial Pigments Corporation and your company were not assignable."

And then down at the end, I skip the next two paragraphs, I don't think we need go over them:

"Therefore, since all our rights in patents and inventions were obtained from Commercial Pigments Corporation as part of the assets of that corporation, we
2568 cannot recognize any obligation arising from contracts existing between Commercial Pigments Corporation and Societe Terres Rares and you."

That also is clear?—A. Very.

Q. And also was in disagreement with your position, was it not?—A. It was in complete disagreement with my company, yes, sir.

Q. "Assuring you again of my sincere regard and with cordial good wishes, I am

"Sincerely,

"C. H. RUPPRECHT,
"President."

A. Yes.

Mr. WHITNEY. That is all.

The COURT. Any redirect.

Mr. WEBSTER. Your Honor, there are one or two things I want to ask in the nature of further cross, just two or three questions, before Mr. Dixon resumes.

The COURT. Very well.

Cross-examination continued by Mr. WEBSTER:

Q. Just one minor factual situation I would like to clear up. I think I failed this morning to ask you about the

licenses granted to Laporte, that is the National Titanium Pigment Company. You did grant licenses under your patents to Laporte, did you not?—A. Yes, sir.

Q. For what territory?—A. If I am not wrong,
2569 for the British Empire, excluding Canada.

Q. In consideration of that you obtained stock in the Laporte Company, did you not?—A. Yes, sir.

The COURT. You or Terres Rares?

The WITNESS. Terres Rares. When you speak about "you" it was always my company.

Q. You also obtained the right to appoint directors to the—— A. To the board of this company.

Q. Nominate directors for the board of Laporte?—A. Yes. Not Laporte, but with the Titanium Company. It was—what was the company. National Titanium Pigments.

Q. National Titanium Pigments Company, Ltd.—A. Yes.

Q. Did you exercise that?—A. No.

Q. Did you in fact take or have any voice in the affairs of the National Titanium Pigments Company?—A. From a technical point of view, certainly we advised them, but from a general conduct of the business, not at all.

Q. That is, you took no part whatever in the management of the company?—A. No.

Q. You had no part in the arrangements that were made between the National Titanium Pigments Company and the British Titan Products Company?—A. No.

Q. Or the Canadian Titan Products Company?—A. No.

Q. All of the arrangements or decisions that they made were made independently of you?—A. Absolutely.

Q. And without consultation with You?—A. Absolutely.

2570 Q. Now in Exhibit 534 which was shown to you this morning, which is a copy of a letter from Mr. M. F. Chase to Mr. Beschorman dated July 20, 1933——A. With the short memorandum?

Q. With a short memorandum attached.—A. Yes.

Q. ——Mr. Chase says on July 20, 1933:

"Before Mr. Blumenfeld left, he was so pressed for time that he did not have an opportunity to prepare the memorandum that was spoken of when we were in your office, but he jotted down the points in longhand and gave them to me. I have had them copied and am enclosing two copies for you."

That is the memorandum which you say you gave to Mr. Chase in French, is it not?—A. Yes.

Q. And that he translated and attached to the letter that was shown to you this morning?—A. Yes.

Q. Now that memorandum is headed "Memorandum Respecting Commercial Arrangements Between Blumenfeld Group and IG Group." You were referring there only to the Blumenfeld group in Europe, were you not?—A. Yes.

Q. And the IG group in Europe?—A. Yes. Covering also territories outside of Europe.

Q. What?—A. Covering also territories outside Europe but excluding the United States.

Q. But excluding the United States?—A. Yes.

2571 Q. In other words, you were referring to the countries in which the so-called European Blumenfeld group and the IG group operated at that time?—A. Yes.

Q. Now, for example, in item No. 10: "Delivery of products to meet quotas must be on a mutual basis." The quotas referred to there are exclusively quotas outside the United States?—A. May I ask you to show me that, please?

Q. There is a reference to this item No. 10 in the third paragraph of the letter.—A. Yes. "Item No. 10 is not very clear to me, but I think what is meant is, in case"——

Q. In this letter in the third paragraph it says: "Item No. 10 is not very clear to me, but I think what is meant is, in case either party to the agreement obtains material from the other party in order to fill its quota, the price that is charged for such material shall be on a same basis. I presume it is contemplated that the material for Dr. Blumenfeld's quota in Belgium and Holland may be furnished in part by the IG and part of the IG's quota in France may be filled with material furnished by Thann."

A. Yes.

Q. All of that refers, does it not, to this item 10 which says: "Delivery of products to meet quotas must be on a mutual basis," and that all refers to the operations of the companies outside the United States?—A. Yes.

Q. Now you knew, did you not, at that time that 2572 the National Lead Company and the Titan Company, Inc. had licensed a number of companies outside the United States to use the patents, the Norwegian and the American patents?—A. Yes.

Q. And you therefore could not conceive of the National Lead Company engaging in export trade, could you?—A.

Certainly not, because in all our conversations with Mr. Jebsen Mr. Jebsen said repeatedly that he represents Titan, Inc. and what are rights on the territories outside of the United States belongs to the Titan, Inc.

Q. And you knew, did you not, at the time this letter was written and at the time these conferences were held that the patent situation was such that the National Lead Company could not engage in export trade?

Mr. DIXON. I object to that question, your Honor.

The COURT. Sustained.

Mr. WEBSTER. That is all.

The COURT. I will look at Exhibit 534 if you don't mind, Mr. Webster.

By the COURT:

Q. Now, Dr. Blumenfeld, when you prepared the notes from which Mr. Chase prepared the memorandum which is attached to this exhibit, you had already had your conversation with Mr. Rupprecht?—A. And Mr. Beschorman.

Q. And Mr. Beschorman?—A. Yes, sir, your Honor.

2573 Q. And the foundation therefore of your memorandum was that you understood that the American producers would not export to any of the markets outside the United States?—A. Yes.

Q. Now, is that what you meant by 6 or is there something else that you would say on item 6?—A. Only this——

Mr. WHITNEY. May I respectfully say to your Honor that if your Honor asks whether the foundation in his mind was something, isn't the witness bound to answer yes?

The COURT. Objection sustained, and I will withdraw the question.

Mr. WHITNEY. No. I would like to take an exception to the question, your Honor, with great respect.

The COURT. Yes. I sustained your objection to it, and I will order the answer stricken out because I think it was an improper question.

Mr. WHITNEY. Thank you.

2574 Q. Now you have already testified as to what you think item 6 meant, and I think you testified to that without objection.

The COURT. Am I correct about that?

Mr. WHITNEY. That is right, your Honor.

Q. Would you tell us again, Dr. Blumenfeld, what you meant by item 6?—A. That European producers will not import into United States territory and vice versa, what

the United States producers will not import into the territory reserved to the European interests.

The COURT. Very well. Any redirect? If I have not said it before, let me state it now, that it is always my practice to remind counsel that on questions put to a witness by the Court an objection may be taken thereto; if on reflection I find your objection well taken I will sustain the objection. I do not mean that to be pro forma. I merely intend to do that because in framing a question one does not always see the possible objection that may occur to counsel.

Redirect examination by Mr. DIXON:

Q. Mr. Webster asked you, Dr. Blumenfeld, in referring to that memorandum, Exhibit 534, as to whether that applied only to the territories in which the companies were then operating, as I recall his question. Did it
2575 also cover the territories outside of the particular places where they were then manufacturing the products?—A. Yes.

Q. In other words, referring to Chart No. 2, Plaintiff's Exhibit 1202 for identification, did it cover the territories allocated to these various companies as shown on Chart No. 2?—A. Yes.

Q. Now Mr. Webster also indicated that these agreements as shown in Chart No. 3 of Aussig and Contract a Quatre and Livraisons Agreements, were with the approval of the Governments of some of the European countries?

The COURT. I don't remember any such question. Objection sustained.

Q. So that the record may be complete as to your correspondence with Mr. Rupprecht on the matter concerning which Mr. Whitney examined you, I will hand you what——

The COURT. Do you really think anything has to be done here to make the record complete?

Mr. DIXON. I just wanted it pro forma, your Honor.

The COURT. Are they in evidence?

Mr. DIXON. They are not in evidence.

The COURT. Oh, you want to offer some letters in evidence.

Mr. DIXON. Yes, sir.

The COURT. Just go right ahead and offer them.
2576 You don't need anybody's consent.

Mr. WHITNEY. Except the continuing objection.

(Plaintiff's Exhibit 1205 marked for identification.)

Mr. WEBSTER. I don't believe I have ever seen these letters.

The COURT. He will show them to you right away. That is what this is for.

(Plaintiff's Exhibit 1206 marked for identification.)

The COURT. Are they in a foreign language?

Mr. DIXON. The first one is, your Honor; it is in French. Exhibit 1206 is a copy of Dr. Blumenfeld's reply or, rather, Mr. Rupprecht's reply to Exhibit 1205 sent to him by Dr. Blumenfeld. We would ask that unless it is agreed to by defendant du Pont that the originals or copies be produced from their files if they are available.

The COURT. What do you want the original for? He is not objecting to a copy.

Mr. DIXON. That is certainly all right.

The COURT. I don't understand that any objection is raised on the ground that this is not the original.

Mr. WHITNEY. I don't raise that objection.

The COURT. But I suggest that you stipulate to substitute a translation for the original.

Mr. DIXON. The reason for this, your Honor,
2577 is that this was not in our file and I did not at this time know until I asked counsel for du Pont whether or not it was in their file.

Mr. WHITNEY. It was in Dr. Blumenfeld's file.

The COURT. Is it stipulated that the Government may substitute an English translation consented to by both counsel in lieu of 1205? Is it so stipulated?

Mr. DIXON. Subject to the stipulation we will offer them in evidence, your Honor.

Mr. WEBSTER. With the understanding that these are copies from the du Pont files, we make no objection on the ground of authenticity, and simply take the objection we made before, that it is a transaction not connected with National Lead Company.

(Plaintiff's Exhibits 1205 and 1206 for identification received in evidence.)

Mr. DIXON. That is all, Doctor.

Recross examination by Mr. WHITNEY:

Q. Have you got in front of you this Exhibit 534 to which you have been referred?—A. Which one? The letter from Mr. Rupprecht?

Q. The letter from Mr. Chase to Mr. Beschorman with a memorandum attached.—A. Yes.

Q. Under what circumstances did you write that? Was it before you met with Beschorman?—A. No, after.
2578 After the conversation with Mr. Beschorman.

Q. Did you write notes about it while you were

with Mr. Beschorman? Did you write notes about that subject while you were with Mr. Beschorman?

The COURT. Do you understand the question?

The WITNESS. Yes, yes. During the conference I took notes. I don't remember if I took notes before or just after.

Q. Is this an exact copy of your notes?—A. It is not a copy; it is a translation.

Q. But is it a translation of the notes that you took with Mr. Beschorman?—A. Yes. I suppose because I never corrected it and I never sent——

Q. In other words, it was notes made during a meeting with——

The COURT. The witness did not say so. If you want to press him as to whether that is what they are, I will let you do that.

Q. Is it or is it not the fact that they were notes written by you during the conversation with Mr. Beschorman?—A. I answered, Mr. Whitney——

Q. Never mind. I am asking you now. Take one at a time.—A. Yes.

Q. His Honor corrected me on my question. I am now asking you, and that is all you need answer, is it or is
2579 it not a fact that this memorandum is a translation of the notes which you wrote out in longhand or otherwise while you were sitting with Mr. Beschorman in the meeting?—A. I answered you that I have no recollection of making notes during this meeting.

Q. And do you now think that you made the notes after the meeting?—A. Yes. I am rather inclined to think that it was after.

Q. Will you look at the first paragraph of Mr. Chase's letter to Mr. Beschorman.—A. Yes.

Q. "Before Dr. Blumenfeld left he was so pressed for time that he did not have an opportunity to prepare the memorandum that was spoken of when we were in your office, but he jotted down the points in longhand and gave them to me. I have had them copied and am enclosing two copies for you." So these were written after the meeting, as you now recollect?—A. Yes.

Q. After the Beschorman meeting?—A. After the Beschorman meeting.

Q. Now did you send a copy to Mr. Rupprecht?—A. No.

Q. Did you invite Mr. Rupprecht to the Beschorman meeting?—A. I had not to invite Mr. Rupprecht to any meeting.

Q. Is the answer no?—A. No.

2580 Q. Now referring to the memorandum, on the question of point 6—A. Yes.

Q. Point 1 deals with division of tonnage. In that division between the two groups, Blumenfeld group and the I.G. group?—A. This point means what the tonnage sell in form either of pure titanium or in the form of mixed pigment will be, always calculated on the basis of pure titanium content.

Q. What does the word "Division" mean? The first word.—A. I was not expert in the English language and it is not my translation. I presume that Mr. Chase was competent enough to choose the proper word.

Q. Just read the title: "Memorandum Respecting Commercial Arrangements Between Blumenfeld Group and I. G. Group."—A. Yes.

Q. Now that is the subject of the memorandum.—A. Yes.

Q. Now the first word in the entire memorandum is: "Division," and the next words are "of Tonnage to be based on"—is it that division between the Blumenfeld group and the I.G. group?—A. Certainly.

Q. Paragraph 2: "Aussig Territory to be coextensive with I. G. and arrangements made by Aussig and I. G. to govern." Aussig was a Blumenfeld com-

2580a pany, wasn't it?—A. Yes.

The COURT. It operated under your patents?

The WITNESS. It operated under my patents.

The COURT. That is what he means.

Q. And I.G. was a Titan company?—A. Yes.

2581 Q. That represents an agreement as between Aussig and IG as to territory, does it not?—A. Yes.

Q. "3. British Empire free to both parties." "Both parties" means Blumenfeld and Jebsen?—A. Yes.

Q. "4. Italy reserved for Montecatini."—A. Yes.

Q. That means reserved for the two groups, doesn't it?—A. Yes.

Q. "5. Scandanavian countries including Finland reserved for Titan Co." That means reserved by the two groups, doesn't it?—A. Yes.

Q. Yes. "6 U.S.A. out."—A. Yes.

Q. That means the two groups exclude the U.S.A. from the consideration of this agreement?—A. This means just that both groups are in agreement not to import into United States.

Q. Where do you get that from? Do you remember that somebody said—— A. Absolutely, because it was.

Q. Just a moment.

Mr. DIXON. Let the witness finish.

Mr. WHITNEY. No. He would not let me speak to him during the lunch hour.

Q. Your memorandum is entitled "Memorandum Respecting Commercial Arrangements Between Blumenfeld Group and I.G. Group"; isn't that the subject matter? Isn't it?—A. What I can only tell you is the memorandum was not written by me.

2582 Q. You say you are not the author of this memorandum?—A. No, no, the title. I just gave my points of making a resume of our conversation in the office of Mr. Beschorman.

The COURT. And when you got this memorandum, or a copy of it, from Mr. Ticknor, you read it over and you found it corresponded with your recollection?

The WITNESS. Yes.

The COURT. At that time you of course read the title as well?

The WITNESS. Yes. I have no, even now, objection against the title.

Q. Did you tell him that the title was in error?—A. No.

Q. Now we are dealing with a memorandum on the subject of the commercial arrangements between two groups, aren't we?—A. Yes.

Q. And the first five articles deal with a division between the two groups, don't they?—A. Yes.

Q. Turning to 7: "France, Belgrum, and Holland to be grouped and quotas to be discussed." That is to be discussed between the two groups, isn't it?—A. Yes.

Q. "8. Remaining countries one-third to Blumenfeld, and two-thirds Jebsen."—A. Yes, sir.

Q. That is a division between the two groups, isn't it?—A. Yes.

2583 Q. "9. No new factories to be built until present existing plant capacities have been absorbed." That is in Europe?—A. It is about European properties, yes.

Q. "Present capacities have been absorbed. Present capacities to be stated."

"10. Delivery of product to meet quotas must be on a mutual basis"?—A. Yes.

Q. That is mutual as between the two groups?—A. Yes.

Q. "11. Excess tonnage of Montecatini over and above

Italian requirements to be handled in the same proportions as is agreed upon for Item No. 7"?—A. Yes.

Q. Now every single paragraph of that exhibit, except paragraph 6, is specifically dealing with the subject given in the title?—A. Yes.

Q. And the only thing that 6 says is that "U.S.A. out"? A. Yes.

Q. It does not say another solitary word, does it?—A. No.

Q. I want you to tell me precisely why this means the U. S. manufacturers agree that they will not export to Europe.—A. Because it was the preliminary and necessary condition for European producers not to sign any contract if such important factor in production as American producers would be free to import in their territories.

Q. Therefore the reason that you say that the
2584 one word "out" means these words "Manufacturers have agreed that they will not export," is because when you came to America it was your personal opinion that the European people would not agree unless that were so?—A. It was not my personal opinion. It was a very real opinion of all other European producers.

Q. Precisely. And all the European producers believed that it would be embarrassing to them to make agreements between the two groups unless they had obtained the agreement by the American manufacturers not to import. Was that the opinion of all the European producers?—A. Yes.

Q. Now what representative of I.G. told you that was his opinion?—A. I never dealt directly, because all dealings with I.G. were effected by Aussig.

Q. But you are telling us the opinion of all European producers without, for example, having spoken to any I.G. man.—A. I knew the opinion of I.G. through a representative of Aussig.

Q. And that is the source of your knowledge of it?—A. Yes.

Q. Now then you came to America with that in mind?—A. Yes.

Q. And you wrote a memorandum before you went back
to Europe and the only thing in the entire memo-
2585 randum that dealt with that subject was the word "U.S.A. out."; is that true?—A. Yes.

Q. And you left it at that?—A. Yes.

Q. And you never did anything more about it?

Q. And you did not send the memorandum to the

Pont Company, did you?—A. Mr. Chase was a director of the Krebs Company.

Q. Did you ask him to send it to Mr. Rupprecht?—A. It is not for me to ask the director of the company.

Q. But wasn't this what you were interested in?—A. Mr. Chase certainly informed by himself.

Q. Mr. Chase certainly informed Mr. Rupprecht? Do you say that?—A. I say it was not for me to watch that such and such document should be forwarded to the Krebs Company when I was in discussions with one of the directors of this company.

Q. But you say you came to America in order to accomplish that?—A. But I have conversations with Mr. Rupprecht, and Mr. Rupprecht gave me all necessary appeasement.

Q. He gave you all necessary appeasement?—A. Yes, sir.

The COURT. He put your mind at rest? That is what you mean?

The WITNESS. Yes.

2586 Q. Did he put your mind at rest on the subject of working out a system for working out technical cooperation? Did he put your mind at rest on that?—A. Will you pardon me. At the beginning of your question I said——

Q. Now wait. This is a question: Did Mr. Rupprecht put your mind at rest on the subject of working out a system of technical cooperation?—A. Also, yes.

Q. And when you got back to Europe did Mr. Rupprecht write you and tell you he was in complete disagreement with you on that subject?—A. Yes.

Q. And did you ever write one word to Mr. Rupprecht from then to this day on the subject of territorial quotas?—A. No. I wrote to Mr. Chase explaining the whole situation.

Q. What letter is that?—A. What letter is what?

Q. You volunteered here. I did not ask you, but you volunteered you wrote to Mr. Chase explaining the whole situation?—A. Yes.

Q. What letter do you refer to?—A. I have this letter and I will ask Mr. Dixon——

Mr. WHITNEY. Let us have it.

Q. You have given all your files to the Government, have you?—A. (No answer.)

Mr. WHITNEY. Wouldn't you like him to look at his own letters?

Mr. DIXON. Which one do you want?

Mr. WHITNEY. It is the one to which he just
2587 referred.

The WITNESS. You have it.

Q. When I asked you whether you had given all your files to the Government you nodded your head. Do you agree you have given all your files to the Government?

The COURT. Have you turned over all your files to the Government?

The WITNESS. No, it is not complete.

The COURT. You gave them some things?

The WITNESS. Yes.

By Mr. WHITNEY:

Q. They read them, and you gave them what they wanted, is that right? They read them and you gave them what they wanted? Is that right?—A. I don't know. It was done in France, not here, and I was here.

Mr. WHITNEY. What he said, Mr. Dixon, was that he had written a letter to Mr. Chase which explained the whole situation.

Mr. GESELL. Why don't you let him pick it out? He can find it in the file.

The COURT. While we are looking for the letter, Mr. Webster, will you conclude with your cross examination if you have anything further. I would be brief. All you gentlemen have had two chances now.

2588 Re-cross-examination by Mr. WEBSTER:

Q. Dr. Blumenfeld, will you look at the memorandum attached to that letter again?—A. Yes.

Q. Now the subject of the memorandum attached to the exhibit, 534, had been the subject also of the conference in Paris in 1931, had it not?—A. Yes.

Q. And if had also been the subject of many discussions in Europe between 1931 and 1933?—A. Yes.

Q. And indeed the items on that memorandum attached to that exhibit are the items which were in fact covered in the Contract of Four, Contract of Six and the contract of deliveries and the Aussig contract?—A. Yes.

Q. And what you were really doing when you talked to Mr. Beschorman, and then subsequently made this memorandum in French, which Mr. Chase delivered to Mr. Beschorman, was to summarize the matters which had been agreed upon—— A. Absolutely.

Q. ——for inclusion in the Contract of Four, the Con-

tract of Six, the contract of deliveries and the Aussig agreement?—A. Yes.

Q. Is that not true?—A. Yes.

Q. That is true?—A. That is true.

Mr. WEBSTER. No more questions.

Mr. WHITNEY. I could save time by asking Mr. Dixon on the record if he will give me the access to the
2589 Blumenfeld files and waive the necessity of a notice to produce.

Mr. DIXON. These are Government files, your Honor.

Mr. WHITNEY. We will give you a notice to produce.

Mr. DIXON. What was the letter you wanted principally. This is a list, I might say for the record, of those produced by the Government officials from Paris after the reentry of the American forces into that territory and is a partial summary of what files we found, and the summary is available to the Court.

Mr. WHITNEY. We will give you a notice to produce.

The COURT. Nothing is available to the Court until it is available to counsel.

Mr. WHITNEY. We are only trying to get at the truth here.

The COURT. Certain courts have made a decision on that question within the last two years.

Mr. WHITNEY. Yes. They have even granted a bill of discovery in advance of trial.

Of course if the Government comes forward and says a given document must be kept secret for the sake of secrecy, that is a different matter.

The COURT. No such suggestion has been made yet.

Mr. DIXON. Not at all, your Honor.

2590 The COURT. I will pass on that question when, as and if we get there.

Mr. DIXON. You can see the summary of the documents, Mr. Whitney, if you will come here and look at it. He referred to a letter which we do not find, or at least which was not in the file.

Mr. WHITNEY. Would the stenographer read my last question to Mr. Blumenfeld?

The COURT. I remember it. He does not have to read it.

Mr. WHITNEY. He said he wrote a letter to Mr. Chase covering the whole matter.

Mr. DIXON. But I said we do not think we have had it and I submitted a list of documents which proved we do not have it.

By Mr. WHITNEY:

Q. Dr. Blumenfeld, do you have reference to a letter of November 10, 1933, in which you set out two conflicting opinions of Mr. Rupprecht and Dr. Blumenfeld on the obligations and rights resulting for Krebs and for the Terres Rares on the exchange of information, underlining the fact that the position taken by Mr. Rupprecht in connection with the conference of August 18, 1931, as to which, "See the memorandum of that conference," and his present position are clearly contradictory? Is that the
2591 letter to which you have reference?—A. Yes.

Q. And that is the letter that covers the whole subject matter, is it?—A. I beg your pardon?

Q. And that is the letter in which you set forth to Mr. Chase the whole subject matter, is it?—A. Yes.

Mr. DIXON. Of what, your Honor?

The COURT. You are excused.

Mr. DIXON. I did not want any misunderstanding.

The COURT. There is not going to be any misunderstanding. We have only one juror here.

Mr. WHITNEY. Of course I accept any writing, but I find not one solitary word here of what the case is about. It always comes down to that other subject whenever you get a writing of any kind from him as well as others.

(Witness excused.)

The COURT. Are you calling another witness or are we going to resume the exhibits?

Mr. DIXON. I will call Mr. Corddry, your Honor, of National Lead Company.

2592 GRAHAM W. CORDDRY, called as a witness on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct examination by Mr. DIXON:

Q. Will you state your address, Mr. Corddry?—A. 217 North Mountain Avenue, Montclair, New Jersey.

Q. And what is your position?—A. General sales manager of the Titanium Pigment Corporation.

Q. Of the National Lead Company?—A. Of the National Lead Company.

Q. And you are appearing pursuing to a subpoena to produce the records of the National Lead Company or any of its subsidiaries engaged in the titanium pigment business in the United States with reference to the exports, if any, of the National Lead Company, or any of its United

States subsidiaries engaged in the manufacture of titanium pigments in the United States?—A. Yes.

Q. Do you have such records with you?

Mr. WEBSTER. Just a minor correction. These records were produced pursuant to item No. 24 on the subpoena duces tecum, and Mr. Corddry has appeared here at Mr. Dixon's request without a subpoena.

Mr. DIXON. That is right.

The COURT. The record will stand corrected to that extent.

2593 Q. Will you examine the records, Mr. Corddry, and state, if you will, whether they show any exports by the National Lead or the Titanium Pigment Company, or any other National Lead subsidiary operating in the United States and engaged in the titanium pigment business, to any country outside of North and South America from the years 1928 up to the present time?—A. Yes, they do.

Q. Will you state to the Court to what countries those exports were made and what your records show was the consignee of those exports?

The COURT. 1928 to date?

Mr. DIXON. Right.

A. This is quite a long drawn out job.

Q. Maybe I can simplify it this way: do your records show generally any exports from the United States prior to the outbreak of the war in 1939, made at the request of anyone other than Titan, Inc.?

The COURT. I do not understand the question. You have two conditions, and I don't know whether they are mutually exclusive or are to be read in the conjunctive, or whether it is you want to know whether there were exports prior to the fall of 1939, or whether there were exports prior to 1939, other than exports initiated by one of the Titan companies?

Mr. DIXON. The latter, your Honor.

2594 The COURT. Suppose we get the former first.

By the COURT:

Q. Have you any exports between 1928 and 1939? Let us get that.—A. We show exports in 1935 to Frederickstadt, Norway, and in 1936 the same country; in 1938 we show exports to Holland.

Q. Nothing in 1937?—A. And in 1937 also to Norway, and in 1938 to Holland and Belgium.

By Mr. DIXON:

Q. And 1939, prior to say September 1, 1939.—A. In

1939 we show a shipment in February of 1939 to Rotterdam; one in February to Belgium, and another shipment in May to Rotterdam; in June to Rotterdam; and the shipments after that date are September forward. They were made for the account of Titan Co. A/S.

The COURT. Now you want to put your question as to the second part. Will you go back to 1935. Is that the first export you have reflected after 1928? Is that correct?

The WITNESS. That is correct as regards shipments for the account of Titan Co. A/S.

The COURT. Anybody's account.

The WITNESS. Then I would have to examine all of these original records.

Mr. WEBSTER. Just take your time.

2595 The WITNESS. This is outside of the Western Hemisphere?

Mr. DIXON. That is right.

Mr. WEBSTER. I think perhaps it ought to appear that the witness is reading from Plaintiff's Exhibit 37 for identification which was produced during one of the early days of the trial.

The WITNESS. The record shows shipments to England in 1934, 1935, 1936 and 1937. This is prior to 1939?

Mr. DIXON. That is right.

The WITNESS. And that is all.

By the COURT:

Q. Let me see if I understand you correctly: the shipments in 1935 to Norway were for the account of Titan Company—which one?—A. Titan A/S.

Q. And 1936 and 1937 the same thing?—A. Yes.

Q. And the shipment in 1938 to Holland?—A. Yes.

Q. For Titan A/S?—A. Titan Co. A/S.

Q. How about the Belgium shipment?—A. For the account of Titan Co. A/S.

Q. And in 1939 for Holland?—A. For the account of Titan Co. A/S.

Q. And the 1939 shipments to Belgium?—A. That is still the same company.

2596 Q. And the English shipments of 1934, for what account were they?—A. British Titan Products.

Q. BTP?—A. BTP.

Q. Does that apply to 1935, 1936 and 1937?—A. Yes.

Q. And for the account of BTP?—A. Yes, sir.

The COURT. All right.

By Mr. DIXON:

Q. That includes all of your records of exports during that period of time, namely, from 1928 up to September of 1939?—A. Right.

Q. Now will you state to the Court what your records show with reference to shipments outside of the Western Hemisphere after September, 1939, with particular reference as to whether they were for the account of any of the Titan associated companies, namely TG, BTP or Titan Co., Inc.

The COURT. After the outbreak of the war to date?

Mr. DIXON. That is right.

Mr. WEBSTER. Is September 1939 the deadline on this; the dividing line?

The COURT. I suppose so, because the war broke out about the first day or two of September.

Mr. WEBSTER. If there is anything after September, 1939, is what they are asking for; shipments outside of the United States, outside of the Western Hemis-
2597 phere, in or after September 1939.

The WITNESS. Right. Shipments were made in September and October to Frederikstad and Gottenberg and to Potsdam.

Q. Have you any records showing for whose account they were shipped?—A. They were shipped for Titan Co. A/S.

Mr. WEBSTER. I did not suppose you could get a freight boat into Potsdam. I have been down on the Harvel on a river boat.

The COURT. The point of consignment may not necessarily be a harbor.

Mr. WEBSTER. These are all, I think, consigned to harbors on his cards.

Q. Will you continue, Mr. Corddry.—A. In 1940 shipments were made for the account of Titan Co. A/S to Batavia. I cannot read these ports or the points of shipment on these shipments. It is written in ink and I cannot decipher them.

Mr. WEBSTER. They appear to be ports in the Dutch East Indies, but I agree with the witness. I cannot pronounce the words even if I can't read them.

The COURT. Were they for the Dutch East Indies?

The WITNESS. I do not know.

Q. In any event, will you state to the Court for whose

account the shipments were made?—A. Titan A/S.
2598 In 1941 shipments were made for the account of Titan A/S and we have Borneo, Sumatra and Batavia; that is two or three shipments for Batavia.

Q. But all the exports shown by your records during that year, for 1941, were outside of the Western Hemisphere and were for the account of Titan A/S?

Mr. WEBSTER. Oh, no, he has a lot more cards there.

The COURT. How about 1942?

The WITNESS. Shipments were made in 1942 and in 1943 for the account of Titan Co. A/S. Again there is a shipment for Batavia. There are two shipments for Iceland.

The COURT. In 1942 to Batavia?

The WITNESS. Yes, your Honor. In 1941 there is a shipment for Batavia. It says Batavia and also says Reykjavik, Iceland. No shipments in 1944.

The COURT. 1945?

The WITNESS. No shipments in 1945.

The COURT. Now other than Titan A/S.

The WITNESS. We show shipments for the account of BTP in 1940, 1941, 1942, 1943 and 1944.

The COURT. Any others?

The WITNESS. We show shipments in 1939 and 1940 to the British Celanese Corporation made for the ac-
2599 count of BTP. We show a shipment in 1944 for the account of the New Zealand Supply Mission; ordered by the New Zealand Supply Mission.

The COURT. For whose account?

The WITNESS. I think that was made for our own account. That is mandatory by priority order, the priority being issued by the War Production Board.

Mr. WEBSTER. Two or three of these others you refer to also were mandatory shipments, were they not?

The WITNESS. These show another shipment in 1944 to the United States Steel Export Company, East London, and my recollection is that it was a mandatory shipment.

There is a shipment in 1943 sold to Marine Export Corporation for Lisbon and Spain.

The COURT. For your own account?

The WITNESS. Our records do not show whether it is for our own account or some other account.

The COURT. Who served Portugal and Spain, I.G.?

The WITNESS. I do not know.

Mr. DIXON. It would have been IG's territory. That

concludes your records of all the exports made during the period in question, Mr. Corddry?

The WITNESS. Yes, they do.

Mr. DIXON. That is all.

2600 Cross-examination by Mr. WEBSTER:

Mr. Corddry, there is no mystery about these shipments, is there?—A. No mystery.

Q. You endeavored after September, 1939, to make shipments so far as your capacity would permit to people that made that request for BTP?—A. Yes.

Mr. WEBSTER. That is all.

The COURT. Mr. Whitney, are there any questions?

Mr. WHITNEY. No, your Honor.

2601 CHARLES F. KAEGEBEHN, resumed the stand.

Mr. DIXON. I have a few questions with this witness. I don't know whether your Honor wants to start before recess or not.

The COURT. We will take a short recess.

(Short recess.)

Direct examination by Mr. DIXON:

Q. Mr. Kaegebehn, I will hand you what has been previously marked for identification as Plaintiff's Exhibit 5 and ask you if those two charts were prepared by you?—A. The originals were.

Q. Of which these are photostats?—A. Yes.

Q. Do those charts correctly represent the stock ownership or interest of the National Lead Company and associated companies in the various companies named on the chart, together with the various agreements shown on said chart as of June 1, 1942?

Mr. WEBSTER. Your Honor, I have an objection to that. In the first place the ownership is covered in the answer to the complaint; the nature and extent of the ownership is averred or admitted in our answer to the Government's complaint.

The COURT. Does it correspond to the chart? Or is there a difference between them?

Mr. WEBSTER. And also the agreements, the
2602 material agreements, are likewise admitted in the answer. Now, I have not looked at this chart recently, but I think there are some additions. It seems to me that our answer may be taken as a correct statement of the facts shown on the chart.

The COURT. Of course, I can't ask the plaintiff to accept the defendants' answer with respect to a statement of fact unless the plaintiff chooses to treat it as an admission. Here apparently he does not choose so to treat it, but is proceeding to prove in his own way.

Mr. DIXON. The question is also directed to the date of the chart June 1, 1942.

Mr. WEBSTER. These are admissions——

The COURT. Yes, they are admissions, but the plaintiff is not bound by the admissions of the defendant.

Mr. WEBSTER. I suppose he could have Mr. Kaegebehn disavow the admissions or testify that there were errors in the answer, but the only reason for my objection is that I think it tends to confuse us rather than to assist us to have in evidence a chart which will be referred to hereafter as if it were the Bible on this subject, whereas the material that went into the answer represented a somewhat more thoughtful attempt to state the facts.

The COURT. Well, Mr. Dixon, do you want to take the facts as they are set forth in the answer?

2603 Mr. DIXON. It was my thought, your Honor, that this chart prepared by Mr. Kaegebehn completely covers the material which would take considerable reading to get from parts of the answer. There is a difference in some respects in the answer from the material shown on the chart, and my question to Mr. Kaegebehn is whether that correctly represents the subject shown on the chart and at the date it was made.

The COURT. That is June 1, 1942?

Mr. DIXON. June 1, 1942.

The COURT. Well, your offer apparently is not well received, and that is all it can be—an offer on your part merely that this is an admissible statement, and I must have to receive it, even if it creates confusion.

Mr. WEBSTER. Well, I have two or three questions about it that I will ask.

The COURT. Is it a correct statement?

The WITNESS. Substantially correct in the major aspects as I understand it, as of that date.

The COURT. All right. Are you offering it in evidence?

Mr. DIXON. We offer it in evidence.

The COURT. Plaintiff's Exhibit 5 is received in evidence.

(Plaintiff's Exhibit 5 for identification received 2604 in evidence.)

Q. Now directing your attention, Mr. Kaegebehn, to 1934 and 1935, you were at that time, as I recall it, in

the patent department or division of the National Lead Company? A. No, sir.

Q. What was your position at that time, if you will refresh my recollection?

The COURT. 1934.

A. Secretary to the patent committee of the Titanium Pigment Company.

Q. Were you connected or associated with the negotiations in any way of the Zirconium contract by National Lead and the American Zirconium Corporation at that time?—A. Yes, and particularly more closely as it pertained to the patent aspects.

Q. That was in connection with Mr. Beschorman, the negotiation of that contract with American Zirconium Corporation?—A. Yes.

Q. Do you know whether Mr. Beschorman consulted with any other officers or employees of the du Pont Company at any time prior to the issuance of the license by National Lead to American Zirconium Corporation?

Mr. WHITNEY. That is objected to because the answer would be immaterial; if he did know it it still would not be admissible.

2605 The COURT. You will have to read the question.

(Question read.)

Q. (Continued) Or of the Krebs Pigment & Color Corporation.

Mr. WEBSTER. I think it is still objectionable.

The COURT. On what ground?

Mr. WEBSTER. Because the fact that he consulted with him would not have anything to do with this question.

The COURT. That is true, but I will allow the question for whatever it is worth.

Do you know whether Mr. Beschorman consulted or communicated with the officers of Krebs—is that the question?

Mr. DIXON. Krebs Pigment & Color Corporation; yes.

The COURT. (Continuing) —at or about the time that the Zirconium contract was under negotiation?

That would not permit me to infer, I will tell you now, that they discussed it with respect to the Zirconium, unless he knows.

What is the answer to the first question?

The WITNESS. No, sir.

The COURT. You don't know?

The WITNESS. No, sir.

The COURT. That clears it up.

2606 Q. Now do you recall, Mr. Kaegebehn, having any —or having stated at any time that you believed that Mr. Beschorman did consult with any officials of the du Pont Company or Krebs Company while these negotiations were pending?

Mr. WHITNEY. That is certainly objected to, your Honor. He is cross-examining his witness as to a subject——

The COURT. He may refresh his recollection.

Mr. WHITNEY. (Continuing) —which if testified would be pure hearsay.

The COURT. No. I will allow it.

The WITNESS. May I have the question?

(Question read.)

A. No, sir.

Q. Do you recall this question having been put to you, Mr. Kaegebehn, before the grand jury, as follows:

"Q."——

The COURT. Now there you will have to pause. So far he has been your witness and so far I have not been given any basis for the inference that he is anything but a willing and not hostile witness. If you want to claim and treat him as a hostile witness and impeach him, why, you will have to tell me on what you base it.

Mr. DIXON. Your Honor, this witness of course was called as an officer of Titan Company, Inc. under
2607 the rules, and we do not for that reason regard him as a Government witness in the ordinary sense.

The COURT. In other words, you think he ought to be treated to some extent at least as a hostile witness?

Mr. DIXON. Correct, your Honor.

The COURT. All right. Is there objection to the question?

Mr. WEBSTER. Well, I object to the question and I suggest that the witness first be given an opportunity to refresh his recollection.

The COURT. I was going to suggest that.

Mr. WEBSTER. That is, by being shown what may appear to be the testimony given before a grand jury.

The COURT. He does not have to be shown, but I would suggest that you frame for the present your question in the form—this is a suggestion; you don't have to take it—of whether or not the question and answer you are about to read him, which you suggest was given to the grand jury was so given, and, if so, whether it refreshes his recollection. That would not constitute impeachment.

Mr. Dixon. Thank you, your Honor.

Q. Do you recall, Mr. Kaegebein, whether the following question was asked and this answer given by you in testifying before the grand jury:

"Q. Do you know whether Mr. Beschorman con-
2608 sulted with any other official of the du Pont Company at any time prior to the issuance of a license by National Lead or du Pont Company?" and that you answered: "I believe he did."—A. I remember the subject of the American Zirconium license having been discussed in the grand jury proceedings. I don't recall that precise question or that answer.

Q. Would you now say that having had that question put to you and assuming that it was asked you and that your answer was as given before the grand jury that you might have made that answer at that time?—A. Yes.

Q. Now does that refresh your recollection any as to whether or not you did make such an answer?—A. I think it likely that I did.

By the COURT:

Q. Do you desire to change your testimony that you have today on that subject?—A. As I understood Mr. Dixon's question he asked me whether Mr. Beschorman had gotten in touch with——

Q. Or communicated with. It doesn't make any difference who got in touch with whom.—A. I have a recollection of being present at one conference in which Mr. Beschorman and Mr. Rupprecht conferred in Mr. Beschorman's office, and I was there——

Q. About Zirconium?—A. Yes, sir. It was a subject of their conversation.

2609 By Mr. DIXON:

Q. And that was before National Lead Company entered into the license agreement with American Zirconium?—A. To the best of my recollection it was after the Krebs agreement with Zirconium and prior to ours.

Q. Do you recall what was discussed at that conference at which you were present and in which Mr. Rupprecht and Mr. Beschorman were also present discussing the license?—A. Well, as I recall the circumstances of that meeting, I was asked to advise Mr. Beschorman what my opinion was of the patents which American Zirconium were infringing. I did so. And then there was some conversation and I was excused.

Q. Were there any other times that you know of that

this proposed license agreement from National Lead Company was discussed with Mr. Rupprecht?—A. Not now, sir; I don't recall any.

Q. Now, directing your attention to the Virginia Chemical license agreement already in evidence from the du Pont Company to the Virginia Chemical Company, do you recall or know whether any notice was sent by the National Lead Company to Virginia Chemical Company about alleged infringement of National Lead's patents?

Mr. WEBSTER. I object to the form of that question, because this witness comes from a company that
2610 had no license agreement with Virginia Chemical.

The COURT. Counsel wants to know whether the company which employs him ever complained to Virginia Chemical of infringement by Virginia Chemical of National Lead patents.

Do your know of any such?

The WITNESS. Yes, sir.

The COURT. The answer is Yes. Go ahead.

Q. Do you recall when the notice was sent to Virginia Chemical Company by National Lead?—A. It was the latter part of 1934 is my best guess at this time.

Q. Do you know when any notice was sent by Krebs or du Pont Company to Virginia Chemical for any alleged infringement of their patents?—A. No, sir.

The COURT. You never litigated with Virginia Chemical, did you?

The WITNESS. No, sir.

Q. Do you recall this question being asked you, Mr. Kaegebehn, before the grand jury and your answer to that question as follows:

"Q. Subsequently the National Lead Company called the attention of the Virginia Chemical to the fact that they were infringing National Lead patents?" and your answer was "Yes." Do you recall that question?—
A. Well, not specifically, but I do remember the
2611 subject having been brought up, in the grand jury proceedings.

Q. Then immediately thereafter do you recall this question and answer:

"Q. And the du Pont Company did the same?" and your answer "Yes." Do you recall such a question and answer at that time?—A. No, sir.

Q. Well, assuming it to have been asked you and your answer given as follows, does that refresh your recollection as to whether you did give such an answer at that time?—A. No, it does not.

Mr. WEBSTER. I understood your Honor's suggestion was to refresh his recollection as to what he did do in connection with this subject matter.

The COURT. Well, we have a negative answer, so we really aren't any place at all.

The WITNESS. Your Honor, I am not clear. We were talking about American Zirconium——

The COURT. No. We are talking about Virginia Chemical.

2612 Q. Do you understand my question, Mr. Kaegebehn?—A. I beg your pardon, Mr. Dixon. When I replied and I tried to fix it for you I was under the impression I was testifying as to when we sent a notice to American Zirconium.

Q. That is right. Then I asked you——

The COURT. No, no. The notice was in reference to Virginia Chemical.

Mr. DIXON. That is right.

The COURT. You gave us a date of I think 1934. You said it was your best guess.

The WITNESS. I am in error about that.

The COURT. You are in error about that? You want to withdraw it?

The WITNESS. Yes, sir.

The COURT. Will you frame the question again and see if we can get some date on Virginia Chemical.

Q. Do you recall, Mr. Kaegebehn, when any notice of alleged infringement was sent to the Virginia Chemical Company by the National Lead Company or given to Virginia Chemical by National Lead Company?—A. I would fix that as later than 1934, but I am not at all clear on when such notice was sent.

By the COURT:

Q. But there was a notice sent from National Lead to Virginia Chemical?—A. That is correct.

2613 Q. Then I asked you the question whether you ever litigated with Virginia Chemical, and you answered in the negative.—A. And that would be the same.

Q. You still say that?—A. Yes, sir.

By Mr. DIXON:

Q. Do you know whether the du Pont Company sent any notice to the Virginia Chemical Company for alleged infringement of patents?—A. No, sir.

Q. Do you recall this question having been asked you and your answer as follows——

Mr. WHITNEY. If your Honor please, this is impeachment on a collateral matter because it is already in evidence that du Pont sent notice.

The COURT. It is in evidence that du Pont sent a notice?

Mr. WHITNEY. Yes. The notice is in evidence and has been discussed.

The COURT. All right.

Mr. DIXON. I am directing the witness's attention as to whether they knew that notice had been sent.

The COURT. I will let you put that question, whether he did know that du Pont sent such a notice to Virginia Chemical.

The WITNESS. No, sir, I did not.

The COURT. And the references which have been
2614 read from the alleged minutes of a grand jury proceeding do not refresh your recollection to the contrary?

The WITNESS. No, sir.

Q. Did you know when a license was granted by du Pont to the Virginia Chemical Company?—A. I didn't know when.

Q. Did you know that there was a license granted to them?—A. Yes.

Mr. DIXON. That is all.

The COURT. Mr. Webster.

Mr. WEBSTER. I just wanted to ask one or two questions about the chart.

Cross examination by Mr. WEBSTER:

Q. Mr. Kaegebehn, that chart was prepared when the Department of Justice representatives were in the office of the Lead Company examining the files, was it not?—A. Just prior to it.

Q. And it was intended to help to straighten out the corporate relationship for them?—A. That is correct.

Q. And there have been some changes in the situation since then, have there not?—A. Yes, sir.

Q. There has been a change, has there not, with reference to the ownership by the Lead Company of stock in Titan Company, Inc.?—A. Yes, sir.

Q. And that should be 100 per cent instead of 87 per cent, should it not?—A. Yes, it should be as of today.

2615 Mr. DIXON. If the Court please, I asked the question on the chart as of the date of the chart.

The COURT. He is not impeaching the witness on the chart; he is supplementing.

Mr. DIXON. All right.

Q. Now, also, there is a reference here to the ownership by the Lead Company of stock in the American Zirconium Corporation. Has that been changed since the date the chart was made?—A. Yes, sir.

Q. What changes have been made in that?—A. We have parted with ownership of 10 per cent.

Q. You have returned that 10 per cent to the American Zirconium Corporation, have you not?—A. I believe to the Glidden Company.

Q. Do you notice any other changes in here at the moment, any other material changes?—A. No.

Mr. WHITNEY. Just to clear two things up, your Honor.

Cross examination by Mr. WHITNEY:

Q. Mr. Kaegebehn, did I understand you to say that you recalled a meeting between Mr. Beschorman and Mr. Rupprecht at which you were present after the Krebs license agreement to Zirconium and before the National Lead license agreement?—A. That is what I said.

Q. Well, the record shows that the National Lead
2616 agreement was executed May 6, 1935, that is Exhibit H, and that the Krebs license agreement was executed August 19, 1935, that is Exhibit I. So, there hadn't been any time after the Krebs agreement and before the National Lead, and it is possible your memory may have been in error therefore?—A. That is right, quite possible.

Q. Another minor matter: With reference to your testimony about the Virginia Chemical, the notice from du Pont to Virginia Chemical is in evidence and has been discussed here, as Government's Exhibit 412, that is November 19, 1936; and there is in evidence a conference at which no du Pont representative was present but at which were present eight gentlemen, including yourself, representing various National Lead and various Virginia Chemical interests, on May 21, 1937, Exhibit 421. You have no reason to doubt the accuracy of those documentary exhibits, have you, as to date or the subject matter?—A. No, sir.

Mr. WHITNEY. Thank you.

Redirect examination by Mr. DIXON:

Q. Just one more question, Mr. Kaegebehn. When you were called in by Mr. Beschorman when Mr. Rupprecht was there to discuss the Zirconium patents, then it might have

been before the license was granted by du Pont to the American Zirconium Corporation, is that correct?—A. It might have been.

2617 Mr. Dixon. That is all.

Re-cross-examination by Mr. Whitney:

Q. But at that time it certainly was after the National Lead agreement then, was it?—A. I couldn't fix it that closely, Mr. Whitney.

Q. Well, the Krebs agreement was August 19th. Now, you earlier testified that it was between the two agreements.—A. No, I said I thought it was subsequent to the execution of the Krebs agreement and prior to ours. That would have fixed it before May. I was laboring under the erroneous impression that the du Pont agreement had been executed earlier.

Q. What time of year was it?—A. It was spring. I at that time was stationed in the Brooklyn laboratory and had a phone call from Mr. Beschorman's secretary to come over to his office, he wanted to ask me some questions.

Q. You remember it was in the spring?—A. Yes, sir.

Q. You are aware, are you not, that National Lead acquired 10 per cent of the stock of Zirconium and Mr. Beschorman went on the board?—A. Yes, sir.

Q. And the subject matter of this discussion was Zirconium's patents, was it?—A. Well, that was the subject matter to the extent I participated in the conversation.

Mr. Whitney. Thank you.

The Court. You are excused.

2618 Samuel W. Pitts, called as a witness on behalf of the plaintiff, being duly sworn, testified as follows:

Direct examination by Mr. Dixon:

Q. What is your present address, Mr. Pitts?—A. My home address is 333 East 43rd Street. My business address room 513, Custom House.

Q. By whom are you employed?—A. By the United States Tariff Commission.

Q. What is your position with that Commission?—A. Chief of the New York office.

Q. I have asked you previously to determine if you can from your records, the records of the Tariff Commission, what imports, if any, those records show of titanium pigments into the United States from the year 1928 to the present time. Have you made such a check?—A. I have.

Q. Will you state to the Court what you found from the records as the result of that check, made by you from the official records?—A. I found that titanium pigments were not separately classified up to January 1, 1935. They were included in what we call the catch-all clauses of the Tariff Act, or basket clauses, and it was quite an impossible job to pick out of those basket clauses the titanium pigment items.

However, they were separately classified in 1935.
2619 And we find that in 1935 there are no imports of titanium dioxide or titanium white. In 1936 the total values were $3095. In 1937 $325. In 1938 $1303. 1939 $332.

There have been no imports since, with the possible exception of an item valued at $10 which was in July at the Port of Detroit, in July 1942, valued at $10 only.

Q. As understand it, you do not have the records with you showing the shipper or the consignee of the imports that you have referred to and described?—A. Not all of them. I have some of them.

Q. Can you state to the Court who the consignee was and who the shipper was on such imports as you are able to describe to the Court from your records, where that information is available?—A. The item of $3095 imported in the year 1936 was one single item at the Port of New York, consigned to the National Lead Company.

Q. Do your records show who the shipper was?—A. Yes, sir.

Q. Will you state to the Court what they show?—A. It was from the British Titan Products Company, Ltd. of Bellingham, England.

Q. What do your records show with reference to the imports of 1937?—A. 1937, that was entered at the Port of Norfolk, and the document, the Customs document had been destroyed for that period.

Q. Do you have any record of any of the imports
2620 in 1937 to indicate the source of the shipment into the United States?—A. 1937?

Q. Yes, that is right.—A. From information we obtained in 1938 it is fair I think to assume that——

Mr. WEBSTER. I object to that.

The COURT. Objection sustained.

Q. Do you have any records showing the source of the other imports for the year 1938?—A. Yes.

Q. Will you state to the Court, if you have such records, who the shipper was and who the consignee was?—A. One

of the items was entered on April 15, 1938 at the Port of New York, consigned to the American Enka Corporation at Enka, North Carolina, and the papers indicated that Enka was close to Asheville. It was shipped by Peter Schoen & Zoohme, Ltd.

Q. From what country?—A. From Holland.

Q. Do you have a record of any of the other shipments?—A. There was another shipment of January 8, 1938 which was practically a duplicate, consigned to the same people, valued, however, at $331 instead of $330.

Q. Is that all of the shipments or imports into the United States during that year that you have a record of the shipper and consignee, Mr. Pitts?—A. Yes, sir, that is all I have for that year. There were two other entries of that same year entered at Norfolk, but those documents we tried to obtain and they had been destroyed.

2621 The COURT. 1939.

The WITNESS. One of those items—there were two items in 1939, one valued at $40 entered at the Port of Detroit; another item valued at $292 at the Port of Norfolk, which documents—the Norfolk documents having been destroyed; not obtainable. We did not check the Detroit item.

The COURT. 1940.

The WITNESS. Nothing in 1940, sir. Nothing since then.

The COURT. All right.

Mr. DIXON. That is all.

Cross examination by Mr. WEBSTER:

Q. Mr. Pitts, do you have in your possession all the records relating to shipments into the United States of pigments and other articles?—A. No, sir.

Q. Well, does the Tariff Commission undertake—— A. Pardon me, maybe I did not understand your question.

The COURT. The question asked you was whether you had all the Customs records of the United States in your pocket.

The WITNESS. No, sir.

Q. Well, does the Tariff Commission undertake to maintain custody, possession, of all shipments into the United States on which tariff is payable?—A. No, sir.

2622 Q. I was just wondering how is it you happen to have these records relating to titanium pigments.—A. As a matter of fact, we deal in all commodities. You asked me if I had the records. We don't have the records.

We obtain the information from customers' records of all imports into the United States, including pigments.

Q. So, in respect of these matters that you have mentioned here, you simply made a search of the Customs records for the purpose of obtaining this information for Mr. Dixon; is that what it is?—A. Yes.

Q. You referred to the values. Are those the values that are placed on the shipment by the shipper and on which customs are paid?—A. As a rule the values are always placed by the shipper subject to approval by the Customs authorities.

Q. That is what you were referring to when you gave the values for those various years?—A. Yes. Those values passed the Customs inspectors.

Cross examination by Mr. WHITNEY:

Q. Mr. Pitts, is the tariff 15 per cent ad valorem on titanium pigments?—A. I don't know, frankly. I am not particularly interested in tariff rates. That is, this particular office is not.

Q. I mean through this period that you have been testifying about.—A. I couldn't answer that. I don't know.

Q. You don't know what the rate is?—A. I don't
2623 know what the rate is.

Mr. WEBSTER. May I look at Mr. Pitts's notes for a minute?

Mr. DIXON. Surely.

Mr. WEBSTER. No questions.

The COURT. You are excused, Mr. Pitts.

(Witness excused.)

2693 AFTERNOON SESSION

LOUIS EDWARD BARTON, called as a witness on behalf of defendant National Lead Company, being first duly sworn, testified as follows:

Direct examination by Mr. WEBSTER:

Q. Mr. Barton, when were you born?—A. 1872.

Q. Where do you reside?—A. At Windsor, Connecticut.

Q. What is your profession?—A. Chemist.

Q. You are now retired?—A. Well, practically, I should say. I have not been very active, but I do carry on certain work of my own at the present time in a technical way, research work of my own.

Q. Do you have any present official connection with the

titanium industry?—A. Yes. I still am a member of the board of directors of the Titanium Pigment Corporation.

Q. And the Titanium Pigment Corporation is a subsidiary—— A. Subsidiary of the National Lead Company.

Q. When did you retire from active work for the National Lead Company?—A. In the Spring of 1934.

Q. Where did you take your professional training?—A. Well, my first job was——

Q. Where did you go to college?—A. I did not attend college. My first job was with the Troy Steel Works in their laboratory and I had the opportunity at that time to get a pretty good idea of the metallurgy of iron and
2694 steel, and shortly after that I took a special course with Enrique Touceda, who was a professor of metallurgy at the Rensselaer Polytechnic Institute.

Q. What did that course include?—A. It was a general course in chemistry, really preparatory to work that he wished to entrust to me a little later.

Q. Did he entrust you with that work under his supervision after that?—A. After I had finished that course I became his first assistant. He operated a commercial laboratory, industrial laboratory, in connection with his professorship and other duties.

Q. Did that laboratory work relate to the investigation of materials and processes for various industries?—A. For various industries. There was a great variety of work conducted in his laboratory.

Q. Largely in the field of chemistry?—A. In the field of chemistry and metallurgy.

Q. Mr. Barton, are you the author of any articles on scientific or chemical subjects?—A. Well, I have written a little. I published an article in the Journal of Industrial Engineering Chemistry some years ago relative to the determination of nitrogen in steel, and at one time I wrote a chapter annually for the Mineral Industry, and I think that Mineral Industry was published in some way in cooperation with the Engineering & Mining Journal.
2695 Q. You said you wrote a chapter. On what subject?—A. On the subject of titanium.

Q. Were you employed by the Titanium Alloy Manufacturing Company?—A. Yes.

Q. At what time and in what capacity?—A. Well, they called me chief chemist, but as a matter of fact I conducted research work for them.

Q. When were you first employed by that company?—A. They employed me on February 1, 1912.

Q. What was the nature of your work during the early period with the Titanium Alloy Manufacturing Company?—A. Well, of course their industry consisted entirely in the manufacture of alloys, particularly what they called ferro-titanium used in the treatment of steel for deoxidizing, and there were a good many problems in connection with that, and of course our first efforts were to solve some of those problems and develop better business, if possible, but it was agreed that we should also conduct a campaign of development for new uses for titanium outside perhaps of those alloys which they had thus far been devoted to.

Q. During this period did you come in contact with a gentleman named Dr. A. J. Rossi?—A. Yes. Dr. Rossi was with the Titanium Alloy Manufacturing Company when I went with them.

Q. What was the nature of the work that he had
2696 done or was doing for that company?—A. Well, Dr. Rossi really was the father of the titanium industry and it was due to his efforts that the Titanium Alloy Company was started.

Q. Will you explain what you mean by Dr. Rossi being the father of the industry.—A. Well, if we looked at the textbooks of that time we would find that they gave titanium just a slight reference and classed it among the rarer elements, but Dr. Rossi, and quite a good many others in different parts of the world, knew that titanium was much more abundant than the textbooks on chemistry would indicate, and Dr. Rossi particularly had had experience with the titanium used before. He was the superintendent of blast furnaces at a point in New Jersey, which I cannot recall at the moment, and he was there for a long time and he handled ores that contained titanium, and his thought was that many of the ores that are distributed throughout the world that contain large quantities of titanium, maybe up to 15 or 20 per cent, that they could also be smelted to get metallic iron and flux the titanium out with the slag with other materials that they wanted to separate.

Q. After your employment by this company did you have any—first, who was William F. Meredith?—A. William F. Meredith was the president of the Titanium Alloy Manufacturing Company.

2697 Q. After your employment by the company did you have any conversation with Mr. Meredith on the subject of titanium research?—A. Yes; before I actu-

ally undertook any work with the company we had a conversation covering the entire matter. His wish was that we develop new products. I might add here that I had had some little earlier experience in titanium while I was with Professor Touceda; and we finally decided that the first thing we should work on, in addition to the work we were doing in connection with the development of the titanium alloy department, would be the preparation of titanium oxide. I told Mr. Meredith at that time that I thought titanium oxide would make a good white pigment. That was based upon a very dim idea I had acquired during work in Touceda's laboratory. The Titanium Alloy Manufacturing Company was interested also in any titanium oxide which was reasonably pure.

Q. Was there such a thing as pure titanium oxide at that time?—A. Well, we tried to obtain such a product very diligently, but we did not find any. We could obtain from chemical houses what was called titanic acid. This product differed very greatly, comparing the various samples we received. Some contained small amounts of sulfur trioxide, indicating perhaps they were precipitating from sulfuric acid solutions, and others were free from sulfates and perhaps were precipitated from hydrochloric acid solutions.

2698 Q. Did you have in mind at that time that if you could obtain pure titanic oxide that that would have a general use in the industry?—A. Well, we already knew that if we could get one that was relatively pure, say, containing 90 per cent or above of titanic oxide that it could be at once used in other processes for the manufacture of alloys, and we also recognized that there might be a field for such a product as that in other places. For instance, there was a demand even then for such a material for welding rods and I believe they first used a rutile type.

Q. Did you have in mind at that time the use of titanium pigments in paint?—A. Well, I had very definitely that in mind, but these crude products, relatively pure products you might call them, we did not expect that those would be suitable for pigments for paint because the products must be white. I spoke about those products that we purchased in the markets that were called titanic acid. When those were calcined to remove the combined water and other volatile materials as they were never white.

Q. Will you explain to the Court what you mean by the word "calcined"?—A. Well, to my mind calcined means

the heating of a substance to either eliminate something or change its form.

2699 Q. As I understand it when you did obtain this titanic oxide, you were unable at that time to make a pure white pigment?—A. The products that we attempted to make first we did not expect them to be white, but the product that we made that was relatively pure was a good starting point; as you might say, the raw material for the preparation of the more refined product.

Q. And while that has certain industrial value outside of the paint field, I understand your testimony to be that it would not be useful as pigment for paint?—A. Not as pigment, no.

Q. Now, did you make any use during this period of the rutile form of TiO_2?—A. Yes. Rutile is what the Titanium Alloy Company had relied upon up to that time for making certain alloys they had produced in relatively small quantities compared with their regular ferro titanium product which was made from ilmenite. For such special titanium alloys rutile containing about 90 per cent TiO_2 could be used.

Q. What is the difference between, the chemical difference between rutile and ilmenite?—A. Well, the chemist thinks of ilmenite as a ferrous titanate, a combination or solid solution of one molecule of ferrous oxide with a molecule of titanium oxide.

2700 Q. And what is rutile?—A. Rutile is substantially titanium oxide. There have been found a few specimens which contain as high as 99 per cent of titanic oxide. Essentially it is a pure titanic oxide but as a matter of fact it rarely runs higher than about 90 per cent.

Q. Is rutile found in large deposits?—A. No. It occurs in many parts of the world but usually in comparatively small quantities mixed with other minerals and a great effort had been made prior to the time I went with the Alloy Company to find deposits of rutile where they could produce it cheap enough for their purpose. Those efforts had not been very successful, and the result was they wished to have developed a relatively pure titanic oxide prepared, say, from ilmenite which was very plentiful. They could then use that relatively pure titanic oxide for special purposes.

Q. Now, your interest then at that time was to find a relatively pure oxide manufactured from ilmenite, is that the case?—A. Yes.

Q. How did you go about finding that?—A. Well, of course already there were ways known of separating titanic oxide from its ores. It was known to attack the ore by sulfate of soda or fuse it with soda ash and then treat that with sulfuric acid or attack it with sulfuric acid. That was already known. After obtaining a sulfuric acid solution of titanium or hydrochloric acid solution of titanium, either one, it was well known to precipi-
2701 tate the titanium by hydrolysis by diluting the solution and boiling it.

Q. What do you mean by the word "hydrolysis"?—A. Well, a process of forming with the titanium a hydrated compound which will separate from the solution, leaving the acid which was formerly with the titanium in the solution.

Q. Was all this early work carried on in the laboratory? A. Of course our first work was carried on in the laboratory.

Q. Then did you put up a plant, or a pilot plant?—A. We built a pilot plant. After working on a process in the laboratory until we had an idea of what would be needed to produce a product on a little larger scale, we equipped the pilot plant as we hoped, adapted to produce the material we wanted. If that worked then, we could go to a still larger scale.

Q. Did you encounter any difficulties in the operation of the pilot plant?—A. Yes. That panned out as usual; we found that our guesses were wrong on construction and we had to rebuild; some of our products were very poor because they had not been properly treated in the pilot plant.

Q. Did you finally succeed in getting a relatively good product out of pilot plant operations?—A. Yes, we did. We tried more than one process in the pilot plant and we were able to make very good products, that is, when I say "very good products," I am referring now to the crude titanic oxide, that is relatively pure, that
2702 could be used by the company in their own manufacturing work and perhaps, as we did later on, sell it for ceramic work.

Q. Now, did you give any attention during this period to the manufacture either in the laboratory or in the pilot plant to a pigment known as a composite pigment?—A. Yes.

Q. Will you describe that; what sort of pigment that is and your reason for working on that?—A. Yes. We first

produced titanic oxide in relatively pure form. That was done before any work on composite pigments. We took this crude material and dissolved it in acid and then we separated any insoluble matter and precipitated the titanium by hydrolysis in a much higher state of purity. We would get perhaps 99 per cent or above, and it would be rather white in color. While that was not as good as produced today by any means, it served for the purpose of testing the material out as a pigment.

You spoke about the composite pigment. I wanted to give you an idea of the first step toward the production of this pure titanium oxide as of that date. But in carrying out that process, regardless of whether we had a hydrochloric or a sulfuric acid solution of the titanium, we had to make those solutions very dilute. Well, we could see that there would be great expense in producing a white titanium oxide in that way but we thought, on account of the exceptional hiding power of titanium
2703 oxide, that perhaps we could produce a compound that had a large amount of something else. We had an example of a commercial pigment in the market, lithopone, which has around 70 per cent we will say of barium sulfate and 30 per cent of zinc oxide. That really was a suggestion. So, we followed that up, and we made a pigment containing calcium sulfate, about 70 per cent, and titanium oxide, about 30 per cent or 25 per cent. It varied more often 75-25 at that time.

Q. I wonder if you can give us an example of the comparative cost in terms of hiding power of composite pigments and pure titanium oxide at that time?—A. Yes. As I have said before, we obtained samples of this so-called titanic acid and we calcined that and got a rather poor quality of product, discolored and so forth. We could make by our own method that I just described a minute ago, by precipitation by hydrolysis in a dilute solution, we could make a product of relatively pure titanic oxide, maybe 99-5/10 per cent, and still not a very good white pigment, but still good enough to be tried out as a pigment.

Now the products that we made in those early attempts, I think their hiding power would be about 600 to 700 tinting strength. Now we could make a composite pigment, containing 25 per cent of titanic oxide, that
2703a would have a tinting strength of 300 to 400. In other words, pretty near half as much hiding power as the pure product with about 25 per cent of tita-

nium oxide.

2704 Q. 25 per cent.—A. 25 per cent.

Q. Yes. Now when did you first begin to make tests, that is, exposure tests, and that sort of thing?—A. Well, the exposure tests, we started those just as early as we had material that we felt was sufficiently good to make a paint test, and that occurred I think about 1913, '14 and '15. We were continually testing these products, both the composite and the pure titanium oxide.

Q. Of course during this period the Titanium Alloy Manufacturing Company was engaged chiefly in a wholly different line of business, wasn't it?—A. Yes, quite a different line of business, and a good deal of attention had to be given to that, too. But when we discovered the hiding power and the relatively good white product that we could make, we realized that there was something in the proposition to make a pigment.

Q. Were these early tests satisfactory?—A. No, they were not very satisfactory.

Q. What was the trouble?—A. The first panels we painted with titanium paint, when put out, were beautifully white, but after a little while they acquired kind of a yellowish color and sometimes they would have kind of a grayish tone. That was rather disconcerting, but we studied the problem by calcining at various tem-

2705 peratures and we found that a little higher temperature and a longer time of calcination would help to avoid that defect in discoloration.

Q. Are you familiar with the expression "chalking"?—A. Chalking. That was another very serious difficulty with our earlier types of pigment. The calcium sulfate pigment was particularly a chalky pigment. I don't think a pure Titanox-C paint made with a pigment made at that time would endure exterior exposure for more than a year without showing the wood.

Q. By chalking, what do you refer to?—A. The chalking—well, there are differences of opinion on that. I have seen it described as a migration of the particles of pigment with the surface, and then falling off, but I have always myself attributed it to the decomposition of the vehicle itself which served to hold the pigment together and on to the surface.

Q. In any event, the effect of it is to leave the wood exposed?—A. To leave the wood exposed.

Q. Prematurely, or before it would normally occur?—A. Yes.

Q. Now tell us about your early work in connection with Titanox-A and Titanox-B. You have mentioned Titanox-C. —A. Yes, I mentioned Titanox-C. It was the first pigment that we prepared of the composite type. We had
2706 already prepared pure titanic oxide. I call it pure, although it was not strictly pure; it was not as good a white as we needed but it was precipitated by hydrolysis and much purer than the relative pure product as a crude that we used in metallurgical work.

We also developed a composite pigment containing barium sulfate and titanic oxide. That we called our Titanox-B. That proved to be more resistant to exposure to the weather than the Titanox-C. The titanium oxide itself also gave a somewhat better result than Titanox-C.

Q. But that was very expensive, was it not, to use in its pure form?—A. The Titanox-B would be perhaps a little more expensive than the Titanox-C. But either one of these composite pigments would be much cheaper than the pure titanium oxide.

Q. Did you make any investigations relating to the use of titanium in connection with other pigment substances? —A. Yes. When we found that the titanium pigments were relatively non-durable when exposed to the atmosphere, exterior paints, not very durable, we thought that it might be desirable to have a pigment that contained some white lead or zinc oxide, because we knew that white lead and zinc oxide had given better results than we had obtained with the titanium pigments. So we prepared
2707 a product of that kind.

Q. Did you take out any patents referring to white lead, the use of white lead and zinc oxide in connection with titanium pigments?—A. Yes. There were two patents. One covered the use of the lead, I think, and the other the zinc oxide.

Q. But you were not in the paint business, so you were not operating under those patents, is that right?—A. We did not operate commercially under those patents but as we had determined the greater durability of the products, we could manufacture and sell the titanium pigment and the paint manufacturer could put in the white lead and zinc oxide as required to suit his own purpose.

Q. So that while the patent was not directly useful in your business, it was useful to your customers' business? —A. Yes.

Q. Let me ask you one or two other preliminary questions. How much of a staff did you have up there at

Niagara Falls?—A. Well, there was so much work that we increased our laboratory staff for general work quite rapidly—I can't remember just how many men we got in there within a few months, but we did get in connection with the allot department a metallographist and also we engaged a professor in Rensselaer Polytechnic Institute, Matthew A. Hunter. We wanted him also to assist in the
2708 metallurgical work. Dr. Hunter had prepared the first coherent mass of real metallic titanium.

Q. You mean by that he actually produced a lump of metallic titanium?—A. Metallic titanium. Perhaps I might explain that the ferro-titanium that was being manufactured at Niagara Falls, the titanium was combined with carbon. In other words, it was a mass of iron, which distributed throughout the mass small particles of titanium carbide. Now, the product that Dr. Hunter made was titanium, not titanium carbide.

Q. And that was the first time that had been done?—A. He was the first one that made it in coherent form. There was another investigator earlier than Hunter that made a powdered product that he said was metallic titanium.

Q. Just a minute. That work of Dr. Hunter's related to the other phase of the business of the Alloy Company?—A. Yes, the alloy business.

Q. Did you have anybody working with you in the pigment field?—A. Yes. We engaged Mr. Henry A. Gardner who was then and still is the director of the scientific section of the Paint, Lacquer and Varnish Association, with headquarters in Washington.

Q. Was his experience such as to indicate to you that it would be useful in your development work?—A. He knew much more about paint of course than we did.
2709 He had had experience in every field and we thought that his suggestions as to the methods of applying the pigment and the various purposes for which the pigment could be used would be very useful.

Q. During this research and pilot plant work that you have described—if I may ask a leading question—none of this product was commercially profitable?—A. No. During that pilot plant work we simply made enough material so that if a customer was interested in it, he wanted to find out what it was, we would let him have a sample, give it to him, in order that there might possibly be developed a demand a little later on when we might be in a position to produce it in commercial quantities.

Q. During this period that you are describing, did you

make application for patents?—A. Yes. As soon as we were assured that we had a process that was reasonably successful and appeared as if it might be successful in commercial operations, we took out a patent.

Q. Were those patents related to the work that you were doing up there at Niagara Falls?—A. Yes, they were related. We sometimes would take out a patent, thinking perhaps that that would be something we would use commercially, but a little later on we developed something else that perhaps looked as if it would be cheaper or better, and then of course we would naturally set the other aside, although we had applied for a patent or taken a patent.

2710 Q. You could not always tell at the time an application was made whether the patent would prove to be commercially useful or valuable or not?—A. No, we could not tell for sure just what we might do because we were constantly experimenting to find better ways.

Q. Mr. Barton, have you at my request prepared an abstract of patents in which you are named either as an inventor or co-inventor?—A. Yes.

Mr. Webster. May I have this marked, please.

(Marked Defendant NL Exhibit 2 for identification.)

Q. Mr. Barton, I show you a document, NL 2 for identification, and ask you if that is the abstract of your patents, that is, patents in which you appear either as the inventor or as the co-inventor?—A. Yes. I recognize this abstract of patents. I might explain that perhaps if I had known how you wanted to use this, I might have done a little bit better job.

Q. In any event, this represents a statement by you in a few words of the nature and subject of each of the patents that I have referred to, is that correct—A. That is right.

Mr. Webster. If your Honor please, I am not going to ask Mr. Barton to describe each of these patents, but I am going to ask him to testify with reference to certain groups of patents, and for that purpose I would

2711 like to offer this in evidence.

The Court. Is there objection?

Mr. Dixon. Yes, your Honor. I object to the exhibit as an exhibit; I think the patents as such would be the best evidence if the purpose is to indicate what the patents are. Apart from that, the exhibit, from what cursory examination we have been able to make of it, seems to

deal with the opinions of the author of this exhibit with reference to what the patent, numbered, relates to. We feel that the best evidence would certainly be, if relevant, the opinion of the author of the document himself with reference to any one of these particular patents.

The COURT. Supposing this witness proceeded to read the document, would that help you any? You can cross-examine about this. In effect, this is no more than a statement of evidence that he has prepared in advance so as to abbreviate the time it would take to read it to the Court. If you want to take objections to it, we will let Mr. Barton read this document, but I should not see that much would be gained that way.

Mr. DIXON. Of course, your Honor, it is not our intention to lengthen the trial, but if relevant,—I mean it seems to us the purpose of the exhibit, if it could be more clearly explained, or if we could have a little more light on what it is being offered for——

2712 The COURT. I can guess he want to show how valuable the patent situation was as it developed in the twenties, and he is laying the ground for all that by introduction of the Barton patents. We have heard a great deal about the Barton and Rossi patents, and the Jebsen-Barton-Rossi patents, and this is one of the trio who is here in the flesh, so I suppose that is his object.

Mr. WEBSTER. That is correct. I simply stood here accepting that as an attempt to abbreviate a presentation of quite a lot of material, and I thought it would facilitate the matter.

The COURT. The alternative is to have him offer all these patents in evidence, and then Mr. Barton would still be allowed to make comments about that. He has qualified as an expert, and anyway he is an inventor. I think I will let the exhibit in.

(Defendant NL Exhibit 2 for identification received in evidence.)

Q. Now, Dr. Barton, have you at my suggestion made a study of those patents referred to in this Exhibit NL-2 with a view to grouping certain of the patents with reference to their subject matter and use?—A. Yes.

Q. Now I first ask you to look at your abstract briefly of patents 1,106,406, 1,106,407, and 1,106,408. Will you just glance at the abstract a moment to refresh

2713 your recollection of those patents.

The COURT. The first page in this exhibit is numbered 5. I suppose there is some reason. I am not miss-

ing four pages?

Mr. WEBSTER. No. I think that is because it was attached at some time to other papers. Does your Honor's copy begin with 1,106,406?

The COURT. That is correct.

Q. Have you had an opportunity to look at those, Mr. Barton?—A. These three patents in each case depend upon the smelting of the titaniferous ore with an alkali and reducing agent, for example coke, with the object of converting the iron to the metallic state. Now after having reduced the iron the melt could be taken as such, treated with water, and a great deal of the soda salt could be removed and then finally treated with very dilute acid to dissolve out iron and iron compounds, leaving a product relatively rich in titanic acid and carrying perhaps a small amount of soda.

Q. Did this group of patents represent an advance in the art at that time?—A. Well, yes, I believe so. The method appealed to us because if we could successfully carry it out, as for example according to this patent 1,106,407, the second one on this page, if we could smelt the ore and tap out the metallic iron and have that as a by-product,
2714 it would be a high-grade iron under the conditions, because any impurities, such as phosphorus or sulfur would go with the alkali, and that would perhaps cheapen the process if we could do that, and then we would have the residue, after withdrawing the iron, we would have that, and we could further treat that, as I have just described, and obtain a concentrate of titanium oxide.

Q. Did that process have any disadvantages?—A. Yes, it had disadvantages. Of course it should be borne in mind that one of our objects was to produce a relatively pure titanium oxide and one, say, that contained 90 per cent or above of titanium oxide, and that would be useful for the purposes of the Alloy Company. Now they had right in their plant at the time equipment that was suitable for carrying out the processes as described in these three patents.

Q. What sort of equipment was that?—A. Well, those were electric furnaces.

Q. Was the electric furnace method an advantage or disadvantage from the standpoint of titanium pigments?—A. Well, that would make no difference if it was not too expensive, but of course the operation of an electric furnace is expensive, and while we might make a product that was cheap enough for their purposes,

we might not be able to produce a titanium concen-
2715 trate to be further worked up for making pigment on a large scale and do it economically.

Q. At that time at Niagara Falls was power cheap or expensive?—A. Power was cheap. Yes, it was cheap. My recollection is it was somewhere in the neighborhood of $20 per horsepower a year, but I would not put that down as——

Q. You would not swear to that?—A. No; that is just my dim recollection after a good many years.

Q. How about the furnaces? Were furnaces of that sort available and satisfactory?—A. Well, they would be available, but they would not be, as I said, satisfactory on a large scale operation. Now if we were going to a very large scale manufacture according to these patents, we would probably have to resort to something like a blast furnace, or some other type of furnace where the heat is generated by the combustion of gases or fuel and passes over or through the charge. Now the difficulty there is that sodium compounds react with most any lining that is available for such a furnace, and linings would probably not last very long, so that it was not really a very good prospect for very large scale manufacture of titanium pigments.

Q. I am going to ask you about another group, Mr. Barton. Will you look at your abstract to refresh your recollection of patents 1,155,462, 1,166,547, 1,892,229 and 1,236,-
655, and after you have had an opportunity to
2716 examine the abstracts, tell me what the characteristics of that group are, if you can.—A. The common point in all of those patents is that the titanium must be precipitated or separated by hydrolysis in the hydrochloric acid solution, and the difficulty with all of those processes is that on a large scale it was at that time, and probably still is, rather difficult to find materials of construction that would withstand the hydrochloric acid. There are important patents in that group. For example, this one, 1,155,-462 relates to the addition to a titanic sulfate solution of a soluble chloride, for example, calcium chloride, and that precipitates a calcium sulfate and it gives free hydrochloric acid in the solution. Then the titanium is separated by hydrolysis, as shown, in the presence of this calcium sulfate. That is the first composite pigment that was developed and which we referred to as giving such poor results on exterior exposure.

Q. You say that was a disclosure of the composite type of pigment?—A. Yes.

Q. You might look at No. 1,236,655 in that connection, too.—A. Yes.

Q. Those patents relate, I believe you say, to the disclosure of a composite type of pigment?—A. Yes. That one relates to the composite type of pigment.

Q. Do you know of any previous disclosure of in-
2717 ventions of a composite type?—A. No. I think that was the first proposition for a composite type pigment.

The COURT. In the titanium field?

The WITNESS. In the titanium field, yes.

Q. Directing your attention to 1,155,462—I believe these are the same ones—will you describe very briefly what that process is if you have not already done so.—A. Well, the method consists essentially in treating titanic sulfate solution by adding a soluble salt such as calcium chloride capable of forming, by reaction, an insoluble sulfate and then digesting—I have said digesting or heating. I used the word "hydrolyzing" in mentioning this a few minutes ago, but it amounts to the same thing. This digesting or heating brought about the hydrolysis of the titanic acid, and then that composite precipitate is separated, washed and dried and calcined.

Q. Did the preparation of pigments according to this process require any special form of equipment?—A. Well, it would require something that was resistant to the action of hydrochloric acid.

Q. Did you succeed in finding material—— A. We did in the pilot plant. We used stoneware, but that would not be possible in a commercial way. We would probably have to develop some type of wooden equipment that perhaps
would last for some time. I believe that rubber lin-
2718 ings were not available then.

Q. So that this group of patents was not put to commercial use, is that correct?—A. In view of the fact that we developed better processes later these were never used. There have been many proposals to use hydrochloric acid, and as far as I know no one has succeeded in commercially producing titanium pigments using hydrochloric acid solutions.

Q. Did this, however, represent steps in your research and patent work?—A. Yes.

Q. And would it be your opinion that these patents had a use and value in connection with the development of the

art?—A. Yes. If at that time we could not have found better methods we would have found some methods, some kind of equipment, whereby we could produce titanium pigment by these processes.

Q. Do you know and can you say whether or not work in this particular field is still going on at some places?—A. Yes. I believe there is a great deal of work that has been carried on in the use of hydrochloric acid solutions for producing titanium pigments, and perhaps are still going on. I am not absolutely sure of that.

Q. Not under your control?—A. Not under my control.

Q. And in fact never was under your control—this work you are now referring to?—A. No.

2719 Q. Now I am going to ask you to look at another group: Nos. 1,106,409 and '10; 1,171,542; 1,201,541; 1,206,796; 1,206,797 and '798, and 1,348,843, and after you have looked at those please tell us what the objective of that group was.—A. This group of patents depends upon the conversion of the iron into the form of sulfide, also the formation of sodium sulfide or other alkali sulfide which permits a pretty sharp separation of the titanium compounds from the iron compounds.

To illustrate it, we take this No. 1,106,410, which consists in the process of fusing titaniferous ore with alkali sulfate and a reducing agent, such as coke. The iron is converted into a more readily soluble form such as ferrosodium sulfide, and the resulting melt is first treated with water to remove sodium and iron compounds, and then the remaining residue is treated with acid to dissolve as far as possible the remaining impurities. Some iron would still remain leaving a residue of titanic acid which is calcined to yield titanic oxide. That gives the principles of the entire group.

Q. Now, the last of the patents in there, 1,348,843, does that relate to oxidation?—A. Yes. This melt after cooling could be sprayed with water just to moisten it and exposed to the atmosphere to oxidize the sulfides to sulfates and sulfites, a rather complex mixture of salts,

2720 and we could then treat that mass with acids, either hydrochloric or sulfuric acid, without the generation of hydrogen sulfide. At that time one of the difficulties in all of these sulfide processes was that if acid came in contact with the sulfides a poisonous gas, hydrogen sulfide, would be generated and we had to guard against that in every way possible.

Q. This oxidation step, did that grow out of the work

that was being done in this group of patents?—A. Yes, because we recognized the danger of handling of products that would generate hydrogen sulfide gas if treated with acid. We wanted to get it into a form that would not generate the hydrogen sulfide, and this patent you speak of, by oxidizing in the presence of moisture, would bring about that conversion.

Q. Did these processes yield a good product?—A. Yes, they do. It gives a very sharp separation of titanium and iron compounds. We can take a titaniferous ore, such as ilmenite, and separate it and get a concentrate of titanium oxide which will contain perhaps not over 2 or 3 per cent of iron oxide without ever having brought the titanium into solution. We have rendered the iron soluble and removed it either by water or by treatment with dilute acid. The dilute acid of course we always had available, because whenever we hydrolyzed a solution to obtain titanic
2720a oxide or a composite pigment we would have all this dilute acid which could be used in treating the impure product to get the concentrate of titanic oxide.

2721 Q. You say you had the dilute acid available. Was the raw material available in other respects a feature of this development work? I had in mind the nitre cake.—A. Yes. One of the forms of sodium sulfate that could be used was the bisulfate which is known as nitre cake, and at that time that was a very cheap material. We could get it for four or five dollars per ton, and as a matter of fact during the first World War we obtained some merely for the cost of transportation. They were producing so much of it for war work that they were glad to get it off their hands, and so we simply paid the transportation cost. But that did not last very long.

Q. What happened about the price of nitre cake later?—A. After the war the price of nitre cake increased quite rapidly, and I believe it has gone as high as $20 a ton. The present price I think today is $16 a ton.

Q. Is such quantity of that used as to make the expense of nitre cake an obstacle in the use of this process?—A. Yes.

Q. I believe you mentioned the problem that arose
2722 in connection with the poison gases? How about the matter of equipment? Was it possible to manufacture this under this group of patents on a large scale with the equipment available?—A. Well, by using the process of this Patent 1,348,843, we could treat the material with the

generation of very, very little, and perhaps no, hydrogen sulphide whatever, and the very little we could get rid of, as we did at Niagara Falls, by sending it up the stack. We had a 200-foot stack that carried it pretty well above the danger point for anybody, and then it was so dilute that it probably would not have caused any serious damage anyway.

Q. May I ask you to look at your abstract for Patent 1,206,796 particularly. Did that represent a means of an attempt to avoid some of these manufacturing difficulties?—A. Yes, that was developed to solve the furnace problem in making a sulphide melt. I have already explained, I think, that these alkaline compounds had a very corrosive effect on most furnace linings, but we could make a product in large electric furnaces lined with carbon and there was no difficulty there, but in making the melt in other types of furnaces we ran into difficulty. We did construct in the pilot plant a reverberatory furnace, oil-fired, and with a lining and bottom consisting of carbon blocks up to the contemplated level of the charge of molten material,
2723 and above that was fire brick. Well, we could make just as good a product from that furnace as we could from the electric furnaces, but we found that the furnace gases carried along a certain amount of volatile compounds, and perhaps some that was in solid form, fine mist, and corroded the fire brick in the flues very rapidly so that was practically a failure as far as commercial purposes are concerned.

Q. Was this other process that you mentioned a moment ago that avoided that called sintering?—A. Yes. Which patent is that?

Q. I think that is No. 1,206,796?—A. Yes. Instead of melting the charge we heated it below the melting point. A charge was made up of ore and alkaline material, perhaps nitre cake and coke, or in this case I think we used preferably soft coal, and that was heated to a temperature below the melting point of the mass with the result that we could handle it in large iron containers or in a brick lined container or equipment.

Q. With reference to this whole group of patents, this group 3, were those used industrially?—A. Yes. We operated the plant at Niagara Falls for several years using the process.

Q. During what period?—A. We first operated in the very latter part of 1919 or 1920. Those were trial
2723a runs of the new plant which had never been operated to amount to anything, and then from 1920 to

1924 I think, or 1925, we used this sulfide process commercially.

(Short recess.)

2724 Q. Now, Mr. Barton, were the products that you obtained from the use of these five patents comparable to the products you were able to obtain from some of the earlier patents that you have just described?—A. Well, in this group I have merely described the methods I believe of producing this relatively pure titanium oxide for commercial purposes, such as its use in the alloy and so forth.

Q. I want to turn to another group, the last group, and direct your attention to 1,196,030, 1,196,031, 1,205,144, 1,223,357, 1,223,358, 1,234,260, 1,235,638, 1,240,405 and, finally, 1,409,648. If you will, just look at those and then if you can tell us what the characteristics are, if any, of that group?—A. These patents, the patents of this group, all refer particularly to the preparation of titanium products relatively pure or pigment quality products from sulfate solutions, avoiding the use of the chloride solutions before referred to which were difficult to handle on account of the corrosive nature of the acid on equipment.

Take this first one, 1,196,030, it covers a process of preparing a titanium basic sulfate. I called it titanium basic sulfate; sometimes called basic titanium sulfate; I think titanium basic sulfate was Dr. Rossi's preference. A titaniferous material such as ilmenite or a titanic oxide concentrate obtainable, for instance, according to the

2725 methods of patents 1,106,409 and 1,106,410—that refers to these sulfide methods that I have just described in the last group—is heated with concentrated sulfuric acid. After reaction, that is, after the solution of the material in the acid, the resulting digestion mass is dissolved in water and separated from any undissolved residue. Ferric iron in solution is reduced to the ferrous state, the reduction conveniently accomplished in an electrolytic cell, continued until a little of the titanium is in the titanous condition. The solution is then boiled to precipitate the titanium basic sulfate.

That is simply a description of the method that is used today in principle—to separate titanium from sulfuric acid solutions hydrolytically. The fact that we reduced the solution to obtain some titanous titanium in the solution in an electrolitic cell makes no difference. The principle is the same as used today.

Q. Now take patent No. 1,409,648, which is the last patent in this group, and just tell us in your own words,

Mr. Barton, what that patent is all about.—A. I have gone into a little more detail with regard to some of the other patents in this group. I have just described how we would operate to make titanium basic sulfate and if that
2726 product was calcined, we would have titanium oxide of pigment quality.

Now, we also could make the composite pigments from titanic sulphate solutions prepared as described for making basic titanium sulphate. We could add to the titanic sulphate solution a reagent, such as calcium hydrate, which by reaction would form calcium sulphate or we could first separately prepare calcium sulphate or barium sulphate and add it to the titanium sulphate solution. The solution containing a suspension of calcium or barium sulphate, was then heated hydrolytically precipitate the titanium.

We found by experience that we could obtain a better product if we first prepared our extender, either calcium sulfate or barium sulfate.

This patent you speak of, we first prepared this so-called blanc fixe. We prepared that product, barium sulfate, in a very finely divided condition. The product can be purchased in the market, and we did that at first in a commercial way. We bought the blanc fixe and added it to the titanium sulfate solution. But we had a great deal of difficulty in obtaining blanc fixe of uniform quality, and we finally installed our own plant for the manufacture of blanc fixe.

Q. Is this patent, No. 1,409,648, still in use?—A. That is still in use.

Q. Does that relate to the manufacture of Titanox-
2727 B?—A. Titanox-B.

Q. Did these patents in this group prove to be of relatively great importance or little importance?—A. Well, some were of great importance. For instance, this one, which we still manufacture. But we did find that the product that is described in one of those patents, the calcium sulfate product, was not as good as could be made. We modified the process finally to obtain calcium sulfate that had a different structure, had what we called an acicular, crystal, structure instead of the rhombic.

Q. Now, why was it that the processes described in this group were not particularly satisfactory commercially? Was there any reason for that?—A. I have not stated that. This one here is representative of the group.

Q. I understand that one is used to make the Titanix-B, but are the processes described in these patents otherwise

used today?—A. No, they are not used today. Improvements have been made in the manufacture of pure titanium oxide and the composite calcium sulfate pigment.

Q. Was this a costly method of making it, compared with methods described—— A. Relatively costly, for the reason that we started with those products made by the sulfide process which we described in the last group.

Q. Were products manufactured under this group
2728 sold commercially to paint manufacturers?—A. Yes. We developed the titanium industry with this product that is made by this process of 1,409,648.

Q. Did the process described in 1,409,648 supersede the process described in 1,205,144?—A. Yes. That happened to 1,205,144. That refers to the use of a base. For example, if we wanted to make the Titanox-B pigment we would use, say, barium hydrate, added to the sulfate solution and form the barium sulfate.

Q. You say these were sold commercially to paint manufacturers. Do you know if they were sold at a profit to paint manufacturers?—A. As products——

Q. At a profit. Were they sold at a profit?—A. No.

Q. When did you build your first pigment plant, Mr. Barton?—A. The plant was built in 1916.

Q. When was that first occupied and used?—A. Well, we could not use it while the war was on, and after that there was some little time elapsed before we even tried it experimentally. But I think in 1919 we did make some trial, but I couldn't say positively about that. In early 1920 we did make Titanox-B pigment, using the process of patent 1,409,648.

Q. That is in the new plant?—A. In the new plant.

Q. That plant was designed to be an industrial plant,
wasn't it?—A. Yes. As a matter of fact it was de-
2729 signed to make C pigment, but on account of the better behavior of the Titanox-B as an exterior pigment in paint, we changed the plant sufficiently to make Titanox-B pigment.

Q. Before 1920 did you engage yourself in any publicity efforts to promote titanium pigments?—A. Yes. We took a great deal of pains to bring the titanium pigment to the attention of the public. We had an exhibit at the annual chemical show that was held either in Chicago or New York City and took pains to explain the prospects to all those who visited the booth. That was one of the things that we did, make a good many contacts to develop a little interest.

Q. Did you do any work during this period with the rubber companies?—A. Yes.

Q. Will you tell us what that was?—A. During the war we prepared enough of the titanium pigment to make tires at the rubber plants. I visited both Firestone and Goodyear in Akron and they cooperated in making rubber containing the titanium pigment as a filler. It was a beautiful white rubber—and we had more recently white side-walls on tires, pigmented with titanium oxide. But at that time there was no prospect of getting the plant started. We hoped that perhaps it would do something to rubber that would enable us to get permission from the Govern-
2730 ment to go ahead and operate the plant. That did not prove to be the case, though, because people did not have to have tires with white walls and the rubber was of no greater strength than with some other fillers.

Q. Were you personally engaged in these efforts to promote titanium pigments?—A. Yes.

Q. Did you make any efforts or any investigations among paint manufacturers?—A. Yes. We visited some paint concerns, for instance, the Acme White Lead & Color Works, in Detroit, and they cooperated with us in making a lot of paint products and exposed them on their test fences. And others were—I can't remember all of the companies that we called upon and got their cooperation in that way.

Q. Do you know Mr. Hagar?—A. Mr. Hagar was the sales manager in the early days when we were trying to introduce the pigment commercially.

Q. He was the sales department practically, wasn't He?—A. Yes. I worked with Mr. Hagar, went with him to visit some customers and some customers I called upon at his request just to discuss with them the use of the pigment in paint.

Q. Now, did it appear to you that there was any need for developing cheaper methods of manufacturing titanium pigments?—A. Yes. We realized that we must re-
2731 duce the cost in some way. Our composite pigment Titanox-B cost in the neighborhood of 13 to 15 cents a pound to make and we sold it for less during the period between 1920 and 1925.

Q. Well now, have you yourself done any work in the sulfuric acid attack method of manufacturing pigments?—A. Yes.

Q. Will you describe that?—A. We had done considerable work on that prior to this operation by the sulfide

process. I think that it might be well to mention the fact, I did say earlier, that it was known to attack titaniferous iron ores with sulfuric acid. And in 1912, just after we had got started, a patent was issued to a man by the name of Weintraub and was assigned to the General Electric Company, and it describes the process of dissolving the iron ore, titanium iron ore, ilmenite particularly it mentions, in sulfuric acid, the reduction of the iron to the ferrous state, and the separation of the titanium by hydrolysis from the solution. We of course tried to find methods that would give us a relatively pure titanium oxide without danger of infringing that patent at the time. And these sulfide methods were distinctly different.

Q. Did you work in the field described or indicated by Weintraub in an effort to find a better or non-infringing method of—— A. Well, we worked with sulfuric acid
2731a solutions of ilmenite in an experimental way, but not looking forward at the time to using the method commercially. We began to see the other patents that were being taken out relative to the direct sulfuric acid attack of ilmenite.

2732 Q. What patents do you refer to?—A. I refer to the Titan Company patents.

Q. You mean the Jebsen patents?—A. Well, we learned about the important Jebsen patent a little later. But there were some that came out I believe earlier than that, but the Jebsen patent, the one that I refer to—I think there were several Jebsen patents, but this one I am referring to suggests the solution of the iron and the titanium with a lesser amount of sulfuric acid than we had believed possible. Even Weintraub recommended about twice the weight of the ore. But the Jebsen patent showed that the proportion of sulfuric acid to titanium might be about half what we had calculated or what Weintraub had calculated.

Now, that was an entirely different process and the Titan Company were able to obtain a patent. We were rather anxious to have the rights to operate under that patent because we recognized it as a cheaper method than the methods we had developed.

Q. Was it just a cheaper method or was it a substantially cheaper method?—A. Well, it was substantially cheaper; also, it was simpler.

Q. Had you prior to this been able yourself to approach the result obtained under Jebsen's by the application of sulfuric acid?—A. Will you please repeat that?

Q. I just wondered if you yourself in any of your ex-

perimental work had approached the results de-
2733 scribed by Jebsen in his patent.—A. We didn't do very much work with the basic solutions, such as described by the Jebsen patent, until we had later made an arrangement with the Titan Company.

Q. Was it your opinion that for you to use the process described by Jebsen would be an infringement on Jebsen?—A. If we used it?

Q. Yes.—A. Yes.

Q. Well, now, did you know of the arrangements that were made in reference to the Jebsen patent between the Titanium Alloy Company or the Titanium Pigment Company and Dr. Jebsen's company in 1920?—A. Yes.

Q. What effect did that have on your research and manufacturing operations?—A. Well, as soon as there had been an arrangement made, we immediately started to investigate the methods of the Titan Company, particularly the use of the basic solutions. We knew that we had in the composite pigments an article that would find a market. By that time we had established that. Now, if we could find some cheaper method of making it, instead of costing 13 to 15 cents a pound, if we could get the cost down maybe to even 7 to 8 cents a pound, we would probably be able to make some sales. So, we started to investigate the Titan Company methods as soon as arrangements had been made.

And during the year 1920, the latter part of the
2734 year, and 1921, we concentrated on that work in a research way. Of course you understand that we had to adapt those processes to the preparation of the product that we had already developed and which we knew would be successful as pigment products. The composite pigments particularly we were interested in.

Q. Why was that?—A. Well, we had entirely different ores, for one thing, and we found that in our basic solutions we could not use quite as little acid as shown by Jebsen's patent, but still we could make some saving; and even if we did not make any saving in acid the simplicity of the process would enable us to produce our composite pigments at a lower price.

Q. Did any of the Jebsen patents, that is the Titan Company patents, refer to composite pigments at all?—A. There might have been one in a way referred to, but not in a material way.

Q. Was it possible under the Jebsen process to make a high quality TiO_2 pigment, or did you do further work on that?—A. Well, we really didn't determine at that time

just what could be done with TiO_2. The fact is that what we were trying to do then was develop the composite type of pigment. We believed that that pigment because of its relatively greater hiding power and tinting strength would be preferable to the pure titanium oxide. We oper-
2735 ated the plant with the old sulfide process up until about 1925, notwithstanding the fact that we knew we could successfully operate by the methods of the Titan Company; we did that because we wanted to continue to supply customers with pigment notwithstanding the fact that we were manufacturing at a loss. And we preferred to do that rather than change the plant at that time at Niagara Falls, because it seemed better to build a new plant, which we did, at St. Louis, and the plant at St. Louis was designed to operate by the solution process. As soon as that plant was in operation and could take care of the business that we had developed, then we converted the Niagara Falls plant to operate by the solution process.

Q. That involved, I take it, putting the Jebsen patents into practice?—A. Yes.

Q. On a commercial basis?—A. Yes.

Q. Now I want to ask you about another patent or group of patents. Did the Blumenfeld patent come to your attention?—A. Well, that was a little later.

Q. When did that occur?—A. I can't tell just exactly the date that I was first acquainted with the Blumenfeld patents. But I might explain that we had been interested in making composite pigments, and a little later Commercial Pigments Corporation, I believe it was, first made titanium oxide using the Blumenfeld patents, if I am not mis-
2735a taken; I think that is correct. And then we bent our efforts to the development of the titanium oxide that would be of good pigment quality, and we made one which was quite an excellent product, and would compare, we thought, favorably to the product that was being made by the Commercial Pigments Corporation. But that process was relatively expensive as compared with the process that we gathered was being used by the Commercial Pigments Corporation.

2736 Q. Did you examine the Commercial Pigments Company product to determine its purity?—A. We did have products, yes.

Q. And did you find that it was relatively high in purity?—A. No, they were rather free from impurities.

Q. No. I say that it had a high degree of purity.—A. Yes.

Q. And so therefore a high quality?—A. High quality, yes.

Q. And did you then look into the claims of the Blumenfeld patents at all?—A. Every patent that was issued on titanium and particularly titanium pigments, got some attention and I was intrigued with the value of some of the Blumenfeld patents.

Q. If you can put your finger on the outstanding teaching of Blumenfeld would you describe to us what Blumenfeld did that you thought was of particular value?—A. Well, I cannot give you the patent number.

Q. I am not asking for that.—A. But he took out a patent which related to the hydrolytic separation of titanium from a concentrated titanium solution, and he did it after he had obtained the right concentration of solution. Blumenfeld first prepared a titanic sulfate solution of proper concentration and added it to hot water during a regulated period of time. That was supposed to separate a colloidal form of titanium first, and as a result he
2737 got thereafter, by continued heating, a good yield of titanium oxide in the relatively concentrated solution.

Q. And was that a better yield than you were able to get?—A. Our experiments with that process of that patent indicated that it was about the best that we knew of at that time.

Q. Now during this period that you were selling at less than cost, did you go into the matter of forming an association with other companies? Did you consider joining forces with any other companies in order to strengthen your financial situation?—A. Prior to our arrangement with the Titan Company, several large companies were approached with the idea of getting financial assistance to carry on. There was Pittsburgh Plate Glass Company, New Jersey Zinc Company, the du Pont Company——

Q. And the National Lead Company?—A. And the National Lead Company.

Q. And did those companies send their representatives up to examine the work that you were doing there?—A. Yes. Each of those companies sent representatives to Niagara Falls to look over the plant which had been built, and looked over the processes, and we had general discussion on the merits and so forth.

Q. And the one that decided to go ahead on this was the National Lead Company, I take it?—A. Yes.

2738 Q. Was that at or about the time that the arrangements with Dr. Jebsen were made?—A. Yes. It practically coincided. Of course I was not an official of the company and those things were handled by the officials, so I did not know all about the details of those arrangements. I believe—this is just—I better not put this on the record.

Q. You were not concerned with the management of the company?—A. That is right.

Q. And what you knew you knew from the effect on the operations in the plant?—A. Yes. I consulted, of course, with our own officials and also during these negotiations I consulted with various officials of the National Lead Company.

Q. What was the purpose of that consultation?—A. Well, to let them know just exactly what we had and put the cards on the table.

Q. Did you tell them about the Jebsen patents?—A. Yes, I told them what I thought about them, and their advantages, and so forth.

Q. And I assume you told them what you told us this afternoon, that it represented a cheaper and a simpler method of getting a good result, is that correct?—A. That is right, and which to them meant to them if they would just join forces with us, there would be competition.

2739 Q. Now directing your attention to another subject for a moment, what was the situation with reference to the sale of pigments when you first started attempting to sell them, titanium pigments? What other pigments were important at that time?—A. Well, we had white lead, lithopones, zinc oxide, and some so-called basic sulfates and sublimed white leads, and so forth.

Q. I believe you told us that the first industrial product by the solution method was in 1922, is that correct?—A. By the solution process?

Q. Yes.—A. I believe, yes, in 1922, we made an experimental run, using the solution process.

Q. But it was not until the St. Louis plant was completed that you—— A. That we operated regularly.

MR. WEBSTER. That is all.

THE COURT. We will suspend at this time until tomorrow morning.

(Adjourned until Wednesday, January 24, 1945, at 10:30 a.m.)

2740 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, ET AL.

NEW YORK, January 24, 1945, 10.30 o'clock a.m.

Trial resumed.

LOUIS EDWARD BARTON, resumed the stand.

Mr. WEBSTER. If I may, your Honor, I would like to make two or three corrections.

The COURT. All right.

Direct examination continued by Mr. WEBSTER:

Q. Mr. Barton, on page 2737 I am reported as asking you this question:

"Q. Now, during this period that you were operating at less than cost, did you go into the matter of forming an association with other companies?"

Now, I should have said and you understood me to say, or thought I should have said, "selling at less than cost"; is that correct?—A. Well, I thought that you meant that while we were operating in such a way that we sold for less than cost.

Q. That is correct. Now, toward the end of your testimony in connection with your statement that the representatives of other companies, namely, Pittsburgh Plate

2741 Glass Company and the du Pont Company and then the National Lead Company, had been in touch with you and after you had testified that the arrangement between the Titan Company A/S and the Titanium Pigment Company took place in 1920, at a time coinciding with your further development work, I asked you certain questions about your conversations with the National Lead Company concerning the Jebsen patents, and at the foot of page 2738 I asked you this question:

"Q. And I assume you told them what you told us this afternoon, that it represented a cheaper and a simpler method of getting a good result, is that correct?" To which you are reported as giving this answer: "A. That is right, and which to them meant to them if they would just join forces with us, there would be competition."

Now, would you like to correct that answer?—A. Well, I don't——

Mr. DIXON. May it please the Court, I think that was the witness's answer.

The COURT. The witness may be called upon to explain or modify.

Mr. DIXON. All right. I just thought he was correcting it.

The COURT. We just don't strike out the text. This is supplementing the examination.

A. There is something wrong with that. I don't
2741a think that I said that at all. But I do remember referring to competition. Now, that term probably should not have been used, because what I meant was that if they didn't join forces with the Titan Company there would be danger of conflict. What I had in mind particularly was the matter of conflict with patents.

2742 Q. Now, you at that time had a process under which you could make composite pigments, did you not?—A. Yes.

Q. And Dr. Jebsen had a process by which pigments could be made more simply and more economically, is that correct? A. Correct, yes.

Q. And then what was the advantage to you of being able to use the Jebsen patents?—A. These composite pigments could be made either from the solutions which were prepared from those, what we might call them, crude titanic oxide. I described them yesterday as substantially pure or relatively pure. Now we could use that material or we could use ore. We could dissolve ore in acid or we could make these composite pigments. Of course we were not free to use the direct attack of sulfuric acid on the ore so we would be obliged to resort to our own processes under which we first prepared a substantially pure, that is a crude, titanic oxide largely separated from the iron.

Q. In a nutshell the advantage to you was getting access to Dr. Jebsen's direct attack?—A. The direct attack on the ore with sulfuric acid.

Q. I failed yesterday to refer in my examination to the Titanium Pigment Company. When was that company organized and what was its relation to the Titanium Alloy Manufacturing Company?—A. I believe that the Titanium Pigment Company was organized somewhere just
2743 prior to 1916, but I cannot tell positively. I would have to dig into some records somewhere to tell you just exactly when that happened. It might have been a little earlier; it might have been as early as 1914. I cannot say positively.

Q. And were you employed in the interests of both companies?—A. Yes.

Q. And the titanium pigment patents that you discussed yesterday, were those assigned to the Titanium Pigment

Company?—A. I assume that they were. Of course that was a formality that took place with the officials of the company.

Q. And the arrangement that was made with Dr. Jebsen's company, that, according to your understanding, was an arrangement with the Titanium Pigment Company?—A. Yes.

Mr. WEBSTER. That is all.

The COURT: Just to note a small correction in the schedule of corrections on page 2639, the first line, you corrected "has three sways" to have it "have it three ways." I think the word should be "free-sway."

Mr. WEBSTER. I think we can accept that, your Honor.

Mr. DIXON. May it please the Court, I have a couple other suggested corrections to make on the record for the previous day; at page 2630 it has been directed to my attention that the word "not" was left out in your
2744 Honor's statement with reference to the purpose for which the exhibits were being offered by the Government. I believe that should read "the Government is entitled to show that some of these arrangements have not been abandoned or may be only suspended."

And in yesterday's transcript, page 2711, I find when I rose to make an objection that if I did not say it what I intended to say was "We feel that the best evidence would certainly be the patent" and then "if relevant, the opinion of the author of the document himself with reference to any one of these particular patents, would be incompetent."

The COURT. The reporter evidently thought you said that. I see a pencil notation of it in my copy but erased.

Mr. WHITNEY. I have a few very short ones, but I think them important enough to trouble about.

On page 2668, fourth line from the bottom, "one European country" should be "one European company."

On page 2670, second line, "constantly" should be "consistently."

And on the same page, second full paragraph, third line from the end "1940" should be "1941."

At the bottom of page 2671, second line from the bottom, "Williams" should be "Williamson."

2745 Page 2688, and this is the most important, the middle of the page, the full paragraph, line 9, there should not be a "not", "assuming, arguendo, that they are in a position of illegality."

Page 2691, the end of the paragraph that is continued

over from the top of the page, that is to say lines 9 and 10 of the page, the quotation mark should go to the end of the paragraph instead of after the word "fault". And the fourth line from the bottom of the same page, much as we all revere the memory of Mr. Justice Holmes——

The COURT. All right. We will put "The Common Law" in caps.

In what order do you want to proceed with cross examination. Do you want to proceed now, Mr. Whitney?

Mr. WHITNEY. Mr. Dixon and I have discussed it a little bit, pleasantly, but I think without agreement. My view was that as Mr. Dixon has a controversy with Mr. Webster that he should go first, and that if I then thought there was something that I should ask it would seem your Honor would afford Mr. Dixon the opportunity of cross examining on my issue. In other words, I am by no means supplementing Mr. Webster with respect to these witnesses. I am either indifferent or in conflict.

The COURT. I would say normally we would require the co-defendant to cross examine before the Govern-
2746 ment, but I think there may be some special circumstance here which warrants a departure from the general rule. I have no objection to asking Mr. Dixon to proceed now and if you develop anything new Mr. Dixon will get another crack at it.

Mr. WHITNEY. Your Honor has been liberal about giving people a second crack anyway. At least you have been liberal to me, and I suppose in a three-cornered case it arises——

The COURT. Bound to be. I think the thing to do is not to get unduly exercised about these rules.

Mr. WHITNEY. Of course I deferred the issue with Mr. Dixon because I thought perhaps your Honor would come in this morning sustaining the motion to dismiss but that has not arrived as yet.

The COURT. That decision reserved is intended to remain until the end of the case.

Mr. WHITNEY. I fear when I put in any evidence that the decision will have to carry over to the ultimate motion, will it not?

The COURT. Well, there is still something left in the cases about the motion at the end of the plaintiff's case.

Mr. WHITNEY. We have so little of the pleasant procedure left let us hang on to that.

2747 Mr. DIXON. Your Honor, at this time then, if that is to be the order of procedure on cross examination

of witnesses, we will waive an examination of this witness, reserving to ourselves the right you have already suggested.

The COURT. But you understand now that if you do that you will be limited in your cross examination to such matter as Mr. Whitney develops on further examination. In other words, I take it you have no cross examination of the direct testimony developed by Mr. Webster?

Mr. DIXON. That is right.

The COURT. Very well.

Mr. WHITNEY. Well, will your Honor allow me to be deemed to have completed my cross examination?

The COURT. All right. You are excused.

(Witness excused.)

2748 CHARLES F. KAEGEBEHN, called as a witness on behalf of the defendant National Lead Company, having been previously duly sworn, testified as follows:

Direct examination by Mr. WEBSTER:

Q. Mr. Kaegebehn, you have already testified that you are the head of the Patent Department of the National Lead Company. Will you tell us what that department consists of?—A. May I ask if you are inquiring into the number of people in the department?

Q. The number of people in the department.—A. When we are fully staffed, which we are not at this time, it consists of myself and an assistant and three young ladies.

Q. When did you become the head of the Patent Department of the Lead Company?—A. About March 1st, 1937.

Q. Did the Lead Company have a patent department prior to that?—A. No, sir, it did not.

Q. Do you know how they handled their patent matters prior to that date?—A. The various divisions and subsidiaries would handle their own patent affairs. Patent application on such inventions as arose from the general National Lead laboratories were prepared and filed and prosecuted by outside attorneys. The titanium cases were handled through different attorneys. But before 1937 and after 1934 I constituted a patent department for the

2749 Titanium Pigment Company and the Titanium Division.

Q. What time was that, 1934?—A. That is right.

Q. The patent department that you have described is the patent department for the Lead Company as a whole, is that correct?—A. That is correct.

Q. That includes a number of divisions other than the Titanium Division?—A. That is right.

Q. Would you mind just naming the other principal divisions of the Lead Company?—A. The principal divisions of the Lead Company which are active patent-wise would include our so-called Magnus Division and our Baroid Division.

Q. Have you had occasion to become familiar with patent departments of other companies engaged in the manufacture of chemicals?—A. In a general way, yes, sir.

Q. Are you acquainted with the size and personnel of that part of the patent department of the du Pont Company that is concerned with titanium pigments?—A. I have met the gentlemen and have had dealings of mutual interest with them.

Q Comparing your department in respect of size to the patent department of the du Pont Company, concerned with titanium pigment matters, is your patent department large or small?—A. I think we are somewhat smaller.

Q. As the head of the patent department, what
2750 are your duties and functions?—A. The patent department is supposed to have general supervision over the patent activities of the company. That is, a rather general grant of authority; it includes the examination of inventions made by our technologists, the preparation, filing, prosecution of patent applications, negotiation of license agreements, either to take licenses under patents of other parties or to grant licenses under patents of National Lead Co.; to pass on questions of infringement when such may arise, either whether we are infringing patents of other parties or other parties are infringing our patents.

Q. Do you work with the scientific or technical men in connection with their applications for patents?—A. Yes, sir.

Q. How is that work carried on?—A. Well, in answer to that question I can illustrate our procedure with the Titanium Division. There we have a liaison man who is a technical man himself, and periodically he confers with me on the various patent proposals before they reach the stage of applications. Where necessary, we call in for consultation the inventor himself. Generally speaking, this technical man is able to bring to these meetings as much information of a technical nature as is required.

Q. Is it your practice to make applications for patents

on every invention that is presented by members
2751 of the technical staff?—A. No, sir.

Q. What is your practice and policy?—A. What is presented by the technical staff is called a "proposal for patent." The inventor himself may suggest some phase of his work as having in his opinion novel features, or perhaps one of the supervisory laboratory authorities reading the report will suggest to us something in the nature of a patent proposal. And then it is the function of the department to express an opinion on its inventiveness. So that we do not apply for everything that comes into our department by any means. We have a great many proposals that never reach the Patent Office.

Q. Have you any standard or guide that you apply in deciding whether or not to ask for a patent?—A. We have general principles rather than firm rules; but of course the most important criteria is its relation to our manufacturing operations. If the proposal is one which is in operation or is shortly to be put in plant operation we bend every energy to prepare and file that application promptly. As it recedes in interest from our commercial operations, the pressure of filing is correspondingly diminished. In determining that we are guided by the advice of the head of our research laboratory and technical director of the Titanium Division.

2752 Q. Do you maintain in your office a file of all the patents of the National Lead Company?—A. Yes, I do.

Q. Do you make it your business to be familiar or to at least have notes which enable you quickly to become familiar with the contents of those patents?—A. Yes, sir.

Q. Is that true in respect of the patents relating to the titanium pigment business?—A. It is particularly true of those.

Q. Now, have you also become acquainted with and do you maintain files relating to the patents that belong or did belong to the Titanium Pigment Company?—A. Yes, sir.

Q. And is the same true with reference to the Titan Company, Inc.?—A. Yes, sir.

Q. I believe you said earlier that you had an official connection with the Titan Company, Inc., is that correct?—A. I am the secretary.

Mr. WEBSTER. May I have these marked in the order in which they appear?

The COURT. Are you a chemist by profession?

The WITNESS. Yes, sir.

Q. Did you practice chemistry?—A. Yes, sir.

Q. For how long a time?—A. Well, after leaving Stevens Institute, in 1928, from 1928 until about 1934, March 1, 1934, I was engaged in practicing chemistry in two aspects:
2753 one, so-called sales development, technical sales work, and the other in research work.

Q. Did that have reference to titanium pigments?—A. The research work was done for the National Lead Company between the years 1930 and 1934, and the principal object of the work was to determine the compatibility of the white pigments of National Lead Company—that would include titanium pigments—with the then available oil soluble synthetic resins.

Q. What was the objective of that work?—A. Well, as I stated, to determine the compatibility of the white pigments of the National Lead Company with the vehicles containing synthetic resins. Synthetic resins were just at that time becoming of interest as substitutes for natural resins in paint films.

Q. Can't you just put that in language we can understand?

The Court. He wants to know whether you can make white plastics——

The Witness. No, sir. Whether we could——

Q. Put it in language that we can all understand.—A. Whether we could pigment surface coatings such as paint and enamels with white pigments when those surface coating compositions contain synthetic resins as distinguished from the natural resins.

Q. Have you kept abreast of technical developments
2754 in this country and abroad in respect of titanium pigments since your appointment as manager of the patent department of the Lead Company?—A. I have tried to do so.

(Defendant National Lead Company's Exhibits NL-3, NL-4, NL-5, NL-6 and NL-7 marked for identification.)

Q. I show you a National Lead Exhibit 3 for identification and ask you if you prepared that?—A. I did.

Q. What does that contain?—A. It contains a digest summary of the United States patents to inventors other than L. E. Barton listed in Schedule A of the agreement of 1920.

Q. Are you acquainted with the exhibit that was identified yesterday by Mr. Barton as showing the patents in which he was the inventor or co-inventor?—A. Yes, I am.

The Court. National Lead Exhibit 2.

Mr. Webster. Yes, your Honor.

Q. Is this intended to carry forward that exhibit so as to include patents of inventors other than Mr. Barton?—A. That is right.

Q. I show you National Lead Exhibit 4 for identification and ask you if that was likewise prepared by you?—A. That was.

Q. What does that contain?—A. This contains a
2755 digest summary of the United States patents of Titan Company A/S, listed in Schedule B of the Agreement of 1920.

Q. I show you National Lead Exhibit 5 for identification and ask you if you prepared that exhibit?—A. Yes, I did.

Q. What does that contain?—A. This contains a digest summary of the United States patents covering inventions made by employees of the Titanium Pigment Company and National Lead Company, made after 1920; in other words, supplementary to those listed in the agreement of 1920.

Q. Now, finally, I show you National Lead Exhibit 6 for identification and ask if that was prepared by you?—A. This was also prepared by me.

Q. What does that show?—A. This is a digest summary of United States patents owned by du Pont or its predecessor Krebs which were used by the National Lead Company.

Q. Mr. Kaegebehn, did you work on the answer of the National Lead Company to the plaintiff's interrogatories served September 28, 1944?—A. Yes, sir.

Q. Did you collaborate in the preparation of the answers to those questions?—A. I did.

Q. Turning to page 15 of the answer to the interrogatories, where there is an answer to paragraph 2 of the interrogatories by Mr. Knoff, Mr. Kingsbury and Mr. Barton, did you have anything to do with the preparation of that answer?—A. Yes.

2756 Mr. Dixon. I am sorry, I did not get the question.

Mr. Webster. I said did Mr. Kaegebehn have anything to do with the preparation of the answer to question number 2, which appears on page 15 of the answer.

Mr. Dixon. You mean of the answer to the interrogatories that were filed, that is already in evidence?

Mr. Webster. That is right.

Q. And is that also true of the other questions contained in the interrogatories?—A. All except the last one, which I believe is number 7.

Q. How about that one?—A. I think that is purely a commercial question, is it not?

Q. It is.—A. All I did was to receive the information given me and put it in form.

The COURT. You say those interrogatories are in evidence?

Mr. DIXON. They are, your Honor, but not in exactly the same form as the exhibit that Mr. Webster is referring to.

Q. Now, Mr. Kaegebehn, I hand you Exhibit No. 7 for identification and call your attention to the fact that that is a printed copy of the answers of National Lead Company to the interrogatories, on which there have been placed certain notes. Were those notes placed
2757 there by you?—A. Yes, sir.

Q. Are they in your handwriting?—A. Well, that is my printing.

The COURT. Still made by you by your hand?

The WITNESS. That is correct.

The COURT. All right, it is your handwriting.

The WITNESS. Yes, sir.

Q. I thought you called that lettering.—A. I believe that is right.

Q. Not printing. Now, first directing your attention to the notes on the righthand side of each of these pages, what are those notes intended to show?

The COURT. Has this paper been marked for identification?

Mr. WEBSTER. It has been. It is Exhibit No. 7.

The COURT. But the paper with the notes has not been marked for identification?

Mr. WEBSTER. Yes, it has.

The COURT. Government's Exhibit 7?

Mr. WEBSTER. No. This is National Lead Company Exhibit 7.—A. They are intended to show very briefly what the context of the patent is. They are in the nature of explanatory titles.

Q. So that if a person were to go through this
2758 page by page and look at the notes in your handwriting on the righthand side of the page, he would get in as few words as possible your understanding of the substance of each of these patents, is that correct?—A. That is correct.

Q. Now, those statements are so brief that you would not regard them as an entirely satisfactory description

of the patent, would you?—A. No, indeed. They presuppose some prior knowledge of the subject matter.

Q. Now I notice next to each of the patent numbers here, or next to a great number of them, you have either a single check or a double check. What are those intended to show?—A. They are intended for my reference. They tell me in which of two collections of digests I might find that particular patent more detailed.

The COURT. Are you going to take us in on the code?

The WITNESS. I said they tell me——

The COURT. I know they tell it to you, but are you going to give the secret of the code so that we too might know in what collection you are referring to?

The WITNESS. I have the——

The COURT. What does that one check mean?

The WITNESS. That means they are in what I call my T. case digest.

2759 The COURT. What does the double check mean?

The WITNESS. That means that it is described in some notes on the patent aspect of this case that I prepared for Mr. Webster.

The COURT. They don't refer to documents in evidence?

The WITNESS. No, sir.

The COURT. All right.

Q. On the lefthand side of the page of a number of these pages you have placed in your handwriting the word "used." Now, where you have done that have you had in mind any particular definition of the word "used"?—A. As I have indicated on the first page, "used" means commercially used.

Q. If I may refine the definition a little further, what is meant by the expression "commercially used"?—A. Well, there I borrowed from our patent terminology and used that phrase somewhat equivalently to what we understand to be a public use, in the sense that if it got into the plant process and the product resulting therefrom was sold I would call that a commercial use of the invention.

The COURT. As opposed to experimental laboratory or model construction?

The WITNESS. That is correct, sir.

Q. Directing your attention to page 2 in the left-
2760 hand column, and perhaps elsewhere in this Exhibit 7 for identification, you have the expression "use patent." To what does that refer?—A. That refers to a patent covering a composition containing titanium dioxide or a way of using titanium dioxide or titanium pigment.

In other words, uses to which the products made by our National Lead Company, that is the titanium product, could be put.

By the COURT:

Q. You do not mean process patents?—A. Well, if, for instance, there was a patent covering a method of making paints.

Q. That would be a process patent.—A. That is right, but I would call it a use patent, because it would be a method for utilizing titanium pigments.

Q. There is no such terminology as "use patent" in the patent law?—A. That is right.

Q. You point that phrase to serve your purpose?—A. That is correct.

By Mr. WEBSTER:

Q. Now, there has been a reference before here to so-called T. cases, and I have undertaken to make statements about T. cases. I would like to ask you to explain to the Court just what you mean by, first, the expression "T. case" and then the significance of the T. numbers

2761 attached to a number of the patent numbers on this exhibit number 7.—A. The T. case number is a designation used by the National Lead associated titanium companies to designate a particular invention, and all patents and applications covering that invention, no matter where filed throughout the world, are designated by that number. For example, if we apply for a patent in the United States we send a copy of that to Titan Company in Paris. They designate that case with a T. case number and henceforward every other application, no matter where filed, and every other patent issued covering that invention is designated by that T. case number.

By the COURT:

Q. That is your filing scheme?—A. That is correct. Now as I use it here alongside of a United States patent, it indicates the T. case number of the invention and if one goes further into these pages where foreign patents are listed and finds that T. case number it is at once evident that foreign patent covers the same invention as the United States patent.

Q. It would not necessarily mean that the two sets of claims are verbal identities?—A. No, sir; it means substantially the same.

By Mr. WEBSTER:

Q. So that to the extent that the same T. case
2762 number appears in this Exhibit No. 7 more than once, that is a symbol, a designation of the issuance of a patent elsewhere covering the same invention?

The COURT. Not necessarily.

Mr. WEBSTER. Covering substantially the same.

The COURT. I say not necessarily indicating it has been filed. It simply means it has been identified with a tag so if filed elsewhere it would still be identified elsewhere in their private filing system by that number.

The WITNESS. That is right.

Mr. WEBSTER. That is much more accurate.

Q. Now, Mr. Kaegebehn, if you will look at page 7 of National Lead Exhibit 7 for identification, the word "abandoned" appears after a number of the patent application dates. What does that signify?—A. Without reference to the individual files of each case I could state in a general answer to your question that it means we were unsuccessful in convincing the Patent Office to grant us a patent.

Q. Are there any other ways in which the word "abandoned" may be used in this connection?—A. It is used generically and it might cover, for example, a situation where we prosecuted the case to final rejection and perhaps went to the Board of Appeals but went no further. It might mean that after the first action the anticipatory
reference cited were so convincing that we just did
2763 not continue the prosecution. It would cover any possibility where we failed to get the patent through.

Q. Now are there cases in which subsequent to the filing of the application there was further invention which rendered the prior application less attractive or perhaps even nugatory?—A. That occasionally happens, and I do recall one or two instances in respect of my work with these titanium applications where the original application as filed is found to be defective but further knowledge indicates that it ought to be revived, and that we resort to a procedure known as filing a continuation case and allowing the original to become abandoned.

By the COURT:

Q. In such cases of course you try to retain the original filing date, if you can?—A. To the extent there is common subject matter.

Q. To the extent you can persuade the examiner?—A. That is correct.

By Mr. WEBSTER:

Q. If you will please look at page 5 of this exhibit, there is a note there on the lefthand side with reference to the Canadian patent. Will you explain that to the Court?—A. I am afraid, sir, it does not appear on this one.

Q. I may have an earlier copy. I will withdraw that, then. I note that there is no equivalent patent or
2764 invention indicated with reference to the Canadian patent numbers. Is there any explanation for that?—A. The explanation is that they were the very early Canadian patents applied for by the Titanium Pigment Company and the Titanium Alloy Company, and the original documents were never in my possession, and I never took the trouble to obtain copies, and hence I have had no opportunity of comparing their equivalency.

Q. Are there any other notes on that that I have failed to refer to that you would like to explain in order to make this exhibit quite clear?—A. On page 8, under the early British patents of Titanium Pigment Company, which do not bear T. case designations I have tried to indicate the United States patents to which they are most nearly equivalent, and that is true of other countries as we go along.

On page 19 and elsewhere where the designation "W" with a number following it appears, those are designations which I used to designate war cases, which could not be circulated between all of the associated Titan companies, particularly applied by the British Titan Products Company, National Lead Company and Canadian Titanium Pigment Company to cases which would pass between them.

Now beginning page 21, the designation "DK" followed by a number appears, and that is the designation
2765 used by the Titan companies for cases originating with du Pont.

On page 17, following the date alongside of certain patents owned by National Lead Company, I have placed initials "I.G." following patents Nos. 1,738,765 and 1,758,472, which indicate that although the National Lead Company owned the patents, and I believe as issued, the invention originated with an employee of the IG Company, and the same situation applies where I have used the designation "A.S.", TG and ICI.

Q. In respect of patents, are you familiar with the expression "stream of developments"?—A. Yes, in a general way.

Q. How would you define that expression?—A. Perhaps you could consider it as the flow of development, inventions, improvements, skill of the art in the line of one's processes, the projection of their activities as they go along; improvements one upon the other, leading ultimately, we always hope, to the most economic and efficient processes and the best possible products.

Q. Now based on your knowledge of the titanium pigment patents that we have been discussing, and applying that definition of the expression "stream of developments", are you in a position to express an opinion as to whether the patents and the applications for patents that have been discussed here in the case of the National
2766 Lead Company are within the stream of development?—A. I believe I am in a position to say that they are, and I do so say.

Q. Are you familiar with the expression "blocking," and "fencing"?—A. I am.

Q. Will you define those expressions.—A. Well, I regard them as loose expressions, but the connotation is usually a bad one. The idea of a blocking patent, when one speaks of a blocking patent, one generally means a patent taken out by someone to place an obstacle in the way of a competitor's development. Now "fencing" is somewhat the same, creating by a series of patents a fence around your competitor so he cannot break out and develop his processes or, say, damming up his stream of development.

Q. To your knowledge has the National Lead Company with reference to applications for patents in respect of titanium pigments ever engaged in the practice of fencing or blocking?—A. No, sir.

Mr. DIXON. Just a minute. I object to the question, obviously.

The COURT. So to the answer, very obviously, too. We will suspend for a few moments.

(Short recess.)

2767 The COURT. Your objection is overruled. That would not prevent you from developing on cross examination that they did not have any competitors to put any fences around.

Mr. WEBSTER. Your Honor is very helpful. In view of your Honor's remark I think I will ask Mr. Kaegebehn one further question.

By Mr. WEBSTER:

Q. Mr. Kaegebehn, I am going to read to you a statement from an opinion of Mr. Justice Roberts in the

Hartford-Empire case and then based on that statement I am going to ask you a question.

The COURT. Is the statement in evidence?

Mr. WEBSTER. Well, I would think that examining a witness of this character I could read him any statement as a basis for an opinion.

The COURT. I was still in a jesting mood. Go ahead as long as you do not ask him whether he agrees with Mr. Roberts' opinion.

Mr. WEBSTER. I shall not ask him that. I think it would be almost accurate to say that this statement is in evidence in one way or another.

Q. "Much is said in the opinion below, and in the briefs, about the practice of the appellants in applying for patents to 'block off' or 'fence in' competing inven-
2768 tions. In the cooperative effort of certain of the appellants to obtain dominance in the field of patented glass-making machinery, many patents were applied for to prevent others from obtaining patents on improvements which might, to some extent, limit the return in the way of royalty on original or fundamental inventions."

Now applying that language to the activities of the National Lead Company, did the National Lead Company ever apply for patents to prevent others from obtaining patents?—A. No, sir.

Mr. DIXON. The same objection, your Honor.

The COURT. Overruled.

The WITNESS. I should like to make a comment to that answer, Mr. Webster.

Q. All right. We will be glad to have you.—A. Where a patent issues and a person has reason to believe that they invented the subject matter of that patent prior to the patentee, it is perfectly proper to file an application to provoke an interference to determine who was the first inventor. We have been involved in some interferences, not with issued patents, but only to the extent that we are contesting the invention on the basis of who invented it first.

Q. Now I am going to ask you to look again at National Lead Exhibit 7 for identification, and ask you if you
2769 recall being here when reference was made by Mr. Dixon to a letter from Mr. Thompson concerning the expiration of patents of the Titanium Pigment Company in 1933 or 1934 or 1935? Were you here when that letter was presented?—A. Yes, sir.

Q. And do you recall the substance of that letter?—A. Yes, I think I do.

Q. Now, what was Mr. Thompson's position?—A. He was with the Titanium Alloy Company originally and I think he held an officership or directorship in the Titanium Pigment Company, and it is my recollection this is Mr. Andrew Thompson we were talking about and he was writing to Mr. Evans McCarty and he was saying that our patent position will expire as of a certain date and we had better get busy and push the commercial development of these pigments.

Q. Have you any opinion on that subject?—A. You mean as to his letter?

Q. Yes.—A. Well, I think he failed to recognize that there would still be in force beyond the date that he had in mind, which I believe was between 1932 and 1934, the fact that there would still be in force important patents.

Q. Now in fact would any patent that was used according to your definition after those dates be regarded as an important patent?—A. Yes, indeed.

Q. Now will you point out examples of patents that were in use after that date which, in your opinion,
2770 are important patents and indicate the expiration dates?—A. In general any patent which I have designated in the left as having been used which expired after that date would be considered by me of importance. Some of those had more importance than others, and I point particularly to page 3, just above the printed designation "B" to the case marked T.47, patent No. 1,859,027, which was issued November 29, 1932, and there I might add that the application was filed some years prior on an invention made even earlier than that, so that that case was, in my mind, unquestionably in existence at the time Mr. Thompson wrote his letter, and the patent was issued to Mr. W. F. Washburn and I have designated that it covered tank digestion, by which I mean covers the method of attacking the ore with sulfuric acid in a specially constructed apparatus. It is used universally, as I understand it, by all the companies that make pigments based upon a process where sulfuric acid reacts with the ore. It is a very important patent in my opinion.

Q. Have you in mind any other examples? I don't want you to spend too much time on it.—A. In my opinion I would regard, on the same page, a little further down under the heading "B" cases designated T. 77A and T.78. Now those patents issued in 1933. They were filed in 1929 and they cover the composite titanium dioxide,
2771 calcium sulfate pigments which we market today and they cover them as product claims and method

claims. Briefly they disclose the method of making a most suitable type of calcium sulfate and the use of that in the preparation of the composite, and these inventions had been made and were in existence and the patent cases had been filed when Mr. Thompson wrote his letter.

Now just one more example: At the bottom of the page, the very last case, T.67, an application filed in 1931 in the name of L. W. Ryan and issued as a patent in July 1933—well, it was testified I think by Mr. Barton yesterday that we had a process for making a titanium oxide which in quality could compete with the product of the Commercial Pigments Company. Now this patent T.67 was one of those patents covering that method. Briefly it was a precipitation of the titanium hydrate from a solution by pouring the titanium solution into hot water which contained an organic acid, or an organic acid together with phosphoric acid. So that was an important patent at that time and it was in existence at the time Mr. Thompson wrote his letter.

I might add also that his date was prior to the expiration of some important patents of the Jebsen group.

Q. What ones particularly?—A. As I recall it, his expiration date was fixed between 1932 and 1934, and the very important Titan Co. A/S patents did not expire until 1937.

2772 Q. Mr. Thompson was really looking at this from the standpoint of the Titanium Alloy Company, was he not?—A. In my opinion looking at it from the standpoint of the patents of the Titanium Pigment Company had from the Alloy Company; their own inventions; their own patents.

Q. Mr. Kaegebehn, are there patents and processes for manufacturing titanium pigments other than the, using the words broadly, National Lead process or the du Pont process?—A. Yes, sir.

Q. Can you indicate what those are? I mean just the groups or classes of patents.—A. I am aware of patents which might be said to cover two different processes, one the so-called Burgess process and the other the so-called Muskat process in which the Pittsburgh Plate Glass Company was interested. In addition I am aware of patents relating to the preparation of titanium pigments, but I do not believe could be considered as covering a distinct process.

Q. To your knowledge has the Sherwin Williams Company expended substantial sums of money within recent years in connection with the Burgess process?

Mr. DIXON. I object to that, your Honor. The best evidence would be the records of the Sherwin Williams Company.

The COURT. Yes.

Do you know?

2773 The WITNESS. Yes, sir.

The COURT. How do you know?

The WITNESS. I was told by——

The COURT. Objection sustained.

Q. Have you visited the plant?—A. Yes.

Q. And have you seen the work being done there?—A. Yes.

Q. And the equipment being used?—A. Yes.

Q. Now I ask the question again.

Mr. WEBSTER. Unless your Honor thinks it is still improper.

The COURT. No, go right ahead.

Q. Can you say of your own knowledge, which was the form of my question, whether the Sherwin Williams Company has expended substantial sums of money in connection with the Burgess process?

Mr. DIXON. I still object to the question and ask this witness if he knows of his own personal investigation, whether that is the fact.

The COURT. He has testified that he made a personal inspection and that he saw the equipment, and I think he ought to be permitted to draw the rather common inference that large pieces of machinery cost money and therefore involves substantial expense. Go ahead.

A. My visit was in the year 1938, made to their plant at Gloucester City, New Jersey. They had bought a

2774 rather large piece of property, it was formerly a shipyard, and they had converted one of the buildings to a pilot plant, and then they continued their activities for quite a few years before they abandoned that. I understood that they have now discontinued their activities. Basing my answer on what I saw, I should say up to that time they must have put in several hundred thousand dollars. That is, the year 1938.

Q. Have you any personal knowledge of expenditures made by the Pittsburgh Plate Glass Company in connection with their process?—A. No, sir.

Q. Were these other processes and patents to which you have referred offered to the National Lead Company?—A. The Burgess process as covered by the Svendson patents were offered to the National Lead Company. We also had

an option to acquire rights in the Muskat patents of Pittsburgh Plate Glass.

Q. Did you reject the suggestion that you buy the Burgess process, the Burgess patents?—A. We did.

Q. Did you give up your option on the Pittsburgh Plate Glass process?—A. We did.

Q. Was there any reason for that?—A. Yes. Neither process seemed to add anything to what we were doing; they didn't possess sufficient interest.

Mr. WEBSTER. If the Court please, I should now
2775 like to offer in evidence National Lead Exhibits for identification 3, 4, 5, 6 and 7.

The COURT. Is there objection?

Mr. DIXON. Your Honor, we object to No. 7. We must state that we have been somewhat overwhelmed by the mass of information which is contained on that exhibit. It seems to us that the best evidence, if this is to be offered in evidence at all, would be the patents themselves plus this exhibit. Obviously, we have not had an opportunity to check into the various comments made by this witness on the patents that are listed in this exhibit which number far in excess of 500 or so. It would seem to us that if it is to be offered the patents should also be made a part of the exhibit itself.

The COURT. Well, for the reasons that I indicated on yesterday I think I shall overrule your objection. Manifestly, since this witness testified that he prepared this memorandum, nobody could seriously object, considering the large volume of material it represents, if he used this document to refresh his recollection. And, in an antitrust suit without a jury I am not going to stand on the punctilious application of the rule that we can only use it one way and that we can't read it directly.

The exhibit will be received and so will the others.
2776 (National Lead Exhibits 3, 4, 5, 6 and 7 for identification received in evidence.)

Mr. WEBSTER. That is all.

Cross examination by Mr. DIXON:

Q. Mr. Kaegebehn, I believe you stated that you examined the Burgess process and also one in which National Lead did some work with the Pittsburgh Plate Glass Company. That is correct, is it?—A. I don't think I said that National Lead did any work with them.

Q. Well, it is a fact, is it not, that, with reference to the Pittsburgh Plate Glass Company, the National Lead

Company had an option on that process with the Pittsburgh Plate Glass Company and, in conjunction with that company, spent considerable money in investigating that process and finally dropped it; that is a fact, is it not?—A. I don't think we spent any money in conjunction with them. We paid them each year for I think two years a certain sum of money to keep the option alive, and we spent certain moneys testing the products which they submitted to us.

Q. In any event National Lead spent some money on this Pittsburgh Plate Glass process, so-called, for the purpose of simplicity, and finally dropped its interest in it; that is correct, isn't it?—A. That is correct.

Q. With reference to the Burgess process, so-called, that was investigated by National Lead as early as 1935
2777 and 1936, wasn't it?—A. That is correct, as I recall it.

Q. You found it not of interest to National Lead Company at that time; is that correct?—A. That is right.

Q. Or any subsequent time?—A. That is right; that is my recollection.

Q. So that we can say as a proctical matter that the sulfuric acid process which is the one, for the purposes of simplicity, that we will describe as being used by National Lead and du Pont Company, and Virginia Chemical Company and the American Zirconium Corporation, is the only process used commercially in the United States today, is that correct?

Mr. WHITNEY. Your Honor, I object to the question as assuming facts not in evidence.

The COURT. It is admissible. He is asking the question is that so.

The WITNESS. I don't understand just what the question is, Mr. Dixon.

The COURT. All right, you had better reframe your question.

Q. You have described the two processes, the Burgess process and the one on which some investigation work was done by Pittsburgh Plate Glass Company, is that correct? Pittsburgh Plate Glass Company is not manufacturing titanium pigments under that process, are they,
2778 today, to your knowledge?—A. To my knowledge they are not.

Q. And as far as the Sherwin Williams Company is concerned, you say that to your knowledge they spent some money on the Burgess process. Are they producing to

your knowledge a satisfactory product under that process today, the ammonium chloride process, so-called?—A. No, sir.

Q. So that eliminating those two processes, is there any other process than the sulfuric acid process, so-called, for purposes of simplicity, used by any other company in the United States today in the manufacture of titanium pigments?—A. Not that I know of.

Q. So that of the companies engaged in the production of titanium pigments in the United States today they are the National Lead Company, the du Pont Company, the American Zirconium Corporation and the Virginia Chemical Company; is that correct?—A. That is correct.

Q. And from your knowledge as a patent official of the National Lead Company, all of those companies named use what we will call the sulfuric acid process; is that correct?—A. That is my understanding.

Q. That is to say, that is the basic element used to attack the ilmenite from which, after various operations are gone through, that you finally get a titanium pigment product; is that correct?—A. That is correct.

Mr. WHITNEY. Would you just repeat that question?

2779 (Question read.)

Mr. WHITNEY. I still don't know what the question means.

The COURT. It is not necessary for counsel to understand it, it is only important that the witness should understand it. Go ahead.

Mr. DIXON. What was the answer?

(Answer read.)

Q. Now as head of the Patent Department of National Lead Company, you testified you were in charge of the preparation and filing of patent applications for the company; is that correct, Mr. Kaegebehn?—A. Yes.

Q. State, if you know, whether, when an application for a patent is filed with the Patent Office, the substance and the material contained in that application is available to the public generally?—A. It is not.

Q. In other words, there is no information available from any patent application to the public until the patent is issued; is that correct?—A. That is correct.

Q. Now in the preparation of your applications for patents in the titanium business in the United States for National Lead Company, you of course have access to certain information from your own company on which you

base your application; is that correct?—A. Information concerning the invention which I am——

Q. That is right, on which you base your appli-
2780 cation.—A. That is correct.

Q. Would you say it would be helpful to you in preparing that application to also have available to you information from other companies in the same business?—A. I don't understand that question.

The COURT. You mean the prior art?

Mr. DIXON. That is right.

Q. The technical experience or exchange of technical information, would that be helpful to you in determining whether or not, first of all, you were dealing with patentable subject matter?

The COURT. I will take the judicial notice that if he knows the extent of the prior art it will help him to decide whether or not a new process or a process that he has developed is an advance over the prior art or not.

Mr. DIXON. I am sorry, I did not get the answer.

The COURT. The answer is that I take judicial notice of the obvious, that if you know the prior art you know the prior art.

Q. Well, in preparing an application to be filed, Mr. Kaegebehn, in the titanium pigment field, would it be helpful to you in preparing that application to have copies of proposed applications available to you from other companies in the industry——

Mr. WHITNEY. Your Honor, that is objected to on the ground that——

2781 Q. ——relating to the same subject matter?

Mr. WHITNEY. ——it is ouside the issues in the case, as there is no issue made as to whether or not Mr. Kaegebehn has available to him proposed applications, and that the Government has not proved that he does have available to him proposed applications of the du Pont Company, and the Government has affirmatively proved that he has not for many years had available to him proposed applications of the du Pont Company.

The COURT. When you say "proposed applications," are you distinguishing that from "applications"?

Mr. WHITNEY. Yes, I am.

The COURT. I don't know whether counsel intended it.

Mr. WHITNEY. I don't know what he intends. I have to take his word.

The COURT. I don't know what the words "proposed applications" mean. I will sustain the objection and let

you reframe your question.

Mr. DIXON. All right, your Honor.

Q. Do you recall the blended pigment application matters, Mr. Kaegebehn, with the du Pont Company?—A. Yes, sir.

Q. Is it a fact that in connection with the negotiations relating to that matter which resulted in the execution of a license from du Pont to the Titan Company in 1937
2781a of a blended pigment application that that application had been filed outside of the United States at the time the information relating to that application in the United States had been filed in this country?—A. I don't understand that, Mr. Dixon.

The COURT. I share your predicament, so we will ask Mr. Dixon to reframe the question.

Mr. DIXON. I am sorry, the question is rather involved. I will withdraw the question and reframe it.

2782 Q. Were there any foreign patent applications filed on the blended pigment patent?—A. Yes, sir. There were foreign applications filed corresponding to the United States application covering the invention of making blended composite pigments.

Q. And were these applications filed abroad at the time the patent application on the blended pigment matter was made available to you by the du Pont Company in the United States?—A. I do not know.

The COURT. Are you trying to find out whether he was able to see the application before the patent issued?

Mr. DIXON. That is right.

The COURT. Did you see the application before the patent issued?

The WITNESS. I saw the United States application.

The COURT. You saw the United States application before the patent issued?

The WITNESS. Yes, sir.

The COURT. All right.

Q. Based upon that application, you prepared for Titan Company certain applications which were thereafter filed in foreign countries; that is a fact, isn't it?—A. No, sir.

Q. Who prepared those applications which were subsequently filed in foreign countries?—A. The situation
2783 with respect to the blended pigment patent cases——

Q. I understand. I am asking if you can answer my question: Who prepared those applications which were filed in foreign countries? Can you tell the Court?—A. Du Pont.

Q. And they were transmitted to you?—A. No, sir.

Q. Will you state to the Court, then who filed those applications?—A. Du Pont.

Q. And the applications for filing in foreign countries then were transmitted to you, or, I mean, were transmitted directly by du Pont for filing?—A. That is correct.

The COURT. Through their own patent agents abroad?

The WITNESS. Yes, sir.

The COURT. All right.

Q. Was that procedure followed in the subsequent licenses to the Titan Company in 1938?—A. Subsequent licenses——

Q. Of certain applications, patent applications, of the du Pont Company?—A. Other than the blended pigments?

Q. That is right.—A. No, it was not.

Q. What was the change in the procedure that followed in the filing of those applications in the foreign countries in the 1938 license from du Pont to Titan?—A. Subsequent to the blended pigment case——

Q. That is right.—A. Du Pont would send to me as assistant secretary of Titan, Inc., copies of their
2784 applications filed in the United States. I in turn would send those copies to Paris to Titan Company, Inc. there, who in turn would send copies to the associates of Titan, Inc., namely, British Titan Products, Societe Industrielle, Titan Gesellschaft, and others, and Titan Company A/S; and in due time they would inform me that their associates would like to have a corresponding application filed in a certain country. I would so inform du Pont and endeavor to obtain their consent to this. And if I obtained their consent I would so advise Titan Company, Inc., who in turn would prepare the application and forward to me the necessary papers for execution, which I would transmit to du Pont for execution. That is the way the procedure would work out.

Q. Now, after 1938 were the patent applications of the Titan companies made available to the du Pont Company in the United States before they were filed in some instances?—A. They were made available to the du Pont Company after June, 1938.

Q. Even before they were filed in some instances in the United States?—A. Not before they were filed, no, sir.

Q. Well, in any event they were made available to them before any patents were issued; that is a fact, is it not?—A. That is correct.

2785 Q. And they were not thus available to any other companies in the industry, that is the Virginia

Chemical company—were they made available to them?—A. No, sir.

Q. Were they to your knowledge in all cases made available to American Zirconium Corporation?—A. No, sir.

Q. So that the du Pont Company was the only company who had access, shall we say, to the patent applications of Titan Company, Inc. in this country before any patents issued?—A. That is correct.

Q. Now in connection with this matter of patent applications, would you say it would be of assistance or value to a research department of any company engaged in the titanium pigment business to have access to the material contained in a patent application prior to the issuance of any patent by the United States Patent Office?—A. It might prove helpful.

Q. It is a fact, is it not, that it would indicate to that patent department information which in turn might be transmitted to the research department of that company, what you have called the stream of development in this industry; that is a fact, isn't it, Mr. Kaegebehn?—A. I think your last question was, would it be helpful to a research department to have access to this knowledge contained in applications, and I said it might be. Now you are saying something about a patent department, and I don't understand the question, this last one.

2786

The COURT. Well, manifestly, it might have caused a germination of an idea in the mind of an investigator when he sees what somebody else has done in the field, of course.

The WITNESS. Yes, sir.

The COURT. Or he might see about the same time, if he had been struggling with the problem, that it has been solved by someone else, and he sees what has been done. He finds that out three or four years ahead of the time that he would find out if he waited until the time came up.

The WITNESS. Just so.

The COURT. These things are more or less self-evident, I should imagine.

Mr. DIXON. All right, sir.

Q. The two companies that I have previously referred to, the American Zirconium Corporation and the Virginia Chemical Corporation, do they manufacture composite pigments to your knowledge?—A. It is my understanding that the American Zirconium did; I do not know whether it is manufacturing any titanium pigments today. It had

suspended operations sometime ago; but I don't understand that the Virginia Chemical does, although I am not clear on that at all.

Q. Well, now, you mentioned a so-called Washburn patent 1,889,027; is that correct?—A. I would have to see it, to find if you give me the correct number. It is the Washburn tank digestion, I refer to.

Q. That was the patent I think you said was perhaps overlooked by Mr. Thompson when he wrote the letter that you mentioned, which patent was issued in November of 1932, as I recall your testimony.—A. That is right. The patent number is 1,889,027.

Q. The National Lead Company was manufacturing principally—well, manufactured, in 1932, composite pigments, wasn't it?—A. Yes, sir.

Q. And also what we call a pure pigment?—A. Its pure pigment business at that time, as I understand it, was a rather small part of its business.

Q. Well, the substantial portion of the business of National Lead at that time was in the composite field, wasn't it?—A. That is correct.

Q. Say, in 1932?—A. That is correct.

Q. It had been, though, manufacturing a pure titanium pigment so-called prior to that time in some quantity, some amounts?—A. Relatively small amounts, as I understand it.

Q. Now the Washburn patent so-called, which you have referred to, was that used in connection with the manufacture of a pure pigment or of a composite pigment or both?—A. Both.

2788 Q. So to that extent it was more or less what you call one of these improvements in the field of the manufacture of titanium pigments—an improvement patent; is that correct?—A. It has been brought out here that—well, in one sense Yes and in another sense No.

Q. Well, in what sense was it an improvement then? Let us take it that way.—A. It was an improvement in the art of reacting ilmenite with sulfuric acid. Now, from the practical point of view it was considerably more important because it enables one to carry out several steps, initial steps, in the one device. So, economically and technically it was much more than a mere improvement.

Q. How long were you using that patent? National Lead Company of course was manufacturing and producing composite pigments without using the Washburn patent so-called prior to the date of the issuance of that patent, wasn't it?—A. Yes.

Q. And without using the so-called Washburn digestion tank or whatever description you want to place upon the use of that patent—— A. The best answer I can give you is that we adopted it as soon as Mr. Washburn reduced it to practice.

Q. Well, it was in a sense, then, an improvement in the method manufacturing either a TiO_2 or a composite pigment, is that correct? Would that be a fair state-
2789 ment?—A. It was a decided improvement.

Q. Do you know whether Virginia Chemical Company, for example, was manufacturing a TiO_2 and was using the Washburn process?—A. Yes.

Q. Is it using the Washburn process, I mean this patent that you have described that Mr. Thompson overlooked?—A. In my opinion, yes.

Q. And you notified them of the infringement application or gave them notice of infringing that patent in 1936 or thereabouts, did you?—A. Yes.

Q. Nothing further was ever done by the National Lead Company in enforcing that patent or in determining its validity, was there, Mr. Kaegebehn, by National Lead Company as against the Virginia Chemical Company?—A. We didn't litigate it against Virginia Chemical.

Q. Do you know the reason why no litigation was filed to enforce the alleged infringement of this Washburn patent that you say was overlooked by Dr. Thompson in 1932?—A. I don't know the reason.

Q. Did you ever recommend the bringing of suit to determine the validity of that patent in the courts of the United States?—A. I pointed out to our officials that in view of the disagreement as to infringement and non-infringement, they were perhaps letting an important patent go infringed.

2790 Q. So in this particular instance, as far as you know, to your knowledge, this so-called important patent overlooked by Dr. Thompson in 1932 was never even passed upon by any court, is that correct?—A. It has never been litigated.

Q. And your company, as far as you know, never saw fit to have the validity of that patent passed upon by any competent court in the United States?

Mr. WEBSTER. Your Honor, I hesitate very much to object——

The COURT. I sustain the objection. It is repetitious.

Mr. WEBSTER. Repetitious, and that the answer would be immaterial.

Q. Do you know why the National Lead Company was not interested in adopting or acquiring either this Burgess process or the Musket process that you have described, Mr. Kaegebehn?—A. As regards the Musket process, after two years we came to the conclusion on the basis of our examination of the quality of the products periodically submitted to us, that it was not potentially valuable as far as we were concerned.

Q. Nor commercially feasible; is that correct?—A. Yes, I think that is correct.

Q. Is that also true of the Burgess process, from
2791 your investigation of it?—A. That is substantially correct, too.

Q. From your investigation of these processes as a patent man, can you state to the Court what in your judgment was wrong with those two processes?—A. That is not the opinion of a patent——

Q. I am sorry, I did not get your answer.—A. That is not the opinion of a patent man, to say what is wrong with the process.

The Court. He said they did not produce a sufficiently good product.

The Witness. I was not speaking then as a patent man, sir. I was speaking as a technical——

Q. Can you describe the process to the Court so that he will have some notion of what they were?

The Court. How much good will that do?

Mr. Dixon. All right. I will withdraw the question, your Honor.

Q. The exchange of patent applications also took place between the du Pont Company and the National Lead Company on patents filed by either of those two companies in the United States before issued, did it not?—A. Yes.

The Court. In the field of titanium products.

Mr. Dixon. That is right.

The Witness. That is correct.

2792 Q. Do you know to what extent the research information or technical information was exchanged between these two companies before—or during the years up till the time it was terminated, in 1940?—A. Will you repeat that, please?

Q. Technical information, exchange of that information. Do you know to what extent?—A. Yes, I know.

Q. Well, can you state to the Court in a general way what that covered and included?—A. As finally determined, it included knowledge as to developments for which

$5,000 had been set aside to be spent, or spent on; and knowledge of any developments that had gone into plant process. But it excluded pure research. I shouldn't say "pure research." It excluded the activities of the research laboratories until the development had had $5,000 spent on it, or during the time, to be spent on it, as I understand.

Q. So that I am clear on it, you say that information in the research departments of the two companies was not exchanged until $5,000 had been spent on research on a particular matter, is that correct?—A. I am not clear whether the $5,000 had to be spent or whether if it was to be set aside to be spent, exchange took place.

Q. Do you know of your own knowledge what kind of information was made available to the National
2793 Lead Company by the research department say of du Pont Company?—A. Well, if the research was a project upon which this $5,000 had been spent or, as I said, maybe set aside to be spent on it, then my understanding is that it was exchanged.

Q. Did you ever have any conferences with any representatives of the du Pont Company with reference to proposed patent applications on matters in which the two companies were engaged in research work?—A. Only to the extent that the proposed application had a relation to one already filed.

Q. You have testified, I believe, that there was to your knowledge some exchange of technical or research information between the two companies, but the extent to which it was exchanged you are not certain.—A. That is clear, that is right.

Q. Would you say that the exchange of such information would be of assistance to your research department or your development department in aiding perhaps in the volume that might be poured into the stream of development that you have described?—A. Yes.

Q. And this information, to the limits that you have defined or mentioned, was not available to the Virginia Chemical Company by your company, was it?—A. We had no agreement with Virginia Chemical at all.

2794 Q. And you necessarily, therefore, did not exchange even very minor, so-called—or, you didn't exchange any kind of technical information with the Virginia Chemical Company?—A. No, sir.

Q. Do you recall whether or not the American Zirconium Corporation was, for example, able to witness the

Washburn attack in your plant after having requested so to do?—A. They were not.

Q. And would that information, secured by being able to witness what we called the Washburn attack, be of assistance to anyone else in the same business, in enabling them to overcome any difficulty that they might have in manufacturing titanium pigments?—A. It would be helpful.

The COURT. That is why he did not let them see it.

The WITNESS. No; there is another explanation for that.

The COURT. I mean, if it were innocuous he wouldn't have made any point about it.

Mr. WEBSTER. That is not true, your Honor.

The COURT. All right. I withdraw it.

Mr. WEBSTER. I will reserve a question on that for the witness.

Q. How many patents relating to the titanium
2794a pigment business would you say have been issued to the National Lead Company and the du Pont Company in this country?—A. I have no idea. I never counted them.

2795 Q. Do you know how many are in effect today, Mr. Kaegebehn?—A. No, sir.

The COURT. Can you get them from counting them off on Exhibit NL-7?

The WITNESS. Yes.

The COURT. Do that during the recess.

Q. And when you do that, Mr. Kaegebehn, would you also count off the number that are used by the National Lead Company?

Mr. WEBSTER. I thought your Honor was suggesting that Mr. Dixon might count them off.

The COURT. I was addressing myself to Mr. Dixon. The document is in evidence.

Cross examination by Mr. WHITNEY:

Q. Mr. Kaegebehn, with reference to du Pont patent applications, you do not today receive proposed applications not yet filed, do you?—A. No, sir.

The COURT. Are you using the words "proposed applications" as distinguished from applications?

Mr. WHITNEY. Yes.

The COURT. What is a proposed application?

Mr. WHITNEY. That was the only question during the entire examination that I objected to.—A. Proposed application would necessarily, in my view, be one not yet filed.

2796 The COURT. I thought that meant it was abandoned and withdrawn. If you want to use it, go ahead, unless you define what you mean by it and you and the witness get together.

Mr. WHITNEY. Well, your Honor, this is not going to be a very long examination.

The COURT. Very well.

Mr. WHITNEY. I am going to try to convey to your Honor what I think are facts upon which there never had been any dispute before this witness took the stand but in respect of which I was afraid the prior cross examination would mix us up, because the prior cross examination never made any distinction as to dates, except in one minor particular. That is the vital point about all this.

The COURT. Go ahead.

Q. I mean by proposed patent applications, Mr. Kaegebehn, applications not yet filed. Is it to that meeting that you responded that you do not now see proposed du Pont applications?—A. We do not today nor did we ever receive proposed applications, meaning in the sense of applications not yet filed.

Q. You never received them?—A. No, sir.

Q. Do you today receive du Pont applications six months or later after their filing?—A. Yes, sir.

2797 Q. And has that been the rule since the first of 1941?—A. Yes, sir.

Q. Under the existing agreement with du Pont you receive a non-exclusive license to operate under that patent, to operate the invention described in that application, do you not?—A. Yes, sir.

Q. And reciprocally, you provide du Pont with your patent applications not less than six months after their filing; is that correct?—A. We mail them out six months from the filing date.

Q. Are these always exchanged immediately upon the expiration of six months or are they sometimes delayed?—A. The understanding is that it should be six months. I have inadvertently let the period go longer, and occasionally I get them maybe one or two weeks after six months from du Pont.

Q. Your relations with du Pont are governed today by the agreement of January 1, 1941, Exhibit E-3, are they not?—A. Well, January 1, 1941, is an amendatory agreement.

Q. Yes.—A. I would say they are governed by the agreement of January 1, 1933, as amended in January 1, 1941.

Q. Right. I accept your correction. And that you would say?—A. Yes.

2798 Q. Turning now to the nature of the process operated at du Pont; you testified that both du Pont and National Lead attack the ilmenite along similar lines; is that correct?—A. Well, I don't get the context.

Q. Would you phrase it in your own way?—A. Both du Pont and National Lead Company, according to my knowledge, practice the digestion which I call the Washburn tank digestion process.

The COURT. With the use of sulfuric acid.

The WITNESS. Yes, sir.

Q. I do not want to confine the present questions to Washburn. I am talking now about the general and overall nature of the process or processes. And I understand that you say that they have a similar method of attack?—A. Yes, that is correct.

2799 The COURT. Yes. The method of attack of course is one short stage in the process.

Mr. WHITNEY. Thank you, your Honor. That makes my cross examination much shorter, because it was going laboriously to prove that point.

The COURT. The attack deals with the handling of the ore in the first state.

The WITNESS. It solubilizes it. It makes it soluble.

Mr. WHITNEY. I think the record will show that that was the only part of the process to which the question was directed and the answer given.

The COURT. Correct, and I was not deceived.

Q. Your knowledge of the du Pont operation is based upon the operation as it was in effect up to the spring of 1940, is it not, so far as it is knowledge as distinct from hearsay?—A. That is correct.

Q. Has opportunity or invitation been given to you or to other officers or representatives of National Lead or Titan Company to visit and inspect and examine the du Pont plants since that time?—A. Not to my knowledge.

Q. The Washburn patent to which you referred was only one of a great many patents, one which you selected as an example of your view that Mr. Thompson had either been wrong at the time in 1932 or had subsequently been

2800 proven wrong in considering that all important patents would expire by 1934, is that not right?—A. Yes; I chose that as an example only.

Q. Does your company today exchange any technical information with American Zirconium Corporation?—A. No, sir.

Q. Did your company ever exchange technical information with American Zirconium Company?—A. Yes, sir.

Q. When did that cease?—A. In the spring of this year the American Zirconium agreements were terminated in conjunction——

The COURT. Spring of this year?

The WITNESS. Yes, sir.

Mr. WHITNEY. 1944.

The WITNESS. I beg your pardon.

Mr. WEBSTER. March, 1944.

Q. Did Virginia Chemical Corporation at any time ask your company to exchange information with it?—A. Virginia Chemical?

Q. Yes.—A. No, sir.

Redirect examination by Mr. WEBSTER:

Q. To your knowledge did the Zirconium Company install a Washburn tank?—A. Yes, sir.

Q. And did it use the Washburn tank?—A. Yes, sir.

Q. And did it get any assistance from us in the use
2801 of the tank?—A. It did.

Q. What assistance did it get?—A. It got blue prints, services of our engineers who assisted them in the installation of it.

Q. Did men familiar with the Washburn tank process spend time, that is, men from the National Lead Company, spend time with the Zirconium Company, teaching the Washburn tank attack?—A. They did.

Q. And was assistance of that sort ever denied to the American Zirconium Company?—A. Not to my knowledge.

Q. Was anything denied except the actual inspection of the manufacture of titanium pigments in the plant of the National Lead Company?—A. According to my knowledge that was the only denial.

Q. And what was the reason for that?—A. We had installed in our plant many of the developments of du Pont under our license agreement and we were not in position to give them access to that information, that kind of information.

Q. Was there some difference of opinion in your own organization as to what you should do about that?—A. Well, I think I differed some. I thought perhaps we could go a little beyond what we did, but I did not have to make the decision.

Q. In that respect Mr. Garesche was your superior
2802 officer?—A. That is correct.

Q. And it was for that reason that you have

assigned that he declined to permit the Zirconium Company to inspect the actual manufacture of titanium pigments in your plant?—A. That is my understanding.

Q. Do you recall the negotiations with the Virginia Chemical Company?—A. Yes, sir.

Q. And did you have some part in those negotiations?—A. I did.

Q. And did the National Lead Company ever refuse to grant a license to Virginia Chemical Company?—A. No, sir.

Q. Did it ever refuse to grant the Virginia Chemical Company a license to use the Washburn tank?—A. I must answer that this way: we never refused to license them under our patent, but we said that we were prevented by our contractual obligations from licensing them under individual patents of our group.

Q. Did you consider the Washburn patent a valid patent?—A. Yes, sir.

Q. Did you, as a patent lawyer—and this is in connection with a number of Mr. Dixon's questions—consider that it was necessary to bring an action of some sort to determine the validity of the Washburn patent?—A. I considered it to be valid as issued.

2803 Q. As a patent attorney, don't you know that the question of validity is normally raised by way of defense to an action for infringement?—A. Yes.

Q. Now when you described the Burgess and Muskat processes in answer to Mr. Dixon's questions, you were referring to the value of those processes or patents from the standpoint only of the National Lead Company, were you not?—A. That is correct.

Q. And they were not considered as attractive because they added nothing from that standpoint of value?—A. That is correct.

Q. And your answer was limited to that particular point of view, is that correct?—A. Yes, sir.

Mr. WEBSTER. That is all.

The COURT. Is there anything further, Mr. Dixon?

Mr. DIXON. Just a moment.

The COURT. We will adjourn now and resume at two-fifteen.

(Recess until 2:15 p.m.)

2804 AFTERNOON SESSION

CHARLES F. KAEGEBEHN, resumed the stand.

Recross examination by Mr. DIXON:

Q. Mr. Kaegebehn, you were asked by Mr. Whitney as to whether or not under the 1933 contract as amended you were now exchanging patent applications only within or after six months from the date of filing, is that correct?—A. I believe so.

Q. Now from your experience in the patent work will you state to the Court how long an interval of time elapses, on the average, between the filing of an application for a patent and the issuance of that patent in the titanium field?—A. It varies so widely—

The COURT. Several years would be as fair a guess as any?

The WITNESS. Yes. That would be all right.

Mr. DIXON. That is all.

Redirect examination by Mr. WEBSTER:

Q. Are you in a position as a patent attorney to give your opinion as to what Titan Co. A/S had to offer, patentwise to the Titanium Pigment Company?

The COURT. In 1920 I assume?

2805 Mr. WEBSTER. In 1920, yes.

A. In my opinion they had to offer a process that was complete from the initial step to the final step for making relatively pure titanium dioxide, and that process, in my opinion, was chemically and technically very important and interesting.

Q. What, in your opinion, did the Titanium Pigment Company have to offer Titan A/S patentwise?—A. A process which started with a titanium solution made, for example, by the fusion method described by Mr. Barton or, for instance, prepared also by the Jebsen attack, for making composite titanium pigments which was very important in those days. As Mr. Barton testified at that time they were concentrating their commercial development on composite pigments.

Q. In 1933 what, in your opinion, did the Titanium Pigment Company or the National Lead Company have to offer du Pont?

Mr. DIXON. If the Court please, I object to the question. I think that is a matter for the Court to determine.

The COURT. Really, yes. It is argument, but I suppose if Mr. Kaegebehn wanted to get off the stand and make

that argument I would listen. I am not going to draw the line because he happens to be facing the bar
2806 instead of the other direction.

Go ahead, Mr. Kaegebehn.

A. I should answer that question this way: I think that Dr. Blumenfeld had made a very important contribution—important is my opinion—in this art, particularly what has been referred to here as the seeding hydrolysis. We can perhaps look at that as the method for causing to exist in the titanium solution minute centers or nuclei around which the titanium in the solution can grow, and finally fall out as a precipitate. It enabled a control of the hydrolysis procedure. Now that contribution was in the hands of the Commercial Pigments Company and came into the hands of Krebs. We had the contribution to offer that they could avail themselves of this Titan Co. contribution, the Jebsen attack, the hydrolysis of concentrated solutions in conjunction with the Blumenfeld contribution, plus the Goldschmidt calcination. In other words, the Blumenfeld and this contribution we had enabled them to operate that process. They, in turn, had to offer us this Blumenfeld contribution and, with some minor differences, certainly shortly after the agreement of 1933, both companies operated a substantially identical process; that is to say, we adopted the Blumenfeld precipitation plus other things perhaps of minor importance, the salt calcination, and they adopted
2807 these contributions that were contained in the Jebsen or Titan Co. A/S patents which we had.

I might also mention the Wrigley and Spence patent which was a Titan Co. A/S contribution. We purchased that patent covering the removal of iron sulfate from solutions prior to hydrolysis. In other words, we freed them and they freed us to that extent.

Mr. WEBSTER. That is all.

Recross examination by Mr. DIXON:

Q. So that by both companies using the same processes as you have described the products would be substantially the same, would they not?—A. Yes, I would say that.

Recross examination by Mr. WHITNEY:

Q. Mr. Kaegebehn, am I right in my understanding that the agreement—I don't mean written but I mean whatever agreement it may be—under which National Lead and Titan got the right to see the du Pont patent applications six months after they are filed is non-exclusive and du

Pont is free to make the same agreement with any third party without objection from National Lead or Titan?—A. That is correct.

(Witness excused.)

2808 GUSTAV ADOLF JEBSEN, called as a witness on behalf of defendant National Lead Company, being first duly sworn, testified as follows:

Direct examination by Mr. WEBSTER:

Q. Dr. Jebsen, of what country are you a citizen?—A. Norway.

Q. Referring to your last trip to the United States, how long have you been here, that is, since what date?—A. Well, I arrived from Paris during July, on the 15th, 1940, and since then I have been up in Canada once or twice for short visits.

Q. Dr. Jebsen, what is your profession or occupation?—A. Chemist I suppose is the nearest.

Q. Where did you receive your education?—A. First in Norway, and the education as a chemist I received in Germany, Switzerland and France.

Q. What degrees did you receive?—A. The Doctor degree at the University of Zurich, Doctor of Philosophy. I also took in Germany an examination after the first two years at the Technical Institute.

Q. In what business was your father engaged?—A. He was in industry, a textile manufacturer, and had several factories for textiles, and then he was a ship owner.

Q. Was that Fredriksstad?—A. No, in Bergen. I
2809 was born in Bergen. He was a member of the Norwegian Parliament once or twice.

Q. What have your activities in the United States been since your last arrival here?—A. I have been acting as an advisor in various matters with the National Lead Company, I have an office there, and I took part in the preparation of a magnesium factory here at one time and then I have been acting for the Norwegian Government in various capacities.

Q. Can you describe the capacity in which you have been serving the Norwegian Government?—A. I am chairman of the Advisory Committee on Industry in the Ministry of Supply and Rehabilitation, and also I am sitting on a council for the Purchasing Agency for the same Ministry.

Q. After you had received your technical education what did you next do?—A. I went first, for about a year, into

studying some business, and then I was also assistant in doing some work with a professor in Charlottenburg, Germany, and then in 1909 I went up to Norway, I had been offered a position with the Norwegian nitrogen industry, fairly newly started. However, I declined, but since that with this Titan matter.

Q. Will you just explain to the Court how it was you happened to get interested in the titanium business?—A.

2810 Yes, there was in 1907 or 1908, formed by the Government a Commission for investigating and studying the possibility of getting an iron and steel industry in Norway. One hundred years before there had been a relatively considerable iron industry and they wanted to see if they could not bring it up again. In connection with that investigation there was made a study of Norwegian iron ores and in the course of that they also came to the very large deposit of ilmenite and titaniferous iron ore on the southwest coast of Norway. One of the members was a Dr. Farup, and he was connected with the University also, and he got an idea of making some Red pigment by oxidizing the ilmenite. He had made some heating and calcining of ilmenite for the purpose of seeing if he could facilitate getting the iron out of this and that taught him that the ilmenite oxidized fairly easy. He addressed himself to a Dr. Eyde, who was the head of the Norwegian nitrogen industry, and the creator of that industry in Norway, and probably was the first to produce nitrogen in large industrial measure. It was in about 1905 that started. And Dr. Farup got him interested in the development of the use of the ore, so he asked me if I would take a hand in this and see what could be done.

2811 And so we got together, Dr. Eyde and a friend of his, Dr. Peterson, who was the head of a very large Norwegian carbide factory in Norway and one in Sweden. And it was up to me to develop the thing. And we put in some money, all of us.

Now, after about six months I came to the conclusion that this thing really had no economic future and there wasn't anything to be done with it. So that made me to see what could otherwise be done with this ore and brought me on the thought of looking into the titanium dioxide which was, after all, white, and see if something could be done with that. And as I found out then or rather—yes, found out I would say, that this titanium dioxide had this great hiding power—and when I say "great" it wasn't by far as great as we have it today, but it was considerably

more than the known pigments at that time. So I suggested to Eyde and Peterson that we should rather put our efforts in that direction.

Do you want me to go on?

Q. Yes. I wish you would just explain how you happened to develop the first stages in the titanium pigment.—A. Of course, the first problem was to get the iron out, and we started—well, before that, I would say we started just a little trial with sulfuric acid and got some tita-
2812 nium dioxide, just confirming again this hiding power, but as a pigment it was not particularly good at that time. I think I applied for the first patent on this in Norway in the spring of 1910, somewhere about that time. It was a very roughly drawn patent at that time.

Then we thought we should rather try to get the iron out first. And we started at a carbide factory with a furnace of about 2000 horsepower taking out the iron and got the titanium in the slag at a kind of calcium titanate. The idea was to treat this with nitric acid in the nitrogen factory I just talked about, make nitrate of lime and the titanium dioxide. However, we did not succeed in getting the slag sufficiently dissolved, so finally we had to drop that.

Q. I would like to have you lead us up as briefly as you can to your own sulfuric acid attack process.—A. Then, these kind of experiments cost too much, and I suggested to Dr. Eyde and Dr. Peterson that we should rather leave the thing in the hands of Farup, who in the meantime had got a Chair at the newly erected institute of technology in Trondhjom. And he carried on for a few years with various processes, one of them very similar to what they had up in Niagara Falls. I did not think that those were economic enough to really go ahead with.

In 1914 I was over here on other matters, business
2813 matters. I had gone into a firm called—a Norwegian company for Electro-Chemical Industry. That is a translation of the Norwegian name. I was here in 1914 and met—also called on W. F. Meredith. I did not know him before. I just happened to know that there was a titanium alloy company up at Niagara Falls, and we had titaniferous ore, so I wanted to see if we could sell some to him. I was at that time one of the managing directors of the electro-chemical company which had various interests. And sitting there and talking with Mr. Meredith, he told me about a property he had here which was so and so large and so and so wonderful.

Q. That is, ilmenite properties?—A. Ilmenite properties,

yes. And this reminded me of a letter we had received from a Norwegian-American engineer here who wanted to know if we were willing to sell a patent which had been taken out in Norway and here in the United States. And I asked if Meredith had a Mr. so and so in his service, and he said yes, he was, but not any more; "Why do you ask?" I told him about the letter which also mentioned the American ilmenite property. He said, "It is rather funny." And next day he phoned me and asked if I could see him again and he said, "Look here, will you sell us that patent?" I said, "No, it is not of interest, I don't think you should buy it at all." He said, "I will offer
2814 you $1500 for it and a royalty." I said, "No." He said, "You know more perhaps about titanium than you will tell me." I said, "Maybe." To which Meredith remarked, "I may know no more about titanium than I will tell you." Well, he——

Q. I just want to be sure that that is leading up to your final work on sulfuric acid.—A. Yes. This may be a little long, but I will very soon come to the point.

Anyhow, we were talking a little further and I found out that he was interested—that he was working on the idea of making titanium dioxide. And this naturally made me feel that we would have to go ahead a little bit quicker than we had been. So, I reviewed my experience in titanium in these experiments and so on and remembered certain reactions which had taken place at certain times between ilmenite and sulfuric acid under special circumstances.

That led me, when I came back, to say to Farup, "Now we are going to concentrate. I want to concentrate on making this titanium dioxide using only ore and sulfuric acid. Those are both relatively cheap materials, basic materials, the sulfuric acid, and not try all these other additions which you have been trying."

And I put a man, one young chemist, to do this. I said, "You pulverize the ilmenite and mix it with sulfuric acid
2815 and you just make—I would say a kind of paste more or less, and heat it and then we will get this reaction resulting in a cake; and then you will dissolve it in water and see how much you get dissolved."

We got about two-thirds dissolved. And, taking the residue in the same way he got the same again, two-thirds dissolved. So I reasoned that further development might bring up those recoveries considerably.

Then Farup, who had been very much opposed to this, because—he said, "You won't succeed"—I will just put

forth the following: When we dissolved this cake, we had, according to the literature, to dilute the solutions with water in order to get the titanium dioxide precipitated by boiling, hydrolyzation. We found that so much water was necessary that the handling would cost practically as much as the whole pigment might be worth, compared with the prices for other pigments at that time. And Farup said, "Well, there you are, you won't be able to get anywhere."

Then, after a little while I went down to the laboratory and said to this young chemist that he should take a cake of the kind he had made before, with the sulfuric acid, dissolve with water, take the solution and put on another cake and try to make as concentrated a solution as possible, and then boil it.

And after a few days he came back very happy, telling me that when he boiled this solution he suddenly got a white precipitate, and that was the titanium oxide. There
2816 we had at once, or in the course of a short time, found the solution to this problem,—where Farup had been working years, an economic attack on our ore. And this was a surprise, because the literature did not in any way indicate that we could get a precipitation or hydrolyzation from a concentrated solution. It was a new discovery at that time.

Q. Dr. Jebsen, was that the process that was covered in your famous patent?—A. Yes, that was covered in a patent, that is right. And having got that first step you will see that there were certain patents taken out in the names of various of my collaborators down there at the laboratory which actually followed that development. There was the Fladmark patent and there was I think the Olsen and Forland patent, and so on.

Q. And Goldschmidt?—A. Goldschmidt came considerably later.

Q. Now, when was the Titan Company A/S formed?—A. That was in 1916. These developments came in the Autumn and Summer of 1914, that I told you about. Then we tried to develop it in a pilot plant and so on, and when we thought we had got sufficient experience we formed the Titan Company A/S in the Autumn of 1916.

Q. Who were the owners, the shareholders in the Titan Company A/S?—A. That was this company in
2817 which I was manager, and——

Q. That is the Norwegian Electro-Chemical Company?—A. Yes. They owned the development at that time,

because when I became managing director, when I was asked to become the managing director of that company I made it a condition that this titanium development should be taken over by the company. I did not want to have any such dividend interest at that time, outside and so on. And they got a certain amount of shares, and all the rest was cash. I think I was the next largest shareholder.

Q. May I ask how much you invested in the company?—A. At that time, if I remember right, about 600,000 kroner of a capital of four million. Yes, 600,000, though altogether I invested over one million kroner.

Q. Will you translate that into dollars?—A. Well, the dollar was at that time worth—the par value was 3.72. At that time, during the war, the value was about 3 kroner. Norwegian currency was considerably above par.

Q. That is, 3 kroner to the dollar?—A. To the dollar at that time.

Q. What other interests did that company have?—A. Which company?

Q. The Titan Company A/S.—A. Well, they took over the patents, and then they bought the shares of a company which owned these mines, these mines on the west
2818 coast of Norway.

Q. By the way, is the ilmenite that comes from those Norwegian mines similar to the ilmenite now obtained from the McIntyre development?—A. Fairly similar. It is the closest to that, practically. I think the McIntyre is a little bit harder, I understand, and as crude ore McIntyre ilmenite is mixed in with magnetite, and then when you separate it and get your ilmenite out it is very much——

Q. What progress had the Titan Company A/S made in the development and manufacture of pigment up to, say, 1920?—A. Of course during the war it was very difficult to get machinery, and, therefore, we did not go ahead with the manufacturing operations before the late summer of 1919. Up to that time we had been just erecting and building the factory. And we started with a pigment which contained about 87 per cent of titanium dioxide. After we had precipitated, we put in some barium carbonate to neutralize the sulfuric acid, which was found in the precipitate or out of the sulfate, you might say, titanium sulfate. And that pigment we put on the market first in Norway and later we put it on the market in England to a very small extent. In Norway we made quite

a hit the first year. Of course, we put in a lot of money on propaganda. And the pigment was a very good
2819 pigment in many respects, but the color was not quite as white as it ought to be, and as we would like to have had it and as it is today. It was used chiefly for outside use. The difficulty that we encountered was that it was very expensive, and naturally we had difficulty in getting the high price which we had to ask in order to cover our expenses. In fact, we didn't cover amortization at that time and, to begin with, we were running with losses.

Q. If I may ask a question there, what was the situation competitively at that time with reference to other white pigments?—A. Well, I don't remember the prices now exactly.

Q. I don't care about that.—A. But I may just perhaps illustrate the situation if I can tell you a little story which happened in 1920 after I had my association with McCarty, over here with the National Lead Company. He received a letter from an English white lead manufacturer who was the head of the White Lead Manufacturers Association there, who wrote to him "as regards this new pigment which the Norwegians are putting out here, there is nothing to be feared because there won't be money enough in the world to pay the price for it; there isn't raw material enough to produce any quantities." That was his opinion at that time.

2820 I believe when we came to selling in England, I believe we asked like a hundred pounds a ton, but really I don't remember that exactly.

Q. That is your best recollection?—A. Yes. Or something more, even.

Q. After your trip to the United States in 1914, when did you next come to the United States?—A. In 1920. I received——.

Q. If I may ask a question to guide the testimony a little, what was the occasion for that trip to the United States and how did you happen to come, and what happened after you got here? I wish you would just abbreviate it as much as you can, without unduly—— A. I had two purposes for coming to the United States. One was a letter from McCarty of National Lead Company, who wrote that they were interested in a titanium development over here—that referred to this Barton process—and would like to know if we would join forces, exchange experience and patents and so on. The other was a different business, an

entirely different matter. I was at that time chairman of the Titan Company A/S, not manager, and I was still managing director of this other company. So I came over for these two purposes.

Q. Tell us about what happened after you got here. What did you and Mr. McCarty do?—A. Well, when
2821 we met the first thing of course was to make our acquaintance. And then McCarty told me about the interest that National Lead Company had taken in the titanium pigment preparation—they had taken ten per cent at that time and had an option on 40 per cent of the shares, but they wanted to know whether there was a possibility of getting cooperation in this matter. It was evident that they didn't like the idea of patent litigation, if that should come up. And particularly, Mr. Cornish, the president of National Lead Company, brought out, I think it was the Bell Telephone, or some of these other developments over here, the advantages brought out of getting together instead of fighting, and he pointed out that as far as inventions were concerned, as this had been done entirely independently on both sides, that there should be no professional jealousy of any kind. I was perfectly aware that a cooperation would be a good thing.

Q. I did not get that.—A. That the cooperation would be an advantageous thing to do. With regard to the position of the American company and their developments, we knew about this composite pigment development which they had made. We also had an idea about what processes they were using, which we didn't think much of, we did not think they were of any value, they didn't inter-
2822 est us; but this composite pigment was what was interesting.

At the same time, it was perfectly clear that we were only in the beginning, in spite of all the years we had spent on this, we were only in the beginning of a new industry here opening up. And it seemed to me as one will—in one respect we thought it may lead to not only titanium pigments but many other titanium products; once we have got one product cheaply produced on a large scale it naturally is likely to open up possibilities in other directions. Before that time titanium dioxide was really what you might call a fancy article, just a laboratory product produced by a few firms who made products for use in laboratories. I mean just for demonstration or experiments of some kind.

Talking it over with McCarty, we seemed to have very

much the same view, and with Mr. Meredith, who took part in this, that in order to get forward the best thing will be to get as open cooperation as possible, exchanging licenses, exchanging views, opening up our factories for each other, and so on. And once we had agreed upon that we just put our heads together to find out how we can best reach this goal.

Q. You and Mr. McCarty worked together?—A. Yes.

Q. In doing that?—A. In developing this.

2823 Q. After you had decided that you would work together with a view to the development, did you then undertake to put down your ideas on paper?—A. Yes. But first there was a little incident of one meeting when Meredith particularly began to talk about their patents, what position they had, and I said to him, "I don't think we should begin to talk about that at all because it would only lead to you talking about what wonderful things you have and I talking about the wonderful things I have; and at the same time there are a certain amount of patent applications, which are not known and which we will not disclose to you now and you probably are in a similar position so I suggest that we leave that entirely out and agree on just one principle; that what you have and what we have is of equal value."

And then we built up, tried to get together on an agreement on that basis, to make it as equitable as possible for both parties, "you working here and we working on the other side."

Q. Now did you stay over here until that agreement had been fully drafted?—A. Yes. I signed it too, over here.

Q. I want to ask you the question, did you and Mr. McCarty together work out the provisions of the 1920 agreement, is that correct?—A. Yes. After we had got so far, Mr. Webster, after a few points, the rest of it

2824 was really not what one may call negotiations. It was a common goal we were looking for at that time.

Q. And you found that Mr. McCarty and you were in agreement in working it out that way?—A. Yes.

Q. Now I want to ask you some questions about the 1920 agreement, and because I think you are more familiar with handling the printed working form used in the office I am going to give you a copy of that (handing).

The COURT. That is a duplicate of Exhibit A?

Mr. WEBSTER. Yes, your Honor, Exhibit A. It is the form from which Exhibit A was copied.

Q. (Continuing) Were Mr. McCarty and Mr. Meredith fully aware of the work that you had been doing in Norway, the patent work that had been done there?—A. I do not know. We did not discuss it. I mean after what I told you we did not discuss it any more.

Q. I want to ask you some questions if you will just take that form of agreement: do you note the definition of "Licensed Field" there, Dr. Jebsen?—A. Yes.

Q. Did you have discussions with Mr. McCarty about that?—A. Oh, yes.

Q. What was the objective that you attempted to reach or embrace in that particular definition? In other words, what was the purpose of placing that definition in the 1920 agreement?—A. The idea was that we
2825 should cooperate on practically every subject matter, which was necessary for the development of this industry. What directly had to do with the development of the titanium industry as it may come along with the exception of the alloys.

Q. Is there any reason for taking in such a wide field?—A. Yes. We thought that if the one party gave the other party access to their knowledge it means to put into the other party facilities for finding new developments, new things, and we did not consider it fair to do that without both parties having the right to those developments.

Q. Was there any special reason for using the expression "apparatus, methods and processes"?—A. Certainly. I mean after all the industry consists of apparatus, methods and processes. "Methods and processes" I suppose covers practically the same thing, and I don't know why we used both those words.

The COURT. Lawyers charge by the word.

Q. It was your purpose also, was it not, to make the definition clear and comprehensive; is that correct?—A. Yes, and as I said before it should really include practically everything which had to do with the production of any titanium products.

Q. Outside of the field of metallic—A. Except the
2826 metallic field.

Q. Now I note at the foot of that page the definition of "finished articles." Did you have something to do with the drafting of that provision, at the foot of page one?—A. You mean the definition?

Q. Yes.—A. Well, I don't remember now. I suppose that was a common effort to define it.

Q. It was your intention that this agreement should relate in part, as it does later on, to the subject of finished articles, is that true?—A. That was natural, yes.

Q. Why do you say that was natural?—A. Because when you handle and deal with an industry and you get a new product like titanium pigment, the first thing you would do would be to examine the possibilities of its use and by doing so having that material in your hands before anybody else, naturally you have got an advantage in finding out what it can be used for, and that opens up again the possibility of taking out patents and that means if you have secured patents you can stymie the other party in its development.

Q. And it was your purpose to avoid being stopped or stymied by someone else's development if you could avoid it?—A. That is right. That is the main part of it.

2827 Q. Now turning to the next page, page 2, Article II of the agreement, you note that the Pigment Company, that is the American company, "agrees to grant to the Titan Company, and the Titan Company accepts therefrom, a license exclusive of all others, including said Pigment Company."

Was there any reason for making the license exclusive of all others including the Titanium Pigment Company?—A. Our reasoning at that time was, and naturally so—I again use that expression—that you cannot get a good cooperation between two companies or two men if the information passed from one to the other can be used in competition against the other. We wanted open, free cooperation and if you give another man, as I say, a tool to fight you, unless you do not get your part for yourself—

Q. That is, you assure yourself—A. A natural exclusivity outside of others. Well, that is evident. I don't think it is necessary to explain.

Q. You have said that you believed that you should give the other person opportunity to operate with your licenses. Why must you give the other party under an arrangement of this sort an exclusive license? What is the reason for that?—A. You mean not exclusive of one's self, but exclusive of others?

Q. Yes.—A. After all, what are patents for?

2828 When you make inventions and you want to develop a new thing you have to have a patent because a certain protectio is necessary, not only as compensation for the invention but it is doubly necessary because you need it as a protection—giving you a kind of time for

developing what is necessary in order to produce at a cheap price and get it into the market.

Q. I notice you use the words "develop a new product." Do you place emphasis on the fact that this arrangement related to a new product?—A. Yes.

Q. Was that a factor in your consideration?—A. Oh, yes.

Q. Will you explain that to the Court, please?—A. Well, a new product—first of all, here was a new process and a new product. It was an entirely new field, and this applies not only to the products but this applies to the processes too. A process of this kind is naturally subject to considerable development and you want and need to have your time quiet for study and development and spending the money necessary for eliminating what may be called the weaknesses of the process, or improving the process. And when you are coming to the question of a new product. Of course it depends upon what kind, but practically most new products, I suppose anyhow a thing of this kind,

takes its time before you can get it introduced
2829 and consumed. It can be a matter of more or less

time where you have to do with pigments, but it is a very, very long time you need for developing the market for things of this kind, and that for many reasons: first you have to get to know the qualities and properties of your products, and they certainly can give you many surprises, and we have had many surprises with the pigments; and, second, you have to educate your customers and get their confidence in this product, and teach them to use it, and in teaching them you teach yourself as to what experience and qualities it includes. It is not only a matter of tinting strength and higher opacity and so on, but many other questions are coming in there. You take now at the National Lead Company; they have a large laboratory and a very large staff, which has been working for years and years and years studying only the use of the pigments and their qualities. So naturally a company spending money on that would like to be secured a certain exclusivity to get their money back and get a profit out of it.

Q. I asked you about Article II before, and I should have asked you about the definition of territories. A consideration of territories was one of the basic considerations in your discussions with Mr. McCarty was it not?—

A. Yes.

2830 Q. And you did first define the territory that you

were talking about, is that true?—A. Yes.

Q. And when you granted an exclusive license to the Titan Company you meant an exclusive license to the Titan Company to operate outside the territory that was granted to the Titanium Pigment Company, is that correct?—A. Yes.

Q. And I gather from what you have now said that the one purpose of making these licenses exclusive was to secure the full cooperation of the licensee and to secure his investment in the territory which was assigned to him? Is that correct?—A. That is so, yes. In other words, in order not to interfere with this other's business to get that full cooperation, full confidence we had to divide up in these territories.

The COURT. You felt you could not get full cooperation of a genuine character unless you avoided competition; isn't that the plain fact?

The WITNESS. That is the truth.

Q. I would like to have you explain your reasons for answering his Honor's question as you did.—A. I do not quite understand.

Q. Why was it true that cooperation of the sort that you intended was dependent upon having exclusive territories assigned in this agreement?

2831 The COURT. You did not think it was human to give your competitor all the information you had if he was going to steal your business from you?

The WITNESS. Yes, sir, and not only that—

The COURT. I did not mean "steal" in any way excepting taking your customers away.

The WITNESS. Yes, taking the customers away, and, for instance, also you have certain countries in which you have protective tariffs and in other countries there are none, and so on. Here in the United States as far as I remember there was a tariff on the other white pigments. I could not say for certain about the titanium but only a few years later when titanium really begins to appear on the market a tariff was imposed on that. Now I mean from a European point of view naturally you did not want to have—England was at that time open, and you do not like to have somebody sitting behind the tariff and shooting at you.

Q. You used the expression, "every invention, improvement or subject matter." Was that likewise intended to secure the licensee in the manner you have described instead of merely restricting it to present inventions?—A.

Yes. That applies to the future inventions.

2832 Q. And the same is true of the expression, "Now or hereafter owned or controlled by the Pigment Company"?—A. Yes.

Q. Now with reference to those territories, the territory assigned to the Pigment Company was the territory defined in the agreement, and the territory assigned to the Titan Company was the territory outside North America, was it not? Now what was the reason for making a separate provision with reference to South America?—A. Simply we both wanted it and made a compromise. That is all there was to it.

Q. Directing your attention to Article V on page 3, that provision as written in 1920 was amended in 1928, was it not?—A. Yes, I think so. There were some amendments afterwards about that.

Q. Did those amendments affect the substance of this agreement or were they simply mechanical?—A. They were mechanical.

Q. And indeed all of Article V was intended to simply implement the cooperation between the parties, is that correct?—A. Yes.

Q. And adds nothing of substance—A. And at the same time make it as flexible as possible. You will note with regard to exchange of patents, and so on, if somebody wanted not to have the expense of patents they did

2833 not need it if they did not think it of interest enough. We tried to make these obligations as flexible as possible, and if somebody had a patent and wanted to drop it and was not interested in exclusivity but wanted a nonexclusive.

Q. Your object was to make this whole operation work as smoothly and easily as possible?—A. Exactly so.

Q. I direct your attention to Article VI on page 4 wherein you agree that you will not directly or indirectly question or test the validity of any patent of the other party. That too was simply to share the cooperation that you have hitherto referred to?—A. Yes. I think that is a very generally acknowledged clause in all that kind of agreements. After all if you are licensed under a patent you should not contest the validity.

The COURT. There is no point in your spending money to fight a National Lead patent if you are going to get an exclusive license under it in your territory?

The WITNESS. Exactly, yes, sir.

The COURT. On the contrary, it is to your advantage to get as many patents as possible?

The WITNESS. That is right.

Q. I direct your attention to the royalty provisions toward the end of page 4. What was the purpose of including those royalty provisions?—A. It was a
2834 manner of trying to equalize the values. The basis was equal value for what was contributed by both parties, and as the market was a different one in character and size the idea was that the one who gets ahead and has got the best market, may be more receptive for the pigment and the largest market, he should pay a cash compensation to the other. On the other hand, it was also arranged, you will note, that the one cannot get more than double of what his own production is and that was done for the purpose that none of us should simply sit down and do nothing and just live on these royalties from the other party. So if one were inactive one would not get anything out of it.

Q. Now on page 5(c)1 it reads:

"The Titan Company shall, and hereby does constitute and appoint, and shall hereafter continuously retain, to the exclusion of all others, the Pigment Company as its sole agent, so long as said Pigment Company has an exclusive license hereunder, for introduction and sale in 'North America' of all products of the Titan Company in the 'Licensed Field', upon such orders of said agent therefor at current European market prices of the Titan Company as the latter shall elect to fill."

Q. What was the purpose of putting that agency provision in this agreement?—A. Well, you may call
2835 it to some extent fat on butter. I don't know whether that expression is right. On the one side it should be a close cooperation, and although the patents were there giving full protection we thought a clause of this kind might help us not to have patent litigation if something should happen.

Q. On page 6 there is reference to an exception in the case of certain finished articles. Did you consider finished articles should be treated differently from pigments?—A. Naturally. It was to be foreseen that there could be a flow of finished articles between these various countries. That was also quite to some extent in our interest to have it, because it would help to develop the industry as it would help to develop the markets. If a product containing titanium came from here over to the European market

and there was a demand for it there would be a request for Titanium Pigments on the other side. At the same time we did not want to have what you might call camouflaged exports of pigments. In other words, we said here that it should substantially contain—if I remember rightly—it should constitute such an important part of such finished article that its sale within the agent's territory will substantially interfere with said agent's sales. Now if you take a paste of titanium containing 10 or 15 per cent of oil it might be called by somebody a finished article.

2836 In other words, it may be just a camouflaged export. You see what I mean?

Q. Yes.—A. And at the same time having the patents, as you will have noticed there should be a time, if the other party wanted to interfere with such importation on the basis of the patents, there is a certain time for arrangement of that part of it.

The COURT. An adjustment period?

The WITNESS. Yes.

The COURT. To avoid conflict?

The WITNESS. And to avoid embarrassing of customers too.

Q. You and Mr. McCarty were just anticipating what the case might be in finished articles?—A. Yes. In fact, it has never been of interest or never been used.

Q. Has this restriction provision with reference to finished articles ever been of any importance at all?—A. None whatever. And as you will notice on the European agreements it is left out there, between the European companies, and it could have been left out here a long time ago. I mean at the same time if I only had the energy of getting it eliminated, because it has never been in effect.

Q. And was put in simply because you wanted to try to cover everything at that time?—A. Yes.

Q. Now I do not think I need ask you about the

2837 provisions for exchange of technical information. That was of the essence was it not?—A. Of course the most important thing is naturally the patent matter itself, because by patents you could prevent legal—you could stymie the other party so it was necessary to have these licenses, and then comes the exchange of information.

Q. I do not want to ask you about the terms of this provision for exchange of technical information but I do want to ask you to explain separately the reason why, in your own words, the exchange of technical information is considered by you as of the essence of an arrangement of this character.—A. It certainly is most important.

Q. Now just tell us why in your own language.—A. Because every invention, every development, is based on previous experience, patented or unpatented, and the more you can get exchange of the experience the more provision is provided for a further development. Also talk about it; discussing; getting together in the province of the chemist, and so on, that very often develops ideas. We went so far in Europe in these matters in spite of what you may call professional jealousy, which may sometimes occur, and sometimes is a very difficult matter to eliminate, that when the chemists came together they discussed very openly and freely. For instance I remember at one meeting in Paris in 1935 or 1936, I think it was, the Germans
2838 came with a bottle of titanium pigment and said, "Look at this. This has a tinting strength," I think, "of 2000." I am not quite certain. We were making a pigment at that time with a tinting strength of about 1200, "and this is the goal we should be aiming at." Now that was made in the laboratory, specially prepared, and it took a considerable interest. We knew we could get higher tinting strength, but it means something to get something of that kind presented or demonstrated and the Germans continued with that and I think the year after they had got quite a little way ahead of it but the color was not quite as good as it ought to be—and it led to the Rutiox development in which the English also took an interest in and started research work.

Q. If you were to compare the value, from the standard you have described, of exchange of licenses on the one side and exchange of technical information on the other, to which would you attach the greatest weight or value?—A. I do not quite get that.

Q. If you were to attempt to assign a value to the exchange of licenses, of exclusive licenses, on the one side, and exchange of technical information on the other, from a standpoint of the development of the industry, to which would you yourself assign the greatest importance?—A. It is impossible to make a comparison. For one thing the exchange of know-how and experience is a technical
2839 development. Exchange of licenses under patents is a legal matter. They are in their character very different.

Q. Doctor, directing your attention now to Article XIV, you know without my going through that what Article XIV provides, in substance, do you not?—A. Yes.

Q. What was the purpose of Article XIV?—A. Well,

I mean in short you see there is no reason. I mean an agreement like this would not have much sense unless it is certain that none of the parties can go and give sub-licenses without those sub-licenses adhering to the same conditions as the main agreement, and the sub-licensing had to be taken into account and foreseen, naturally, particularly in Europe. After all there we have several countries with and without tariffs, and you could not expect satisfactorily to develop the industry and the sales in those markets without having factories in those markets and that means again companies in those markets to be licensed or sub-licensed.

(Short recess.)

Q. Now, Doctor, having obtained this 1920 agreement and having executed it, what happened to the Norwegian company? What did it do? What activity did it engage in?—A. Well, we were struggling on. We were trying to introduce the pigment and continue the work from 1919. After all the effect of this agreement was we immediately started to produce a composite pigment into the Nor-
2840 wegian factory which was not a very difficult thing to do. I mean you used our process with the solutions as they were. That enabled us to put on the market the pigment at a cheaper price, much cheaper price. The original one was rather difficult to get the people to buy because the price per tonnage was so high and they were unused to that kind of prices. And then we worked on for years up to 1927 and we started in other countries and in England and in France.

Q. Was there considerable promotional work done in Europe between 1920 and 1927, say?—A. Oh, yes.

Q. How successful was the Norwegian company? That is, financially?—A. Well, not very much. I cannot say that, I am sorry to say.

Q. Just tell us what happened to that company.—A. We started with 4,000,000 kroner and then we extended to 6,000,000 and then we extended to 9,000,000 kroner. A kroner was worth about 24 cents, or 22 cents it was. At that time the par value was 3 kroner and 72 per dollar and the real value, exchange value in those years of the twenties varied very much. This was after the war period where the Norwegian exchange—they practically played football with it on this side in Wall Street. It varied. I remember in 1917 a dollar was down to 2 kroner and 72, and when the war finished it increased rapidly and the dollar came up to 3 kroner and 72 or 3 and 74 which

2841 , is the par value. In 1920 when I was over here I had to pay 8 kroner per dollar, and then it went down to 5 kroner and then it went up again to 6 or 7 and went down again and it was just up and down in those years.

Q. Did the company have to borrow money?—A. Yes. We had to borrow money in a bank and finally then as we developed a market, first of all in England and in the Scandinavian countries and Holland and Belgium, and France too but not with much success, and in Germany I think we started in about 1924 or 1925, but it was very difficult to develop the market in Germany because licenses were necessary for the importation of the product.

You asked about the financial point of view. After we had spent this 9,000,000 I think the bank had given us somewhat nearly up to the same amount but not quite, and we did not pay interest for several years, so finally we wrote off the share capital from 9,000,000 down to 900,000 kroner and converted part of the loan up to, I think it was, 6,100,000. It was made——

Q. I was going to move on to another subject. Did you finish?—A. So then we ended up with a capital of 7,000,000 kroner and still had some loan.

Q. The time came in 1927 when a large percentage of the company was purchased by the National Lead Company, did it not?—A. Yes.

2842 Q. Before I get to that I want to ask you one or two questions about operations in France. There is correspondence here relating to your conversations with a man named Lobstein. Can you tell us briefly who Mr. Lobstein was and how you happened to be negotiating with him in those matters?—A. I believe that was in 1922, somewhere about that time, that Lobstein, who was the president of a company called Societe Miniére et Industrielle Franco-Brésilienne. They wrote us and asked if we would give them a license for France. And once I was down in Paris I had a talk with Mr. Lobstein about this. They had some monazite deposits in Brazil from which they made the rare earth metal products. It is a similar enterprise to the one of Societe Terres Rares, Blumenfeld's company. They were competitors, those two, and also the Auer Company in Germany was a competitor. And they were asking if we would give them a license. France had a tariff duty on titanium so we were interested in seeing something done. So we gave them an option, if

I remember right, an option for two or three years, I believe, on a license agreement built on the same principles as these here with the idea of forming a company. However, it proved that they were not sufficiently influential to really take on a thing of this kind and they finally introduced the matter to a man called Andre Vincent, who was the managing director, or president you would
2843 call it here, of Comptoir Lyon-Alemand, which I was told was a hundred years old French company dealing in gold and silver, very well financed. This man also was the president of the company called Societe Minerais et Metaux, which was formed on the initiative of the French Government during the last war. During the last war they found out in England and France—and Italy, I think it was—that the metal business in Europe was practically controlled and in the hands of the Metallgesellschaft. They had made long years' agreements with the metal mines and sent their ore to various factories they had in Belgium and Holland and various places so that the whole thing was a mess when the war broke out, and then there was formed on the initiative of the English Government in England the British Metal Corporation, and in France the company I just mentioned, and shareholders were the most important metal producers in those countries. In France you had for instance "Societe Royale Asturienne"—this is really a Belgium company but with French capital and having their mines in Spain by the way—and I believe the Societe Produits Chimique d'Alais, Froges et Camargue.

Q. I don't want to curtail this, but to get back to Lobstein and his connection with your French company—— A. He introduced this man who was in-
2844 terested and they formed the Societe Industrielle du Titane, and Vincent and his group should be the carrying forces behind it.

Q. And then ultimately the National Lead or the Titan Company bought most of the stock?—A. Yes. This French company, or those people, sent experts up to Norway and found, as far as the process and product were concerned, they were very good, but in spite of that Mr. Vincent told me they were not interested to continue because they thought it would take too much time to develop the market. And that was in the time of 1926 and I was just then on my way going over here, so I told him I did not want to deal with it at that time and asked him to wait until the spring, until I got back, and then McCarty and the

National Lead Company had taken over the majority of the shares of Titan Co. A/S and they thought it would be better to buy the French out instead of having the French company dissolved.

Q. There was never any manufacture by the French SIT?—A. No. The French company was intended to manufacture but it never came so far.

Q. But there was manufacture, was there not, by Blumenfeld?—A. Yes. He had a small factory connected with Thann & Mulhouse. I think it was owned by Thann & Mulhouse.

Q. Coming down to the acquisition of the Titan A/S stock and the stock of SIT, can you tell us what
2844a percentage of the shares of Titan A/S were acquired by the Lead Company?—A. 87 per cent, approximately; not quite.

Q. And the percentage of stock in the French company?—A. That stock was bought partly by National Lead or by Titan Co., Inc. and partly by Titan Co. A/S and represented together about 78 per cent.

Q. And did you yourself retain an interest in the Titan Co. A/S?—A. Yes. The National Lead Company made it a condition that I should retain my interest, which was about 13 per cent.

Q. Were there other persons interested in acquiring the stock of that company?—A. Of the Lead Company?

Q. No. Of Titan Co. A/S.—A. Of the Titan Co. A/S, yes.

2845 Q. What other company?—A. The German company was interested, I. G. Farbenindustrie.

Q. Just tell us what the facts were with reference to that.—A. In about 1925, I think it was, I was approached by the IG people indirectly and later directly, asking if they could get some license in this matter and see if some kind of arrangement could be worked out. I negotiated with them for Germany and certain other countries in central Europe. And during those negotiations I was informed that they approached—behind my back they approached, through somebody up in Oslo, they approached the bank with the idea of buying up, you see. And when I heard of that I said, if there was going to be any sale, if the bank wanted to sell out, which they had not said before, the National Lead Company should have the first chance. After all, the cooperation had been a very good one, and particularly McCarty, whom I had met every year, and I had become very good friends and so on. So I wrote to

him and told him the story as it was, that here was an opportunity for them to acquire the shares. Then they wrote back and invited me to come over, but they said immediately, beforehand, that the condition was that I should undertake the management and retain my interest.

Q. That was all done and the National Lead Company acquired the stock with the permission of the Nor-
2846 wegian Government, is that correct?—A. Yes. They got the concession afterwards from the Government.

Q. What effect did this acquisition of the shares have on the operation of the Norwegian company?—A. Well, of course, the situation with the Norwegian company was that it looked very doubtful that that company could continue operating a factory in Norway. And during the negotiations I had with the Germans it became clear to me that the conditions for manufacture in Germany were so far better, that the best basis would be to manufacture in Germany from a pure manufacturing point of view as to cost and so on.

And during those negotiations regarding the license they offered as compensation for the license, to sell to us at cost price. Of course, the idea was to show us how cheap it was and to get us to stop up in Norway. The acid alone, the price for sulfuric acid that they offered was practically half of the price of the price for it in Norway at that time. And that wasn't very far from what the prices were in England, too. So, German conditions at that time were far superior to anywhere else in Europe. Now, I was afraid, also another thing I did not like of the idea of it going to Germany—on the basis of the Norwegian
2847 factory—something very much different of course would be to have the backing of the National Lead Company at that time as the thing had developed; so when National Lead Company had taken over the Norwegian—the majority of the shares there, we continued negotiations with the Germans on the basis of being interested with 50 per cent in the German company. And when, finally, the German company had a factory operating and we had got some definite—I wouldn't say final proof of the cost, but, anyhow, some definite view of what the cost would be and the quality there, the result was that there was nothing else to do than to close the Norwegian factory, in spite of the fact that the plant was there and amortization had to be met.

Q. What was the manufacturing situation in Germany; that is, was there any amount or any substantial amount

of titanium pigment being sold in Germany produced by companies other than the Norwegian Company—— A. No.

Q. ——after 1920?—A. There was a company which was trying to develop it, but apart from selling a little here and there they did not really develop a market; they had put a lot of money in the thing. In 1924 or 1925, I think it was, we had some discussion on a patent we had been applying for in Germany, the Auer Company made some opposition and we had some chemists sent to Berlin
2848 to appear before the Patent Office there and was also there and met Dr. D'Ans, who was the driving force of the titanium matter in the Auer Company. He suggested that we should join forces, but I did not think it interesting enough.

Q. Did you have any opinion as to the patents of the Auer Company?—A. Not personally. I had not studied them personally, but our chemists had gone into what they knew and didn't consider them of interest.

Q. By that time had the IG been organized?—A. I do not remember exactly; I think it must have been about 1925 or something like that. You see, they were in two stages. The five big German dye industries, dye companies, started by buying up, with each other, shares, so that for instance, take the——

Q. That was the Interessengemeinschaft?—A. Which finally came into a merger of the whole thing. They were trying to get the controlling interest in each other, and the idea of that was to prevent foreign capital from buying them up; they were fearing that that would be done.

Q. Did you have any opinion as to the prospects of the IG in the field of chemicals?—A. I don't quite see what you mean by that. After all, when you get the most important firms in the chemical industry in Germany combining together, with the very great prominence that that industry had all the time before the war and so on,
2849 the prospect is just a matter of developing the market for people like that.

Q. Did you think the research facilities of the IG would be valuable to the Titan Company?—A. Oh, yes, when the time came.

Q. Did you give consideration to the sales facilities that IG had available?—A. Yes. Of course, IG had a lot to offer us. First of all, the cheap commodities, which they were willing to give us at cost plus 10 per cent, and which a company that started on a small scale would have otherwise to buy at the prices for small quantities, which are

very high. The price differences for large and smaller quantities are very high there. First that. Second, their research facilities, their technical engineering knowledge and influence in the country itself. After all, they had the position and their very large organization, with the position which they had not only in Germany, but particularly also in the Balkans and the South and the East, and the Southeast part there; and Japan, and so on.

Q. Had you given any consideration to the possibility of your starting an independent factory to manufacture in Germany in competition with the IG?—A. No. Frankly I would consider that out of place. It couldn't be done as the situation was. It would have been far too risky
2850 to start a factory there alone.

Q. Now you mentioned the opportunity that the IG arrangement gave you to have cheap sulfuric acid and to buy sulfuric acid. Was the IG arrangement attractive from the standpoint of your Norwegian ore?—A. Yes. I mean, so far as they were looking to the Norwegian ore as the natural source of raw material, and which they have been taking since then all the time, I mean before the war, and probably now, too.

The COURT. "Taking" is a good word.

The WITNESS. Yes. They paid a good price before the war.

Q. Did the feature of having local management appeal to you as one of the factors in the IG arrangement?—A. Yes. After all, local management is very important in a country like Germany and in most of the European countries. They are people who are speaking with first-hand information about conditions in those countries. And, naturally, our aim was to get these companies managed as far as possible, to have the management standing on their own feet, because if a crisis came—I don't mean the war, but an economic crisis of some kind, it is impossible, practically impossible, to direct that from one central place.

Q. Now, there is in evidence here, and some
2851 reference has been made to, the provision of the IG agreement which gave the Titan Company a call on the finished pigments of the IG. Was that an advantage?—A. That was of course the thing which they offered us as the greatest temptation, with cheap prices, which they considered, and we had to develop the market further in the other countries, and getting a cheap source it helped considerably.

Q. What use did you actually make of that opportunity?—A. To the extent we could sell.

Q. Now, specifically, what use was made of that in England?—A. Well, from 1929, the Spring of 1929, when we closed the Norwegian factory, we took the material chiefly from Germany. It was so much cheaper. We couldn't get it from here at the same price at all. And we took it from Germany, selling into the various countries, and the plan was when these countries—the market is sufficiently developed we would put up a factory in those most important countries, like England, and also France. We have never given up the idea of putting up a factory in France, too. When I say "we have never", I mean up to the war.

Q. Now, the Titan Company, Inc. was organized in 1929. What was the purpose of that, Dr. Jebsen?—A. Well, that was done according to the wish of the
2852 National Lead Company. And I remember in 1927, when McCarty came over, when I negotiated this agreement with the IG, we also saw Mr. Warburg in Hamburg, the noted banker there, and he advised McCarty very strongly to form a company either in Holland, Switzerland or the United States for taking over this non-Norwegian business in Europe.

Q. What was the reason for that?—A. Oh, partly taxes—chiefly taxes, I would say. But I suppose when National Lead Company wanted it they wanted to have it over here under their own hands to some extent.

Q. Now, after the Titan Company, Inc. was formed you became an officer of that company?—A. Yes.

Q. You had the office of the company in Paris, did you not?—A. Yes.

Q. That was the chief office of the company for some time?—A. Well, the office was really over here, and I was sitting in Paris, going around to all these various companies, overlooking—well, looking after I think is the word.

Q. And reporting to Mr. McCarty?—A. Reporting, yes, and sitting in on the various boards and giving advice and so on. And then Titan Company, Inc. had—I mean, whatever Titan Company, Inc. sold in Europe they used Titan Company A/S in Fredrikstad, Norway. I mean, after—in France, of course, it was the French com-
2853 pany, but in Belgium and Holland and in the Scandanavian countries it was the Norwegian company that contracted it. Rather, in Belgium the Nor-

wegian company had a subsidiary in Belgium.

Q. You remember that the stock of the Titan Company A/S and its patent rights and the stock in the Titan-kesellschaft and Societe Industrielle were transferred to Titan Company, Inc. What was the purpose of that?—A. Well, the idea was to have all that which did not concern Norway in the Titan Company, Inc.'s hands. In other words, what Titan Company A/S had before was taken away and put into Titan Company, Incorporated, with the exception naturally of the mines and certain patents which they were still holding; but that didn't matter very much because after all they were the same shareholders in both companies.

Q. The Titan Company, Inc. became the company concerned in the ownership and operation of these European interests?—A. Yes.

Q. And the Titan Company, Inc. assumed the obligations of the Titan Company A/S under the 1920 agreement, is that correct?—A. Yes, with one exception and that was the delivery of the ores. Rather, with two exceptions I would say. The delivery of the ores naturally remained with Titan Company A/S and the Ger-
2854 mans made the condition that Titan Company A/S should continue to be under obligation; in other words, stand responsible for Titan Company, Inc.'s acts.

Q. These contracts that were assumed by Titan Company, Inc., of the contracts taken over by that company, the German and French, and other arrangements having to do with countries at war with the United States, have those terminated?—A. As far as I understand, they have. I have not had any contact with the Germans since the——

Mr. DIXON. I object to the answer and move that it be stricken out as a conclusion.

The COURT. All right. He says he does not know anyway.

Mr. DIXON. I am sorry——

The COURT. All right.

Q. Have these companies in Germany and France, and also Japan, had any relations with the Titan Company, Inc. or with you?—A. Pardon me?

Q. Have the companies in Germany or France or Japan had any correspondence with you since the declaration of war?—A. Not since the United States declaration of war. But before, why, naturally I got some—there was some correspondence from Norway over here, certain information. You can find that. Then the United States came

into the war. They were trying to keep us informed to the extent that it was feasible.

2855 Q. Do you recall the arrangement that was made by the IG in 1933 with a company called Sachtleben?—A. Was that in 1933?

Q. What you call an arrangement.—A. Not very much of it. Except that there was—Dr. Kuhne, who was a friend of the head of Sachtleben, whose name I think is Schultz, they made an arrangement. I understand there was some kind of jealousy from Sachtleben not having obtained any arrangement with us—by the way, they were about the same time as the IG wanted to make arrangements; they also approached us in Titan Company A/S and they complained of having suffered somewhat in not being in and were rather furious with us with the idea of having gone into titanium and threatened to go into it. So, one day Kuhne told me that he had given up to the Sachtleben people some of their lithopone business—I think that is it—and he wanted some compensation from Titangesellschaft. I was somewhat surprised when that came up. But I understood that Kuhne had engaged himself and we had either to let him down or agree as to some arrangement there, as was finally done.

2856 Q. As I understand it, you yourself had nothing whatever to do with that arrangement?—A. No.

Q. Now, Dr. Jebsen, what was the situation as regards the sale of titanium pigments in England before 1933; what was the market for it and what were the prospects of that business there?—A. Well, we had been plowing the ground, to use an expression used by our own people in England, and it developed very slowly. The English manufacturers are very conservative and they wanted a lot of experience before they engaged in this to a large extent, and they had to develop the market for their products. And I think in 1931, 1932, or somewhere about that, we were approaching the sale—I don't remember the figures but they are in my report on it—I believe they were about a thousand or twelve hundred tons of TiO_2, corresponding to that. Anyhow, we began to approach what we thought was the minimum necessary for putting up a factory in England. And then in 1933 we made arrangements with these English companies for putting up a factory. The same considerations were there as in the other: that we wanted to obtain local management in order to create the best basis for the development of the business. We started really somewhat early, based on the tonnage we had, but it was in the hope

that with the domestic factory we would develop so
2857 much quicker, which also proved to be the case. We were just at that time considering—we thought if we were on the point of where the sales curve would be, it would go more upwards than before, which also afterwards proved to be the case.

Q. Did you give any consideration at all to setting up an independent American company with a factory in England?—A. No. I mean that was not—we were so bent on the thought that we must have domestic cooperation. In other words, I mean the other thing was considered not to be a good policy at all as the situation was.

Q. Did you give any consideration to the companies in England with which you would have liked to carry out this form of cooperation?—A. Yes. You mean myself or the National Lead company?

Q. Yes, you yourself.—A. Yes. Personally I was most interested to get in the ICI, Imperial Chemical Industry, considering that company to be the one to help us most in developments. Then the National Lead Company had two companies over there with which they had close connections. One was the Imperial Smelting Corporation—I think that was more a personal friendship and some business done in metals and so on; the other was Goodlass Wall and Associated Lead, in which National Lead had some shares. They had some shares in Imperial Smelting, but not of any importance.

2858 Q. What, in your opinion, did ICI have to offer particularly to this English development?—A. First of all, they represented most of the industry, of the chemical industry, in England. They were not in the pigment field at all themselves. And they had this huge accumulation of experience over there; they had sulfuric acid and factories in many places in England, and sulfuric acid was a very prominent factor in our manufacture. So they were best equipped for that. We also had from the—British Titan Products Company I mean has had a good help from the Imperial Chemical Industry, the cooperation I mean.

The COURT. I think we will suspend at this point.

(Adjourned until Thursday, January 25, 1945, at 10:30 a.m.)

2859 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, ET AL.

NEW YORK, *January 25, 1945, 10:30 a.m.*

Trial resumed.

GUSTAVE ADOLF JEBSEN, resumed the stand.

Direct examination continued by Mr. WEBSTER:

Q. Dr. Jebsen, yesterday afternoon before we adjourned, I was asking you about the arrangement with the British in 1933, and particularly about the advantage of making an arrangement with the ICI. Before I go on with that, I would like to go back for a moment to another subject. Do you recall when it was that Mr. Beschorman took Mr. McCarty's place with reference to these matters, approximately?—A. I think he had paid a visit, I believe, over to Europe in 1931, yes, in 1931, and touched upon matters at that time a little bit, or had some talks, and then I think—I am not certain whether this was 1931 or 1932—McCarty became ill in 1931 and passed out of the picture entirely in 1933.

Q. Now do you know what sort of work Mr. Beschorman had been doing before his connection with these European matters?—A. As far as I have understood, he was the assistant manager in Cincinnati up to about 1927 or

2860 1928.

Mr. DIXON. If the Court please, I don't want to object, but I think unless the witness is testifying as to his own knowledge, or what he was doing——

The COURT. The objection is well taken. Do you know personally?

The WITNESS. I know he moved East about that time.

The COURT. From Cincinnati?

The WITNESS. From Cincinnati, but I am not quite certain about the exact year, 1927?

The COURT. Are you sure of the exact position he held?

The WITNESS. Yes. He was assistant manager until a few years before he came East, and then he stayed in New York, and I believe his trip to Europe was somewhere about 1930 or 1931, but that his experience was really confined to Cincinnati and as a member of the Board of the National Lead Company.

Q. Do you know whether Mr. Beschorman had ever been to Europe before 1931?—A. Once before on a short trip.

Q. And had he had any experience, as far as you know, with reference to European business matters before that time?—A. No.

Mr. DIXON. If the Court please, I don't want to
2861 object to the question, but I do believe we are perhaps reaching a period now where leading questions at least must be objected to, and within reason.

The COURT. Very well. The objection to the question as leading is proper, and is well taken. If insisted on I will sustain the objection on the ground that the questions are leading.

Mr. WEBSTER. I appreciate that some of these questions are leading. They are really calculated——

The COURT. To save time?

Mr. DIXON. If the Court please, I don't want our position to be that of objecting, but your Honor understands that, and I think that——

The COURT. The real objection is, you suspect he is testifying to matters about which he could not have had personal knowledge?

Mr. DIXON. That is right.

The COURT. I think that may be so, but the witness says he does have personal knowledge, and if you want to examine him as to the sources, I will give you an opportunity to do that on cross-examination, and if it turns out that he has not personal knowledge, it will go to the weight to be assigned to the testimony.

Mr. WHITNEY. I do not want to object any more than
Mr. Dixon does, but I trust your Honor will appre-
2862 ciate the significance of Mr. Dixon's view as to the value of the testimony of his own witness on subjects on which the witness does not have personal knowledge. I hold in my hand some thousand-odd pages of testimony by this witness called by Mr. Dixon, all of which testimony as it relates to my client is not on personal knowledge.

By Mr. WEBSTER:

Q. Now I would like to ask about Mr. Rockwell: When did Mr. Rockwell first begin to have an interest in these Titan Company, Inc. matters?—A. I don't remember that he had any interest before he became president of the company. He may have talked occasionally on the matter but no direct responsibility of any kind before.

Q. Do you happen to recall now approximately when it was that Mr. Rockwell became president?—A. In 1938, I think it was, 1937 or 1938.

Q. After he became president of the company did he personally interest himself in the details of the affairs of Titan Co., Inc.?—A. No.

Q. And were these matters—— A. I mean he touched occasionally; naturally, in his capacity as president of the company, but otherwise——

Q. W these matters largely left to you?—A. As far as Europe was concerned, yes, because I corre-
2863 sponded with Rockwell or Garesche. My correspondence was after Rockwell became president. My correspondence was with him most but it was just keeping him informed.

Q. And during this latter period of Mr. Rockwell's presidency, the head of the titanium division of the company was Mr. Garesche?—A. Yes, but that is what was covered—it covered the United States itself, or the business over here, but not the European business.

Q. Now returning to the British negotiations and agreements, did you know Mr. W. S. Robinson?—A. Yes.

Q. What position did Mr. Robinson have?—A. He was the managing director of Imperial Smelting Corporation. He is an Australian, and his company had an important interest in the Broken Hill mines and the Burma mines, all of which belonged to a group which I think you can sum up in the Imperial Smelting Corporation. I don't know the relations exactly between those.

Q. Did Mr. Robinson have interests in reference to pigments other than this interest in the titanium pigments?—A. Yes. Imperial Smelting Corporation, whose president was Sir Robert Horne, later Lord Robert Horne—he was chancellor of the Exchequer at one time—they had also the firm called the National Smelting Corporation, I think it was, who owned the zinc factories which were built during the last war down in Avenmouth
2864 in Wales, and through his zinc interest at one time he acquired a lithopone factory, the most important lithopone factory in England. At what time I do not know but I think it was some time in—the twenties.

Q. Now was there any thought in 1933 or prior to that, in connection with the British arrangements of combining Mr. Robinson's zinc or lithopone interests with the titanium industry in England?—A. I think it was in Mr. Robinson's mind, yes. But I do not think it cut much ice with the National Lead Company. Robinson was an intimate friend, or very good friend, of McCarty; also well acquainted with Mr. Cornish, and he had mentioned to

McCarty at one time, I think that was before National Lead Company took over the majority of the interest of Titan Co. A/S, that he would like—he did not know evidently what the relations were between the Norwegian and the American—that it had been suggested to him by friends that he go into the titanium business. That was only natural for him because he had these big factories down in Avenmouth and had to roast his zinc ore and make sulfuric acid, and he had some difficulties in disposing of that acid, and talking to McCarty he said that if they intended to go into the English market he would be very glad if there could be a cooperation and if they did not want to have any joint enterprise
2865 he would be glad to give him sulfuric acid.

Q. Now what was your attitude, and what was the position that you took with reference to combining the interests of the lithopone and titanium businesses?—A. I was not enthusiastic about that at all.

Q. What was your reason for that?—A. There were several reasons. One was that I did not like to link up too much with lithopone, and the second was that I did not feel that Imperial Smelting Corporation really was the most desirable firm for us to join with at that time. I was not certain that Avonmouth was the place for a factory. However, McCarty was keenly interested in it. He had great confidence in Robinson and thought that his help in the management would be a very good thing, which I think he was right in.

Q. This question of titanium being affected by the existing business in lithopone also had arisen in Germany prior to that time, had it not?—A. Yes.

Q. And what disposition was made of that matter in Germany?—A. The situation was somewhat different.

I ought, perhaps, with regard to Mr. Robinson—well, we will come back to that a little while later. The situation was different. In Germany we gave 50 per cent, rather the Germans took an interest of 50 per cent in the
2865-A enterprise, and they delivered the raw materials, practically all, 100 per cent. Their interest in lithopone was 50 per cent, a little less than 50 per cent, in the lithopone convention, so that economically they had a greater interest in developing the titanium than the lithopone, so I felt far better about the thing.

2866 Q. You thought that the connection with the German company was not such as to prejudice the promotion of the titanium pigment business?—A. Yes, not

at all. And I think that is very evident from the agreement we made, because that agreement of 1927, I have not heard anyone who knows about it who does not consider it very, very favorable for us.

Q. And did you find that in fact the German company did promote its titanium business at the expense of lithopone?—A. They put every effort to get the titanium business for us.

Q. Now going back again to the Imperial Smelting Company, what was the situation with reference to the relative costs of sulfuric acid from I.S.C. and from the German company?—A. Yes. I have also another point. When we started we were discussing with Mr. Robinson the position—pardon me. May I mention another thing first?

Q. Yes.—A. When we talked about, when Mr. McCarty took up the question with Robinson more seriously, he asked me what percentage I thought we should give Robinson, or let Robinson have, as an interest in the matter, and I suggested 25 per cent. That was before the other two companies came in, because I said, "We cannot give him less than that."

2867 Now keep in mind that Robinson's concern did not represent very much knowledge of chemical business in itself. They made lithopone. They were very good metallurgists but not chemists. I mean not in the chemical line of the industry, and Robinson had in mind at that time to form, he wanted to form, a commercial white pigment company; trying to get white lead and lithopone and zinc oxide—lithopone and zinc oxide already practically controlled—and titanium together, and I thought it would be most unfortunate for titanium, being a new, young pigment industry, young industry, so I did not feel an interest in it, but anyhow when I took it up with Robinson I said to him that we ought to be able to produce in England at costs which are at least competitive with the Continental costs so that competition from the Continent should not be able to kill us in England, and the most important item was sulfuric acid. You could get the ore from Norway for about the same cost, one way or the other, and he thought he knew acid costs in Germany, and he said, "I know we can deliver at the same price as the Germans." However, when later we came down to discuss the prices it proved that their price was considerably higher than the Germans. The ratios were somewhere about—they would sell somewhere about 50 to 55 shillings

where the Germans were willing to sell at 30 marks
2868 or 31 or 32 marks, around about that. That was the ratio. And of course with the quantities of acids necessary, this was a very important item. Now, Robinson of course could sell at cheaper prices as long as he had surplus acid.

Q. Was the German company in a favorable position with reference to the production of sulfuric acid?—A. Well, they were probably in more favorable position than anybody else in the world, except perhaps the Dutch and Belgian industry. Naturally you have got there a combination of circumstances which was nearly unique. You had got along the River Rhine all those dye industry factories belonging to the IG using sulfuric acid in large quantities, and you know when you make acid you take pyrites which they get from Spain mostly and burn off the sulfur and then send the cinders to a copper extraction factory where they extract copper and they have the iron oxide which remains and is sent to the steel and iron producers briquetted. As they were placed along the Rhine, these factories or consumers of sulfuric acid just took the pyrites down to Duisberg where they had this copper extraction factory close to the Ruhr district where you had all the iron and steel producers. That was one thing, and another was that
a factory, that is the one in Leverkusen, which was,
2869 as to European conditions, a very large factory—I think they made at that time about 150,000 to 200,000 tons of sulfuric acid per annum, and conditions were very favorable. Another thing was the fact that during and after the last war, with inflation, the Germans had got their plants written down to practically nothing so they had a very favorable condition.

Q. Dr. Jebsen, after the British agreement had been made was there a free exchange of technical information between the British company and the American company?—A. Yes.

Q. And between the British company and the German company?—A. Yes.

Q. Now what effects did that have? What values did that have?—A. Well, it is a very important thing naturally to get in every new thing which is formed or developed as quick as possible into your own factory, and they visited each other's factories very often, and particularly in Europe, the German and English ones, and they cooperated so well that there was—well, Kaegebehn can tell us about that. There were one or two patents taken

out jointly in the name of English and German chemists—isn't that so?, I mean they cooperated by exchanging views, also in developing inventions.

Q. Could you describe the benefits to the Titan
2870 companies and to the National Lead Company of those British arrangements?—A. You mean with regard to their manufacture over here or in Europe?

Q. No. I mean what benefits did the National Lead Company on the one hand and, say, the Titan Company, Inc. or the Titangesellschaft derive from those British arrangements?—A. Well, the outstanding benefit to the National Lead Company was in the technical matter they developed; inventions, particularly in antimony pigment, and when I say an antimony pigment I mean a pigment containing a small percentage of antimony which gave a pigment more chalking resistant than we had before. I believe du Pont developed a pigment on the same lines, so here I think a patent was taken out in du Pont's name. I am not certain about that, but Kaegebehn would be able to tell you about that. Then naturally this British arrangement had the advantage of we giving National Lead Company more profit on the business than otherwise and secured the whole position much better and, well, as a business arrangement it had different advantages—naturally so.

Q. When was the British factory set up, Dr. Jebsen?—A. We started immediately after these arrangements were done in 1933 to erect a factory and it was put in operation in the summer of 1934; very quickly done.

2871 Q. And has it remained in operation ever since?—A. Oh yes, a very nice development.

Q. And has it been in operation during the war period?—A. Yes, and it has its factory placed adjacent to the ICI factory in Billingham and it got sulfuric acid from them, and there has been intimate connections between the staff of those two companies up there, and certain experiments have been carried out with the facility of the British company, of the ICI I mean, drawing on their experience to some extent. We got the manager of the British Titan Products Company when we started from them. The ICI presented one man and the Goodlass Wall presented one of their men for this and it was left to me to talk with them and find out which one to recommend and I took the one from the ICI, Mr. Stopford, who has proven to be a very good choice.

Q. Has Mr. Stopford been over here during the war period?—A. Twice I think it is, yes.

Q. Before the war you were a director, were you not, of the British Titan Products Company?—A. I was a member of the board.

Q. And on those trips of Mr. Stopford's to the United States have you discussed with him a revision of the British arrangements?—A. Yes.

Q. Have you reached an agreement with him
2872 about that?—A. Practically so. We have not signed any agreement, but I think we have got the agreed upon conditions for adjustment which we thought would be more in accordance with the present—what has been criticized here.

Q. Can you suggest to us the main features of the new arrangement?—A. It is the elimination of the territorial restrictions and changing of the exclusive licenses to non-exclusive licenses. That is the main thing.

Q. Is there to be any change in the relative ownerships of the companies in the BTP?—A. Yes. That is another side of the matter; that the English wanted to have a larger share in the business, so instead of National Lead Company owning 44 per cent it would go down to 25 per cent and the rest would be distributed between the English companies.

By the COURT:

Q. Do you propose to continue the exchange of technical know-how?—A. Yes, know-how and non-exclusive licenses.

Q. Tell me, how do you propose to deal with the problem which you were heard upon yesterday where you said where there is competition it is very difficult effectively to operate on a basis of complete cooperation?—A. I am afraid it will have an effect in that way. I am afraid that as time comes it will——

2873 Q. It will break down?—A. It will break down or it will be a looser cooperation than it was. You won't get that intimate cooperation as it was before. You cannot change human nature in those things.

By Mr. WEBSTER:

Q. Has Mr. Stopford stated to you that the BTP, the British company, are prepared to accept these revisions of the 1933 arrangement?—A. Yes.

Q. Dr. Jebsen, have you an opinion as to the prospects of the British company after the war?—A. Yes, or rather I would say, basing myself upon what our English friends have expressed in that matter particularly, they are looking forward to a very, very great development. The fac-

tory in Billingham, which has a capacity now of about 7000 tons of TiO_2, they intend to extend to the capacity which they can have there in that site and in those buildings, which does not mean more than 10,000 tons, and it is planned to have another factory in Grimsby. They are negotiating for the site and I do not know whether they already have this or not, and that is for a similar capacity. Further, they intend to put up a factory in Australia. Mr. Stopford is at present in Australia. He passed here some time ago down to Australia with a view to organizing everything necessary for the erection of the factory and prepare so they can start immediately conditions permit.

2874 Q. Do you still retain your position as a member of the board of the British Titan Products Company?—A. Yes, but it is I suppose seen that I may retire, in that agreement—that is one thing we should mention: In that agreement we have, where it was previously reserved that there should be two members of the National Lead Company appointed—is it two or three? I think if is three—that will be eliminated. Of course it is open to the British to elect members as they want but not as representatives of the National Lead Company.

Q. Does your own experience confirm Mr. Stopford's opinion as to the future prospects of the British company?—A. I think it does. Every reason to believe so.

Q. In the new proposed arrangement with the British Titan Products Company and the other companies that are interested in that company there is no provision whatever, is there, for the continued exchange of technical information?—A. Pardon me?

Q. There is no provision whatever with reference to the exchange of technical information?—A. In the new agreement you mean? In the contemplated agreement?

Q. Yes.—A. Frankly, I don't remember at the present moment. Maybe there is not.

By the COURT:

Q. What would be your forecast then? At least
2875 so long as the present management lives? You know what I mean?—A. Yes.

Q. The present personalities that have developed, intimate friendships and associations over these years—would you really expect to see the National Lead Company rushing into England trying to undersell and take away the customers of the British Titan Products Company?—

A. No, I do not think they could even if they were trying, because we have a custom duty in England too.

Q. Would you expect the British firm as soon as there were not any duty to try to undermine National Lead Company's position with its customers?—A. Well, I do not think so.

Q. You would be surprized if you saw anything like that happen? A. Yes.

Q. Maybe after all the present gentlemen have retired and a new staff of young people who have not been developed—A. Or some other changed conditions of some kind, you know. Stopford is a very keen business man and he will look out for his own interest first, but I suppose he would find it in his interest to not do a thing of that kind.

2876 By Mr. WEBSTER:

Q. You said in answer to his Honor's question that you did not think that the National Lead Company could take an aggressive position with reference to the English market. I wish you would give your reasons for believing that that would not be possible.—A. Well, what I meant was that simply that the English duty is so high. I don't remember how much, but it is so much that it won't pay for the National Lead Company to go in.

By the COURT:

Q. Would that interfere with the National Lead Company building its own plant in the British Isles?—A. No; but I do not see how the National Lead Company would have reason to change their previous attitude or idea of when they go in with a plant they will cooperate with some domestic people.

Q. I quite agree with you.—A. There are certain markets which are more or less natural for companies to work in and operate in and others which are less.

Q. Where it operates under a disadvantage?—A. Yes.

By Mr. WEBSTER:

Q. So it would be your view it would not be feasible for an American company to attempt to capture the English market?—A. Out of the question, in my opinion. You must keep in mind also another thing; that the
2877 British are, after all, very patriotic, very nationalistic in those things. "Buy British" is a slogan which is more than the words. It is a reality.

Q. Have you an opinion with reference to the ability

of the British Company—I am looking at it simply from the standpoint of business capacity or ability in the absence of any agreement or arrangement, or anything of that sort—have you an opinion as to the ability of the British company to import into the United States after the war?—A. Not with the tariff on as it is and I wonder if it can go even otherwise. During all these years, practically up to a few years before the war, whenever we tried to find out whether we could import from the United States—after all, the Titan companies were free to import where we wanted for our own markets—we could not do it on a competitive basis. It did not pay.

Q. What was the reason for that?—A. Of course we had the costs from the Germans, as we could buy from the Germans at cost price, and here the Americans, they wanted cost plus 10 per cent, that is cost price, as you know, due to the special arrangement, and it was only in the last year that we had an opportunity to take some material from here with an advantage. That was partly due to quality too.

Now with regard to the British situation they got their prices fairly well down. I think they must be up
2878 over the last year. I do not know what it was during the war, because they do not give information. And as to costs, too, the British have come down very well with their own production, and naturally when they are going to extend now it is very likely that they will be able to produce cheaper, and with the duty you have got here, and with the situation with regard to the American manufacturer—after all, remember one thing: You do not change. You do not get the manufacturer easily to change from one manufacturer to another of pigment. You have to keep people on the spot and deal with them and handle them and talk with them and get acquainted with their difficulties in the use of this pigment. It takes a long time to get in, naturally, people prefer the domestic manufacturer. You see what I mean? McCarty once said to me: "The lithopone from two factories are not alike even when the factories belong to the same company."

2879 Q. Just developing that subject a little further, was the European titanium pigment ever quite the same as the product developed over here?—A. No.

Q. What were the differences?—A. Well, there you are getting into very much of details.

Q. I mean, differences in general.—A. But, for one thing, for instance we had over in Europe, the product

was apt to chalk a little bit quicker than here. And for that reason, substantially the same material we sent over from Europe proved not to be quite as satisfactory as the American. There are smaller things, I can't very much explain how you can tell the tittle differences there may be—in the settling of the material and the surface part and so on, that you have to apply, and so and so.

Q. There are appreciable differences between the products that comes from the different companies as well as products that comes from different countries, is that true?—A. Yes. And even different factories within the same country, too.

Q. I want to turn to another subject. Do you know Dr. Blumenfeld?—A. Yes.

Q. Are you familiar with the process of manufacturing pigments which Dr. Blumenfeld developed?—A. To some extent, yes.

2880 Q. Did you have discussions with Dr. Blumenfeld between 1930 and 1933 with reference to business in Europe?—A. Yes.

Q. Now I wish you would just describe, as briefly as you can, the negotiations that you had with Dr. Blumenfeld, say between 1930 and 1933 with reference to European business matters?—A. Well, that is——

The Court. That is a long order, Mr. Webster. I was wondering whether you would not accomplish more—whether there are some specific elements which you either want to amplify or, even more importantly, if you want to follow the story as we have it on important matters, whether you could not direct his attention to those specific conversations. I will allow you to lead to that extent.

Mr. Webster. I will undertake to do that. I asked the general question because I thought perhaps that would bring in a number of points that might be covered at perhaps greater length if I were to ask a number of specific questions, but I am quite prepared to accept the other.

The Court. Use your own judgment. I don't know what this witness is prepared to say, of course, which you do.

2881 Q. What was Dr. Blumenfeld's position, say in 1930, with reference to manufacture in Europe?—A. He had two companies under his management. One was the Terres Rares, which, I am told from him, and I have no reason to doubt, controlled and owned his patents; and then he had given a license to Societe Thann & Mulhouse, a French Company, which is one of the

oldest French chemical companies which manufactured in France; and he had given licenses to Montecatini in Italy and had also arrangements with the Aussig, Verein fur Chemische und Metallurgische Produktion Aussig in Czechoslovakia, which provided for exchange of know-how of patents and so on. That is as far as I know. I have never seen those agreements, but I am told. And that was in 1930. And his factory in France I understood had a capacity of I believe somewhere about 2000 tons of TiO_2 per annum; I am not quite certain about those figures, but it was in that neighborhood anyhow.

In Italy, the Montecatini Company, in which Blumenfeld had an appreciable amount of shares—I understand that was his compensation for giving know-how and giving license there—the capacity I was told at one time I think was 1500 tons, another time I was told it was 1800 tons, and somewhere about there it would have been. And I think he had given Montecatini permission until
2882 further notice to export to England particularly.

He hadn't disposed of his patent rights in England at that time. Later on he licensed Laporte, or the National Titanium Pigments. And from that moment of course Montecatini could not export to England any more. He himself sold, or Thann & Mulhouse, I mean, in Belgium and Holland, but not very much. His sales organization was not very much developed and he had not, by far, the same technical sales service as we have. We had started such service in Titan Company A/S in 1920, 1921—1921, I think it was, 1922, and when we started in the English market we at once engaged one of the foremost experts in paint and pigments, paint manufacture, a man named Mr. Noel Heaton, who has written books about paints and was considered to be an authority in paint manufacture. And he read papers, gave lectures, and went around and visited the various factories to introduce titanium and studying the difficulties that customers were up against during that time, and so on. He had very heavy uphill work and sometimes he thought the paint manufacturers were too stupid for words as to these things, and so on, because the English paint manufacturers were very, very conservative, so conservative that in talking with one of the largest and most progressive ones when I told him that he could mix TiO_2 and an extender; but why couldn't they buy TiO_2, blend it there, and
2883 so they would save freight over there. He said, "Dr. Jebsen, for one thing, our paint manufac-

turers are fools, including ourselves. If I go to one of our managers and talk about pigments, if they can press you for a shilling on the price they think they have done a great thing, but if I ask them 'Why don't you mix it yourself and you will save so much' they say, 'I never thought of that.' It is too bad, but, anyhow, it is characteristic of what you are up against."

Q. Let us get back to the Dr. Blumenfeld situation. Did the time come when consideration was given to an arrangement with Dr. Blumenfeld relating to the allocation of business in Europe?—A. Yes.

Q. Was there a conference in Paris in 1931 that had connection with that subject?—A. There were two periods there in that development.

Q. Just describe those, please. A. One was, the talks initiated more or less by Ticknor and Chase from the Commercial Pigments Company over here, who came over to Europe and had also visited Mr. McCarty over here in the National Lead Company, and were interested in getting cooperation in these matters. I had met Mr. Blumenfeld, the first time I met him was in 1922, where I was brought together with him through a Russian living in London, a professor—what was his name, then, I,
2884 don't remember exactly—he was mentioned to me by the former Norwegian Consul General in Petrograd, who was married to one of the Nobel family; and he said his brother-in-law, who was the head of the Russian Nobel family, had recommended this professor or chemist who was in London, who had taken some interest in titanium, and he asked me if I would see him, as he would like to see me when I came to London. I think that was in 1922. And he was very much of a talker and not very much else. But he brought me together with Blumenfeld at that time. And already at that time, at the same time when I was in Paris, talking to Lobstein, Blumenfeld suggested a joint venture, but I was not very much interested about that. They broached the subject at that time. Then I didn't see anything of Blumenfeld for many years until this matter came up through Ticknor and Chase. And at that time we weren't, I was not very much in favor of really getting into any close contact; I investigated it, talked, and naturally I was trying to explore the situation anyhow, to find out what there may be in the matter. But I found that these companies of Blumenfeld were quarreling all the time, and naturally you are not very much inclined to go together with people

who are quarreling between themselves and don't speak well of each other.

Q. Let me get down to the 1931 meeting if I can.
2885 By whom was that arranged, if you know?—A. That I don't remember, who arranged that. Probably Ticknor and Chase I think, because they came over.

Q. In any event, they were present at the meeting, were they not? They were present at the meeting, that is Ticknor and Chase?—A. It is funny, I don't remember much of that meeting at all, to be frank, and evidently I can't have put much importance to it because——

Q. Did you yourself make any report of that meeting to Mr. McCarty or—— A. I found that amongst the papers which have come up now, but I didn't remember anything of it. I didn't report to McCarty about it, as far as I remember. I may have written a letter, but I found there was some memo here amongst the papers which came up.

Q. Did you write some notes that you gave to Dr. Mayer?—A. I don't remember if I did. That note which you found there and which has been—I do not deny that that is written by me, but more likely I have given that to Dr. Kuhne and Dr. Kuhne has given it to Mayer, and so on.

Q. Did you attach any particular importance to that 1931 Paris meeting?—A. What do you mean? I was interested in talking and finding out about these things, and it was fairly clear to me, as far as I remember,
2886 that not anything would come out of this.

Q. Nothing did come out of it at that time?—A. No, nothing did come out of it.

It is an extraordinary thing, but I think it is an indication—after having seen this memo which has been presented here, I wonder why I should never have sent anything of that over to New York. If it had been of importance I would have done so.

Q. There was discussed at that meeting the subject of an allocation of business among certain European companies, was there not?—A. Yes. There you are coming on to another point. That meeting, as I have seen from the memo, it was a question there of getting a technical and commercial cooperation, if I remember right.

Q. Among the European companies?—A. Yes. Now the commercial part was a problem in Europe all the time, not so much of immediate but with a look to the future, because the whole constellation—there you have got—

particularly Montecatini was somewhat of a problem; they had put up this factory and they couldn't place their production in Italy and they wanted to export it. The Italian exchange was very weak, and it was to be feared that Montecatini, if he wanted, could go to the Government, Mussolini, and ask for support in exporting, and that means that he could sell at any price. Now, his
2887 quality wasn't a very good one and varied considerably from the samples we had been able to pick up here and there. And there was a danger, if that kind of quality went around and was sold, that it might do a lot of harm to the reputation of the titanium pigments.

After all we had got—in Norway, for instance, we had experience previously with lithopone, which was introduced to Norway and also to all the Scandinavian countries at a relatively very low price at the first beginning, and was applied here and there and outside, and so on, with very bad results. And the name of lithopone was so bad in Norway that even after the last war, and up in the '20s if you mentioned lithopone the master painters wouldn't touch it, it wasn't any good at all.

Now with a view to all this it was better to get some kind of regulation of these sales. That was one of the problems we had in mind. If you take another situation which occurred very shortly—I think it was in 1933, 1934, where the Germans were competing in the English market with lithopone, and I remember young Robinson, the son of W. S. Robinson, he was the head of what they call the Non-Ferrous Metal Products Company, which were dealing with lithopone and zinc oxide—he said to me, exasperated one day,—he was trying to get the Germans out of the English market where they have been selling
2888 lithopone,—and he said, "It is no use to put the price down because as the Germans are reasoning today, they say the Government says 'So much for exchange we will have to get from lithopone; you got that before, you have to continue to get it;' so, the lower we put the price the more is sold of their lithopone because they have to sell it to get that amount of exchange."

Now, whether he was entirely right or not, I do not know, but there was some support from the Government in Germany for selling material.

The COURT. I think we will take a short recess.

(Short recess.)

Q. Dr. Jebsen, you had said that there were two considerations in connection with these European arrange-

ments at this time, and you had discussed one of them. Have you in mind another consideration that was involved, another primary consideration?—A. You mean two periods, or do you mean technically——

2889 Q. I thought you said there were two considerations, one you have just described, and was there also the matter of technical information development?—A. Well, I mean——

Mr. DIXON. I must confess, your Honor, I don't know just what the first one was, according to Dr. Jebsen's testimony.

Mr. WEBSTER. Well, I will withdraw the question.

The COURT. Very well.

Q. Now subsequent to this Paris conference when was it that adjustments were made among the European companies with reference to their participation in business in Europe? When did that come about?—A. When reference was made to——

Q. When was it that there was an adjustment among these European companies with reference to their business in Europe?—A. You mean this Contract of Four and Six and that part of it?

Q. Yes.—A. Well, that was developed slowly after 1933 chiefly—well, some of it before. That was particularly the Aussig concern in Czechoslovakia, Mr. Mayer there, and he was very interested in that question and had several talks with the Germans, with Dr. Kuhne, about it.

Q. Now, the Aussig agreement——A. And that Aussig agreement, yes.

Q. Do you recall offhand the date of the Aussig agreement or the year in which the Aussig agreement

2890 was made?—A. I don't remember whether 1933 or 1934, but it was in the summer of 1933 that it practically—that it reached its final form.

Q. What was the purpose of the Aussig agreement?—A. It was chiefly—the main part of it was, I mean from the Titangesellschaft's point of view, was to get the factory occupied. We were dealing there with a factory which had a large, according to European countries, it had a capacity for 10,000 tons of composite pigment, and that was the equipment, and there was room for putting in considerably more equipment. The whole thing was planned for a large development.

Q. You are describing now the TG factory?—A. The factory of TG, yes. And we had been fighting for some years against conservatism—I would rather say doing up

hill work in getting this pigment introduced. Now Auusig had a very small plant more like a pilot plant. The capacity was 500 to 700 tons of TiO_2. And I know that Kuhne told me once that Mayer had been to Leverkusen and Kuhne had shown him quickly through the factory there, just went quickly through, and that Mayer was very much impressed and said, "It is really only by taking a courageous step like this that we will be able to establish this industry at all." So, he was interested, he was a fairly far-sighted man, and he said, "Better concentrate on getting ahead instead of dividing up
2891 the forces."

Now of course IG and the Aussig people had a lot to do with each other. Aussig was a concern which before the last war had a very large importance in the Austrian-Hungarian monarchy, and after the last war they had to develop on the basis of what was remaining there of the, we might say, the Austrian succession states. They were interested in many products; they had very wide ramifications. In fact, in those countries—they were more or less like the IG was in Germany. So, they had many interests in common, these two concerns. And, therefore, for them it felt natural to develop an agreement of this kind, as defined in the agreement, arrange for a quota in those countries in which they both operated together in titanium, and for supplying such other material from the factory which was then equipped, that is in this case the Titangesellschaft factory. And it was done on a basis of leaving about, I think it was, one-third of the profit to the manufacturer and two-thirds to the sales organization, if I remember right.

Q. Had that contract been terminated before the invasion, the occupation of Czechoslovakia, do you know?—A. It had a very extraordinary development there because—well, as far as I remember this, the invasion into Czechoslovakia in the Autumn of 1938 led to I think
2892 Aussig—maybe the Town of Aussig or the City of Aussig coming in under German domination, as far as I remember. And the Aussig concern had already started to put up some factories further out of reach of the Germans, in Hruschau for Rhuschan, Czechoslovakia. That is right. The pilot plant, or this plant of 500 or 700 tons, came then within the German domination, and the Government, or Hitler, demanded some German chemical manufacturer to take over that factory. And that was then taken over by IG and another German factory, I have

forgotten the name, fifty-fifty; a smaller manufacturer there.

And then the problem came how to deal with this, and it was arranged in the way that the capacity—I believe that capacity was deducted from the Aussig, those 700 tons which were there, were deducted from the quota which the Aussig concern had the right to have. So, at the same time the intention was not to increase that factory, it was to keep it going and it was. The German Government wanted to keep the population employed to the extent it was employed before.

Then in 1939, when there was a further invasion, there was a question of how to deal with that, but, frankly, the thing became so complicated I didn't——

The COURT. I thought it became very simple.

The WITNESS. No, not so very simple.

2893 Q. Dr. Jebsen, do you recall the contract that we speak of here as the Contract of Four and the Contract of Six? You recall those two contracts?—A. Yes.

Q. Did you take part in the drafting and negotiating of those contracts?—A. Yes.

Q. What was the purpose of those two contracts?—A. The purpose was a similar one as between Aussig and the Titangesellschaft. In other words, the regulation of the markets with a view of first this Montecatini matter, to solve that problem, and from our point of view we were interested in preventing Blumenfeld from applying for a higher duty in France which he had been indicating several times. We had some difficulty in holding the market in France with the supply from Germany because of the duty and this exchange, the French exchange, going down. And if he had gotten a higher duty we would have—could have been shut out entirely. Naturally we wanted to maintain our market, possibly develop it and gain time until we could put up a factory in France on a reasonable economic basis.

Q. When you say "our interest" you mean the interest of Titan Company, Inc?—A. Incorporated.

Q. And the contract that has been spoken of here as the contract of deliveries was just another feature of that?—A. Of a similar nature as the other one with Aussig.

2894 Q. Are the Contract of Six and the Contract of Four and the contract of deliveries still in existence?—A. The contract in which Montecatini was interested was terminated by them, as far as they were concerned, in, I

think it was, the year before, about in 1939, maybe, or 1938; I don't remember exactly now, but you can find it in the papers somewhere. And there was no continuation of the agreement, it was stopped, except that it was understood that we will see if we could get some kind of an arrangement, and in the meantime carry on as best we could in the matter. The contract with the French company, when the war broke out, of course those things stopped, you couldn't any more; I mean, everything was disrupted and there was nothing more in it.

Q. Have you dared to form any opinion at all as to what may happen with reference to these matters that were involved in these contracts after this war?—A. No. I am entirely blank. After all, who can tell what is going to happen? I mean, first of all, if there aren't going to be any peace treaties, what will be the legal situation between these countries and so on?

I would like to mention one other thing you talked about yesterday, whether I thought these contracts were in existence or would continue after the war and I said I did not know. I mean, after all, that is a purely
2895 legal matter of a business—a treaty matter, when the time comes. And, of course, there is, regarding the 1920 agreement, a question of not only the American Government's decision but also the question of the Norwegian Government's attitude, because the Norwegian company, Titan A/S may be still responsible for those agreements which have been taken over by Titan Company, Incorporated. But I suppose——

The COURT. Has Leverkusen been bombed?

The WITNESS. Well, we have very little news. I had a letter from our people in France after France was liberated, and according to that it seems that there has been very little harm done to the factory.

Q. Now, Dr. Jebsen, I think all of the matters that have been discussed up to this point with a few exceptions have related to situations inside Europe. I now want to ask you a few questions about the arrangements in the United States. There is in evidence here a contract between the National Lead Company and the du Pont Company made in 1933. Did you have any part in the negotiation of that contract?—A. No, practically none, except when it was negotiated it was submitted—it was sent to me shortly before, in principle, the thing, and that was early in 1933.

The COURT. Weren't you the fellow that was supposed to sell it to the Germans?

2896 The WITNESS. Yes, but that was not the negotiation of the contract between du Pont and National Lead.

Q. When that contract was brought to your attention, or the draft of the contract, did you observe any important difference between that contract and, say, the 1920 agreement?—A. Certainly. There was a very wide variation, very wide.

The COURT. The agreements speak for themselves. While this may have been very exciting on December 6th, it is now January 25th.

Q. If I may refer to the contract itself, you did recommend to the German company that it consent to the Lead Company making that contract, did you not?—A. Well, I will have to take the story a little bit earlier than that part of it.

The COURT. That is what I was afraid of.

The WITNESS. Yes, but I shan't go into the agreements themselves.

The COURT. All right.

A. (Continued) But when it was sent over to me for my consideration, and also with the request of exploring the attitude of the Germans, I wrote back and pointed out the differences that I shan't go into now, and then I didn't hear anything until Beschorman came over, and he had a contract with him, the way it was to be signed. And
2897 I told him the same thing. So he said to me, "Well, we have got to sell the agreement to the Germans." He thought it was important for the National Lead Company. I was not in agreement with them to be quite frank, I did not like the idea as it was. And then we went to the Germans, went to Leverkusen and Beschorman presented the agreement to Dr. Kuhne.

By the COURT:

Q. Before you go into that, did Mr. Beschorman indicate to you why he felt that it was so important for National Lead to make this deal?—A. No. He was a very self-willed person.

Q. He did not say to you, for instance, "You know that du Pont is a very powerful organization and if they decide to fight with us on this proposition we will probably take a licking"?—A. No.

Q. He did not say that?—A. No, not at all.

By Mr. WEBSTER:

Q. You did give a half-hearted endorsement to this——

A. Well, wait a minute. Then when Beschorman had talked with Dr. Kuhne, Kuhne did not go into the agreement at all, but just said that the legal department would go through it and he then answer it, and he had no doubt that the thing would be all right, because National Lead Company was fifty per cent interested in the German
2898 company, and so on.

When I was asked to come to Frankfort some time later, then I was faced with a whole situation there, because then they put up these questions, and they put up quite a number of objections the same as I have put up to Beschorman and to over here; there was no denying those things. So I just told him that those objections have already been sent by me to National Lead Company earlier. And the result was, however, that this was not consented, evidently the National Lead Company had not got any further with the du Pont Company. And I said, National Lead Company wishes to make this agreement but it is dependent on your approval. They said, "Well. isn't it signed?" I said, "No, it is not signed, and now it is up to you."

So I put it to them straight, whether or not—now, they, were very desirous of pleasing the National Lead Company; the cooperation had been a good one in every respect, and naturally they felt that if they did not sign it the atmosphere might become colder than otherwise, the temperature may sink. So, they wrote them their objections to the—over here to the National Lead, as you will have seen from the correspondence. And then I came over here and had a talk with Mr. Rupprecht about it.

The Court. Was that before the agreement was
2899 signed?

The Witness. That was before the agreement was signed. You can find this in the letters.

A. (Continued) And there I finally said that in view of these various pictures which have been worked out—"that it will be eminently satisfactory in the end, and so on," it seemed to me that National Lead Company—that the Titangesellschaft may have important benefits out of this. It was in my opinion a lukewarm explanation of: Well, go ahead and sign it and take your chance in the matter.

Q. Did Mr. Rupprecht at that time, that is, 1933, accept the provisions of Article XIV of the 1920 agreement?—A. No.

Q. Did Mr. Rupprecht ever accept the provisions of

Article XIV of the 1933 agreement?—A. No. I often ask myself sometimes—but I never got him. He was too slippery for that, quite frankly.

By the COURT:

Q. What did he say? Can you remember the words?—A. No.

Q. The substance of what he said?—A. No. The substance is what you can see was more or less expressed in this letter he wrote.

Q. Tell me about it orally. I haven't seen the
2900 letter for some time—A. Well, he said that, after all, we haven't exported to these countries, you are protected by patents in these countries; how can we export? And I think the whole thing will work out to be eminently satisfactory to you.

He talked about the non-exclusive licenses, which I didn't like at all and which I couldn't see the reason for. He said that it was a rule from the executive committee or finance committee not to part with any property entirely; they have to put it up—if he should give an exclusive license it will be tantamount to parting with the property, and he would have to put it up to the executive committee, and he thought that they are not—that the approval would not be given.

He used that executive committee as something which he could not work up against. Of course I thought it was a very unsatisfactory way of handling this, and, frankly, I thought it was not quite the way I think National Lead Company should accept the treatment of that kind. But, nevertheless, at the same time he said it would work out satisfactorily.

Beschorman was very keen on having the thing done. I don't think Beschorman really understood what the whole thing was about. And, that he expected a certain amount of advantage in getting technical informa-
2900a tion and engineering service and so on from the du Pont Company. I think he and Thompson were rather fascinated by the big du Pont Company and so on, which I think I wasn't quite so impressed with. But, finally, after all, I was an employee of the National Lead Company, and found that I would have to help the matter along.

2901 The COURT. You were a good soldier.

The WITNESS. Yes.

A. (Continuing) And then, as you have noted, I think

the Germans in writing back, they accepted the situation; in other words, they refrained from any legal or contractual basis for complaint, but at the same time they tried to emphasize what their position was, the basis, so that they had every opportunity to grumble afterwards if the thing should not work out to be eminently satisfactory.

By Mr. WEBSTER:

Q. Now, Doctor, I am coming to another subject. Did you have anything to do with the negotiations between BTP and Laporte in 1936 to 1940?—A. In 1940 not at all. I was over here. In 1936—1936, I though it was a bit earlier—I was sitting in on some talks with them, but the negotiations was left first to Stopford and Thompson of R. W. Greeff, and later Tasker came into it, the talks between them, and I was sitting in on a few of those talks.

Q. That was a matter between BTP and Laporte with reference to a domestic situation, was it?—A. Yes.

Q. And you had knowledge of that as a member of the board of directors of BTP, is that right?—A. Yes.

Q. But, as I understand it, you were not one of the negotiators of that arrangement?—A. No, I was
2902 not one of the active ones.

Q. I would like to have you, if you will, describe just as briefly as you can the situation which led up to the arrangements with the Japanese. Now I am going to ask you the general question in the hope that you will just take us through that as quickly as you think you can and give an adequate answer.—A. Well, the first contact with the Japanese was a visit by Mr. Fujida to our Norwegian factory in 1920. I was not there. I was over here at the time. And then he started to buy from the Norwegian company, and we let him do so—we sold to him but not to anybody else, but without having any specific arrangement.

The COURT. That is the Fuji Paint Company?

The WITNESS. Fuji, yes, I think that was. Fujida was the name, anyhow, of the man.

A. (Continuing) Then when the German—when the Titangesellschaft was formed and Japan was included in their territory, after awhile we gave the agency, that is, Titangesellschaft gave the agency, to the Doitsu, IG's company over there, and continued however to work with this paint company. And as sales developed I understood from the Germans that Fujida was trying time after time to get us interested in putting up a factory in Japan.

Finally, it was the same story as in certain
2903 other countries—the exchange became weak and licenses—importation became more difficult; there was a question of getting licenses from the Government, importation may have been forbidden, which is very soon after we had made the arrangement.

So, it was considered, in order to hold that market, considered vital to put up a factory there and naturally, following the then policy, as we have been doing all the time, trying to take a domestic partner, and of course Fujida, who was the man who had worked up this idea and done the work, he was the nearest to be chosen. I didn't know that Fujida, which proved advantageous, was connected with this larger concern, Kokusan Kogyo, and I think that was again connected with the still larger Nippon Kogyo—these names are in these letters or reports somewhere—and so then it was divided fifty-fifty.

Now we had our arrangements with Blumenfeld, and naturally the question was of taking him in at the same time. I mean, that would be the fair thing to do, not to leave him out in the cold, I mean, if this——

Q. Well, he had actually received consideration with reference to the Japanese market, hadn't he, on the contracts of Four and Six?—A. Yes. But naturally we could have put up a factory in Japan without him if we
2904 wanted to. But we thought this was best, to take him in on the enterprise there. But at the same time we did not want a technical cooperation because of all these reasons, I don't need to have to repeat them, in exchanging licenses and know-how and so on.

So, therefore, it was arranged, the way you can see from the agreement, that the license was given from the Titangesellschaft through Doitsu to this new concern, or to the Titan Kogyo. And Blumenfeld gave an option on his patents which could be used in case sometime in the future a general cooperation should develop.

And then, with regard to share capital, well, it was divided up between the Blumenfeld concern and ourselves in the same proportion as the quota, 70-30.——

Now these shares, our shares, I mean the National Lead Titangesellschaft and so forth, should really have been—it was in cash then—should have been taken out by the Titangesellschaft if we had followed the ordinary practice of the thing. Then, however, it was decided that instead of Titangesellschaft doing it, because of exchange difficulties, it should be I.G., which took the one half, and Titan

Company took the other half.

Weber Andreae, one of the I.G. directors, was over here on a visit and talked to Beschorman and asked him if
National Lead would—or Titan Company, Inc.,
2905 would take on a cash payment for them because
they had difficulties in providing the cash under the regulations in Germany, and Beschorman agreed to it. And it came up with me afterwards in Europe, and he told me Beschorman agreed, and I had no objection to it. After all, it was a relatively small amount. The idea was that the I.G. should buy the shares back after a certain period, they should pay an interest at five per cent or six per cent, I don't remember now how much, or be charged for that, and whatever came of dividends should be deducted, and so on. It looked as if the possibilities for the future of that company will be so good that probably there would not be much to pay when the time came.

And it wasn't only those cash shares but also the shares for patents and good will, which amounted to a considerable amount. The first capital there was 1,500,000 yen, of which 750,000 came under the European-American part. We had 70 per cent of that. And I think that of the 70 per cent of 750,000, that is about a little over over 500,000, we had to pay in cash was a little over a hundred thousand yen.

Q. Did the company engage in actual manufacture?—A. Yes.

Q. Did it do so successfully?—A. As far as I know,
yes. It had quite good sales, according to the re-
2906 ports: Now, keep in mind, it was the Germans
naturally having the organization in Japan, who took care of the thing.

Q. Do you know the tonnage that was produced there before, say in 1941?—A. No, I would not remember now, but if it is of interest, we can find those figures.

Q. You have no present recollection?—A. No. But I think you must have those figures somewhere in the offices.

Q. Dr. Jebsen, are you in a position to express an opinion concerning whether it would be feasible or whether it would have been feasible for the National Lead Company independently to establish a factory and business in Japan?—A. I do not think it would have been possible. Well, less there than anywhere else.

Q. Just state briefly your reasons for that?—A. Well, I mean the National Lead Company had no business in Japan, we had no business in Japan otherwise, I mean

except through this Fujida, and conditions in Japan of course are so foreign to us. It would just have been a gamble.

Q. Do you think the Japanese could have engaged successfully in importing titanium pigments into the United States?—A. Except with dumping and Government support, then you can do anything, practically, if they were going to; but even so, it is a matter of quality, too. With the quality, keep in mind I have never seen the product which they made, but a very large part of it went into face powder.

2907

The COURT. Face powder?

The WITNESS. Face powder. That was the most important sale that they had for quite some time over there, so I am told.

Q. Now, Doctor, I want to ask you about the situation with reference to South America. You mentioned yesterday that when the 1920 contract was made, both companies desired to engage in business in South America, and that was left open to both companies?—A. I beg pardon?

Q. I say, you said yesterday that both companies were reserved freedom for operation in the countries of South America.—A. Yes, as far as sales are concerned.

Q. Now later was anything done about the rights with reference to the sales by the Titangesellschaft in South America?—A. Any arrangements were done between the Titan Company A/S or Incorporated and the National Lead Company.

Q. No. Did something happen later with reference to the Titan Company, Inc., and Titangesellschaft with reference to South America?—A. Yes. We left it to the Germans to operate that market.

Q. What was the reason for that?—A. The reason was that we had, Titan Company, Inc., had practically no connections of use in South America. We hadn't found any agents who could operate for us who were satisfactory. I think it was more or less incidental what we sold down there. And Titangesellschaft, the Germans, were hammering all the time and keeping pestering me for getting larger markets, and they had their organization, they had companies of their own in most of the countries down there, so it was very difficult for me to deny them to sell down there; they had a very good organization for it. And our experience was that one had practically to put up more or less our own organization, to get the pigment introduced, or you had to work very

2908

closely with the agents—a very close cooperation. We had the experience in Belgium and Holland, for instance, that the agency we had there didn't work. We had a very highly reputed, a highly renowned firm, Peter Schoen, who worked for us in Holland and the results were very unsatisfactory. We had an agent in Belgium which also was very unsatisfactory. So, finally, we put up our own organization there, formed our own little company for doing these things, and it was only after that that we really got our pigments introduced in those markets.

Now, in South America we couldn't do much, and
2909 they had an organization for the work. And they took on, very energetic on it, immediately afterwards. They sent over a chemist to investigate the situation, a pigment paint chemist: however, he came back with rather disappointing reports. He found that the consumption of white pigments in those countries was not a very large one at all.

Q. Has that market in fact ever developed a very large consumption of that product?—A. Not a very large consumption.

Q. Mr. Williamson wanted me to make it quite clear that your testimony with reference to South America relates only to the Titan Company, Inc. and the Titangesellschaft, and that it does not include in any way the National Lead Company.—A. No, we acted entirely separate from each other.

Q. You were not in a position to make any—— A. I was not familiar and I am still not familiar really with what the National Lead Company did down in South America.

Q. You were not in a position to make any arrangements on behalf of the National Lead Company and you did not do so; is that correct?—A. Yes. I only did it on behalf of Titan Company, Inc.

Q. Now, Doctor, did you have anything to do with the Canadian arrangements that were made about 1937?—A. No.

2910 Q. Did you have anything to do with the arrangement that was made with the Zirconium Company?—A. No.

Q. Did you have any part in the negotiations with the Virginia Chemical Company?—A. No.

Mr. WEBSTER. That is all.

By the COURT:

Q. Dr. Jebsen, what was the total production say about

1939, or 1940, on the Continent of Europe of titanium composites or TiO_2, as you prefer it?—A. Well, I expected the question but I wanted to see our report, annual report, to be quite certain, to refresh my memory about it, and perhaps I can do it——

Q. Can you give me a round figure?—A. I think in 1939, I think the factory in England produced somewhere about 5000, 6000 tons of TiO_2, somewhere about that, I think. And the Germans somewhere about up to 10,000, I believe 15,000. And then you have the Blumenfeld concern and Laporte, I would say about 20,000 tons of TiO_2.

Q. How about the United States?—A. I am making this observation, your Honor, because I am not at all certain about these figures, but they can be had here; we have them in our files.

Mr. WEBSTER. They are contained in your annual reports, are they not?

2911 The WITNESS. In the annual report, yes.

Mr. WEBSTER. Which have been turned over to the Government.

The WITNESS. Very, very detailed statements there.

Q. What is your impression of the American production?—A. At that time? In 1939? Well, I think my impression was that they were about three or four times, about four times as high

Q. Do you run from eighty to a hundred thousand tons?—A. Yes, somewhere about that.

The COURT. All right.

2912 Cross-examination by Mr. DIXON:

Q. Dr. Jebsen, we went into some of the provisions of the 1920 contract rather at length yesterday. It was one of the purposes of that contract, was it not, to allocate to the companies, that is the two companies who entered into it at that time, Titanium Pigment Company and Titan Co. A/S, certain exclusive territories in the world in which those two companies would confine their manufacturing and sales activities, is that correct?—A. Yes.

Q. And it was also one of the purposes of making that division of territories to prevent competition from the other company coming into that territory of the other company without the approval, and subject to such price regulations and control as might be placed upon that business by the company in whose territory such exports may have been made?

Mr. WEBSTER. Just a moment. I am not going to interrupt at all if I can keep from it, but I would ask to have the question so framed, that some consideration be given to the form of the question so that the witness will be sure to understand. It was five minutes I think after the first word before I finally heard the verb.

The COURT. Are you apprehensive of the witness's capacity to comprehend it?

2913 Mr. WEBSTER. Not at all.

The COURT. Because we are dealing with a highly trained witness.

The WITNESS. The first time I am a witness.

The COURT. I did not mean highly trained witness but highly trained gentleman, and I will instruct him now to make sure of this:

If the question put to you is not clearly understood you may so state and I will see that counsel reframes his question so that you do fully understand. I don't want your answer to a question which you do not fully understand and are satisfied that you understand.

Now do you understand the last question?

The WITNESS. Yes, I believe I understand.

Q. Thank you, Dr. Jebsen.—A. But keep in mind the purpose. This territorial division was a means to an end. It was not a purpose. It was a means to an end, the end which I pointed out yesterday, of creating conditions which made full cooperation on the technical side possible.

Q. But one of the purposes, as I have stated, was to enable the companies, say Titan Co. A/S in 1920 or any time thereafter, including the Titan Company, to control any imports of titanium pigments into that particular territory of Titan A/S or Titan, Inc., wasn't that a fact, Doctor?—A. Not any imports.

2914 Q. Within the Licensed Field?—A. Yes, but I mean only from the company who was cooperating, yes.

Q. That is right. In other words, any company——A. To put it straight, in order to get a full exchange of information and technical knowledge we wanted to prevent competition of a commercial nature.

Q. So the purpose of the exchange of the technical information which you have mentioned was also to prevent what we will call, and I believe you have sometime referred to, technical competition, is that correct, Doctor?—A. Technical competition.

Q. So that as these various companies like TG and

BTP and Titan Kogyo were allocated particular portions of the territory originally allocated to Titan A/S under the 1920 contract, these new companies enjoyed the benefits of the corporation, of technical cooperation, did they not?—A. Yes.

Q. And they also enjoyed the benefits of no imports by any of the other companies into their particular territories without their approval? That is also one of the benefits, was it, Doctor?—A. Yes. It appears from the contract itself.

Q. And as these companies grew and as this business developed in the manner that you have described, the value of that lack of competition or the threat of
2915 competition from imports into the territories of TG and BTP became greater, did it not, Doctor?—A. Perhaps so. I would not say absolutely, but perhaps so. I mean it depends on so many factors which are coming in.

Q. But at least it is your position that BTP's position in its territory was strengthened by the increased production of the plant supplying that exclusive territory; it obtained a stronger position in its exclusive territory, did it not, because it had nothing to worry about, assuming it were possible, from imports into its territory?—A. I do not get that question.

The COURT. Reframe it.

Q. These various factories that were ultimately built in the exclusive territories allocated to those companies started off with a small capacity, didn't they, Doctor?

The COURT. Small production?

Mr. DIXON. Production, rather.

A. Well, we started with a relatively small production, compared with United States production, but we tried to start out these companies, these factories, as I mentioned before, at the time when a certain minimum outlet was developed, certain minimum consumption was developed, so that they should have a reasonable economic basis to stand upon.

Q. And until the capacity of the factory in that
2916 exclusive territory developed to a greater capacity, or as its capacity increased, the market in which that particular factory was then built would be taken care of, if necessary, by the imports from the other territories where the factories had a larger capacity; that is true, isn't it, Doctor? Do you understand my question?—A. Not quite. Of course, as I have explained, I mean we

developed the market in England by deliveries from Germany until its factory was ready for operation.

Q. And as soon as——

Mr. Webster. Just a minute. I think he ought to be allowed to complete his answer.

The Court. Had you finished your answer?

The Witness. Yes, if I understand your question right.

Q. And as soon as the British factory developed larger production then the imports from the German factory stopped? That is what happened, wasn't it?—A. As soon as the British factory started operation and could give a supply to the customers then of course the German imports stopped, because the British company had got their exclusive licenses under those patents—under the patents. Importation could only take place with their approval anyhow.

Q. Of BTP in its own territory?—A. Yes, in this case.

2917 Q. And if BTP said to TG, We don't want any more imports into our territory, they would have ceased under the 1920 contract, wouldn't they?—A. Under the 1933 contract and 1927 contract.

Q. Now the various Titan associated companies had what percentage, would you say, of the market capacity of the territories outside of the United States with reference to the whole market for titanium pigment?

The Court. I do not follow your question. Do you mean under the Blumenfeld deal?

Mr. Dixon. That is right.

A. You mean the potential capacity or do you mean the capacity——

Q. I will withdraw my question, Doctor. The only other group producing titanium pigments throughout the world, exclusive of the United States, was what we have heretofore called the Blumenfeld group, is that correct?—A. Yes.

Q. And they started in the titanium business I believe about the same time as Titan A/S, didn't they?—A. No. I think they started in considerably later, several years later.

Q. Well, you started in 1916, was it, in Norway?—A. We started our factory in 1916 and we started operations in 1919.

2918 Q. And Blumenfeld had Thann & Mulhouse in France with a factory in about 1922, didn't he?—A. I did not know, but I believe so, because as far as

I remember it was only in 1922 that—well, in fact I did not know of Blumenfeld actually being active in titanium before I met him in Paris at that time. There may have been some patents, but frankly not that I was personally much aware of that fact, and I suppose it was round about that time that he started to put some pigment on the market. I do not know, but I suppose that is the case.

Q. Well, the only other companies manufacturing titanium pigments in Continental Europe up until say 1928 were the Blumenfeld companies and your own companies or the Titan companies? That is correct, isn't it?—A. Yes, with one little reservation. I cannot give you a definite date as to what Auer Company did.

Q. You mean Auer—A-u-e-r?—A. Yes, Auergesellschaft.

Q. That company finally went out of business?—A. Yes, but they had spent seven to nine million marks on their business before they closed down.

Q. So excluding the Auer Company, the only other group of companies operating in Continental Europe up until 1928 were your groups and the Blumenfeld groups? —A. Yes. May I just mention one other thing, and that is in France, when you talk about these groups,

2919 there were two inventors, Carteret and Devaux. They had a pilot plant in France which was visited by Mr. Hallett of the National Lead Company in 1928 or 1929, I believe, where they were making some titanium pigment. But as to what you may call the serious competitors, it was Blumenfeld at that time.

Q. Do you know what proportion of the total titanium pigment market was supplied by the Blumenfeld companies in Europe in 1928 approximately?—A. No.

Q. Well, in any event I believe we can say that about that time your companies, the Titan companies and the Blumenfeld companies were the only groups commercially engaged in the business in Europe at that time? That is correct, isn't it?—A. I think so.

Q. So that the only competition that the Titan companies had from European companies in 1928, of a commercial nature, were the Blumenfeld companies?—A. Commercially, yes.

Q. Now, you had no competition from any of the other Titan companies, as you have stated? That is correct?—A. Commercially?

Q. Yes, except that imports were made into the Titan territories at the request of the Titan companies. That is a fact, is it not, even in 1928? Is that a fact, Doctor?

Mr. WEBSTER. Again I apologize for interrupting,
2920 because Mr. Dixon was considerate of me when I asked general questions, but he talks about the various companies, and the various countries, and the Titan companies and the associated companies with reference to events that were perhaps of some importance here all in one big lump, and I do suggest that he be instructed to try to specify so that Dr. Jebsen can give a more or less specific answer on that.

Mr. DIXON. The witness has not stated he does not understand my question.

The COURT. That is what I was about to say. Go ahead.—A. May I just, for the sake of clearness, say I understand the Blumenfeld companies, the Thann & Mulhouse at that time, Thann & Mulhouse and Montecatini and Aussig, as far as Europe is concerned?

Q. That is right.—A. There was in London a group which was promoted by a man by the name of Tilden-Smith and he operated with a company called the National Titanium Pigment Company which later was taken over by Laporte. I don't remember exactly the dates when he started to introduce his pigment. He sent it around to the various paint manufacturers. It may have been a little later or maybe been a little earlier. I cannot say. I would like to make that one exception.

2921 Q. Do you know whether the National Lead Company was importing into the British market in 1928 and 1929?—A. I do not remember. We took once or twice some material from the National Lead Company over to England but I cannot say exactly the dates and the years. There were a few times.

Q. So that at that time, at the end of 1928, you really just had the two groups in Continental Europe, the Blumenfeld group and the Titan group?—A. Yes, of commercial importance, yes.

Q. And the Blumenfeld groups, so-called, were beginning to seriously and substantially compete in the European markets with your companies? That is a fact, isn't it, Doctor?—A. Yes.

Q. Now the Montecatini Company was even exporting outside of Continental Europe, wasn't it, at that time?—A. Exporting to England.

Q. Do you recall whether they were also exporting even small amounts into the United States around 1930, 1931 and 1932?—A. I do not recall, but I have seen that in some of the papers mentioned here. Of course I was

not very much interested in what exports took place into the United States.

Q. But you always kept National Lead informed of what was going on with reference to the European
2922 situation?—A. Yes.

Q. And the activities of the Blumenfeld companies were reported to the National Lead Company?—A. Yes, as far as I knew about it.

Q. Now this technical cooperation, this other factor in these agreements, that was a very important factor underlying these agreements, wasn't it, Doctor?—A. The technical cooperation, yes.

Q. And as a result of that technical cooperation flowing between and among the various members of the Titan group you obtained distinct advantages, did you not, in the technical operations of this business over any other company that did not have that available to them?—A. Yes. I think that was a very constructive part of the whole thing.

Q. And these exchanges of information relating to the working out of the technical problems of this industry also in many cases resulted in patent collaboration, did it not? That is collaboration in patent applications in the titanium pigment business?—A. I do not quite see what you mean by "collaboration."

Q. All right. I will ask you another question: You mentioned yesterday, as I recall it, that TG developed a new product, I believe around 1935, Rutiox, with a very high hiding power?—A. In the laboratory.

Q. And it is a fact that when that product was
2923 discussed at your, shall we say, international committee meetings that the British companies and their research divisions did aid and collaborate with the German companies on the working out of the details ultimately leading to patent applications on that product?—A. They took up the work in the Rutiox matter also.

Q. So there is one example to answer my question as to whether or not this technical cooperation between the companies resulted in joint patent collaboration on applications?—A. Yes.

Q. And there may have been others I presume. And of course when these patent applications were filed and patents issued, or when they were filed, all of the information relating to those new applications was immediately available to all the other Titan associates, wasn't it, in-

cluding the National Lead Company in the United States?—A. Yes. When you say "immediately" I mean——

Q. Well, in the ordinary course of business?—A. Yes.

Q. The transmission of that information would make it available to all the Titan associated companies?—A. Yes. May I just mention when you talk about patent collaboration, as far as I understand what you really mean here is technical cooperation in those developments.

Q. Well, I had gone beyond that, Doctor. I had brought it to the stage of the patent applications, and
2924 when it had reached that stage, before a patent had issued, whatever was covered in that application relating to any improvement on any of the processes you were then using was immediately available, was it not, to all the other Titan associates?—A. Oh yes, that is right.

Q. And of course it was not available to anyone who was not associated with the Titan-National Lead companies?—A. Yes.

Q. And when you made the Aussig and Contract of Four and Contract of Six agreements in 1933 and 1934 that exchange of technical information was not provided for from the Titan companies to the Blumenfeld companies in those contracts, was it?—A. No.

Q. It was just a commercial arrangement in those contracts with the Blumenfeld companies?—A. Yes, but there is one thing in those agreements where we talked about patents too, and perhaps I should make that clear, and that is where it was a question of patents regarding applications of our pigments use patents. They were made available for both parties to the purpose of facilitating the sale everywhere around.

The COURT. Even with the Blumenfeld's?

The WITNESS. Even with the Blumenfeld's. In other words, we could not use a patent involving the use of titanium to prevent Blumenfeld from selling to the customers.

2925 Q. That was arranged and provided for in your contracts with the Blumenfeld group?—A. Yes. You will find that in the agreements.

Q. But apart from those contracts with the Blumenfeld group it related to a commercial control of those markets by your Titan companies and the Blumenfeld companies; that is a fact, isn't it, Doctor?—A. Yes. Well, as far as those sides are concerned. If somebody else came in it would be a different matter. It would be beyond our control.

Q. Someone did try to come into the Dutch market in 1939, didn't they?—A. Yes.

Q. And it was immediately decided by the Titan companies and the Blumenfeld companies that no arrangement should be made with van der Lande, this new Dutch company?—A. I would not say immediately. We were watching the van der Lande Company as it developed. We were trying to find out what kind of people they were, and the information we got was that they were people who repeatedly had taken up, apparently, a new production with no purpose of really going in, but after they had made themselves a nuisance they just took some compensation for dropping out.

Q. Did the Titan companies ever pay van der Lande any money? A. No. We did not fall for that.

Q. It was decided rather to fight them to co-
2296 operate with them? Is that the position taken by your two groups? A. Yes. I would not say it really came to a decision, but Blumenfeld told me about it, that he had an opportunity, he had heard van der Lande would be willing to make some arrangement, and I said, "I don't think we should do so," and that is what it was left to. That competition was not so serious at that time that I would call it a decision. It was not under a very serious consideration.

Q. It never really got started? Is that a fair statement, Doctor?—A. Yes, and I do not think they intended to get started. I think they intended, what they had done before in other cases. They did not have a real staff of people. What they had done was they got hold of a master mechanic from the Auer Company and was trying on the basis to do something.

Q. Now, Montecatini was exporting not only to all the other countries of Europe but also to England before Contract of Six was made, wasn't he, Doctor?—A. All of the other countries? I do not know. But he was exporting to England anyhow.

Q. And after Contract of Six was made Montecatini did not export into the British market any more, did he?—A. I don't know exactly——

Q. As long as that contract was in force?—A. I don't remember when that was, but after the contract was
2927 signed Montecatini exported to the extent that was provided for in that contract.

Q. In other words, the competition from Montecatini

in the other territories that had existed theretofore——A. Was regulated.

Q. ——was stopped, wasn't it?—A. Was regulated.

Q. Was regulated, yes. So that when these agreements were completed with the Blumenfeld companies in Europe you had a completely stabilized or regulated market in the titanium pigment business? That is a fact, isn't it?—A. I should explain a little to you there how that kind of thing worked.

Q. Well now——

Mr. WEBSTER. Just a minute.

The COURT. Answer the question first and then give your explanation.

The WITNESS. I think I need that explanation as an answer for your question when you ask about completely regulated and so on.

The COURT. All right, go ahead.

A. There is still a competition going on in that kind of thing. For instance, Blumenfeld and our people, they competed and they fought each other in order to get customers, even took customers from each other even after that agreement was made.

2928 The COURT. What is the point of that?

The WITNESS. Two points. One was that these agreements after all are relatively short termed. We had our sales agent and he had his commission. He was interested in selling as much as possible. He could not cut down the price. The price-cutting competition was eliminated by those agreements, and compensation for oversales was arranged for when the year was over, but after a period of two or three years the question of quota could be taken up for revision.

The COURT. We will suspend at this time.

(Recess to 2.15 p.m.)

AFTERNOON SESSION

GUSTAV ADOLF JEBSEN, resumed the stand.

Cross examination continued by Mr. DIXON:

Q. When we adjourned for lunch we were discussing the contract the Titan companies made with the Blumenfeld companies after 1933 in Continental Europe, and that customers were also exchanged between the companies in the various territories allocated to the Blumenfeld and Titan companies under those agreements, were they not, Dr. Jebsen?—A. Not that I know of.

Q. Don't you recall in 1939, I believe it was, that you referred in some of your reports to giving some of the customers to Thann in its territory?—A. To Thann?

2929 Q. Thann & Mulhouse, yes.—A. No. I do not recall. It may be the case, but I do not recall.

Q. Well, in any event in working out the quotas agreed upon for the markets in those territories covered by Aussig, Four and Six Contracts there was commercial cooperation between your group and the Blumenfeld groups to regulate the markets in those territories?—A. The sales—Yes.

Q. And they were governed by those contracts within the territories, is that correct, Dr. Jebsen?—A. Yes.

Q. Now during this period of time you mentioned the British Laporte Company, that was the other producing company in England, was it, apart from BTP?—A. Yes.

Q. And BTP had a price arrangement with Laporte covering the prices of titanium pigments sold in the territories of Laporte, and British Titan Products Company, did they?—A. Yes. I don't remember exactly the time when it started, but anyhow it was so.

Q. And after the Laporte Company took a license from Blumenfeld Laporte no longer competed in Titan's territory outside of the British Empire, did they?—A. No. They respected the Blumenfeld patents in that territory.

Q. So they did not compete any longer with your companies in the territories that you had theretofore had competition from Laporte in; that is correct, isn't it? Commercial competition?—A. You mean on the Continent?

2930 Q. Yes.—A. Yes.

Q. You also mentioned this morning the creation of the Japanese company. That was in about 1935, was it?—A. Well, I don't remember the date, but probably somewhere around that time; 1935 or 1936. You have that in the agreements anyhow.

Q. Well, the titanium business was then developing rather rapidly in Titan's territories, wasn't it?—A. Yes.

Q. And the production of your plants was increasing considerably, was it not?—A. Yes. You have the statistics there. Yes.

Q. And Japan was in TG's territory?—A. Yes.

Q. And TG was serving the Japanese market at that time with products manufactured at Leverkusen?—A. At which time?

Q. 1935—A. Yes; before the Japanese company started operations?

Q. I am talking now about before.—A. This is the time afterwards.

Q. And Blumenfeld was also selling in the Japanese market, was he not?—A. Yes.

Q. And after the Japanese company was created and the Japanese factory in operation, no exports were made by either Titan or Blumenfeld into that market, were they?—A. No, and we had difficulty enough in importing before that time.

2931 Q. But you did export too and you did sell in the Japanese market prior to the creation of the Japanese company, didn't you?

The COURT. So he testified, through the Doitsu Company.

Q. And one of the reasons for the creation of the Japanese company was to prevent the development of a titanium business in Japan which might export into the other Titan territories, was it not, Doctor?—A. I would not say that exactly is the case. It was more in the following way, that we wanted to erect a factory in Japan in order to maintain and keep that business. There was a certain discussion, and certain people thought the money you put in there would be lost, and then those people were consoled with the idea that it looked like an insurance against Japanese competition so if you did not get anything out of it otherwise we might have a sort of insurance against them.

Q. Insurance from importing by any other Japanese company that might develop into the Titan territories?—A. Yes, but I would not say it was the purpose.

Q. I understand, but that was one of the reasons?

The COURT. It is a by-product?

The WITNESS. Yes.

The COURT. Whose territory was China in?

The WITNESS. That was Titangesellschaft.

2932 The COURT. And the Japanese development would threaten any market in China?

The WITNESS. Yes. That is right.

Q. So when all these Titan companies were created and the agreements made with the Blumenfeld companies that we have described and the price agreement with Laporte, the entire titanium production throughout the world, exclusive of the United States, was substantially under all

these agreements, is that correct, Doctor?—A. Outside the United States?

Q. Yes.—A. Yes.

Q. So that the only other producers not directly involved in any of these contracts were those in the United States, and any imports from any company in the United States that might be producing titanium pigments would have an immediate effect of breaking down these frontiers, as you called them, would they not, Doctor?—A. As far as that company?

Q. Yes.—A. But not as far as these companies which were exchanging technical information and making a technical exchange and cooperating together.

Q. To the extent that any such imports that might have come into those territories which had been allocated to the company, and the agreements which had been made within those territories, such imports might have

2933 interfered with the plan for regulating the markets in those territories? Is that not a fact?—A. No. I cannot say that. I do not follow that entirely why it should.

Q. In other words, you did not think any imports into say the territory in China by some company that was not in on this agreement—you would not be concerned about that, would you?—A. Not except as a competitor in any way.

Q. You would, however, if you saw or met that competition in any one of these territories, you would, of course, take immediate steps to prevent its recurrence if it came from any of your companies, wouldn't you?—A. I would try to regulate it in accordance with the agreement.

Q. And there were some occasions in which you did endeavor to trace imports which could not otherwise be accounted for into some of your exclusive territories?—A. There were some instances, some small ones, but not of much importance.

By the COURT:

Q. They were not important as quantity, but they were important in principle?—A. Yes; they were important particularly as far as psychology was concerned.

Q. You wanted to make sure that everybody was observing the territorial arrangements?—A. Yes—were

2934 loyal to the whole thing.

Q. What was the reputation of the Japanese courts? Did they respect foreign investments?—A. I

really do not know. But I do not think there was much reputation at all. But I really do not know.

By Mr. DIXON:

Q. You testified this morning, I believe, with reference to this Paris conference in March of 1931. That was between the Titan companies and the Blumenfeld companies? That is correct?—A. You mean that meeting in 1931?

Q. In March of 1931 in Paris.—A. Yes. That was the meeting I have been reading about and do not remember much about, but that was between the Blumenfeld and Titan companies, and I believe Ticknor and Chase were there, isn't that so?

Q. I was not there.—A. Pardon me, but I thought you might know.

The COURT. The questions go in the other direction.

Q. In any event, Doctor, at that meeing there was rather a complete discussion of the entire titanium situation in the world, wasn't there?—A. Yes, but let me first explain——

Q. Just a moment.

The COURT. He wants to explain, and I will let him.

2935

A. (Continuing) But I have so little memory of the whole thing there, and practically I could not remember anything before I came over and saw these papers, so I am not talking from memory on this.

Q. I understand, Doctor, because we don't hold that against you, because this is a good many years ago. I hand you what has been marked Exhibit 208 for the plaintiff and ask you to examine that and state to the Court whether you prepared that report.

Mr. WEBSTER. He did not prepare the whole report.

Mr. DIXON. Yes. I am asking him now what he prepared.

A. Is this the report for 1931, March?

Q. Well, I presume it is, Doctor, yes.—A. Because I have seen one of these papers. I shall have to read through all this?

The COURT. No. Look at it and tell us whether you are the one who is the author of this document. The answer might be "Yes" or "No", or it might be "Yes" in part and "No" in part, or it might be "I cannot recollect." Those are the possibilities.

A. I will have to say I cannot recollect. When I saw this at one time I asked myself—I could not remember

it at all—when I came over it here recently when I
2936 was reading through this.

The COURT: Can you tell by examining the style of writing, whether it corresponds to the style you were accustomed to use at the time? Are there any expressions in it which would give you a clue?

The WITNESS. I might very well have done it. I won't deny, but I cannot confirm. I might very well have done it.

The COURT. Very well.

Q. I will hand you what has been marked Plaintiff's Exhibit 530 and ask you if you wrote that letter to Mr. McCarty enclosing with it the report of this conference I have just showed you?—A. I must read this letter.

Q. That is all right. Take your time, Doctor.—A. I think I remember the letter, but do you want me to read the whole thing?

The COURT. Are you the author of that letter?

The WITNESS. Yes. I recognize that.

Q. And attached with your letter did you send this report that I have just shown you of the conference in Paris that you referred to in this exhibit?—A. It is very likely, but I cannot say definitely Yes, but it is very likely.

The COURT. Is there a sentence in there to which you want to call the witness's attention?

2937 Mr. DIXON. Not particularly, Judge.

Q. Now in this conference in Paris on which you made this memorandum——

Mr. WEBSTER. Just a moment, your Honor. This Exhibit No. 208 is an exhibit consisting of a letter from Dr. Mayer to Mr. Burton, and then at the top a letter from Mr. Chase to Mr. Beschorman, to which are attached that report by Dr. Latka, which appears as Dr. Latka's report, and containing, I believe, in addition a memorandum on the inside which is referred to in the Chase letter as Dr. Jebsen's memorandum. So that even on its face it does not purport to be Dr. Jebsen's report, but Dr. Latka's report, together with——

The COURT. A memorandum by Dr. Jebsen?

Mr. WEBSTER. A memorandum which Mr. Chase says was written by Dr. Jebsen.

Mr. DIXON. I asked Dr. Jebsen whether he prepared that particular memorandum. I am not asking about Mr. Chase's memorandum.

The COURT. That is Exhibit 208. You mean thereby a memorandum attached to Exhibit 208?

Mr. DIXON. That is right. The reason for that is, in the interest of avoiding duplication of memoranda it was not attached or printed with the other exhibit. That is all.

2938 The COURT. Very well. You would not contradict that the memorandum was written by you and so appears on the face of the document?

The WITNESS. No, but I cannot say.

The COURT. I say you would not deny?

The WITNESS. No. I cannot deny.

Mr. WEBSTER. All I wanted to make clear on the record was that all Mr. Dixon showed him was that part.

Mr. DIXON. That is all I asked about. The record shows that.

The COURT. The record may not have shown to which page your finger pointed, so we now understand the memorandum therein referred to as being the memorandum authored by the witness.

Q. And on page 2 of this memorandum that you made under paragraph (a) we find a reference as follows:

"It is presumed that an agreement will be reached between the Commercial Solvents Co. and the Titanium Pigment Co. regarding a cooperation within their territory of such a nature that an exchange of licenses and experience can take place between all the companies concerned."

Do you recall whether that was discussed also at this meeting in Paris, Doctor, in 1931?—A. I do not recall that but, as I said, I do not recall that meeting

2939 at all.

Q. You have completely forgotten about it now? You have completely forgotten about this Paris conference in March of 1931?—A. I have said it repeatedly, and also previous to somebody else here, that that memorandum of that conference I have no memory of except I remember I had a talk with Mr. Mayer and Dr. Kuhne at that time in Paris, but the whole conference—it has escaped my memory. I won't say that that means that it did not take place. That is an entirely different thing.

The COURT. Manifestly it took place and you are not disowning the paper?

The WITNESS. I do not say neither yes nor no because frankly, I am sorry, but I cannot help it. I may mention that Tickner and Chase made a lot of representations at various times.

Q. Well, do you remember they were present at this meeting? They were the head of, or at least connected

with, Commercial Pigments Company in the United States. You knew that, didn't you?—A. Yes.

Q. When was the first time that you saw Mr. Ticknor or Mr. Chase, if you recall?—A. That I do not dare to say. I did not meet Ticknor much at all. I met Chase once or twice. I met Ticknor once in London together with Chase.

Q. When was that?—A. That was in 1933. That
2940 is the time Mr. Ewing of the du Pont Company was there.

Q. You mean 1931, not 1933?—A. No, I think that was 1933.

Q. Was that the time that you had a luncheon with Mr. Ticknor and Mr. Chase and Mr. Ewing and Mr. Burton?—A. Yes.

Q. And Mr. Beschorman?—A. Yes.

Q. I will hand you what has been marked Plaintiff's Exhibit 200 and ask you to examine it and state to the Court whether that is one of your letters, or a photostat of one of your letters (handing)?—A. That is right.

Q. Will you read that and state whether that refreshes your recollection as to when that meeting was held and what occurred at that meeting?

Mr. WHITNEY. What is the date of that letter?

Mr. DIXON. September 11, 1931.

A. Yes. That must have been in September 1931. You are right. It appears from the letter and it is perfectly true. Was not Beschorman there too?

Q. Yes. Beschorman was there. And according to your letter, Plaintiff's Exhibit 200, Mr. Ticknor and Mr. Chase explained that the combination with du Pont would in no way impair the plans of a coming together of their and our group—it would rather further the matter." Do you recall that?—A. Yes.

2941 Q. And that was in fact stated to you by Mr. Ticknor and Mr. Chase at that time when you wrote this letter, was it, Doctor?—A. Yes.

Mr. WHITNEY. You remember that?

The WITNESS. Yes. I remember that.

Q. That was after the du Pont Company had taken over or acquired Commercial Pigments Company, was it?—A. That I do not know, but I suppose that was the case.

The COURT. That was after Krebs had taken over Commercial?

The WITNESS. And I believe it was stated at that time—I have asked Mr. Ticknor at that time whether he was

afraid of du Pont being more interested in lithopone than titanium or something on that line.

Q. And after that meeting in September of 1931 there was an informal price arrangement made between the Blumenfeld companies and the Titan companies in Europe for the time being, do you recall?—A. Not as a consequence of that meeting.

Q. Do you recall whether Dr. Blumenfeld stated to you that he would go along or wait until something was worked out in the United States before proceeding further with any negotiations in Europe?—A. I do not recall it but I wrote very extensive letters, so I suppose you can find it in the letter itself, what happened at that time. I
2942 sent photographs over here, so to say, about what happened.

The COURT. You mean photographic reports?

The WITNESS. Yes. I mean they are fairly long, those reports, and I do not think much happened which was not in the reports.

The COURT. There has been some comment about that, not uncomplimentary.

The WITNESS. Yes.

Q. I will hand you this Exhibit 200 again and ask you to read it and state whether that refreshes your recollection as to whether you had any conversations with Mr. Blumenfeld about September of 1931 about further arrangements in Europe?—A. Well, here you have it stated: (Reading)

"Mr. Blumenfeld here in Paris has told me that he was informed by Mr. Ticknor and Mr. Chase of the situation in New York, and that du Pont would continue the conversations with National Lead Company. He was willing to wait; he was, however, in a difficult position as he could sell more than he could produce."

Q. Does that refresh your recollection now, Doctor, as to whether Dr. Blumenfeld said he would await the outcome?—A. I mean what is stated here is correct. That is perfectly true.

Mr. WHITNEY. Your Honor, Mr. Dixon intro-
2943 duced this entire file of Dr. Jebsen's letters and nobody questioned that they were truthful as written, in the sense that they reflected what Dr. Jebsen then thought. Now nobody claimed that he was then prevaricating and there is therefore no function to cross examine insofar as it points to Dr. Jebsen or as to reading to Dr. Jebsen what he then wrote and asking him

to say that he was not then telling a falsehood, and that is all that Mr. Dixon is doing now. He could do it for a week and thereby, in effect, be summing up from the letters, but insofar as it is confined to that I hope it is to that only.

The COURT. Very well, you need not object, but I will instruct Mr. Dixon that corroboration is unnecessary in this instance since it is true that none of the letters have been challenged, and that the cross examination, if any, should be directed towards filling in gaps or supplying mental reservations which you think may lie behind some of the communications, and matters of that kind, but the mere reassertion of the facts which are reported in these letters will get us no place, for this reason: The matter is of great antiquity, and as between Dr. Jebsen's present recollection and what he reported in the letters I will always take the letter in preference to his present recollection even if he were to contradict his letter.

Mr. DIXON. If I may interrupt, your Honor,
2944 I hasten to assure the Court that I have no intention of going over these letters for that purpose.

The COURT. Very well.

Mr. DIXON. I have only referred to two or three of the documents, but so that it may be clear I have no intention of going through all, and then only very briefly.

The COURT. Very well.

By Mr. DIXON:

Q. Now, Doctor, the 1920 contract, Article XIV, prevented any license to any company within the territory allocated to a company like Titanium Pigment without the licensee assuming the obligations of the contract of 1920? That is correct, is it?—A. You mean prevented to give licenses or give sub-licenses?

Q. Yes, without the consent of all the other parties to the contract.—A. It is clearly stated in the agreement, with certain limitations which I do not think it is necessary to go into here.

Q. That is right; and no approval of such a license was necessary if the licensee assumed all of the obligations of the 1920 contract in that territory? That is true, isn't it?—A. Yes.

Q. Now you mentioned this morning that you were not directly involved in the negotiation of this contract between Titanium Pigment Company and Krebs; that
2945 is true, isn't it?—A. Yes, and I think——

Q. In the first—— A. —not the negotiations between those two companies.

Q. And when was the first time that you had any notice from Titanium Pigment Company that they were contemplating the making of such a license agreement with Krebs Pigment & Color Corporation?—A. When I was over here in 1932, I think it was, I knew that negotiations with du Pont and Dr. Thompson were had, certain conversations, but I never discussed the thing with Dr. Thompson at that time.

Q. Did he discuss it with you?—A. No.

Q. Did he say anything to you about any proposal to exchange licenses with Krebs and Titanium Pigment Company at that time?—A. We did not discuss it at all.

Q. What was the occasion then for your being notified of such negotiations, if you recall?—A. Well, I don't think you should call it "notified." I was here and I heard about it.

Q. You do not know who you heard about it from?—A. No.

Q. And did you ask any questions at that time of whoever told you about it, about the negotiations?—A. No.

Q. And when was the next time——

The Court. I take it your relations were—who was the vice-president in charge then, the executive
2946 vice-president?

The Witness. Mr. McCarty, who was my very good friend.

The Court. Was still in charge?

The Witness. Was still in charge. He was ill. He was sick very much, but he happened to be in New York some time when I was over and he asked, "How are these things getting on?" And I said, "I have heard that Thompson is negotiating or talking with du Pont," but that was all. Thompson I had very little contact with.

Q. Do you recall the next time that you heard about such negotiations?—A. I heard no more. The next time was the letter which Dr. Thompson wrote me; a letter in January, I think it was, 1933; where he sent some memorandums, I think it was, about certain understanding he had reached with the du Pont Company about making an agreement and he sent them over and wanted my reaction and the European associates' reaction to it.

Q. And what was your reaction to those memoranda?—A. A very strong one.

Q. In other words, can you state to the Court whether

you were in accord with the proposed agreement with Krebs as submitted to you at that time by Dr. Thompson?—A. I wrote back and pointed out very strongly, as strong as I could, the radical deviations which I
2947 considered this proposal represented, deviations from the principles of the 1920 agreement.

The COURT. You were very much disturbed about it?

The WITNESS. I was shocked.

The COURT. You were afraid that might cause the whole structure to topple?

The WITNESS. Yes. I could not understand how at that time National Lead Company could contemplate——

The COURT. Doing any such thing?

The WITNESS. Doing any such thing. I was shocked at that time.

Q. So you did not approve of that proposal as submitted to you by Dr. Thompson?—A. No. I think you have got it on the record here too.

Q. That is right. And did Mr. Beschorman then come over to talk to you about this agreement?—A. He came over I think in May. I did not get any answer from Thompson. But he came over in May and at that time he had, as far as I remember, he had with him the full draft of the agreement which Thompson had not sent. He had sent certain principles and so on, and when Beschorman took it up with me in Paris I presented to him the same arguments as I had presented to Thompson, not so extensively, but shorter, and he just got up, very, very impatiently saying, "But we have got to sell this agreement." I think I stated this yesterday.

2947a Q. Did you inquire of Mr. Beschorman as to what he meant when he said "We have got to sell them this agreement"?—A. No. Except my impression was that he wanted to have it done.

Q. Did he give you any reason as to why it had to be sold, as he called it?—A. No.

Q. And did you ask him for any reason why it had to be sold?—A. It would not have led to anything. He was not the type of man who would have answered that, anyhow, as far as our relations were at that time.

Q. So you did not receive any satisfaction from Mr. Beschorman at that time?—A. No.

Q. And was the matter discussed with the German people in Titangesellschaft at that time?—A. We left together, Beschorman and I, for Cologne, very shortly after his arrival in Paris, and met there Dr. Kuhne and Dr.

Raspe, I suppose—yes, Dr. Raspe was there who was the manager of the factory and Beschorman presented his draft to Kuhne and wanted his approval of it. I don't remember much what he, Beschorman, said at that time, if anything, but I remember very well that Kuhne just gave a courteous answer that he felt sure that this would be—that the interest of Titangesellschaft would be taken care of and then he said he wanted now to leave it to the legal department to study it.

2948 Q. The Germans were very particular you said, I believe, about being exact and formal in such matters, is that right, Doctor?—A. Oh, yes, generally so.

Q. And so Mr. Beschorman did not sell the agreement, to use that word that you used, to Dr. Kuhne when he went to Europe in April of 1933, is that correct?—A. I think so. He sent back a courteous answer, non-committal.

Q. And you discussed the agreement with him thereafter, when they had the TG officials there, didn't you?—A. I don't think you mean the TG officials.

Q. The I.G.—A. I discussed it up in Frankfort, where they had several lawyers, and Mr. Weber Andreae was there and Mr. Kuhne was there. You can find it described in one of my letters.

Q. It was a matter of considerable discussion at the meeting in Frankfort, was it not, between yourself and the I.G. officials?—A. They had got a shock when they had read it. The discussion was not very long because I told them that what they had said I had already said or written to the National Lead Company, so I said to—it was several months apart, and then Beschorman came with this proposal which I thought showed that National Lead Company could not get any further with du Pont. I told him then, "So you will have here to make up your mind whether you will approve it or not."

2949 They asked specifically, "Isn't this agreement already signed?" and I said "no, the signature is waiting until we hear from you about it," and then they got together and drafted a letter stating what they considered the most important principles for the 1920 agreement, adressed to me, and it was sent over to New York.

The COURT. Is that the letter in which they named certain conditions upon which they would approve?

The WITNESS. Yes.

Q. From the letter that you transmitted to Mr. Beschorman, from I.G., after these conferences, there was

not any doubt in your mind, was there, Doctor, that they were insisting that the territorial limitations, or the exclusive territories allocated to TG under the 1927 contract with Titan A/S be respected if they were to approve the agreement? That is a fact, isn't it?—A. That is what they wanted to be fixed now.

Q. And that was the condition that they imposed to the granting of any consent or approval by TG of the proposed-Krebs-Titanium Pigment agreement; wasn't it?

Mr. WHITNEY. Just a moment, Mr. Dixon. I never minded any examination as to what anybody said or wrote. I was a little reluctant about "what was in your mind;" but the generality "that that was the condition imposed" caused me to rise.

2950 The COURT. Objection sustained. You need not answer.

Q. Now did you state to the I.G. officials at the Frankfort meeting of June 1933, that you expected to go to the United States in July of 1933?—A. That I do not remember, whether I said in July, but that I was likely to go over sometime that summer, yes. I used to go practically every year to New York.

Q. Had you been discussing the Aussig and these other agreements with Mr. Blumenfeld just about the same time?—A. We had a short discussion, if I remember right, in Paris, somewhere between the meeting in Frankfort and when I left for New York.

Q. Well, was there any particular reason for your coming over to New York in July of 1933, other than to make an annual visit?—A. Well, naturally, I felt very much interested in having a talk with the people in New York about this whole matter. After all, you have all these letters and I had practically no discussion with Beschorman, and I was anxious to get over and find out a little where the land was lying.

Q. In other words, it was quite a responsibility on your shoulders as manager of the Titan companies, as to whether or not such a contract would be any deviation of the 1920 contract, wasn't it?—A. Yes, not the re-

2951 sponsibility, but I was very interested.

Q. So you were naturally anxious to discuss this matter firsthand, is that correct?—A. Yes.

Q. With the people in New York. That was one of the reasons for your coming over in July of 1933, wasn't it? A. Yes.

Q. And you did have such discussions, didn't you?—A. Very little, and I will tell you why: when I took it up with Dr. Thompson I did not get anywhere. I could not get him. He got a headache.

Q. Who was superior, Thompson or Beschorman?—A. Beschorman was my superior. Thompson was the head of the research laboratory over here. He was really not a business man, but he mixed into business and took part in these negotiations.

Q. Mr. Beschorman was head of the Titanium Pigment Division of National Lead at this time, wasn't he?—A. Yes.

Mr. WHITNEY. Won't you kindly permit him to complete his answer. "I will tell you why."

Mr. DIXON. Just a moment, this is my examination.

The COURT. All right. We will get around to it.

Mr. WHITNEY. It was his inquiry that stopped in the middle of a sentence, but now may we go back to the sentence?

2952 The WITNESS. Shall I continue?

Mr. DIXON. He said Dr. Thompson got a headache.

The WITNESS (Continuing). And he was old; and rather—he was not very strong. Mr. Beschorman I did not get anywhere with as I told you. Mr. Cornish had recently had a stroke, so in the company there was practically nobody to talk with except Beschorman and Thompson. Carter, who became president after Cornish was there, but did not take much interest in these matters at all and was not informed about them, so I felt entirely lost at that time when I came over.

Q. Did you have any trouble talking with Mr. Beschorman about this matter?—A. Oh, yes. He was not a man easy to talk to.

The COURT. That is what I meant when I said your relations were not of the same quality as they were with Mr. McCarty.

The WITNESS. Very much different.

Q. Did you have any discussion at all with Mr. Beschorman about this proposed agreement?—A. He generally said to me, "Don't go into detail, Dr. Jebsen. You are too far a man for details," and that was the way he tried to get around it.

Q. You were a stockholder in Titan Co., Inc., weren't you?—A. Yes, and I felt very decisive about it.

2953 Q. And naturally you would therefore have a personal interest in this agreement, or proposed agreement?—A. Yes, I had, but at the same time I was an employee of the National Lead Company, paid by the National Lead Company for taking care of their interests, and to me it was a matter of choice, and I thought my own interests will have to stand behind the National Lead Company's, because I was their man in Europe.

Q. Did either Mr. Carter or Mr. Beschorman or Dr. Thompson tell you that you had to approve this agreement?—A. Well, that is a strong word, but Beschorman tried to use the pressure they could on me for approving it.

Q. Well, was this a matter for you alone, Dr. Jebsen, to approve this proposed agreement?—A. For me alone?

Q. Yes.—A. No. I was really what—alone? After all it was dependent on the Germans first of all.

Q. Yes. In other words this agreement could not be made unless it was approved by TG, could it, under the 1920 contract?—A. Yes, or by I.G.

Q. Yes, or by I.G. either, so this was not a matter of you doing personally what National Lead ordered or told you to do, was it, Doctor?—A. I could not act for the I.G. in this matter at all.

Q. I understand. Did you have many conferences with Mr. Beschorman about this proposed agreement
2954 when you were here in July of 1933?—A. We talked about it. Or I talked about it. He did not talk much about it. He just tried to waive it aside.

Q. Didn't he ask you what can be done to get the approval of I.G. to this agreement?

Mr. WEBSTER. May I object to that as the witness has answered this question several times.

The COURT. Yes. I was reflecting in my mind the point at which I should intrude. I will let him go just a little further.

Q. (Question read.)—A. The agreement was presented to me as being the result of long discussions between du Pont and the National Lead Company, and it had been developed and was well considered by them. They thought that it was of interest to the National Lead Company to have that agreement made, and there was no time for redrafting the language, or I would not say time, but they were not inclined to redraft or change it.

Mr. DIXON. I am wondering if I can get an answer.

The COURT. I think that is all right.

Mr. DIXON. I would like, if possible——

The COURT. All right. Reframe another question and we will sharpen down the issue.

The question was whether Beschorman asked him whether something could be done to persuade the
2955 Germans to go along. Is this about the size of it? That Beschorman put such a question to you?

The WITNESS. No. He just left me confused.

The COURT. Because he had that letter from the Germans specifying the five conditions at that time?

The WITNESS. Yes.

Q. Did Mr. Beschorman introduce you to Mr. Rupprecht?—A. Yes, and it led to having a talk with Mr. Rupprecht.

Q. Had you met Mr. Rupprecht before this July meeting?—A. No.

Q. That was the first time you had met him?—A. Yes.

2956 Q. And where did you meet him, if you recall?—A. In Beschorman's office.

Q. What was the subject of discussion between you and Mr. Beschorman and Mr. Rupprecht in Mr. Beschorman's office?—A. I was trying to get Beschorman to get Rupprecht to see the difficulties we were encountering with regard to the IG.

By the COURT:

Q. Let us stop going around in circles, Doctor. You wanted to presuade Rupprecht to go along on the territorial arrangement?—A. Yes.

Q. And on the technical exchange?—A. Yes. To accept those principles.

Q. To accept the principle of territorial limitation and technical exchange?—A. To get as far as I could to accept the 1920 agreement.

Q. As far as you could go in persuading him?—A. Yes.

Q. That was the object of your visit?—A. That was the object of my talk.

Q. You tried to sell that kind of proposal to Mr. Rupprecht?—A. Yes.

By Mr. DIXON:

Q. What did Mr. Rupprecht say to you at that time with reference to respecting the territories of the Titan associates?—A. He had too many answers in one
2957 way. One moment he talked about the executive committee, they would not accept that kind of

thing. At another moment he said, "You are secured against any invasion from us through your patents," and so on. At the third time he said, "For legal reasons."

Now, with regard to legal reasons, as was said in those letters, I couldn't take that serious. With regard to the other things, I found it very difficult to take those serious too; but at the same time my impression was that he had a desire of trying to fall in in some way, so——

The COURT. You mean accommodate you?

The WITNESS. Accommodate, yes.

A. (Continuing) And he was trying to paint a picture in that direction, that there wasn't anything to be feared. But I didn't get, what I would say, down from sound to things, to get down to some definite undertaking. So, to me of course the question was in sending these letters back, what shall I say? I mean, to the Germans. I felt on the one side I had to be, as you said (addressing the Court) a good soldier, and at the same time I thought this may work out all right when the time comes. So I just wrote a few words to Kuhne and Weber-Andreae trying to transfer that opinion, convey that opinion.

Q. Well, how many conversations did you have with Mr. Rupprecht?—A. Only one.

2958 Q. Just the one conversation?—A. Yes.

Q. About how long was it, do you recall?—A. The conversation?

Q. Yes; in time.—A. It may have been an hour, it may have been two hours; I can't say; if it was in the morning or afternoon, I really don't remember.

Q. You don't recall precisely what Mr. Rupprecht said,—I mean the exact language,—about respecting the territories?—A. No. That is too long a time ago.

Q. But when you left that meeting, Doctor, were you satisfied by what Mr. Rupprecht had said to you that he would see that Krebs would respect the territories of the Titan companies if this agreement were made?

Mr. WHITNEY. Objection. It is a state of mind.

The COURT. Objection sustained. You can give him the first part of your question.

Q. (Record read as follows: "Q. But when you left that meeting, Doctor, were you satisfied by what Mr. Rupprecht had said to you?")

A. No. It depends upon in what respect you mean. If you mean satisfied, that I felt happy about the thing, no.

By the COURT:

Q. In what respect were you satisfied?—A. Well, I was satisfied to that extent that I believed—he had been able to sell himself to some extent—I be-
2959 lieved that there might work out something as he called eminently satisfactory.

Q. In other words, you did not really anticipate any further trouble?—A. No; or, rather, I was hoping that as time developed I might be able to get him to understand and sooner or later fall in line.

Q. And go a little further?—A. Yes. But in other words, it was a matter to me of further development. I was dealing with a situation where my impression was that Beschorman did not really understand this agreement either, I mean the 1920 agreement, or the consequence of it. I say, as I said, I felt I was lost practically at that time.

By Mr. DIXON:

Q. One of the things on which you were not satisfied was the exchange of licenses, wasn't it, Doctor?—A. I wanted exclusive licenses and he didn't give that. He wanted only these exclusive except himself.

Q. That was to be made a matter of negotiation, wasn't it?—A. Yes.

Q. Did you have any discussion with him about whether those licenses, when negotiated would be exclusive for your European company?—A. Nothing further than what was written in that letter.

Q. And on what other point, if any, were you
2960 not satisfied when you left that meeting with Mr. Rupprecht?—A. When you have been trying to get him to fall in line with the 1920 agreement and the result is what it was there, then take just the difference between those two. I can't remember in detail what it was.

Q. Of course we understand that he did not subscribe to all the provisions of the 1920 agreement, Doctor.—A. Pardon me?

Q. He did not subscribe—— A. No.

Q. ——to all of the provisions of the 1920 agreement in the sense that you made a written contract with him. Now, you discussed with him, did you not, at this meeting the things that you wanted to be assured of if you were to inform your foreign associates that they could safely approve this agreement?—A. I don't—isn't this the same as your question?

Q. No.—A. I don't get the point in your question.

The COURT. That is an answer. He says he doesn't understand it.

MR. DIXON. Would you read the question?

Q. (Read as follows: "Now, you discussed with him, did you not, at this meeting the things that you wanted to be assured of if you were to inform your foreign associates that they could safely approve this agreement?")

2961 —A. It was discussed, but whether it went so far as to say if I were to inform the foreign associates whether they could safely approve this agreement, I don't think I looked upon it exactly from that point of view. After all, I didn't have the responsibility for the Germans to that extent.

Q. Well, of course, the Germans didn't get all they wanted in the letter that they sent, did they?—A. No, but I was not a representative of the Germans.

Q. Were you satisfied when you left the meeting with respect to the action of Krebs in respecting the territorial limits of the Titan companies?—A. I was hoping——

MR. WHITNEY. Your Honor, I had an objection to your Honor's question but I let it go because your Honor asked it.

THE COURT. No. You should not do that. I will sustain your objection.

MR. WHITNEY. I am glad I did, because I felt this witness was strong enough, unlike another witness, not to feel that he ought to respond to the Court, if you know what I mean, so I thought I would not object, and he respondent in the way that your Honor may recall or will check in the record.

I do object to Mr. Dixon now asking him the same line of questioning, of pressing further what was in his mind.

2962 THE COURT. Objection sustained.

Q. You have been reading the transcript of course of the trial every day, Doctor?—A. Not fully, not entirely. Certain days I did not get so far as to do it.

THE COURT. Do you feel strong enough to stand up under that?

THE WITNESS. Frankly, I had something else to do also which had to be done, and I couldn't—I felt as if my mind got stale after a little, when you are reading.

Q. Were you in the room all the time, Doctor, when Mr. Beschorman and Mr. Rupprecht were together?—A. That

I don't remember, but I don't believe so. I think that Rupprecht probably arrived and then I was called in, and how long he may have been there beforehand I don't know. Maybe I left also before Rupprecht left; I can't say.

Q. Did Mr. Beschorman ever say anything to you after this meeting that you have described with reference to anything that Mr. Rupprecht may have said to him about the request of the German company as set forth in the letter?—A. No, nothing particular.

Q. Do you recall when this meeting was held with Mr. Beschorman, I mean the approximate time, in July?—A. I think it must have been in the latter part of July. It was very hot, I remember.

Q. Was it before or after Mr. Rupprecht wrote
2963 the letter to Mr. Beschorman?—A. It was after that.

Q. When was the first time that you saw that letter from Mr. Rupprecht to Mr. Beschorman?—A. Beschorman showed it to me.

The COURT. Wait a minute. I want to be sure I understand this. The visit between Dr. Jebsen and Mr. Rupprecht you say was after the letter of reassurance?

Mr. DIXON. Yes.

The COURT. All right.

Q. And did he show it to you in the meeting that you had with Mr. Rupprecht?—A. I don't think so.

Q. Did he show it to you before you discussed the subject with Mr. Rupprecht at this meeting?—A. Of course my memory isn't very strong on those matters, but I believe he showed it to me before Rupprecht came. That would have been the natural thing to do.

Q. What if anything did he say about that letter to you that Mr. Rupprecht had written to him?

Mr. DIXON. On June 28th, your Honor.

The COURT. Will you pause a moment? Is this the letter which was intended as the transmittal to the Germans that we are talking about?

Mr. DIXON. Yes.

The WITNESS. I understand it is the letter from Rupprecht to Beschorman, isn't it, in answer to the IG's?

2964 The COURT. The letter, subsequently, transmitted to the TG or IG.

The WITNESS. Yes.

The COURT. All right. Now you may re-read that question.

Q. (Last question read.)—A. I don't remember now, but if I should try to recall, or in trying to recall, I think what he said was, it would be a very short comment on the things, in that he had been trying and didn't get any further.

Q. Did he say anything to you about how he managed to get that letter from Mr. Rupprecht?—A. No, I don't remember.

Q. But you did see that letter before you went into this conference with Mr. Rupprecht and Mr. Beschorman, you are certain of that?—A. Yes, I am fairly certain.

Q. Did you discuss that letter with Mr. Rupprecht?—A. I don't think we had the letter for this particular discussion. What I was trying was to get Rupprecht to see and understand the situation in Europe and with regard—in other words, the 1920 agreement. That was my concern. It was the same with regard to Beschorman himself.

Q. What had Mr. Beschorman said, if anything, to you about this letter from Mr. Rupprecht dated June 28, 1933?

—A. I don't think he commented upon it in any
2965 other way than when I was talking about this he said, "Don't bother, Dr. Jebsen, you are talking too much of the details."

Q. And everything will work out all right?—A. Well, I don't remember whether he said that, but evidently he wanted me to have that impression.

The COURT. Did he say to you that du Pont was a high-class, reliable concern?

The WITNESS. No, I don't think he said that. But I don't think it was necessary either. I knew du Pont's reputation.

The COURT. We will take a short recess.

(Short recess.)

By Mr. DIXON:

Q. I believe you testified, Doctor, that in your conversations with Mr. Rupprecht and Mr. Beschorman you were endeavoring to get Mr. Rupprecht to understand the conditions in Europe about the 1920 agreement; that is correct, isn't it?—A. The principles of the 1920 agreement.

Q. And did Mr. Rupprecht indicate to you that he understood those conditions?—A. Well, he was always very evasive.

Q. Well, were you satisfied that he understood?—A. No.

Q. Now, what conditions of the 1920 agreement did you think he did not understand?

2966 Mr. WHITNEY. Well now, your Honor, I object to that. The original question was objectionable. One is enough.

The COURT. Objection sustained.

Q. I will hand you what purports to be a copy of a letter dated July 12th from Mr. Beschorman to the IG Company and ask you to examine the same and state to the Court whether you ever saw that letter before.

Mr. WEBSTER. The exhibit number is what?

Mr. DIXON. 273; it is in that group.

A. I think I have seen the letter before; but do you want me to read it through?

Q. That is what I am asking you, did you ever see it before?—A. Yes.

The COURT. That is all you have to do. He has seen this letter.

A. (Continuing) Let me refresh my memory a little bit. (Witness refers to letter). I did not want to take up your time. Excuse me.

Q. Did Mr. Beschorman show you that letter, do you recall?—A. I think he handed it to me. I think I was the one who sent it over, didn't I? I think you will find it somewhere.

Q. Do you recall whether he handed it to you before or after you talked with Mr. Rupprecht?—A. No, that
2967 I can't recall exactly. If you will let me read it I may be able to find out.

Q. Yes (handing exhibit).—A. No, I can't say exactly whether it was before or after.

The COURT. Can you tell from the date?

The WITNESS. This is July 12th, this letter; but when I saw Rupprecht, I don't remember exactly the date.

The COURT. Is there anything to refresh the witness's recollection as to the date of the Rupprecht meeting?

Mr. DIXON. We have never been able to set that date, your Honor, specifically, and for that reason there is nothing in the file from which we are able to refresh his recollection on the date of such meeting.

Q. In any event that letter of July 12th to IG by Mr. Beschorman was shown to you by Mr. Beschorman; that is correct, isn't it?—A. Yes. And I think you will find that I have been the one to send it over to IG.

Q. Yes. I was coming to that. And on July 21, 1933, you forwarded that letter to the IG Company, did you not?—A. I think it was July 21st; I am not certain about that. Yes.

Q. And with the forwarding of that letter of Mr.
2968 Beschorman, to which was also a copy of Mr. Rupprecht's letter of June 28th, you also wrote a letter yourself, did you not?—A. Yes.

Q. And you also wrote one to Weber Andreae, did you not?—A. Yes.

Q. And with those two letters, namely, the one to IG and to Weber Andreae, you enclosed the letter from Mr. Beschorman of July 12th and Mr. Rupprecht's letter of June 28th, did you not?—A. It looks like it here. "I beg to enclose and send you a letter addressed to I.G. Farbenindustrie with enclosures," so they were copies, evidently.

Q. Yes. You are quite familiar with those letters, aren't you?—A. Yes.

2969 Q. You have seen them recently, even, haven't you?—A. Yes.

Q. And with the letter to Weber Andreae you indicated that the views expressed in Mr. Beschorman's letter of July 12th had been expressed also to you; that is correct, isn't it?—A. Yes, you have got it here, "Considering the views and interpretations as expressed by Beschorman, and by Mr. Rupprecht in his letter to Mr. Beschorman, it seems to me that a collaboration can be looked to which will be of important benefit to Titan Gesellschaft."

By the COURT:

Q. Is there anything in that letter which would help you establish whether the letter of July 12th, Mr. Beschorman's letter, was written before or after your meeting with Mr. Rupprecht? Can you tell from the tense of the verb you used in that letter?—A. No. This letter was evidently written after I had a meeting with Rupprecht——

Q. Yes, but you refer to meeting Rupprecht in your letter.—A. Yes. "I have met Mr. Rupprecht, president of Krebs Pigment & Color Corporation"——

Q. Go ahead. What else does it say?—A. "who verbally has expressed to me the same views as to the future cooperation which has been expressed by Mr. Beschorman."

Q. You use the words "has expressed to me" in both cases,—"verbally has expressed to me the same
2970 views as to the future cooperation which has been expressed by Mr. Beschorman."

Q. Do you recall now whether in—what year was that in?—A. Pardon me?

Q. What year was this? What year is the date of that letter?—A. 1933.

Q. Do you know whether in 1933 you had a sufficient command of the English language so that you knew the difference between "had expressed" and "have expressed," or would you say that that was a nuance you hadn't yet mastered?—A. I wonder if I master that today or "I have expressed" or "did express."

The COURT. All right, we cannot get any light from that.

By Mr. DIXON:

Q. Now, handing you again this letter of July 12t from Mr. Beschorman to I.G., will you examine it and state to the Court whether the substance of that letter was stated to you by Mr. Rupprecht when you had this oral conversation with him, as indicated in your letter to Weber Andreae, on July 21?

Mr. WEBSTER. Your Honor, doesn't the letter speak for itself?

The COURT. No. That is a perfectly pertinent question. I will explain to you after the witness has
2971 answered, if you want me to explain to you why.

But I should think that a present explanation might be interfering with cross examining counsel.

Mr. WEBSTER. By then I think it would be of no advantage to me, you Honor.

Mr. WHITNEY. Your Honor, might I suggest a middle ground, that he read it and then lay it aside and answer in his own way what Rupprecht said?

The COURT. He is reading the letter for the purpose of answering the question whether or not in substance that is what Mr. Rupppreeht said to him. That is the object of the question.

Mr. WHITNEY. The whole question would be how he interprets the word "substance." The letter is not susceptible of representing a man's memory of a substance of oral expression, and I would submit to your Honor that it can be given to him to refresh his recollection, then he can lay it aside and then, independently, having had his recollection thus refreshed—I am trying to have enough command of English to say "having had" correctly, I think it is important here—then lay it aside and give your Honor the substance of his recollection.

The COURT. I have no objection to that course in your time, but this is now Mr Dixon's time, and
2972 there is nothing improper in the course he is pursuing.

Mr. WHITNEY. May I make it clear to your Honor? Here is a letter of a page and a half long, written by another man. And I most respectfully object to a question asking whether that page and a half correctly reflects the substance of the conversation had twelve years ago, of which it does not purport to be a record but it is an independent letter.

The COURT. I will overrule your objection and reserve explanation until after the answer has been given.

Mr. WHITNEY. I respectfully exempt.

A. It is very difficult to remember.

The COURT. Let me reframe the question, if you don't mind, because I think it may call for a more precise answer than the way it is now framed, with Mr. Dixon's permission.

Mr. DIXON. That is entirely all right, your Honor.

The COURT. Are the views attributed to Mr. Rupprecht in that letter the same as the views which were expressed to you by Mr. Rupprecht at the meeting you had with him?

The WITNESS. It is difficult to say, because Rupprecht was a man you could never pin down to anything. When you say that, your Honor, I am wondering whether
2973 or not this letter was written after the talk with Rupprecht?

Mr. WHITNEY. Does your Honor bear in mind that the name Rupprecht does not appear in this letter?

The COURT. I am not aware of anything.

Mr. WHITNEY. I am only suggesting it because it is true.

The COURT. When I say Rupprecht, I mean du Pont——

Mr. WHITNEY. It makes your question difficult.

The COURT. Du Pont/Krebs/Rupprecht.

The WITNESS. After all, it is an immense difficulty to recall what happened at the meeting in 1933.

Mr. WHITNEY. Of course with a man of Mr. Beschorman's character, as described here, you can't slant line as quickly as we lawyers do.

The COURT. Let me put the question to you this way, still with Mr. Dixon's consent, and you object to it.

Mr. DIXON. Not at all, your Honor. Not at all.

The COURT. I always mean that in a genuine sense.

By the COURT:

Q. After your meeting with Mr. Rupprecht, if your assistant, a hypothetical assistant, attending that meeting, had prepared Mr. Beschorman's letter as a draft of a

communication to be sent by you to the I.G., would
2974 you have felt, or do you feel, that such a draft would have accurately portrayed the results of your conference?—A. Again it demands for an exact memory as to what happened in that meeting.

Q. Of course, there were a certain number of important principles that you came there to discuss, and it is with reference to those important principles that I would like you to focus your mind and tell us whether your impression, and at best we can now have no more than an impression of what occurred in that year, corresponds to the impression conveyed to the I.G. by the text of Mr. Beschorman's communication.

Mr. WEBSTER. Your Honor, I am not objecting in any way to your Honor's question, but I respectfully suggest that that question, in more accurate form than questions that Mr. Dixon has asked with reference to the text of a letter written at that time, does raise the question of subtleties of language and expression which renders the question susceptible of unfair use in the case of Dr. Jebsen, who, confessedly, has not mastered the shading of the English tongue.

Now I am not objecting to the question, but I am just casting a shadow on the value of the question as a means of getting at the truth.

Mr. WHITNEY. Your Honor, I hope with equal
2975 respect—I really mean that, your Honor, I respectfully diverge from Mr. Webster because I do object. Your Honor has asked for an impression in his own mind and the impression on I. G.'s mind, and I really think that is not relevant to the issues anyway. The question is, what did Rupprecht say on behalf of du Pont?

The COURT. Of course we cannot get any longer a precise recollection from this witness as to what Mr. Rupprecht said, so we have to go to the next best thing, which is to get the substance of Mr. Rupprecht's communication. Well, we have to go to the next best thing, which is the substance of Mr. Rupprecht's communication. Well, we haven't got that very clearly because the witness's memory is naturally vague on the subject. But here we have a communication by a stranger with respect to whom this witness has written a letter, as I recall, to Mr. Weber Andreae, if my memory serves me, wherein he said "These views"—and I am not sure whether he referred to Rupprecht's letter or Beschorman's letter, but I think he re-

ferred to Mr. Beschorman's letter—"These views were also conveyed to me."

Now they could have been conveyed to him only at the one place that he has testified to, namely, at the session with Mr. Rupprecht. Now, in order to get a more
2976 precise definition of the views conveyed to him at the session with Mr. Rupprecht, we have here a statement with which we ask him to make a comparison. I think it is not unfair under the circumstances.

Mr. WHITNEY. Would your Honor permit me to point out that it is not true that he has not testified as to what Mr. Rupprecht said, and I am laying aside the direct examination. He testified on cross-examination that Mr. Rupprecht talked about the Executive Committee——

The COURT. That is right.

Mr. WHITNEY. ——that he talked about the fact that "You are secured against that through your patents"; that he talked about the fact that "for legal reasons," all three of which were used at one moment or another by the witness. He testified at considerable length as to what Rupprecht said. To get at what Rupprecht may or may not further have said, by confronting him with a letter by a third party on a different subject, two and a half pages in length, would be in my respectful view prejudicial error, your Honor, and I want to press it because I really feel it very strongly. Mr. Dixon has been allowed great latitude, and I am satisfied he could go on another twenty-four hours trying to get at what Rupprecht said, in addition to what I have read to your Honor and what has been testified to.

The COURT. I will allow it.

Mr. WHITNEY. I respectfully except.

2977 The COURT. If you haven't lost the question as the result of all this legal debate, can you answer it?

The WITNESS. What I mean—excuse me; you want to get to the truth of this matter.

The COURT. Yes.

The WITNESS. Isn't it really the best thing to base on what I have—I wrote at that time?

The COURT. What did you write?

The WITNESS. When I have my recollection about this—I mean, I am now talking about recollection, talking about what I think was the case at that time I can't put down exactly. But my general impression from that time was

that I was very dissatisfied really with the situation as it was. I had to act as a good soldier. And I was trying to express, to convey the situation to Weber Andreae and the others with the idea of, as you may call it, neutral, being neutral or of being diffident. And, therefore, I was trying to refer to Beschorman, who had given me things. You see what I mean. And I think when maybe—it sounds different to you in what I may have intended, but it seems to me that about saying here:

"Considering the views and interpretations as expressed by Mr. Beschorman, and by Mr. Rupprecht in his letter to Mr. Beschorman, it seems to me that a co-operation can be looked to which will be of important benefit to Titangesellschaft."

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The COURT. Go ahead. What else did you say in that letter?

The WITNESS. But before that, if your Honor wants that part——

The COURT. Let me look at it.

The WITNESS. You have to refer to Beschorman's letter.

By the COURT:

Q. Let me read to you this passage, the first sentence is to the effect that you were enclosing a letter to I.G. Now that is a letter from Mr. Beschorman; that is the letter from Mr. Beschorman dated July 12th.—A. And which enclosed also I think the letter to Beschorman, the copy of letter.

Q. Then you say, following that—you listen carefully to your sentence, then I will ask you a question:

"I have met Mr. Rupprecht * * * who verbally has expressed to me the same views as to the future cooperation which has been expressed by Mr. Beschorman."

Now what I want you to tell me is, at the time you wrote those words did you feel or did you not that you were making an accurate comparison that the views expressed by Mr. Beschorman as to future cooperation were also the views expressed by Mr. Rupprecht as to future cooperation? I want you to tell me as truthfully as you can recall whether that paragraph did represent your then state of mind.—A. I can only express what I may call what I feel about it, and that is that it was in general terms, talking about it without going exactly in one way or the other. If you look back at it, I felt at that time, I felt that I was in a very difficult position, and I felt that on the one side my personal in-

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terest was not very much of doing this thing; on the other side, National Lead or Beschorman wanted me—or wanted, rather, to have this thing through. So, my intention was to put the responsibility on Beschorman and National Lead as much as possible. You see what I mean?

Q. I understand all that. But you did say in your letter that the views expressed in Mr. Beschorman's letter, "as to a future cooperation," are the same views which were verbally expressed to you by Mr. Rupprecht. Now, was that the truth?—A. I hope so, but I can't recall.

Q. You did not intend to tell other than the truth when you wrote your letter of July 21st?—A. No, I would not say that.

Mr. WHITNEY. Your Honor, I think your Honor will recall that under cross examination he said this: I thought this may work out all right when the time comes, so I tried to write a few words to Weber Andreae and
2980 Kuhne to convey that impression.

The COURT. All right, you can develop that.

Mr. WHITNEY. That was on cross examination. But, if your Honor please, respectfully, the point is this: The question, so far as I am concerned, is what du Pont did. Now, the question as to what Mr. Jebsen thought they did or as to what I.G. was caused to think they did are collateral matters. And I think Mr. Dixon having developed that subject and having received a clear response, the essence of which is to convey that impression because "I thought this may work out all right," he is not entitled to come back to the same subject and try to cross examine on the answer that he obtained before.

The COURT. Oh yes, he may. There is no such rule of cross examination. That is the essence of the art of cross examination, that you are not bound by the previous answer of the witness, either of your own or of your adversary's.

Mr. WHITNEY. But, your Honor, it is one thing for Mr. Dixon to do it and it is another thing for your Honor to ask the witness whether something is honest. That puts him in an impossible position, if I may respectfully suggest it.

The COURT. No. "honestly" there would not necessarily have anything to do with it because I was
2981 trying to develop the very point which you call to my attention, namely, that he had testified that

he may have had some motives other than strict accurate reporting in expressing those views, and I was trying to find out whether that was so. His answer to that is on the record. I don't have to elaborate on it.

Mr. WHITNEY. You were putting it to him so strongly, your Honor——

The COURT. I will put it to him softly or strongly as long as I can get his true answer.

Mr. WHITNEY. You might get different answers. People are only human, they have proper respect for the Court and to the Court's questions may give different sorts of answers than to counsel's questions.

The COURT. I will suggest that you can put the question to him in any other shape, intermediate or outside of the shapes I have tried in several attempts I have made. I want you to be sure of this, that the only difference between the bench and bar is that the Court does not draw a blank as to what the answer is. So what comfort which the Court derives from a trial is denied to the bar?

Mr. WHITNEY. There is an undue tendency even on the part of the most truthful witness to be responsive to the Court.

The COURT. Well, that may be. You see, Mr.
2982 Whitney, we have two communications—I want you to understand why I a driving at it. We have a written communication from Mr. Rupprecht and we have evidence that exists of an oral communication from Mr. Rupprecht. What the written communication is is not in dispute because we have the written evidence of that communication. What the oral communication is is enshrouded in vague memories. However, we have a contemporaneous communication which makes some reference to that oral communication. And I think cross-examining counsel, with or without the aid of the Court, can mine in that contemporaneous communication for whatever it will yield. Maybe when it is all dug up the question of weight will still be very troublesome.

Go ahead, Mr. Dixon. I did not mean to take up so much time.

Mr. DIXON. That is entirely all right, your Honor.

By Mr. DIXON:

Q. Just one more question. Dr Jebsen, with reference to your conference with Mr. Rupprecht, if you recall, did he say anything to you about not being able to give you any further assurances in writing other than those

given in the letter of June 28th to Mr. Beschorman?—A. I don't think that came up.

Q. By the way, was Dr. Blumenfeld over here
2983 in this country at this time, do you recall?—A. Yes, I think so. He was over here some part of that time, but exactly the dates I don't remember.

Q. Do you recall seeing him with Mr. Chase and Mr. Beschorman?—A. I recall seeing him with Mr. Beschorman but I can't remember if Mr. Chase was there, but probably he was.

Q. What was the general subject—— A. Yes, Chase was there. Pardon me.

Q. ——of your discussion with Mr. Blumenfeld at that time, if you recall?—A. He discussed the arrangements, the contemplated or what you may call proposed possible arrangements in Europe.

Q. By that you mean the arrangements theretofore discussed by you and Dr. Blumenfeld and Aussig, and also Montecatini?—A. Yes. Somewhat of a continuation of that. I believe at that time the question of exchage of licenses was not in. I am not quite certain about that.

Q. But I take it the conferences between you and Mr. Beschorman and Mr. Rapprecht with reference to this contract were not discussed with Mr. Blumenfeld in July of 1933?—A. You mean the du Pont contract?

Q. Yes. That was not discussed with Dr. Blumenfeld?—A. No.

Mr. Webster. I want to be sure your answer was
2984 "No, it was not discussed." Is that right?

The Witness. Pardon me?

Mr. Dixon. That is right.

Mr. Webster. Your answer was no——

The Witness. No, it was not discussed.

Q. Now, Doctor, I hand you what has been marked Plaintiff's Exhibit 887 and ask you to refer to page 4 thereof and state to the Court, if you will, as to whether the items or correspondence described on page 4 of that exhibit have any particular significance or meaning to you as an officer of Titan Company?—A. Which paper is this? Whether these letters have a meaning to me?

Q. Yes. That are set forth on page 4 of this exhibit.

Mr. Webster. May he have an opportunity, first to identify it, to see what the exhibit is, that is, the remainder of the exhibit?

A. These are just a number of letters and cablegrams, it seems to be.

Q. Will you refer to the exhibit, 887, Doctor, and state if you ever saw that before?—A. Yes, this is of June—which date is this? Is this the one of June 8, 1930, isn't it?

Q. 1938.—A. 1938. Yes.

Q. Now, you have seen that before, haven't you, Doctor?—A. Yes.

2985 Q. Did you have anything to do with the preparation of that memorandum?—A. Yes.

Q. Now I will ask you to turn to page 4 again and examine the list of letters set forth on page 4 of that exhibit and state to the Court whether as an officer of Titan Company, Inc. those letters have any significance to you?

The COURT. I hear no objection.

Mr. WEBSTER. I only refrain because I don't want to——

The COURT. Don't refrain to save time. Did I hear one?

Mr. WEBSTER. Yes, I do object.

The COURT. Sustained.

Q. Did you prepare this portion of the memorandum, Doctor, this Exhibit 887?—A. That I can't tell you. Isn't this a memorandum which was written after a visit to Wilmington, or is it before a visit to Wilmington?

Q. I am sure I don't know.

Mr. WEBSTER. I can't hear you.

The WITNESS. He asked whether this memorandum here—I can't see the date of this memorandum; it is just June 1938.

Q. The date, Doctor, is June 8, 1938. Does that refresh your recollection?

2986 Mr. WEBSTER. No. I thought the meeting was on June 8th.

Q. June 9th.—A. June 9th I believe—yes, that is what—well, that is after; June 8th was the meeting; I had a meeting down in Wilmington with Mr. Rupprecht and this was written after that meeting.

Q. And you prepared, did you, page 4 of that exhibit?—A. That I don't know, whether I prepared that page 4 or not. The whole thing here was worked up rather in haste after the visit down in Wilmington, and I think that was a combined effort of Mr. Kaegebehn and myself. And these letters here which are from 1933—of course I won't say whether I can recall all of them—whether they have been put in by Kaegebehn or by myself I can't say at the moment.

2987 Q. Well, do they have any particular meaning to you as part of this exhibit?

Mr. WEBSTER. I object to that.

The COURT. I will sustain the objection. There must be questions which you can frame to elicit the answer that you want. That is not one of them.

Q. Will you state to the Court, Doctor, the reason for those letters being attached and made a part of this exhibit, if you can?—A. I suppose that this was done at the time where I was very dissatisfied with the developments of the relations with du Pont. I had been trying to get them into line with the 1920 agreement, and I suppose this is just trying to recall for Kaegebehn and myself what the history was of that situation, taking out those letters which you considered to be the more important ones, and giving that history.

Q. In other words, to you those letters were the more important ones dealing with any matters arising during the date of those letters with reference to the relations between Krebs and Titan Company, Inc.?

Mr. WEBSTER. Your Honor, that is objected to as repetitive and argumentative. It is not a question but a statement of fact.

The COURT. I will let him answer it. You may answer the question.

2988 The WITNESS. Will you repeat that question?

(Question read.)

A. With the reservation that it may have been put in by Kaegebehn and not myself.

The COURT. You don't remember that?

The WITNESS. No. I would say yes, probably they are——

The COURT. You were collaborating?

The WITNESS. We were collaborating on this matter. After all, you have to go through each letter to find out really what they are. I mean, I don't remember every date on these letters which you have put down there. But trying to work out a memorandum of this kind, naturally you would be very apt to put in these letters which you considered to be the important ones.

Q. You were here in the United States in 1940, were you, Doctor?—A. I arrived here on the 15th of July, 1940.

Q. And you have been here more or less ever since?—A. Yes.

Q. Were you acquainted with any of the negotiations had between the du Pont Company and the National Lead

Company when the 1933 agreement was being amended?—A. I didn't take part in any of the conversations about that, but I was consulted. But I was present in the negotiations with Mr. Rupprecht.

2989 Q. You were not present?—A. As far as I remember, not, but I was consulted.

The COURT. Consulted about your side of the picture?

The WITNESS. Yes. I mean Garesche, I think it was Garesche who was dealing with it and talked with me about it; and I can't remember that I was present with Mr. Rupprecht. If I have been I have not taken part in the conversations.

Q. I will hand you what has been marked Plaintiff's Exhibit 507 and ask you to examine the same.—A. This is a letter to Garesche——

Q. Yes.

Mr. WEBSTER. Your Honor, if the purpose of this is to get the witness to refresh his recollection as to whether he himself recapitulated in written form certain previous correspondence simply by giving the letters by dates, it is immaterial, and the fact that he did so does not seem to me to make any difference on the issues in this case.

The COURT. We are still trying to arrive at certain oral as opposed to written communications.

Mr. WEBSTER. But the fact that he undertook to set down by dates certain previous correspondence would seem to me a perfectly——

2990 The COURT. An innocuous thing unless it serves to remind him as to some conversation.

Mr. WEBSTER. (Continuing) ——a perfectly neutral fact.

Q. Now, that was prepared by you, was it not Doctor?—A. I think so.

Q. Mr. Kaegebehn didn't prepare that?—A. No, I don't think so.

Q. Now, referring to page 3 of this exhibit, I will ask you to compare the letters named or described on page 3 of that exhibit with those contained on page 4 of Exhibit 887.

Mr. WHITNEY. That is objected to as a collateral waste of time.

The COURT. Are they the same?

Mr. DIXON. They are.

The COURT. All right. The witness will take your word for it that they are the same.

The WITNESS. Yes, but I don't think they are.

The COURT. If they are not——

The WITNESS. One, two, three, four, five, six, seven; and here you have one, two, three, four, five six, seven, eight, nine. There are two more here anyhow.

Q. You added the other two letters or took out two of the letters?—A. Which are here (indicating).

Q. Which were in the Exhibit 887?

2991 Mr. WHITNEY. That is objected to as having no foundation and no sign that he was looking at the earlier exhibit when he wrote the other one two years later.

Mr. DIXON. I would like to be able to get a question in.

The COURT. Very well, let us proceed. What is the question?

(Question read.)

Mr. WHITNEY. That is objected to.

The COURT. Objection sustained.

The WITNESS. I did not get that. Is that a question?

The COURT. Never mind. Do they correspond to any extent?

The WITNESS. I think so. Some of them are the same, but not all of them, as far as I can see.

Q. And the ones that you put in Exhibit 507 to direct to Mr. Garesche's attention in August of 1940, were the ones which you regarded of significance in the relations between Titan Company and the du Pont Company; that is a fact, is it not?

Mr. WEBSTER. I object to that, your Honor.

The COURT. Go ahead. Answer the question. You regarded——

A. Yes, I mean, after all I probably—I haven't
2992 read these so I can't tell you now, but I wouldn't put them in unless they were of interest.

The COURT. You were not interested in preparing a catalogue.

Next question.

Q. So that those letters did in your opinion bear upon the relations between Krebs or the du Pont Company and the Titan Company or the foreign associates of the Titan Company, Inc.; is that correct?

Mr. WEBSTER. I object.

The COURT. Objection sustained.

We will suspend at this point.

(Adjourned to Friday, January 26, 1945, at 10.30 a.m.)

2993 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, ET AL.

NEW YORK, *January 26, 1945, 10.30 o'clock a.m.*

Trial resumed.

GUSTAV ADOLF JEBSEN, resumed the stand.

Mr. WEBSTER. May I make a correction?

Mr. DIXON. Yes; we have a few too, Mr. Webster.

The COURT. These casual corrections do not mean that you have abandoned the practice of making more complete ones?

Mr. WEBSTER. No, not at all.

Your Honor will recall Mr. Barton. He is still here. He has been over his testimony rather carefully, and it is no reflection of any sort on the reporters to say that he has found several inaccuracies or errors that he would like to correct. Now, I have told him that I don't think there is any occasion for him to resume the stand and that I think all of these changes are of a character which will be accepted without objection by anybody. They are in the nature of either typographical changes or slight corrections where the reporter has not heard exactly or Mr.

Barton has failed to state exactly some of these
2994 chemical terms. I therefore have got up a schedule of those and I suggest that it be taken into the record as the others have, subject to the right of Mr. Dixon of course to make further corrections if he desires.

(The schedule above referred to appears in full at pages 3121 to 3125a hereof.)

Mr. WEBSTER. Before you resume your cross-examination I would like to make another——

Mr. DIXON. I have some corrections to make.

Mr. WEBSTER. All right.

Mr. DIXON. May it please the court, on the 5th line of page 2948 I believe it should be after Dr. Kuhne's name "when he went" or "Mr. Beschorman".

The COURT. "to use that word that you used, to Dr. Kuhne"—"when he went"?

Mr. DIXON. Yes, meaning Mr. Beschorman. If we could substitute the words "when Mr. Beschorman went" it would be much clearer.

The COURT. All right. "when he went" is clearer.

Mr. DIXON. And on page 2951, the middle of the page, I believe it is "research laboratory".

Mr. WEBSTER. Yes, I noticed that. I believe that word had not yet been coined.

The COURT. "research".

2995 Mr. WEBSTER. Instead of "ersatz".

Mr. DIXON. And the 8th line from the bottom of 2963 I believe the word "On" should be added to my statement—"On June 28th". In other words, you were inquiring I believe about the date of the letter.

The COURT. Is that all?

Mr. WHITNEY. Your Honor, although we never attach much importance to what counsel says, when it takes a little twist here, something I said which is so unfortunate from my point of view, I would like to correct it. At the bottom of page 2949. A natural slip on the part of the reporter caused me to say to Mr. Dixon, "Never mind any examination as to what anybody said or wrote." What I did say of course was, "I never mind any examination as to what anybody said or wrote."

It would be helpful in the next line if there were quotations around "what was in your mind". "I was a little reluctant about 'what was in your mind.' ".

The COURT. Very well.

2996 Mr. WEBSTER. Your Honor, in connection with the examination of Dr. Jebsen, I would like to suggest, if I may, a consideration which I think has not been brought out either by Mr. Whitney or Mr. Dixon or by the Court. It requires me to go back over one or two questions and answers and then to make my statement relating thereto.

The COURT. What is the page reference?

Mr. WEBSTER. Page 2973, at the foot of page 2973, your Honor asked this question:

"Q. After your meeting with Mr. Rupprecht, if your assistant, a hypothetical assistant, attending that meeting, had prepared Mr. Beschorman's letter as a draft of a communication to be sent by you to the I.G., would you have felt, or do you feel, that such a draft would have accurately portrayed the results of your conference?"

To which Jebsen replied: "Again it demands for an exact memory as to what happened in that meeting."

Your Honor said:

"Q. Of course, there were a certain number of important principles that you came there to discuss, and it is with reference to those important principles that I would like you to focus your mind and tell us whether your impression, and at best we can now have no more than an

impression of what occurred in that year, corresponds to the impression conveyed to the I.G. by the text of
2997 Mr. Beschorman's communication."

I then suggested that this was getting into an area where language-shading might affect the consideration of the question in such a way as to perhaps prejudice the witness.

Then again on page 2977 there was a discussion about whether or not that question should be answered, and the question was answered, and the witness said:

"When I have my recollection about this—I mean, I am now talking about recollection, talking about what I think was the case at that time I can't put down exactly. But my general impression from that time was that I was very dissatisfied really with the situation as it was. I had to act as a good soldier. And I was trying to express, to convey the situation to Weber Andreae and the others with the idea of, as you may call it, neutral, being neutral or of being different"——

The COURT. No, "diffident" was the word he used.

Mr. WEBSTER. (Continuing reading): "And, therefore, I was trying to refer to Beschorman, who had given me thi[illegible] You see what I mean. And I think when maybe—it sounds different to you in what I may have intended, but it seems to me that about saying here:

"'Considering the views and interpretations as expressed by Mr. Beschorman, and by Mr. Rupprecht
2998 in his letter to Mr. Beschorman, it seems to that a cooperation can be looked to which will be of important benefit to Titangesellschaft.'"

Then the Court asked this question, which brings me down to the point of my remarks—on page 2978:

"Q. Let me read to you this passage, the first sentence is to the effect that you were enclosing a letter to I.G. Now that is a letter from Mr. Beschorman; that is the letter from Mr. Beschorman dated July 12th.—A. And which enclosed also I think the letter to Beschorman, the copy of letter.

"Q. Then you say, folowing that—you listen carefully to your sentence, then I will ask you a question:

"'I have met Mr. Rupprecht • • • who verbally has expressed to me the same views as to the future cooperation which has been expressed by Mr. Beschorman.'

"Now what I want you to tell me is, at the time you wrote those words did you feel or did you not that you were making an accurate comparison that the views ex-

pressed by Mr. Beschorman as to future cooperation were also the views expressed by Mr. Rupprecht as to future cooperation? I want you to tell me as truthfully as you can recall whether that paragraph did represent your then state of mind.'

2999 And Dr. Jebson replied:

"A. I can only express what I may call what I feel about it, and that is that it was in general terms, talking about it without going exactly in one way or the other. If you look back at it, I felt at that time, I felt that I was in a very difficult position, and I felt that on the one side my personal interest was not very much of doing this thing; on the other side, National Lead or Beschorman wanted me—or wanted, rather, to have this thing through. So, my intention was to put the responsibility on Beschorman and National Lead as much as possible. You see what I mean?"

Then another question by the Court:

"Q. . . . But you did say in your letter that the views expressed in Mr. Beschorman's letter, 'as to a future cooperation,' are the same views which were verbally expressed to you by Mr. Rupprecht. Now, was that the truth?—A. I hope so, but I can't recall."

And then your Honor wound that up by saying:

"You did not intend to tell other than the truth when you wrote your letter of July 21st?—A. No, I would not say that."

Now there have been other phases of the case in which Mr. Whitney's interest has been less than mine so far as the subject matter is concerned, and I think perhaps

3000 this is a phase of the case in which in reference to the subject matter his interest may be greater than mine. But I do have this important interest in the case, and that is with reference to Dr. Jebsen, who has taken the stand for the purpose of giving his testimony. Now I think that this whole matter must be considered with reference to the statements which he has made at all times, that he was unable, and I use words that appear in the record, "to pin Mr. Rupprecht down," and also the statement that Mr. Rupprecht was "slippery."

Now taking into consideration that that is the gist and the substance and burden of his testimony with reference to this matter, I think it is important again to examine what it was he said. He said he was enclosing the letter from Mr. Beschorman, the substance of which we are now all well acquainted with, that there was a letter from Mr.

Rupprecht, and that Mr. Rupprecht had orally said what he said in his letter,——

Mr. DIXON. If the Court please——

Mr. WEBSTER. ——and he has been taxed with the question of whether or not what he said in the letter as to what Mr. Rupprecht had said was true.

The COURT. I do not follow, to be candid with you, Mr. Webster, the object of the colloquy.

Mr. WEBSTER. The object is simply this, that
3001 Mr. Rupprecht, your honor himself stated, * * * we have Mr. Rupprecht's letter which is, as we know, evasive, which simply says "I think you will find that conditions will be eminently satisfactory," and it seems to me therefore pointless on cross-examination to try to, in the case of a man who does not have mastery of the English tongue, to say "Did Mr. Rupprecht say to you what he says in his letter," and he says "Yes, he did say that." But what is the purpose of the proof, except——

The COURT. Mr. Webster, I think you misconceive the whole purpose of the questions put by the Court, and I think you probably misjudge the value assigned by the Court to the results of that inquiry, which, I sadly confess to myself, have not produced as much dividend as I had hoped they would. In my inquiry I thought I made it plain yesterday that you had this situation; you had a written communication from Mr. Rupprecht which, of course, is in evidence, and is, of course, an important piece of evidence as to what Rupprecht said or understood and agreed, and to the extent of that material there it is in the scales of evidence.

In addition and supplementary thereto you have evidence of a conference at which oral communications were made by Mr. Rupprecht to Dr. Jebsen and Mr. Beschorman.

We were engaged yesterday in a quest to ascertain
3002 what was the substance of those oral communications, to determine whether (a) they varied the written communication; (b) added thereto; or (c) lessened the substance of that communication whatever it might be. And if we were able to deal with an event of recent occurrence, and if we were able to deal with a witness who had a very clear recollection of the details of that conversation, all these hypothetical explorations would, of course, have been pointless, fruitless, and probably improper and inadmissible. But we were dealing with a transaction of relative antiquity. We were dealing with a witness whose memory on the subject was relatively faint, and I tried to

do what is normally done under the circumstances, which is by one device or another, prod the witness's memory. I do not mean prod an unwillingly memory but I mean to revive a faint memory, which sometimes is successful, by association, comparison association of ideas, reference to written documents, and contemporaneous events. I confess that the sum total was not as productive as I hoped it might be, but whatever it is, there it is. The amount of weight to be attached to it is the question I always reserve until the very end when the whole thing can be judged in its proper setting. I am at a loss to understand what it is you want to know; that I should assign less
3003 weight than I have or you think I should assign?

Mr. WEBSTER. No. In looking over this record rather carefully last night I had a feeling we were being carried along with the idea expressed in one or two of your Honor's questions, that there was some inconsistency between what Dr. Jebsen had said on the stand and what he had said in his letter to Weber Andreae and to I.G.

The COURT. I did not really, and if there is such inconsistency I am going to let Mr. Dixon point it out to me in his brief. So far all I have been trying to do is to ascertain what occurred at the oral conference, and we have certain pointers; the fact that Dr. Jebsen wrote a letter in which he said that what Mr. Beschorman said as to future cooperation was "also expressed to me by Mr. Rupprecht" as a slight evidence because those words in themselves are highly ambiguous. It may be that those words mean that Mr. Rupprecht had said "such is our policy with respect to Europe, such is our economic posture, that I do not see why you gentlemen need concern yourselves with this problem. I don't know why you are worrying yourselves about our activities in Europe. Just let us alone. We think everything will be all right." Maybe that is what he said. Maybe he said, "I hereby solemnly swear and agree I shall never sell a pound of titanium in
3004 Europe. I don't want to put it down on paper because Mr. Dixon's sleuths will be after me, but you know me as a gentleman and that I will not break my word, and you can go away and feel completely content that you will have no competition from us in the European market."

There are the two possible extremes. Maybe I have not even given the complete extreme. Maybe all he said was, "If you want to do business with du Pont you will just have to take chances with du Pont, which is a responsible

organization, and we usually do not hurt our friends, but no promises whatever." That is about as far as we get. We have the whole range of possibilities.

Mr. WEBSTER. Yes. I think it is an important point. I simply thought Dr. Jebsen was not adding or subtracting anything from what Mr. Rupprecht said in his letter.

The COURT. That may be. I will examine his testimony and weigh the two documents and see whether or not they add up or subtract the same. I have not formed any definitive conclusion in my mind, but I have no objection to revealing what is in my mind. There is one advantage in dealing with a jury of one as opposed to a jury of twelve. A juror of one can disclose how his mind is reacting. I think thus far I have gotten, that at the
3005 conclusion of a conference with Mr. Rupprecht, Dr. Jebsen felt somewhat reassured as to the possibility of trouble with the du Pont people in the European Continent. Now whether that was the result of promise, or the result of intention, or simply the result of greater understanding of du Pont policy, I am, I will say, so far more or less in the dark.

Mr. WHITNEY. Your Honor, a little different from Mr. Webster, I want to say that my afterthoughts were I had been a little too active yesterday, and we all had been perhaps other than your Honor, whose duty it is to be active at any stage, and that presented to me one thought overnight and that was this, that your Honor pointed out that these were matters of antiquity.

The COURT. Not within the terms of the customs statute.

Mr. WHITNEY. Well, it occurred to me that in a case where the prayer is for an injunction, matters of antiquity are of very small importance.

The COURT. I agree with you.

Mr. WHITNEY. And we were out of proportion in the emphasis we were giving to antiquity in this equity case.

The COURT. Proceed.

3006 Cross examination continued by Mr. DIXON:

Q. Dr. Jebsen, after your conferences with Mr. Rupprecht in July of 1933, you returned to Europe, did you?—A. Yes.

Q. And did you have any conversations with Dr. Raspe when you returned from your conferences in the United States with Mr. Rupprecht?—A. With Dr. Raspe?

Q. Yes.—A. You mean concerning the subject matter we were talking about yesterday?

Q. Yes.—A. I don't remember.

Q. Well, do you recall whether or not—— A. I do not think I would have had that because Dr. Raspe was not a man in authority regarding this matter at all.

The COURT. He was a plant manager, wasn't he?

The WITNESS. He was a plant manager, yes.

Q. Did you talk with Weber Andreae about it?—A. I met Weber Andreae in the ICI building in the lift incidentally when I came back, and I told him I had sent a letter to Frankfort about it and wanted to have this thing attended to as quick as possible, and he promised he would see to do it so This was in the summertime and there were holidays going on here and there, but the idea was to get this thing out of the way as quick as possible.

Q. Do you recall whether you said anything to him about friendly relations being now established between du Pont and Titan Companies?—A. No, nothing special in that respect.

3007 Q. Or anything with regard to an exchange of technical assistance or information between the two companies?—A. No. We were just meeting in the elevator, going up or down I don't remember, and we just talked in the elevator; other persons were there too at that time. So there was no place of going into any——

Q. Well, did you discuss this matter with anyone else, with either TG or IG?—A. Not that I remember. What happened was I went to Paris and there were a few telephone conversations between Frankfort and myself. They sent over a draft to the letter, to the answer they want, and I corrected one or two things—I don't remember exactly what, smaller matters—and that was all.

I would like to mention, if you don't mind, reading those letters yesterday evening—perhaps it would be a little help for your Honor to see the German text of that letter which the IG wrote in answer to this.

The COURT. You mean in preference to the translation?

The WITNESS. Yes. There was one expression which is not a very exact translation of the German letter. It is very difficult perhaps to find a word——

Q. You mean the one relating to delimitation of territory?—A. I mean the one of August 7th in which they say—it is addressed to me, to be sent on to New

3008 York, but they say:

The point of view which the National Lead Co. has taken in the letter of July 12th signed by Mr. Beschorman, Vice-President, and which appears from a letter from the Krebs Pigment & Color Corporation of June 28th 1933

signed by Mr. C. H. Rupprecht, President, of which also a copy has been submitted to us, does not formally correspond with the wishes which we expressed to you in our letter of June 20th 1933."

Then it comes:

"We note" • • • from these letters the assurance that National Lead Co. and Titanium Pigment Co. as well as their new American Contract Partner, the Krebs Pigment & Color Corporation, will loyally respect"——

Now, in German it says not "We note", but they say "entnehmen diesen Briefen jedoch die Zusage," and so on.

The COURT. Have you got the German text in front of you?

The WITNESS. Yes.

The COURT. May I look at it?

The WITNESS. Now, the word "entnehmen"——

Mr. WEBSTER. Wait until his Honor reads that sentence.

3009 The COURT. What were you going to say about the verb "entnehmen"? You say that it is not accurately translated by the word "note"?

The WITNESS. Yes. I mean perhaps it is more correct—better—to say "that we deduct" or "take out" from this letter, not say "We note"——

The COURT. You mean the word "deduce"?

The WITNESS. "deduce", yes.

The COURT. Very well.

The WITNESS. I don't know whether that would help. That is my understanding of the word "entnehmen".

Q. The IG or TG did subsequently send a letter to Titan with reference to another interpretation placed upon one of their letters in which they said that they were referring to delimitation of territories in their reply of August to Titan, didn't they, Doctor?—A. Yes.

Q. You are familiar with that letter, are you?—A. That was the correction of the first one, or an explanation of the first one.

Q. As I recall it, I think that was correct.—A. Yes.

The COURT. Was there something else you wanted to add before Mr. Dixon put the question.

The WITNESS. No, just the one thing, that if there had been any oral understanding—some explicit dis-
3010 cussion between Rupprecht and myself in that meeting with Beschorman, I think it would have been

natural for me to go to the Germans and explain that.

The COURT. Very well.

The WITNESS. Whereas I didn't pay any visit to Germany at all. In other words, I left the weight of the thing on the correspondence as it was.

Q. Do you recall whether you discussed this matter with any of the other IG or TG officials?—A. Over the telephone, yes. But that was just concerning the formation of the reply, as far as I remember.

Q. Well, I referred a moment ago to a correction made by IG in one of their letters, namely that of August 7th, as set forth in Exhibit 288. Do you recall such a correction in the German letter of August 7th, 1933?—A. Do you mean the definition of "Gebietsabgrenzungen"?

Q. Do you recall that correction by the Germans?—A. From what I have read about this, yes, not from—I mean, I had to refresh the whole thing from reading those letters; so I am basing myself on what I read.

Q. But you do recall that they made clear in that correction the meaning which they attach to the German word "Gebietsabgrenzungen", that it is the correct word?—A. Yes. I recall that there was an incident of that kind, but the mere thing when I recall it is being reminded of it through the letter.

3011 Q. Do you know how that correction arose or what the occasion was of the Germans sending that letter to you, Doctor?—A. The word——

Q. As shown in Plaintiff's Exhibit 288, for the purposes of the record.—A. I was in doubt whether that word referred to what you may call territorial frontiers or whether it referred to Licensed Field.

The COURT. Yes. Licensed Field.

Q. Did you raise the question with the Germans as to what they meant by the use of the word?—A. It is all in the letter, Mr. Dixon.

Q. I understand.—A. And my memory is refreshed from the letter, to be quite frank.

Q. Would you like to see the letter?—A. No, I mean I don't think that is necessary.

Q. I thought it was not.

The COURT. What you mean is that you have no recollection over and above what is in the letter?

The WITNESS. No.

Q. But you don't recall how that particular matter happened to be discussed between you and IG?—A. No.

Q. Well, now coming back to your return to Europe

after the conferences, did you discuss this with any other officials of TG or IG. That is this matter of the proposed contract between Krebs and du Pont?—A. Not that I remember.

3012 Q. Or Krebs and National Lead?—A. Not that I remember.

Q. Did you say anything to anybody about this agreement being one which would establish a cooperation between du Pont Company and the Titan companies?—A. Not that I remember. My impression—I am just trying to pick out—my impression is that the thing was left as it were. I think the Germans understood perfectly well——

Q. Now I am——

The COURT. You had better suspend that.

Q. But Mr. Rupprecht had told you when you were in the United States that this would work out satisfactory, didn't he?—A. He said it would turn out eminently satisfactory.

Q. And do you recall whether, after you returned to Europe in the year 1933, anyone visited the Krebs plant in the United States from TG or IG?—A. Sometime, some years later, I think it was, I don't remember when, Dr. Raspe was over here and I believe he was down there; I can't remember exactly, but I believe he was down there. It seems to me that it would have been natural that he visited the plant.

Q. Are you certain that—— A. Pardon me. When you ask about that, may I mention that some years later, I believe it was some years later, I mean, Dr. Kuhne was over here and visited; he made a trip throughout

3013 the United States throughout the United States and visited du Pont, too. Not particularly concerning titanium. He——

Q. When was that, if you recall, Doctor—A. No, I don't recall which year. But I think you can find that someplace.

Q. In any event, you think it was considerably after 1933?—A. I believe so, but really I don't remember exactly.

Q. Would you say to the best of your recollection that there was no, what we will call, technical cooperation in the sense that someone from TG was permitted to visit the plants of Krebs and anyone from Krebs would be permitted to visit the plants of TG after you made the 1933 agreement?—A. I believe Dr. Raspe was over here

a year before Dr. Booge—Dr. Booge came to Leverkusen one time.

Q. When did he come, do you know?—A. In 1937, I think it was.

Q. Who is Dr. Booge?—A. He was the head of this research department concerning lithopone and titanium pigments in du Pont.

Q. Do you know whether he was over visiting the TG plants before 1937?—A. I don't think so.

Q. Do you know whether anyone from TG or IG was over to the United States prior to 1937 visiting the Krebs plant?—A. I believe that I do recall that Dr. Raspe
3014 was over here before that time and visited the plant. I believe that was the case. So that it was a kind of mutual courtesy—one saw the one plant and the other saw the other.

Q. How did Dr. Raspe happen to visit the Krebs plant in the United States, do you know?—A. Well, Dr. Raspe came over here to visit the National Lead Company's plants and I suppose at the same time he was brought into contact to visit the other one.

Q. Did you say anything to Dr. Raspe that if he came over to the United States he could visit the Krebs plant?—A. No, I did not say anything about that, as far as I remember. After all, that would be in the hands of the National Lead Company over here to see if that could be done.

Q. Well, do you recall when Dr. Raspe made this visit to the United States to inspect the plants of National or Krebs, if he did?—A. I think I said that I thought it was the year before Dr. Booge came over to Europe.

Q. That would be about 1936, in your recollection?—A. No. I say I believe that was the time.

Q. About that?—A. Yes. I am deducting that practically from the events as they came.

Q. Would it refresh your recollection any as to whether there was any cooperation in the technical sense between du Pont and the Titan companies if it appear that
3015 Dr. Raspe visited the Krebs plants before that time.

Mr. WHITNEY. I don't think that is warranted unless he has evidence to support it, your Honor. He is putting to the witness a situation that he is refreshing his recollection by a statement to the contrary of what the witness said.

The COURT. That is permissible cross-examination. You

may suggest to the witness an answer and ask him whether it is true.

Mr. WHITNEY. If he has any evidence to support it, your Honor, is not that right?

The COURT. Not necessarily.

Mr. WHITNEY. It is intimidation, otherwise.

The COURT. Oh, of course, if it reaches that proportion I would interfere.

Mr. WHITNEY. If a man that has been working actively on a case and has 4,000 pages of paper under his hands suggests to the witness that it is a fact that a certain thing is disclosed by the evidence, I suggest that that has to be supported by the evidence.

The COURT. Oh yes, if he says it is disclosed by the evidence.

3016 Mr. WHITNEY. I don't think Mr. Dixon has any personal knowledge of this, and anything he says must be based on evidence. I would like to know whether it is.

(Question read.)

The COURT. Before which time? Meaning 1936?

Mr. DIXON. Yes.

Mr. WHITNEY. I don't think that is a proper way to refresh his recollection.

The COURT. Are you prepared to show that Dr. Raspe did visit before 1936?

Mr. DIXON. Yes.

The COURT. Very well, I will take counsel's statement. The answer is yes or no. Would it refresh your recollection if you were told that Dr. Raspe did visit the plant before 1936?

The WITNESS. If you can show me the evidence I can tell afterwards whether my recollection will be refreshed.

The COURT. The answer is "I don't know."

Mr. WEBSTER. I don't think it would make any difference if he did.

The Court: That is beside the point. Let us proceed.

3017 The WITNESS. Perhaps that would help you, Mr. Dixon. May I state that it was the rule that our contact with du Pont was through the National Lead Company.

Q. What I am endeavoring to find out, if you can recall, Doctor, is whether or not there was any technical cooperation arranged for between Titan and du Pont in your conference with Mr. Rupprecht?—A. In 1936 you mean?

Q. Yes, in 1933.—A. No.

Q. Would it change your recollection any if the fact should be that Dr. Raspe did visit the Krebs plant shortly after the Krebs-du Pont agreement of 1933?

Mr. WHITNEY. I object to the form of the question.

The COURT. Objection sustained.

Mr. WHITNEY. He did visit the plant in 1933. It is in evidence. If he would just put in the paper instead of asking these theoretical questions——

Mr. DIXON. Obviously, your Honor, I am trying to conduct this examination to aid the Court, if possible, on what was happening.

Q. Well, I will hand you, Doctor—do you know now whether Dr. Raspe did visit the Krebs plant in 1933?—A. When you tell me it is so, it must have been so, but frankly I don't remember it. I could not remember if Dr. Raspe was over here at all in 1933.

Q. Well, I will hand you what has been marked
3018 Exhibit 290 and ask you if you recall such a visit now having been made by Dr. Raspe?

Mr. WEBSTER. Your Honor, may I interpose to ask whether that Exhibit 290 refreshes his recollection, and if it does——

The COURT. Let him look at the exhibit.

(Witness refers to exhibit.)

The COURT. Do you know that Dr. Raspe was in this country in 1933?

The WITNESS. Of course he must have been, after this letter, and he must have visited the plant.

The COURT. Now will you start from that point. The witness is now in agreement with you that Dr. Raspe was in this country and did visit the Krebs plant in 1933.

The WITNESS. But I base it on this letter, your Honor, because——

The COURT. Very well.

Q. Does this aid you in recalling at all the occasion or the reason for Dr. Raspe coming to the United States and visiting the Krebs plant, Doctor?—A. No. There would probably be no other reason than his interest in visiting—he did visit here a few times—in order to get technically educated.

Q. Do you recall when Dr. Booge visited the TG plant in Germany?—I recall that, yes. In 1937.

3019 Q. Now do you know of your own knowledge, Doctor, as to whether or not you found or had any complaints from any of the Titan associates with reference to any imports into their territories from the Krebs

Company or du Pont Company?—A. I do not know particularly the Krebs Company or the du Pont Company. There were some complaints. Not knowing where they came from I don't remember exactly whether it was from the one or the other, whether they may have been from the National Lead or from the du Pont Company.

Mr. DIXON. That is all.

The COURT. Mr. Whitney.

Cross examination by Mr. WHITNEY:

Q. Dr. Jebson, have you ever discussed what your testimony would be with me or with any other representative of du Pont whatsoever?—A. No.

Q. Yesterday afternoon his Honor ruled, I am on page 2943, that "cross examination • • • should be directed towards filling in gaps or supplying mental reservations which you think may lie behind some of the communications".

Do you know what a mental reservation is?—A. Well, how shall I define that? It is a reservation made without expressing it, isn't it?

Q. Yes. You might say one thing while having in mind possibly a slightly different shading. That would
3020 be that you reserve a mental reservation. Would that be your view of it?—A. I think so. Isn't that what you call, you cross your fingers? Isn't that the expression more or less?

Q. Yes. Of course we are construing what his Honor said. I take it "you cross your fingers" would be a popular expression of it. So, I shall cross examine in part as to whether that ever happened.

At page 2947 his Honor was questioning you about your first receipt in Europe of the news of the du Pont—— A. What?

Q. About your first hearing in Europe of the du Pont-National Lead agreement.—A. The 1933 agreement?

Q. Yes, 1933. And the Court's question was: "You were very much disturbed about it?" And your answer was: "I was shocked."

And the Court's further question: "You were afraid that might cause the whole structure to topple?

"The WITNESS. Yes."

What structure did you have in mind?—A. This structure which formed, it was the basis for, in other words the 1920 agreement and those principles, which was the basis for the cooperation technically.

Q. And then you said: "I could not understand how at that time National Lead Company could contem-
3021 plate——" and his Honor said: "Doing any such thing?"

"The WITNESS. Doing any such thing. I was shocked at that time."

That is to say, at that moment it was a shock to you that National Lead could even contemplate this threat of toppling of the structure of 1920; is that right?—A. Yes.

Q. Then later in the same page you report your taking that up with Mr. Beschorman in Europe and you say: "he • • • got up, very, very impatiently saying, 'But we have got to sell this agreement.'"

Now I derive from your use of the word "very" twice and the words "got to sell this agreement" two things—I would like to ask you if they are right—that Mr. Beschorman felt very strongly about it; is that right?—A. That was my impression.

Q. And, secondly, that he felt that he had to sell to the Germans something that they would not necessarily accept unless there was some selling work done, is that right?—A. Yes. But that last part was naturally on the basis of my criticism of the situation.

Q. In other words, Mr. Beschorman had not fully understood before coming to Europe that it would have to be sold, and you explained that to him, did you?—A. Yes.

Well, what he has understood from the letters be-
3022 fore I don't know, but anyhow that was his reaction to my criticism of the situation.

Q. Now after you both got back to the United States and you took up the principles with him, was his answer consistently along the lines that you testified to, as follows: "Don't go into details, Dr. Jebsen. You are too far a man for details"?—A. Repeatedly.

Q. Repeatedly.—A. He did that.

Q. Yesterday you said "generally," and I wanted to make sure whether that meant "repeatedly."

Then just before meeting Dr. Rupprecht you said you were "trying to get Beschorman to get Rupprecht to see the difficulties we were encountering."

Was it that you were expecting that it was Beschorman rather than you who should try to convince Rupprecht in the first instance?—A. Well, after all, I wanted him to help me in that effort, and naturally I thought his word would have more weight with Rupprecht than my word would have. After all, he was a vice-president of Na-

tional Lead Company, he had been conducting this. So, if I could get him in the matter to help me, so much the better.

Mr. WHITNEY. Your Honor, I say with great respect, I may have had a wrong impression but I had the impression that perhaps that thought did not reach your
3023 Honor when your next question was: "Let us stop going around in circles, Doctor. You wanted to persuade Rupprecht to go along on the territorial arrangement?"

The COURT. I see what you mean. You are quite right. I did not gather the distinction which you have now drawn and I did not intend to emphasize the word "you" as you have just now read my question.

Mr. WHITNEY. I take it that what seemed like a circle was really the fact, that Mr. Beschorman, executive vice-president of National Lead, had a position with Rupprecht, as it were, and Dr. Jebsen was a stranger from abroad who had never met Rupprecht.

The COURT. I didn't get that point.

Q. But you did yourself obtain an opportunity to speak to Mr. Rupprecht, didn't you?—A. Yes.

Q. So that his Honor was quite right in later asking you:

"Q. You tried to sell that kind of proposal to Mr. Rupprecht?"

That is to say, you personally, had an opportunity to try to sell it to Mr. Rupprecht?—A. Well, to sell the idea of that, of the 1920 agreement, if that is what you mean with that proposed——

Q. It is his Honor's language, but I think that is what he meant.—A. Yes.

3024 Q. And then Mr. Dixon asked you: "What did Mr. Rupprecht say to you at that time with reference to respecting the territories of the Titan associates?" And that is what we sometimes call a $64 question, in the sense that he is asking you what Mr. Rupprecht said. Now can you add this morning to what you answered yesterday afternoon, which was as follows: "He too many answers in one way. One moment he talked about the executive committee, they would not accept that kind of thing. At another moment he said, 'You are secured against any invasion from us through your patents,' and so on. At the third time he said, 'For legal reasons.'"

And in the morning, in answer to precisely the same

question on direct examination you said:

"Well, he said that, after all, we haven't exported to these countries, you are protected by patents in these countries; how can we export? And I think the whole thing will work out to be eminently satisfactory to you.

"He talked about the non-exclusive licenses, which I didn't like at all and which I couldn't see the reason for. He said that it was a rule from the executive committee or finance committee not to part with any property entirely; they have to put it up—if he should give
3025 an exclusive license it will be tantamount to parting with the property, and he would have to put it up to the executive committee, and he thought that they are not—that the approval would not be given.

"He used that executive committee as something which he could not work up against."

Can you this morning add anything to what Mr. Rupprecht said beyond what I have read?—A. No. I think that describes the situation.

Q. As I read it, you gave more detail in the morning than in the afternoon; is that not so?—A. Pardon?

Q. As I read it, you gave more detail in the morning than you gave in the afternoon?—A. Well, I suppose my mind was considerably fresher in the morning. That is the difference.

The COURT. We will suspend for a few minutes.

(Short recess.)

3026 Mr. WHITNEY. Your Honor, we were at 2957. But I had to go back to 2900 and now I come forward again:

"Q. After the talk with Mr. Rupprecht on a question yesterday, Dr. Jebsen, you commented:

"Now, with regard to legal reasons, as was said in those letters, I couldn't take that serious."

Why was that? Mr. Rupprecht had given you legal reasons for not falling in, and you say you could not take that serious.—A. I said I did not believe him. Well, it comes to the same thing. Well, after all, when a man puts forward three or four different things and they are contrary to what was arranged between the National Lead Company and the European companies, because after all they had been accepted over here, you could not ask me to take it serious.

Q. In other words, you had understood that the 1920 structure was legal under American law, had you?—A. Yes.

Q. And therefore when Mr. Rupprecht gave you that reason you thought that that was an ill-founded reason, did you?—A. I thought he was trying to put forward an excuse to stop me.

Q. Then your next sentence yesterday was:

"With regard to the other things, I found it very difficult to take those serious too;"

3027 Did the fact that you knew in your own mind that Mr. Rupprecht's legal explanation was an unsound one, prompt you to believe that his other explanations were made up or fabricated?—A. Yes. With the "other explanation" I suppose you refer to the Executive Committee?

Q. Yes.—A. To me——

Q. And patents.—A. Well, naturally, where the patent protection was concerned, I mean I could use my own judgment and that was yesterday so far, but when you come to the Executive Committee, that seemed to me to be just an excuse. I thought that the thing was important enough to get the executive committee to accept the matter, I thought it was a very highhanded way and I think I even wrote Mr. Beschorman at one time too about this mentioning of the executive committee and about the manner Rupprecht dealt with these matters; that the negotiations ought to be with the executive committee then if there were higher interests which we could not touch.

Q. Your next sentence was:

"but at the same time my impression was that he had a desire of trying to fall in in some way."

I believe his Honor expressed that this morning as that you felt reassured to some extent, is that right?—A. I think that is about the situation.

Q. Did you feel somewhat relieved?—A. With 3028 some doubt to be quite frank, at the same time.

Q. Relieved with doubt?—A. Yes. I mean I could not say I was entirely relieved. There was a certain vibration in my mind, so to say.

Q. Was that the thought that you carried back to Germany, to Europe?—A. Yes, or, to put it somewhat different, I was not entirely happy about it but I thought we would have to take a chance.

Q. This was in the summer of 1933?—A. Yes.

Q. Now, in October of 1933, there is in evidence a letter written by you, Plaintiff's Exhibit 288, from which I read this:

"I was in Frankfort the day Germany denounced their membership in the League of Nations, and Hitler published his manifest and his speech. It will interest you that the public was very calm and there were no demonstrations in this connection. From Germans I gather that the general sentiment was a relief that the situation now was made clear and they were generally in hope that this would bring the disarmament question to a final settlement."

Was that the same sort of relief that you were feeling contemporaneously about Mr. Rupprecht?—A. Well, I don't get quite the parallel so far.

Q. Then you went on yesterday in speaking about
3029 Mr. Rupprecht:

"And he was trying to paint a picture . . . . that there wasn't anything to be feared."

A. There wasn't anything to be?

Q. Feared.—A. Feared? I see.

Q. Is it fair to say that Mr. Rupprecht at all events was trying to reassure you? It is one thing as to whether you were reassured. It might be a different thing as to whether Mr. Rupprecht is trying to reassure you. I am now asking the second.—A. I think you will note from various of this correspondence that I steadily came back and tried to get Rupprecht in line and did not get him in line.

Q. But he was trying to be friendly and reassuring toward you?—A. Yes.

Q. To give you relief.—A. Yes—well, not give relief, but to try to relieve my mind.

Q. To relieve your mind.—A. Yes.

Q. And you were trying to get him down to sounder things?—A. No, from sound to things. All of us, get down to a matter of fact instead of talking.

Q. Perhaps my analogy to Mr. Hitler was not so remote. We did get down from sound to things.—A. Yes.

Q. Now then you said:

"I just wrote a few words to Kuhne and Weber
3030 Andreae trying to transfer that opinion, convey that opinion," and in the morning you had said, "convey that impression."

The impression or opinion that you sought to convey was the impression of being reassured, is that right?—A. It was the impression of we should take the chance. You see what I mean?

Q. Yes. And that is the question I believe that the Court asked you on the next page, when he says:

"Q. But when you left that meeting, Doctor, were you satisfied by what Mr. Rupprecht had said to you that he would see that Krebs would respect the territories of the Titan companies," and you said "If you mean satisfied, that I felt happy about the thing, no."

Now you did not feel happy about the thing, did you?—A. No.

Q. But your duty to National Lead made you feel that you ought to do what you could to make Kuhne and Weber Andreae feel happy about the thing?—A. To give the approval to sign this agreement.

Q. And would you not go as far as to say you wanted them also to feel happy about it?—A. I think there I would like to take a neutral attitude.

Q. You yourself would like to take a neutral attitude.—A. Yes.

3031 Q. What attitude would you like them to take?—A. Well, as a business man, as a representative of the National Lead Company, of course it was my duty to try to get them to feel happy, but at the same time I did not want to take more responsibility than absolutely necessary.

Q. Right. In other words, your duty might cause you to wish to convey some impression or opinion to them. You did not feel that your duty was to give them a precise analysis of what you really thought?—A. No. I left that to them, and personally I think they knew what they did when they wrote back their letter. Their position was, as far as I understand, always, without having talked with them, but I am just reasoning, but from my talk in Frankfurt before I went over, that they wanted to accommodate the National Lead Company.

Q. They, like you, wanted to accommodate the National Lead Company?—A. To accommodate the National Lead Company.

Q. Then his Honor asked you:

"In other words, you did not really anticipate any further trouble?" And you answered: "No; or, rather, I was hoping that as time developed I might be able to get him to understand and sooner or later fall in line."

Do I understand that it would not be true that you did not really anticipate any further trouble? Perhaps I had better put it more directly: you feared further

3032 trouble, did you not, or you were in doubt?—A. I felt uncertain about the future. I had not got as clear a basis as it was desirable to have vis-a-vis the Ger-

mans and vis-a-vis the whole thing. I mean in order to get—in other words, I wanted to get them down to the 1920 agreement but I could not get them.

Q. I think I am clear. You spoke in the morning of Mr. Rupprecht as slippery?—A. Yes.

Q. And in the afternoon you spoke of him as elusive?—A. Yes.

Q. And therefore would it not be fair to say that Mr. Rupprecht left you in doubt?—A. Yes, in my mind that is perfectly true.

Q. I just want to go over this again to get the connections. His Honor's question was "In other words, you did not really anticipate any further trouble?—A. No; or, rather, I was hoping that as time developed I might be able to get him to understand and sooner or later fall in line."

And then his Honor's next question:

"And go a little further?" I take it his Honor meant, Well, assuming that your answer to my first question had been "Yes," that you did not really anticipate any further trouble, what you wanted was to get Rupprecht to go further than he had yet gone, and
3033 your answer was, "It was a matter to me of further development."

Do you recall that? "It was a matter to me of further development." That is what you said to the Court yesterday.—A. (No answer.)

Q. Perhaps I can help you by going on:

"I was dealing with a situation where my impression was that Beschorman did not really understand this agreement either, I mean the 1920 agreement, or the consequence of it."

Did you mean to say that the hope was conveyed to you that you would have to further develop the opportunity to get Rupprecht to accept the sound principles?—A. Yes.

Q. And then you say, "I say, as I said, I felt I was lost practically at that time." Now to me that means that you were not reassured; you were lost at that time.—A. Yes. It is the same over again.

Q. Then passing two pages later Mr. Dixon asked you: "Well, of course, the Germans didn't get all they wanted in the letter that they sent, did they?" and you answered: "No, but I was not a representative of the Germans."

Was it true that the Germans knew you were a representative of National Lead?—A. Oh, certainly.

Q. And that the Germans knew that you were free, as any business man is free, to try to present to them the National Lead viewpoint?—A. Certainly.

Q. Mr. Dixon's next question is:

"Were you satisfied when you left the meeting with respect to the action of Krebs in respecting the territorial limits of the Titan companies?"

Your answer is short, it is in three words: "I was hoping." You were doubtful, but hoping?—A. Yes, yes.

Q. Doubtful but hoping, is that a fair summary?—A. No, I didn't quite hear what came before "I was hoping."

Q. I will just reread it. It is a question by Mr. Dixon.

"Were you satisfied when you left the meeting with respect to the action of Krebs in respecting the territorial limits of the Titan companies?—A. I was hoping."

A. That is perfectly correct.

Q. Now over a few pages later Mr. Dixon says:

"And did Mr. Rupprecht indicate to you that he understood those conditions?"—being these 1920 conditions—"A. Well, he was always very evasive.

"Q. Well, were you satisfied that he understood?—A. No."

Now you have told us that you understood Mr. Rupprecht in such a way that you were left lost, in doubt, although hoping for further development.

Now this is the converse question that Mr. Dixon is asking you,

"How did you understand that you left Mr. Rupprecht?" Did Mr. Rupprecht understand the principles of 1920. Had you succeeded in carrying to Mr. Rupprecht an understanding of the principles of 1920?—A. This I do not know, because as I said, he was very evasive in the matter.

Q. You could not tell whether you had succeeded or not?—A. No.

Q. And then you say later, "My general impression from that time was that I was very dissatisfied really with the situation as it was." Do you adhere to that?—A. Yes.

Q. Now his Honor was quite understandable, because unlike you with the Germans, and unlike me, he has to bear a responsibility, so he was quite understandably anxious to try to get some more precise answer, and the question was this— A. Who is this you are talking about?

Q. The Court. (Reading:)

"Now what I want you to tell me is, at the time you wrote those words did you feel or did you not that you were making an accurate comparison that the views expressed by Mr. Beschorman as to future cooperation were also the views expressed by Mr. Rupprecht
3036 as to future cooperation. I want you to tell me as truthfully as you can recall whether that paragraph did represent your then state of mind."

And your answer was:

"I can only express what I may call what I feel about it, and that is that it was in general terms, talking about it without going exactly in one way or the other. If you look back at it, I felt at that time, I felt that I was in a very difficult position,"—and I want to pause there. Is it true to say that when you wrote those letters you were not trying to make an accurate representation of anything—and you know what "accurate" means?—A. Yes, sir. No, I was not trying to do that, but I was——

Q. It was not a question with you of truth or the opposite, as if you were on oath in a courtroom, was it?—A. No.

Q. It was a question of being a representative of National Lead, a man who had an investment in Titan, Inc., a man who had relations with the Germans, to try to put things in the aspect best suited to sustain your hope for future development, is that right?—A. Certainly.

Q. And the difficult position was that necessarily you had to take one view as a representative of National Lead and appreciate that the Germans must take a dif-
3037 ferent view, isn't that true?—A. I don't quite get that.

Q. What made the position difficult for you? Was it the conflict between the German company and the National Lead view?—A. Yes, and it was a conflict between—after all, we were asking the Germans to accept the position or relationship with du Pont which was very different from the relations that we had, the basic principles that we had presented to them in 1927.

Q. And did that put upon you the necessity of trying, in effect, to reassure the Germans while you were not yourself personally fully reassured in your spirit?—A. Yes. or rather to try—it put me in the necessity to try to get the Germans to accept something which I did not like—I mean personally. You see what I mean?

Q. Yes, I do. Now you went on and said:—— A. But

at the same time I thought we should take the chance. You see what I mean. In other words, when I say that, we had not gotten down from sound to things—the thing was too indefinite in certain respects, if you understand what I mean?

Q. Yes, but you see the language of the letter to the Germans was rather interesting, the two letters to Kuhne and Weber Andreae were in identical language and they were both very short. First, it is not your habit on vitally important matters to write very short letters, is it,
3038 when you are trying to sell an important thing?—A. (Witness laughs.)

Q. Or explain an important thing.—A. You are not the first to accuse me of that.

Q. Well, it is the other way around. I rather think I see a meaning in it. Wasn't this an uncomfortable letter for you to write?—A. Yes.

Q. And you said "I have met Mr. Rupprecht, president of Krebs Pigment and Color Corporation, who verbally has expressed to me the same views as to the future co-operation as has been expressed by Mr. Beschorman." Considering the "views and interpretations as expressed by Mr. Beschorman," what do you mean by "views"? Point of view? Attitude?—A. This was a very hot day in July, Mr. Whitney, so I do not know. I do not think I examined every word in the way you are trying to do it now.

Q. "And considering the views and interpretations as expressed by Mr. Beschorman and by Mr. Rupprecht in his letter to Mr. Beschorman," that is falling back on the actual Rupprecht letter, isn't?—A. It comes to what I said before. It comes to falling back on Rupprecht and Beschorman on that matter.

Q. "It seems to me that a cooperation can be looked to." That would be in the future, wouldn't it?—A. Yes.

3039 Q. "which will be of important benefit." When you just said you were falling back on Rupprecht and Beschorman, did you mean that you were not wanting to take responsibility of your own in the matter?—A. I repeatedly said that.

Q. That you were just wishing the Germans to get their reassurance, if they could get it, from Mr. Beschorman's and Mr. Rupprecht's letters?—A. Yes.

Q. And you were not going to add to them independent views of your own?—A. No.

Q. Or independent support of your own.—A. Except saying, "Well, as far as I am concerned, I think the best thing to do is to go ahead and take a chance in the matter."

Q. Right. And these men were personally well known to you, weren't they; both Kuhne and Weber Andreae—A. Yes.

Q. And when you wished to take your own responsibility in the matter they were quite different characters, were they not, Weber Andreae and Kuhne—different types of men?—A. Yes.

Q. If you were taking your own responsibility would you write a leter identically verbatim to both men?—A. Who can remember that at that time?

Q. Would you any time write to two different types of men in an important matter, would you write in identical phrases?—A. Probably not. I would try to treat
3040 each one according to their character.

Q. Just so. But this was an unpleasant, uncomfortable duty you had to perform to write them?—A. That is right.

Q. One of the reasons that it was unpleasant was that you were not sure yourself, you were in doubt?—A. If it had been left to me to decide what the National Lead Company should do, I would not have made that agreement—I mean the agreement of 1933.

Q. So then going back to the testimony, "So, my intention was to put the responsibility on Beschorman and National Lead as much as possible. You see what I mean?" That was the important thing with you, wasn't it, that National Lead and Beschorman did this and had their own reason for doing it, and they were to carry the responsibility—A. Yes.

Q. But it was not the point that at that moment he wanted to pursue, because he says "I understand all that. But you did say in you letter that the views expressed in Mr. Beschorman's letter, 'as to the future cooperation' are the same views which were verbally expressed to you by Mr. Rupprecht," and the next question says, "Was that the truth?" and you answered, "I hope so, but I can't recall."—A. Yes.

3040-A Q. That was late in the afternoon, and as you say, you were a little bit tired. This morning you have said that the truth was that you hoped that that would turn out to be so. That is the same thing you meant yesterday afternoon, isn't it, when you said "I hope so" in answer to his Honor's question; not "I hope that was the truth"

but "I then hoped it would turn out to be the truth."—A. Yes. I mean there is a difference there.

3041 Q. And what would you say was right as to the word "hope"?—A. Well, that is too—I mean, it depends upon the connection. If I got you right, in the one case I am talking about what I hope will be the result in the developments, isn't that so?

Q. Yes.—A. In the other case it was a question of whether I said "I hope so whether I conceive the truth or not."

The COURT. You hope generally you are a truth-telling citizen?

The WITNESS. Yes.

Q. It does not go further than that?—A. No.

Q. Finally the question of his Honor is: "You did not intend to tell other than the truth when you wrote your letter of July 21st?" And your answer was: "No. I would not say that."

Now what would you say about what you intended to tell in your letter of July 21st?—A. Isn't that the same as I said several times, that as far as I am concerned I am willing to go ahead and take the chance in the matter?

Q. In other words, to sum it all up, when you, as a business man in this difficult position, as you called it, between these two points of views were writing to the Germans, it was not a simple question of truth or falsity, was it, but it was a question of accomplishing a business

3042 objective; putting off the evil day while in doubt but still in hope and planning for future developments, ~~is that~~ right?—A. Quite right. To put it more explicit, hoping that as years went on, as one got to know each other better we will get the du Pont Company in line.

Q. Right. Now I am leaving that. Years did go on, and eventually you came over to America in the summer of 1938 particularly in relation to this precise subject, did you not; that is to say, the relationship with Krebs?—A. Well, incidentally that was taken up. I don't remember that that was one of the specific purposes of my coming over.

Q. Now when Mr. Dixon was examining you about that you said, "At the time really I was very dissatisfied with the development of the relations with du Pont." That was a correct reflection of your view at the time of that coming to America?—A. Pardon me?

Q. Were you, when you came to America in 1938, very

dissatisfied with the development of the relations with du Pont?—A. I certainly was.

Q. Now you arranged to make a trip to Wilmington, did you not, to see Mr. Rupprecht?—A. Yes.

Q. And you had Mr. Kaegeben with you?—A. Yes.

Q. And Mr. Hancock was there?—A. Yes.

Q. And then thereafter did you go to lunch with
3043 some of the other du Pont officials?' A. Yes, with Dr. Sparre. I recollect him.

Q. He was the head of the development department?—A. Yes.

Q. And a high official of the du Pont Company, was he?—A. Yes.

Q. And a Norwegian by origin?—A. Yes.

Q. Or at least a Scandinavian?—A. No. He was a Norwegian. I was very interest in meeting him because we had acquaintances and friends in common.

Q. Sparre is an old Swedish name that cross the border line, wasn't it?—A. Yes, very much so.

Q. Will you give us the best of your recollection of what was said as between you and Mr. Rupprecht in the morning and as to what was said at the luncheon? You were not asked that yesterday. You were asked a great many other things, but I would like to do what you call take a chance.—A. The talk without question was more or less repetition of what du Ponts said several times. There is a memorandum which recorded what I——

Q. Will you forgive me. I want you to try to tell us, as you sit there this morning, throwing your mind back, and I think his Honor would be willing to give you a minute or two to try to remember what you now remember may or may not have been said, even if it is just scraps.—
3044 A. If you take exactly what I remember now, that is from the meeting itself with Rupprecht and lunch, there is very little in my memory left, because it was of the same character as the previous ones. You never got to the grip of things. I had one object particularly in mind and that was the following: During the years that had passed when we negotiated these license agreements it was a very tedious thing for me. Things were negotiated with Kaegebehn over here and everytime Mr Hancock got something in his mind, I believe it was Hancock or somebody down there,—he wanted to change some of those agreements and Kaegebehn wrote over to me if he was not able to talk Hancock out of it, and I was not in a position to say "yes" or "no". I had to go back to the

Germans and the English, in view of the 1920 agreement. It made the whole thing a very tiresome process, and what I wanted was to get some kind of an understanding or agreement on a standard form for license agreements if and when such were to be exchanged, to make it clear to Rupprecht and Hancock we could not go on with this eternal and tedious correspondence about these matters, and I wanted to have left that clearly into their minds. Naturally at the same time I discussed the matter in general again, as I had done before, trying to enforce the principles, or rather to get them—enforce is not the
3045 right word—but to try to get Rupprecht into line again—not again, because he had never been in line.

Q. You mean try again?—A. Yes, try again to get him in line and there was that same—in other words the same kind of evasions. If I remember right when I left I thought we had got Rupprecht and Hancock to accept this idea of trying to standardize this license agreement form if and when we agreed upon licenses, but I think the following correspondence did not bear that out—as usual with Rupprecht.

Q. Perhaps we are getting a little away now, because the thing I want you to remember is about what was said. Do you remember about the lunch?—A. Then we had lunch. We did not talk business during the lunch, but leaving, and going down the elevator, there is one thing which I remember very distinctly because it shocked me. It gave me a little shot, so to say. I said to Dr. Sparre in the elevator that what I am aiming at, Dr. Sparré, is to get as close cooperation as possible between du Pont and our companies," and he said, "Not too close, Dr. Jebsen; not too close." And I was puzzled somewhat at the same time about it. But that was all, and I left to take the train.

Q. Did you see Dr. Sparre or Rupprecht again on that visit?—A. I have never seen Sparre since then.
3046 I may have seen Rupprecht since that visit.

Mr. WHITNEY. Thank you.

Mr. WEBSTER. No redirect.

Recross examination by Mr. DIXON:

Q. Dr. Jebsen, you are very precise in your manner and habits, are you not?—A. Well——

Q. That is to say, you like things—A. Don't ask me.

Q. You like things to be precise?—A. Yes.

Q. Is that correct?—A. Yes.

Q. And you did not like any deviations from, well, say the 1920 agreement?—A. Yes.

Q. And all of the companies associated with the Titan groups under the 1920 agreement entered into written agreements with each other under your 1920 agreement form, did they?—A. You mean the European associates?

Q. Yes—A. Yes.

Q. And of course that would be National Lead during the Titanium Pigment Company originally, and then—A. Titan Company, Inc.

Q. Yes, and so all of the associated companies were committed by written agreement to follow the general principles, as you have called them, of cooperation set forth in detail and at length in the 1920 agreement? That is a fact, isn't it?—A. I did not get the first part of it. Excuse me.

3047 Q. (Read.)—A. Yes. In other words, Article XIV?

Q. Yes.—A. Yes.

Q. And you did not want anything that was not in writing that might deviate from the general principles of that agreement or from any of the other provisions of the agreement, did you, Doctor? In other words, you wanted it to be precise?—A. I do not quite get your question.

Q. When you discussed the 1933 agreement with Mr. Rupprecht I believe you testified generally that he told you that he could not become a party to the 1920 agreement, is that correct?—A. No. I don't think that is correct, because I did not—we had only talked—I talked about the principles there. I never showed him, for instance, the 1920 agreement.

Q. Well, did he say to you that he could not make any agreement in writing of any kind with the Titan Company?—A. I do not think he said he could not make any agreement of any kind but he evidently did not want to make any agreement.

Q. What you wanted in your discussions with Mr. Rupprecht was, if possible, a written agreement between Krebs and the Titanium Pigment Company which would be like the agreements that the other companies made with the associated companies? That is what you really wanted, wasn't it, Doctor?—A. I wanted an agreement with

3048 du Pont Company respecting Article XIV of the 1920 agreement.

Q. You wanted it in writing, didn't you?—A. Certainly. If you could not get it in writing what would it be worth?

Q. If it were possible to get it. And it would have been a matter of considerable concern to you that such a written agreement could not be made by Krebs? Was that not a fact?—A. But why say that "Such an agreement could not be made." We did not get anywhere anyhow, whether written or otherwise.

3049 Q. Did not Mr. Rupprecht say to you, or didn't he, that he could not make any written agreement with your company such as the other companies had—A. I do not think he specified "written" in that connection.

Q. So that you did not even get to a point of talking about a written agreement such as the other companies had, complying with the 1920 agreement?—A. No.

Q. Now you did, however, testify that after these conferences, or after this conference—there was only one, that is correct, isn't it?

The COURT. In 1933?

Mr. DIXON. In 1933 with Mr. Rupprecht——

A. Yes.

Q. ——that you were satisfied that the cooperation would be eminently satisfactory, or words to that effect, between the du Pont Company and the foreign associates?—A. I would not say I was satisfied.

Q. Now, Doctor, let me ask you this very fair question——

Mr. WHITNEY. I object to that, your Honor.

The COURT. He recommends it.

Q. When you testified you were not satisfied you meant that you had to take a chance that perhaps Krebs would not live up to these assurances which Mr. Rupprecht gave you orally at this meeting? That is what you were dissatisfied about, isn't it?—A. No. I don't think that

3050 is quite the expression. First of all, I cannot remember when you talk about the oral things, and I think when I say I was dissatisfied it was because there was nothing more to really hold onto than this agreement between the National Lead Company and the du Pont Company. All the rest was——

Q. And these assurances which Mr. Rupprecht gave you at this meeting that everything would be all right for the foreign associates—in other words—— A. No, I don't think you can say everything would be all right. What does that mean, Mr. Dixon?

Q. Well, as you put it in one of your letters, "It seems to me that a cooperation can be looked to which will be of important benefit to TG". In other words, Doctor, you did not like an oral arrangement, did you, or oral assurances from Mr. Rupprecht because you felt he was rather slippery and hard to pin down, is that right?—A. He was hard to pin down to the 1920 principles.

Q. And you would have been much more satisfied if he had come out and made a written agreement or put something a little more definitely in writing at this meeting, isn't that a fact?

Mr. WEBSTER. Your Honor, the objection is the questions are argumentative.

The COURT. I will let him go a reasonable distance.

3051 Mr. DIXON. That is all I ask, your Honor.

The COURT. Go ahead.

(Question read.)

A. Do you mean when you say "an agreement"——

Q. Do you understand my last question?—A. Please repeat?

(Question read.)

A. Does that not assume that there was an oral——

Q. That you were assured, Doctor, by Mr. Rupprecht.—A. Assured of what?

Q. That everything would be eminently satisfactory to yourself.—A. And that could mean compensation in one way or another; in some way we would get a benefit.

The COURT. In your mind the one problem was territorial limitations?

The WITNESS. Rupprecht had emphasized the patent situation and having licenses under those patents.

Q. He had also written this letter to Mr. Beschorman, that is on June 28th, in which he said, "Well, we cannot export or sell outside the territory specified in the 1933 agreement", hadn't he?—A. I think so, yes.

Mr. WHITNEY. Well, just wait a minute until we look at that letter. I would like to check it. What is the exhibit number?

Mr. DIXON. 267.

3052 (Question read.)

Mr. WHITNEY. Your Honor, I think if he is going to cross-examine the witness on an exhibit he should show him the exhibit. My objection is it misrepresents it. It says, "As you are aware, the antitrust laws of this country definitely prevent this corporation from mak-

ing any commitments respecting the territories of Titangesellschaft."

Mr. DIXON. If the Court please, I ask that my question and answer stand. The witness has answered my question.

The COURT. All right.

Mr. WHITNEY. I object to the question and move to strike out the answer on the ground that it misrepresented an exhibit in evidence.

The COURT. Very well. Motion granted. If you want to call his attention to specific language in the exhibit you may do so.

(Previous question and answer re-read.)

Q. Well, you have seen this letter, I believe, from Mr. Rupprecht to Mr. Beschorman of June 28th, hadn't you, Doctor, before you conferred with him?

The COURT. You have been all through this before.

Mr. DIXON. I understand, Judge, but the question was objected to.

The COURT. We were all through it yesterday.

3053 A. Yes.

Q. Did you have any discussion with Mr. Rupprecht about Article II of the Krebs-Titanium Pigment Company proposed agreement?—A. What does Article II say?

Q. I hand you the letter to refresh our recollection (handing).—A. Have you got the Article II itself?

Q. Yes. If you would like to read it. I do not know as it would help you.—A. I cannot remember that we discussed these things in detail in that conference with Rupprecht at all. I think I said that yesterday, too.

Q. Now, Doctor, you testified under cross-examination from Mr. Whitney that you were dissatisfied after this conference. As I understand your testimony you were dissatisfied because you wanted, first, if possible, Krebs to come in 100 per cent under the 1920 agreement which this did not do? That is correct, isn't it?—A. Yes.

Q. And, second, you wanted something that you could indicate to your associates abroad, BTP and Titangesellschaft, or what TG wanted with respect to the territories of TG, that they would be respected by Krebs? You wanted that?—A. I would have liked to have got it.

Q. And you got the letter or saw the letter that Mr. Rupprecht had written to Mr. Beschorman with reference to that before you went to the meeting with Rupprecht, didn't you?—A. Probably so, yes. I suppose.

3054 Q. And were you satisfied with what he said about territories in that letter before you went to the Rupprecht meeting?—A. Well, I cannot remember what happened or how I felt about it at that time.

Q. Well, if you were not satisfied with it, having seen the letter, now can you state to the Court in what respects you were not satisfied on that point?—A. No, I can't. The only thing which I can state in that respect was that it was strongly pointed out that as long as du Pont was working under licenses from the National Lead Company, under licenses under the patents, the same patents as we had abroad—when I say "we" I mean the Germans and English and the various companies—that they could not very well send over any material to those countries. We had the patent protection——

Q. Well, there were countries in which you did not have patents, were there not, Doctor?—A. Yes, but they were not of too much importance.

Q. In what respects? Getting back to my question were you not satisfied when you went away from the meeting with Mr. Rupprecht with respect to the territorial part of your 1920 agreement or were you satisfied on that point in so far as oral assurances could be given you?—A. I cannot remember there were given any additional oral assurances; additional and beyond what I have

3055 said here with regard to the patent situation.

Q. Then the thing which you were not satisfied with after you left this conference with Mr. Rupprecht was that there would not be an automatic exchange of patents between Krebs and the Titan Company? Is that one of the things you were not satisfied with?—A. That there would not be an automatic exchange?

Q. Of patents and applications between Krebs and the Titan companies.—A. Yes, that was one thing.

Q. And that was one of the things which was made a matter of negotiation in the 1933 Krebs agreement, wasn't it? It was left open?—A. It was left open, and therefore——

Q. And was that one of the things that you wanted to bring Mr. Rupprecht in line with, the 1920 agreement, when you had your conference with him?—A. I was afraid——

Q. Can you answer that question?—A. I wanted to bring him in line, yes.

Q. On that point, namely the exchange of patents between your companies?—A. Yes.

Q. And Krebs?—A. Yes.

Q. And in that respect you were not satisfied by your conferences with Mr. Rupprecht?—A. No.

Q. Now what about the technical exchange provided for in the 1920 agreement? Were you satisfied on that after you left Mr. Rupprecht's office or conference?—A. No.

3056 Q. But there was an exchange, or at least visits made after this meeting?—A. Yes.

Q. Between Titan and Krebs. Now what more than that would you want that you were not satisfied of after you left Mr. Rupprecht at this meeting?—A. Particularly with regard to this exchange of licenses. I was afraid somewhat that there would be a question of compensation, in cash.

The COURT. Royalties?

The WITNESS. Royalties or whatever it was. He had said only outstanding patents, outstanding inventions patented should be a subject of royalties or of compensation. But I was somewhat in doubt as to what could be considered outstanding patents, outstanding inventions.

Mr. WEBSTER. Your Honor, Mr. Dixon is trying to force the witness to a point where he breaks in on practically every answer. I think he should be allowed to answer.

The COURT. Do you feel you are being given ample opportunity to answer?

The WITNESS. Yes, but the interruptions are somewhat——

The COURT. All right. I will ask Mr. Dixon to give the witness a chance.

Mr. DIXON. I thought I was.

The COURT. I thought so, too.

3057 The WITNESS. If I may continue explaining that situation?

Mr. DIXON. I did not interrupt. Go on, Doctor.

Mr. WHITNEY. You are interrupting now.

A. (Continuing) As I say, what are outstanding inventions? That was left open. And later on I had a disappointment in that respect.

The COURT. Do you want him to go into that? If you want to, you can stop him.

Mr. DIXON. No.

The COURT. All right.

Q. So that was one of the matters, that if the Krebs Company had been brought in line, as you call it, with the

1920 agreement you would have been satisfied with it, is that correct?—A. Yes, if they were both in line.

Q. So when you say that you were dissatisfied and hoped to bring du Pont in line, you mean you wanted them to come in, 100 per cent, with all of the obligations of the 1920 agreement? That is what you wanted, didn't you, Doctor?—A. Yes.

Q. And that was what you hoped to get from Mr. Rupprecht when you had this conference with him in July of 1933?—A. Well, I would not say my hope went quite so far, but I was hoping to get him somewhere anyhow in that direction.

3058 Q. So there were still some matters that, under the 1920 agreement, such as exchange of patents between the parties, was not closed after you left the Rupprecht meeting in 1933?—A. It was not solved to my satisfaction.

Q. And you had to wait until 1938 before you got an exchange of patents between Titan Company and the du Pont Company as you would have gotten them ordinarily under the 1920 agreement?—A. Well, I did not get it in 1938 either.

Q. Mr. Whitney has asked you about the 1938 meeting with Mr. Rupprecht. At that meeting I think you testified that you wanted to work out a general arrangement, is that correct, to handle the exchange of the patents between Titan companies and du Pont?—A. No. I did not say a general arrangement. I said to work out a standard form in the case there was an exchange of patents.

Q. In other words, you were dissatisfied again about the arrangements then in effect whereby Mr. Kaegebehn and you had to conduct extensive correspondence between Titan and the Titan companies about the patents and patent applications of Krebs? That is what you were dissatisfied with?—A. I had to go every time to the Germans and to the English and to the French and get their approval for anything which might drop into the head of Mr. Hancock.

Q. That is right, but you did not like that because it was a lot of extra work for you?—A. Yes. And it seemed to me unnecessary work.

3059 Q. And after your meeting with Mr. Rupprecht in 1938 that was worked out, was it not, so that the patent applications of du Pont Company were forwarded regularly to the Titan companies to see whether they wanted to take out patents in their territories on the du

Pont patents?—A. No, pardon me. There you are coming onto something different, because there you are talking about patent applications, and not the question of the conditions of the license agreement—what comes in there is a matter of exchange of information regarding possible patents. That is a different thing.

Q. I understand. But I am talking, Doctor, about the exchange of patent applications between du Pont on the one hand and the Titan companies on the other.—A. Well, I thought we were talking about the standardization of licenses and license agreements and——

Q. All right. Just a moment. I will go back to the technical information. You were not satisfied on the exchange of technical information between the parties after you left Mr. Rupprecht, were you?—A. No. That is a different question and that part of it, keep in mind, there the intention was, the rule was, it should go through the National Lead Company, so it was a matter between the National Lead Company and du Pont Company—this arrangement.

3060 Q. In other words, being a man of precise characteristics, you wanted the methods of exchanging that information to be exact so that you could tell all of your associated companies how it would work out?—A. I don't remember. It didn't interest me so much, this question of exchange of information, at that time.

Q. You mean at what time?—A. In this 1938——

Q. 1938?—A. At that meeting. We are talking about that meeting, I understand.

The COURT. We are talking about the 1938 meeting at Wilmington.

The WITNESS. Yes. And the question of technical exchange was a matter between the National Lead Company and du Pont. There was one incident which came up there. I think Dr. Booge wanted some particular information. It happened when I was down there, but I can't remember that we worked out any different rules there. The thing had become rather complicated because in 1937, that was the year before, when Dr. Booge was over in Europe, he talked about certain arrangements which had been made between the National Lead Company and du Pont as to exchange of information, of which I was not informed. And I wrote about it to National Lead Company—I am telling you this with a certain amount of reservation, that, in the details it may not be en-

3061 tirely exact; but the main point was that the exchange of technical information was to go between

du Pont and National Lead Company. That some could go on a personal visit.—That is natural. After all, you get together then and if the chemists get together and exchange. That is a different thing.

Q. I think we understand now, Doctor, but—— A. But my purpose was, one thing I had in mind which I remember very strongly, was to get these license agreements, when it comes to license agreements,—to get the form of those standardized.

Q. In other words, you would have liked to have had a general provision in a written contract which would obligate Krebs to give to Titan their patents and Titan to give to Krebs their patents, the same as all the other companies had—— A. No, not at that time.

Q. (Continuing) ——in the 1920 agreement?—A. No, not at that time. We had—pardon me. Not at that time. We were working under the 1933 agreement where we had the first call. Naturally, if I could have obtained others, so much the better. But that didn't come up, because that was more or less what you call buried.

Q. Well, that was one of the things you were dissatisfied with—A. Yes, but I don't think we took that up at that time.

3062 Q. You stated that you were dissatisfied with your relations, that is the Titan Company's relations, with du Pont in 1938, when Mr. Whitney examined you. Now, were you dissatisfied with them on account of the technical exchange principle?—A. No, not particularly on that part of it.

Q. Will you state to the Court precisely, if you can, in what respect you were dissatisfied with your Titan-Krebs relationship in 1938?—A. In principle I was of course dissatisfied as long as I could not get my 1920 agreement principles accepted. That is one thing. And another thing is what especially occupied my mind in 1938 when I was down there, and what made the relations unpleasant as far as I was concerned, was the very tedious work which developed each time we had agreed to make—to exchange licenses.

Q. Well, had Krebs ever broken the frontiers of the titanium empire outside of the Western Hemisphere from 1933 to 1938?

Mr. WEBSTER. I object. I think we have been all over this a number of times.

The COURT. Objection sustained.

Mr. DIXON. No. We are trying to find out what he was dissatisfied with.

Mr. WHITNEY. Why don't you ask him in so many words.

Mr. DIXON. I will conduct the examination.

3663 The WITNESS. I think I have told that many times.

The COURT. I would like to ask you to expedite your cross-examination, but go ahead.

The WITNESS. I think I have been very explicit, Mr. Dixon.

Q. Well, in any event had the du Pont Company or Krebs ever exported into the territories of the Titan companies to your knowledge?—A. You asked me about that before once, and I answered you too. I said there had been some importation here and there, a little bit. I don't know whether it was ascribed to the du Pont or to the National Lead Company.

The COURT. But as far as you know, du Pont did not engage in a policy or practice of exporting to markets of the European associates?

The WITNESS. No.

The COURT. We know that.

Q. So that from that point you were not dissatisfied, for that was one of the principles of the 1920 agreement; isn't that the fact?—A. Yes, but there was no—I was satisfied up to that time——

Q. Up to that time that principle—— A. Up to that time the chance we had taken had proven to be justified.

Q. In other words, up to 1938 this risk that you didn't want to take in 1933 had proved justified?—A. I

3664 took it in 1933.

Q. Yes.—A. I took the risk.

Q. And the 1939 meeting with Mr. Rupprecht then, as you have testified, was not with reference to any dissatisfaction on your fundamental principle of the 1920 agreement, was it, Doctor?—A. I don't think that subject matter was taken up, if I remember.

Q. There was no occasion to discuss it?

Mr. WEBSTER. Your Honor,——

Mr. WHITNEY. Let him answer it. There was no occasion to discuss the——

The COURT. Just a minute.

Mr. WHITNEY. Well, let the question be read.

The COURT. All right. But we can only have one counsel on the floor at a time.

The WITNESS. Three, weren't there?

The COURT. The question is?

(Last question read.)

The WITNESS. There was no—that is, no occasion, what I said——

(Last two questions read.)

Mr. DIXON. I will withdraw the question.

The COURT. I think he changed the word "that" to "the" and that is what changed the effect of the question.

The substance of the question was whether there
3065 was any occasion to consider the territorial problems at the 1938 conference.

The WITNESS. I was rather amazed what you had put down there, because it didn't seem to——

The COURT. He changed the word "that" to "the". It was changed from "that" to "the," meaning "the territorial"——

The WITNESS. Yes, but I did not talk about the general principle——

The COURT. That general principle, instead of the general principles.

The WITNESS. That—general principles of territorial. No special occasion.

Q. No occasion at that time to be dissatisfied with respect to any chance that you took with Krebs on that principle.

The COURT. Objection sustained. I think we have covered that four or five times.

Q. Now, just one more question. When you wrote the letter of July 21, 1933, to Weber Andreae—— A. On July 21, 1933, I see.

Q. (Continuing) ——did you have any intention at that time, Doctor, of doing anything other than reporting to the German companies the facts with reference to your conference with Mr. Rupprecht in July of 1933?

3066 Mr. WEBSTER. I object to that. He is covering ground that was fully covered yesterday and two or three times today.

Mr. DIXON. There is a reason for it.

Mr. DIXON. What is the answer to the question?

(Question read.)

A. My intention with that letter was to tell whether Weber-Andreae and Kuhne that, as far as I am concerned, I am willing to take the chance in this matter.

Q. You did not say that in your letter, did you?—A. Well, as I said here, I think that is what it conveys.

Q. Just point out to the Court if you can——

The Court. No, you will have to do that yourself. That is what he said was his intention. If it is not expressed in his letter you will call it to my intention on your argument.

We will suspend.

(Recess to 2:15 p. m.)

3067 Afternoon Session

Gustav Adolf Jebsen, resumed the stand.

The Court. Are you going to have very much more, Mr. Dixon?

Mr. Dixon. I adhere to my statement, your Honor. I have no further questions.

The Court. Very well. The witness is excused.

(Witness excused.)

Graham W. Corddry, called as a witness on behalf of defendant National Lead Company, having been previously sworn, testified further as follows:

(Defendant N-L Exhibit 68 marked for identification.)

Direct examination by Mr. Webster:

Q. Mr. Corddry, where do you reside?—A. 217 North Mountain Avenue, Montclair, New Jersey.

Q. What is your profession?—A. I am general sales manager of the Titanium Pigment Corporation.

Q. Had you had a technical education?—A. Yes.

Q. Of what character?—A. I was educated in St. Johns College, Annapolis, Maryland, majoring in chemistry.

Q. Since what date have you been general sales manager?—A. Since June 1, 1940.

Q. Prior to that what was your occupation?—A. I was eastern sales manager from 1935 until 1940.

Q. And prior to that?—A. From 1932 to 1935 I

3068 was a salesman with the Titanium Pigment Corporation.

Q. Now, before that were you employed by another company?—A. Before that I was employed by Devoe & Raynolds Company, a national paint and varnish manufacturer. At the time I left that company I was director of laboratories.

Q. Briefly, what sort of work did you do in the laboratories for the Devoe & Raynolds Company?—A. I originally formulated paint and varnishes, and later directed the formulation of all the paint and varnishes manufac-

tured by that company, in charge of their laboratories in Brooklyn, Newark, Malden, Chicago and Louisville.

Q. How many persons are now employed under your direction in the sales department of the Titanium Pigment Corporation?—A. Well, we have 21 salesmen and approximately 12 employees in the office.

Q. Have those salesmen been selected with reference to any particular professional or technical qualifications?—A. Yes. They have all been selected because of their technical knowledge of the paint and varnish industry or their technical knowledge in the rubber or paper industries.

Q. Are they men educated in chemistry or related subjects, to a large extent?—A. Yes.

Q. Is that entirely true or just partly true? I mean, as to the number of men.—A. That is entirely true.

3069 We might have one exception within the 21 men.

Q. To what extent has the number of salesmen employed by the Titanium Pigment Corporation increased since your connection with the company?—A. Roughly, I would say they have doubled.

Q. I show you National Lead Exhibit 8 for identification and ask you to state, if you know, what that is.—A. This is a handbook prepared by the Titanium Pigment Corporation and has been distributed to all of our customers for use by technicians for the furtherance of our—in order that they may have available data to increase the use of our products.

Q. Are there any secrets in this book?—A. No.

Q. Now you have a number of Titanox products, have you not?—A. Yes.

Q. And, roughly, those are classified as Titanox-A, Titanox-B and Titanox-C; is that correct?—A. Yes.

Q. Are there certain variations of those products that are known to you?—A. Yes.

Q. Is there any difference between Titanox-A and Titanox regular, or are they the same?—A. Titanox-A is our designation for all pure titanium pigments. We have been prefixing the designation "Titanox-A" to designate the different titanium oxides or titanium oxides designed for different purposes.

3070 Q. The description of Titanox-A contained in this book and the statements concerning the use of Titanox-A, are those accurate statements of the composition and use to which that product may be put?—A. Yes.

Q. You have a product called Titanox-AA. What is the nature of that, as distinguished from Titanox-A itself?—

A. Titanox-AA is a semi-non-chalking pigment which was designed primarily for use in exterior house paints, to reduce the chalking or fading of those finishes when formulated with regular Titanox-A or Titanox-AMO.

Q. Titanox-ANC, what is the difference of that from Titanox-A?—A. That is a pigment with still greater chalking resistance, the letters NC designating "non-chalking," and was designed for automotive finishes or for house paints, tinting base house paints where the optimum in chalking resistance was desired.

Q. What is the purpose of Titanox-AWDL?—A. They are water dispersing pigments produced for the paper industry, so designed that they will disperse readily and easily in aqueous solution, or water.

Q. Titanox-B, what is the chief characteristic of that?—A. Titanox-B is a so-called composite pigment composed of 30 per cent titanium oxide and 70 per cent of barium sulfate, and is used in the paint industry, the rubber industry and paper industry.

3071 Q. Does Titanox-B also have certain variations in manufacture?—A. Yes.

Q. Are those variations intended to meet particular conditions?—A. Yes.

By the COURT:

Q. These titles, Titanox-A and B, are they trademarks under which they are sold to the general public or——A. Yes.

Q. ——or only to the manufacturing trade?—A. We sell only to manufacturers.

Q. You do not sell to the retail trade?—A. No, sir.

Q. Under those labels?—A. No, sir.

Q. The manufacturer packs it in his own container and if he wants to sell retail he sells it under his own brand name; is that the idea?—A. Our pigments aren't ever sold retail as pigments; they are used in the formulation or manufacture of other items.

The COURT. I see.

By Mr. WEBSTER:

Q. For that reason your business is chiefly with what kind of customers?—A. It is entirely with manufacturing concerns. It is principally in the paint industry.—We also sell to paper, rubber, manufacturers of white shade cloth, floor covering, and many other industries.

3071a Q. With whom in these companies that buy Titanox products do your men maintain contact?—

A. We maintain contact with the chemists, plant superintendents, purchasing agents, and as far as possible with the management within these companies.

3072 Q. Do you have any contact of an appreciable sort with the ultimate users of paints?—A. No.

Q. Now, what is the outstanding chief characteristic of the Titanox-C pigments?—A. Titanox-C is a calcium base pigment used primarily in interior finishes, flat wall paint, enamels; and a newer grade of Titanox-C is now used in exterior paints.

Q. What grade is that?—A. That is Titanox-RC.

Q. What is the chief characteristic of Titanox-RC?—A. It is a—I will put it this way: it is the first calcium base pigment that was capable or had the properties which would allow its use in exterior house paint, and was the first calcium base pigment used in such finishes.

Q. Does this handbook contain data concerning United States Government specifications of various sorts?—A. Yes.

Q. What is the reason for putting that in the book?—A. So that paint formulators would have available these Government specifications and the products of our manufacture which meet those specifications.

Q. Does the book also contain formulae for house paint and other forms of paint?—A. Yes.

Q. What is the purpose of that?—A. Well, we have written into the handbook data developed by our company at our testing station at Sayville, Long Island, on

3073 the formulation and study of exterior house paints and exterior house paint primers, and this data has been disseminated to all of our customers so that they can benefit from the knowledge which we have developed. It is basically sales promotional data.

Q. Did all of the technical data in here come from your own research organization or is it based upon the experience of your own research in testing laboratories?—A. Yes.

Q. Now with reference to the research and laboratory work, what sorts of laboratories or testing laboratories does the company maintain?—A. We maintain a research laboratory which is purely for the study of pigments themselves in research into pigment manufacture and properties. We maintain a paint and varnish department laboratory that studies the formulation of paint and varnish products; a laboratory which studies the use of titanium pigments in the rubber industry and one which studies the

properties of our pigments in paper.

Q. Are these all maintained under the same roof?—A. No.

Q. Or at various locations?—A. The research laboratory is at the plant at Sayreville, New Jersey. The paint, rubber and paper laboratories are at 99 Hudson Street, New York. Besides that, we maintain the
3074 Sayville, Long Island, testing station.

Q. What is the nature of the work done at the testing station?—A. That is testing the exterior paints and enamels of our own formulation or formulation of other companies.

Q. Do the technicians employed in these laboratories go outside the laboratory in connection with their problems?—A. Yes.

Q. Where do they go?—A. At times, and before the war periodically, we would travel, one or more of our technicians, with or without our salesmen, in various territories, so that these technicians can bring firsthand data which they have developed to our customers.

Q. And I gather from what you previously said that when they do that they work with the customers and technicians in the customers' employ; is that correct?—A. Yes.

Q. Have you in mind any particular problems that have been worked on in that way?—A. Well, we have worked on many particular problems all over the country. The customer has a problem of formulating his paint or is now formulating it with a company's product, and they wish to have that formulated over to the use of our product. And we send a technician in to work directly with that manufacturer until the problem has been solved.

Q. In your opinion, and based on your experience,
3075 has that sort of cooperation been effective from a standpoint of sales?—A. Yes, quite.

Q. Has it also been effective from a standpoint of improving the customer's own product?—A. Yes.

Q. Have you from time to time published booklets containing information concerning investigations and studies relating to the manufacture and use of pigments?—A. Yes.

The COURT. You are referring to "you" as the company, or "you" as referring to the witness?

MR. WEBSTER. I mean the company.

(Defendant National Lead Company's Exhibits NL-9 to NL-22 inclusive, marked for identification.)

Q. I show you National Lead Exhibits 9 to 22 inclusive for identification and ask you to go through those and simply indicate what each of those publications contains, the date of publication, and the purpose of publication, just stating your remarks in rather brief summary.

The COURT. Mr. Webster, I don't want to divert you from your line of examination, but I am having trouble in following the precise target at which you are aiming. I mean, I have not interrupted you because I have been finding it rather interesting from an educational point of view. But just how would it help me decide any of the issues which the complaint and the answers in this
3076 case present? Give me an idea; you don't have to elaborate.

Mr. WEBSTER. The claim as I understand it in this case is that there was an agreement between the du Pont Company and the National Lead Company in restraint of domestic and foreign commerce, and the purpose of this is simply to lay a foundation for additional information which will be offered through this witness to show that there was the most active——

The COURT. Competition?

Mr. WEBSTER. Competition.

The COURT. Between du Pont——

Mr. WEBSTER. Between du Pont and the National Lead Company.

The COURT. Let me ask you this. I don't know whether this will work out, but I am going to make the suggestion. Suppose you put the question bluntly, and I suppose you will get an affirmative answer, then let Mr. Dixon try to tear that down on cross-examination—even if he does, maybe he is not contesting it, but if he doesn't, he will come back and then I will give you full opportunity on redirect. It would be a rather extraordinary procedure but I think we may save some time.

It may be that Mr. Dixon is only concerned with a few departments of competition, in which case we will
3077 really need to know only so much. If you feel it is important, you know your case, I won't interfere with you.

Mr. WEBSTER. I do not believe that that would be satisfactory because Mr. Dixon has already introduced material and indicated that, in his stipulation, he will introduce additional material on the basis of which argument may be made now or later that there isn't active competition between these companies. I think it is quite essential.

The COURT. All right, go ahead.

Mr. WEBSTER. And I will abbreviate this——

The COURT. No. Take all the time that you need within reason. I have not seen this final stipulation which was supposed to have been presented as part of the Government's case.

3078 Mr. WEBSTER. I think it is still in process of gestation, and is not yet ready to be presented.

Q. If you will, please just state briefly what the purpose of each of these documents is, referring to the exhibit number and then to the title, with a very brief statement as to the purpose of each of these studies.

The COURT. Now the question has been put, Mr. Dixon: I did not want you to object in the midst of the question.

Mr. DIXON. That was not the purpose for which I arose, your Honor. I was about to answer the question you put with regard to the stipulation, and that is that the stipulation the Government submitted was under discussion between counsel which, I cannot say, we have agreed to, subject to submitting it to Mr. Webster, and the only reason that has not been done is because Mr. Rea is ill—that is one of the reasons; and the second reason is that it has not as yet been typed in final form.

The COURT. Very well.

A. National Lead Exhibit 9. The purpose of this booklet was to show the extent of our laboratories and study of the use of our pigments in the various consuming industries, showing our research in it.

The COURT. What you would call prestige advertising?

The WITNESS. Yes.

3079 The COURT. All right.

A. (Continuing) Exhibit 10 is the technical announcement of Titanox-RC and Titanox-RCHT, which were two new products we put on the market on January 10, 1941.

Exhibit 11 was a paper delivered by our rubber chemist, Mr. Breckley, on his study of the flexing characteristics of Buna-S compound, synthetic rubber compound formulated or pigmented with titanium pigments.

Q. Please give the dates as you go along.—A. That was dated June 11, 1943.

Q. Exhibit No. 12 is a paper by two of our chemists on the method of testing the hiding power of paints, published in June, 1944; a very complicated technical study.

Exhibit No. 13 is a booklet on the physical study of two-coat paint systems, which data was developed by our

Sayville station in conjunction with the research laboratory.

Exhibit No. 14 is another booklet on exterior house paints and primers which covers some three or four years' work at Sayville.

Exhibit 15 is a booklet entitled "Hiding Effects in Flat Wall Finishes," written principally around Titanox-C in comparison to other white opaque pigments, particularly lithopone.

3080 Exhibit 16 is a booklet on exterior house paint formulations with chalk-resisting types of titanium oxides, which were then comparatively new on the market. It is dated March, 1940.

Exhibit 17. This is a booklet on titanium pigments and their use in the paper industry. It comprises several papers, developed by our paper laboratory. (February, 1937.)

Exhibit 18 is a paper written by Mr. Breckley of our rubber laboratory on research conducted on the use of titanium pigments in white sidewall tires.

Exhibit 19 is a study by the paint and varnish laboratory on the conservation of oil which was written in Houston, Texas, on June 9, 1943, following the oil restrictions required by the War Production Board.

National Lead Exhibit 20 is a study on prospective post-war paints, dated May 15, 1944, and outlines our study principally into water or emulsion type of finishes.

Exhibit 21 is a booklet which was printed in Portugese and was distributed throughout South America except Brazil——

The Court. Except Brazil?

The Witness. This is just the wrong way around.

The Court. I should be surprised that they published a paper in Portugese, and distributed everyplace

3081 except Brazil.

The Witness. Yes. I have forgotten which language they speak in each of those countries.

The Court. It is Portugese there.

The Witness. This is distributed throughout South America, except in Brazil, and printed in Portugese, introducing——

The Court. Printed in Spanish. The one that was distributed throughout South America, except in Brazil, was printed in Spanish, was it not?

The Witness. That is right.

(Continuing)—introducing our company and our pigments and their uses to the South American market.

The COURT. The date?

The WITNESS. 1943.

A. (Continuing) And Exhibit 21 was a booklet—that is one we have covered.

Exhibit 22 is a booklet which was printed in Portugese and distributed throughout Brazil for the same purpose as Exhibit No. 21.

Q. Now referring to the papers of a technical character, to whom were those distributed, that is the pamphlets and papers of a technical character?—A. To technicians in the industries covered by the paper.

Q. Have you ever made any effort to issue a pub-
2682 lication to stimulate an interest in Titanox products to consumers of paint and rubber and other articles of that sort?—A. Not maybe as far back as the actual consumers themselves. We have issued one booklet which was distributed to architects and also to manufacturers of white footwear or paint, which was then distributed by those manufacturers to their customers, which would be a paint store or a footwear store.

Q. Now, is that exhibit National Lead's 9 for identification with reference to the "Service Behind the Emblem"?—A. Yes.

(National Lead Exhibit 23 marked for identification.)

Q. Mr. Corddry, have you prepared or had prepared under your direction a chart showing the tons of Titanox products in terms of TiO_2 compared with prevailing prices for your products for the period 1920 to 1944?—A. Yes.

Q. I show you National Lead Exhibit 23 for identification and ask you if that is the chart you refer to as having been prepared by you?—A. Yes.

The COURT. Does that show sales by TPC or by everybody?

Mr. WEBSTER. Well, I will ask the witness in just a minute.

Q. What was the course of the information that was used to compile this chart?—A. Our own sales rec-
3083 ords in the case of sales and our records within the sales department or the accounting department as regards prices.

Q. So far as this shows sales of Titanox products in terms of TiO_2, those of course are sales by the Titanium Pigment Corporation, are they not?—A. Yes.

Q. And do not purport to include any sales by any other company or companies?—A. No.

Q. And likewise the prices are your own prevailing prices for the period shown on the chart?—A. Yes.

Mr. WEBSTER. Now I think the chart speaks quite adequately for itself, but just so that there can be no question about the identification later, I want to ask two or three questions about the chart.

Q. What does the chart show with reference to your sales for, say, 1921?—A. Approximately 500 tons.

Q. Now I note that there was an increase in sales from 1921 to 1937. Will you direct your attention to that point in the chart, please?—A. Yes.

Q. And that there appears to have been a recession of sales in terms of volume during the year 1937; is that correct?—A. Yes.

Q. Can you explain the reason for that?—A. I can explain it as being a general condition at the time and merely due to the depression.

Q. How about inventories? Did they have any-
3084 thing to do with that or was it purely a depression factor?—A. As far as I know, the inventories did not have anything to do with it.

Q. Now, directing your attention to the point to which the sales volume rose in 1941, what does that show with reference to sales of Titanox products in terms of TiO_2 at that time?—A. A little better than 68,000 tons.

Q. Now there appears to have been a recession from that point to a point in 1942. Can you explain that?—A. Well, that was due principally to overbuying in 1941, and a consumption of inventories in 1942, and the fact that the paint industry itself declined in the same year.

Q. Since that date the curve shows a continuous rise running outside the chart; is that correct?—A. That is correct.

Q. Now, Mr. Corddry, the chart indicates that the price at which sales began in 1928 was 40 cents. What is the reason for not having any price shown with reference to the period prior to 1928?—A. The price from our records could not be definitely shown. Since this chart was prepared, nevertheless, I think that the accounting department now has sufficient evidence to prove that the price, the year prior to this chart, the price in 1926, the first sale was made at 50 cents rather than at 40 cents.

Q. To what point had the price dropped by the
3085 middle of 1939?—A. 13 cents.

Q. To 13 cents?—A. Yes.

Q. Now, this is a composite chart, is it not, in the sense that the prices represent the prices in terms of TiO_2 content of all Titanox products?—A. No, it does not. It represents the prices of pure titanium oxide, the curve that I am referring to.

Q. Whereas the other curve represents the increase in volume in terms of TiO_2 content?—A. That is correct.

Q. Volume sale.

The COURT. Are you offering it in evidence?

Mr. WEBSTER. I thought I would wait and offer them all.

If the Court please, I think I will at this time offer in evidence National Lead Exhibit 23 for identification which is the chart just described by the witness.

The COURT. Without objection it will be received.

(NL Exhibit 23 for identification received in evidence.)

3086 Q. Mr. Corddry, have you prepared or had prepared under your direction a chart showing the annual sales in tons of Titanox pigments, compared with other white opaque pigments?—A. Yes.

(Chart marked Defendant's Exhibit NL-24 for identification.)

Q. I show you National Lead Exhibit 24 for identification and ask you if that is the chart that we have just referred to and as to which you gave your answer?—A. Yes, sir.

Q. From what source or sources was the information on that chart obtained?—A. The information regarding the Titanox pigment was obtained from our own sales records. Information regarding white lead, zinc oxide and lithopone was obtained from the Bureau of Mines.

The COURT. That is the Department of the Interior?

The WITNESS. The Department of the Interior.

Mr. WEBSTER. I offer that in evidence, if your Honor please.

(Defendant's Exhibit NL-24 for identification received in evidence.)

Q. May I ask if there are any sales shown on this chart other than sales of the products of the National Lead Company, or the Titanium Pigment Corporation?—A. Yes.

Q. I mean—— A. It shows lithopone and zinc

3087 oxide, which we do not manufacture.

The COURT. He means the Titanox pigments. Any Titanox pigments manufactured by other concerns than your own.

The WITNESS. No.

Q. Now with reference to the lithopone sales and the zinc oxide sales and the white lead sales, are those the total of the United States sales?—A. I think yes; I think so.

Q. So that the comparison here is only a comparison between sales by the Titanium Pigment Corporation and all sales of those other products, is that correct?—A. Yes.

By the COURT:

Q. Do I understand, Mr. Corddry, that the solid lines represent pure TiO_2 and that the dotted lines represent composite pigments?—A. No. The dotted line represents all pigments, the composite and the pure pigments, whereas the solid line is the TiO_2 content of all pigments.

(Chart marked Defendant's Exhibit NL-25 for identification.)

Q. Mr. Corddry, have you at my request prepared a chart showing the increase in use of titanium pigments in various industries, that is, the paper, welding rods, rubber and leather industries, for the United States, in terms of TiO_2 content of your pigments from 1933 to 3088 1943?—A. Yes.

Q. I show you National Lead Exhibit 25 for identification and ask you if that is the chart that you refer to?—A. Yes.

Mr. WEBSTER. I offer that in evidence, if the Court please.

(Defendant's Exhibit NL-25 for identification received in evidence.)

Q. Now just to make sure about the lines, what is the use made of titanium pigments in paper? You said it was used in paper.—A. It is used in two ways. It is either added to the paper or in some way incorporated in the paper itself, or for coating purposes for greater opacity or brightness or both.

Q. And has the use of titanium paper been an increasing use?—A. Yes, very decidedly.

Q. Now what is the use indicated by the words, welding rod coatings, what is that use?—A. Welding rods, for a higher grade of welding, are coated with titanium oxide for very highly technical reasons. It makes a better weld, if that is a sufficient answer.

Mr. WEBSTER. Yes.

Mr. WHITNEY. Mr. Webster, just for clarity, is this just your company or the whole industry?

Q. Will you answer that question, Mr. Corddry?—
3089 A. It is our sales only.

Mr. WHITNEY. It does not say so, and that is why I asked.

Q. You have not attempted on any of these charts to include any estimates of sales by any other company or companies, is that correct?—A. No.

(Chart marked Defendant's Exhibit NL-26 for identification.)

Q. Mr. Corddry, have you at my request prepared a chart showing sales of Titanox-A, Titanox-B and Titanox-C, in or to Canada, for the period from 1929 to 1944?—A. Yes.

Q. I show you National Lead Exhibit 26 for identification and ask you if that is the chart you refer to?—A. Yes, it is.

Mr. WEBSTER. I offer it in evidence, if the Court please.

(Defendant's Exhibit NL-26 for identification received in evidence.)

Q. Mr. Corddry, from 1933 until say 1937, did Titanox pigments tend to replace or supersede lithopone in the manufacture of paint?—A. Yes.

Q. Can you explain the reason for that?—A. It replaced lithopone because it was of greater dollar value to the paint manufacturer than lithopone.

Q. Now can you just translate into terms of cost per square foot of hiding power, or the pigment cost per square foot of hiding power?—A. Well, for 1000 square feet of hiding power an enamel, for instance, pigmented with Titanox-RC-HT, would cost 40 cents per 1000 square feet, whereas lithopone would cost 60 cents and cover that same area.

Q. Can you give that same example in terms of square foot of hiding power per dollar?—A. I do not know that I can.

The COURT. That is an arithmetical calculation and with a piece of paper we can all do it. I don't think you need trouble the witness about that. 2500 feet for a dollar, isn't that right?

The WITNESS. As I remember, you get 2550 square feet for Titanox-RC-HT per dollar, and 1600 for lithopone.

Q. Do your products duplicate, or tend to duplicate to some extent, products of your competitors?—A. Yes.

Q. Is there any reason for that?—A. Well, the basic reason is that we must have pigments of equal value to those of our competitors in order to enjoy business, in order to sell our pigments.

Q. Apart from pigments which are accepted by consumers for similar uses, do you have varieties of pig-

ments that are different, that is, entirely different,
3091 from varieties offered by your principal competitors?—A. Yes.

Q. Can you indicate examples of that?—A. Well, there have been times when we have manufactured and placed on the market a pigment different from that manufactured by competitors and also they have from time to time produced and marketed pigments different from those which we had on the market. I could mention Rutile non-chalking pigment now produced by one of our competitors that we still do not manufacture. And we also manufacture lead titanate which was never manufactured by any competitor and they have manufactured colored titanium oxides which we have never manufactured.

Q. Do you and the du Pont Company sell your products to, or endeavor to sell your products to, substantially the same list of customers?—A. Yes.

Q. Do you make any effort to allocate customers with the du Pont Company?—A. No.

Q. What is your effort in that respect?—A. Well, we use our best effort to sell any and all customers.

Q. Do you and the du Pont Company have any arrangement with reference to the division of customers in respect of territories of sale?—A. No.

Q. And are the salesmen in your department engaged in pushing Titanox products all over the United
3092 States?—A. Yes, sir.

Q. Now do you from time to time lose customers to the du Pont Company?—A. Yes.

Q. And do you from time to time get customers away from the du Pont Company?—A. Yes.

The COURT. Undoubtedly more frequently in the reverse?

The WITNESS. Oh, entirely so.

Q. Have you an account called Timeproof Paint Products Company?—A. Yes.

Q. Is that an account of yours?—A. It is now, yes.

Q. Is that a customer that formerly purchased from the du Pont Company?—A. Well, that company originally purchased from us. Then due to some inconsistencies in our products we lost the account to a competitor, and then in 1941 or 1942 we regained the account.

Q. Is that a substantial account?—A. Yes.

Q. Now have you an account called the Margate Manufacturing Company?—A. Yes.

Q. Has that always been your customer?—A. Margate

was our customer, one hundred per cent, for many years, and in approximately 1940 a competitor offered them a grade of pigment which we did not then manufacture and they took the account away from us and unfortunately still have it.

3093 Now what is the situation with reference to the Cook Paint and Varnish Company?—A. The Cook Paint and Varnish Company up to 1935 purchased their pure titanium oxide from a competitor and their composite pigments from us. In about 1935 a competitor for the first time offered composite pigments in the market and the account changed to the competitor and then purchased their entire requirements from the competitor up to about 1941, at which time we manufactured and placed in their hands a grade of pigment which they preferred to that which they were buying from the competitor, with the result that we now have their entire business on composite pigments and a portion of their business on pure pigments.

Q. Now tell us how about the case of the Kuhn Paint and Varnish Works of Houston, Texas, what is the situation there?—A. Kuhn had always bought from a competitor, and in 1938 or 1939, or it may have been later than that, it may have been 1940, we appointed a sales agent in the State of Texas and through that agent and through having a local representative who knows and is intimate with the customers in that area, we have been able to gain most of the Kuhn Paint Company's business, probably 95 per cent.

The COURT. I think these are intended to be illustrative, isn't that so?

3094 Mr. WEBSTER. Yes, that is true.

The COURT. You are not trying to prove each one of these individual transactions?

Mr. WEBSTER. No, your Honor.

The COURT. Do you think we have had enough illustrations?

Mr. WEBSTER. Yes, I think we have.

Q. There are other cases of that sort where business has been taken away from your competitors and where they have taken business away from you?—A. Yes.

(Short recess.)

Q. Mr. Corddry, in your description of those cases of customers gained from and lost to the competitors, the competitor that you referred to was the du Pont Company, was it not?—A. It was either the du Pont Company or their agent, the R. T. Vanderbilt Company.

Q. And that was true in all the cases you described?—A. Yes.

Q. Now you spoke of having employed an agent in Texas. Was that a customary arrangement or an unusual arrangement?—A. It is unusual. Our general policy is to sell through our own representatives. We have only three agents throughout the country. This agent in Texas was one of those.

Q. Where are the other agents located?—A. On
3095 the Pacific Coast.

Q. Is there any particular reason for maintaining agencies instead of engaging in direct selling on the coast?—A. One of our agents on the Pacific Coast is the National Lead Company, Pacific Coast Branch, who represent us in the States of Oregon and Washington. In California we have an agent who was particularly qualified to represent us and to get business for us which we considered would take a long time by direct selling because of their intimate contact with some of the major accounts in California.

Q. Now in terms of percentage of sales, could you estimate the percentage of sales that are made through agents, as distinguished from direct sales by the company itself, just roughly?—A. Roughly I would say it would be less than five per cent.

Q. Now what is your method of making sales to South America in countries other than the Argentine?—A. Did you say what was the method?

Q. The method.—A. We have appointed Binney & Smith Company as our sales representative in South America, except in Argentina, and Uruguay.

Q. What is the nature of the business of the Binney & Smith Company?—A. They are principally lamp and carbon black manufacturers and they also maintain an export department, exporting many commodities to South America.

3096 Q. Do they have a sales organization in South America?—A. Yes.

Q. And was that the reason for appointing them as exclusive agents, or one of the reasons?—A. That was one of the principal reasons, yes.

Q. What other reasons are there?—A. Another reason was that we wished to select a reputable and honest company and one with that reputation in South America to represent us.

Q. Now there is a difference, is there not, in your representation in the Argentine?—A. Yes.

Q. Through what agency do you distribute in the Argentine?—A. National Lead Company, S.A.

Q. Is that a subsidiary of the National Lead Company?—A. Yes.

Mr. WEBSTER. May I interrupt a second to offer in evidence National Lead Company Exhibits 8 through 22 inclusive.

The COURT. Only on the stipulation that if this record has to be printed, you are not going to ask to have them incorporated in the printed record?

Mr. WHITNEY. What are these?

Mr. WEBSTER. These are all pamphlet publications. That is a stipulation I shall be glad to make, your Honor.

3097 The COURT. All right. Otherwise I won't receive them.

Mr. WHITNEY. I assume that we will have reasonable access?

The COURT. Oh, yes. Of course they are exhibits in the case if they are received in evidence. I would not burden any appellant, whoever it may be, with the necessity of printing any of that material.

Mr. WEBSTER. No. I think that is a very proper limitation, your Honor.

(Defendant's Exhibits NL-8 through NL-22 for identification received in evidence.)

Mr. WEBSTER. That is all, your Honor.

Cross examination by Mr. DIXON:

Q. Mr. Corddry, in 1928, by referring to Chart No. 23, I notice that the price of Titanox-A was listed on the chart as 40 cents a pound, is that correct?—A. Yes.

Q. Now at that time National Lead Company made some composite pigments, Titanox-B and Titanox-C, that is correct, is it?—A. I don't know whether Titanox-C was on the market in 1928.

Q. Well, it would appear to be from the chart, if I read your chart correctly?—A. Yes.

Q. Now the Titanox-A was the pure TiO_2, so-called?—A. Yes.

Q. And the B and C were the composite pigments, is that correct?—A. That is correct.

3098 Q. And those were the three grades made by National Lead Company at that time in 1928?—A. Yes.

Q. Now coming to 1933, say from the period of 1928 to 1933, January 1st of 1933, those same general grades were made, namely, a TiO_2 or pure pigment and the two grades of composite pigments?—A. Yes.

Q. And what percentage of the total sales of the National Lead Company were represented by those three pigments at that time; in the pigment field, of course, of National Lead—all of it?—A. I do not understand the question.

Q. Well, did you manufacture any other type of pigments other than the Titanox-A, B and C on January 1, 1933?

The COURT. Referring to Titanium Pigment Corporation or the National Lead Company?

Q. Titanium Pigment Corporation was your manufacturing concern at that time, was it?—A. Yes.

Q. And the only one?—A. Titanium Pigment Company at that time.

Q. Yes. That is right. As a matter of fact did the Titanium Pigment Company manufacture any other grades than the A, B and C?—A. No.

Q. And did they manufacture any other grades than the A, B and C up to and through the year 1936, if you recall?—

A. I do not know when they manufactured for the
3099 first time lead titanate. It was probably, if my recollection is correct, it would be 1935 or 1936.

Q. Well, would you say it was a fairly reasonable statement, I mean a fairly correct statement, to say that substantially all of the production of the Titanium Pigment Company and National Lead Company through 1936 was in those three grades of pigments?—A. That is correct.

Q. Now, was there any other company in the business at that time selling either a pure pigment or a composite pigment?—A. Yes.

Q. What other companies were there?—A. There was Krebs Pigment & Color Company.

Q. Was that the only company?—A. As I remember it that is correct.

Q. And up to January 1, 1933 what product was Krebs Company manufacturing?—A. The pure pigment.

Q. That is just the TiO_2?—A. Yes.

Q. Now do you know what grades Krebs manufactured through the year 1936—from 1933 to 1936?—A. I believe it was in the middle of 1935 that Krebs first manufactured Titanox-B and Titanox-C or the equivalent to B and C pigments.

Q. That is the commercial equivalent of your Titanox-A and Titanox-B?—A. No, B and C.

Q. And the commercial equivalent of your Titanox A was the Ti-Pure Krebs product?—A. Yes. That is correct.

3100 Q. That was the trade-mark for their TiO_2, is that correct?—A. That is right.

Q. So that through the year 1936 the Krebs Company was manufacturing, the latter part of 1935 to the end of that year if I understand your testimony correctly, substantially only a TiO_2 or what they sold under the trade name of Ti-Pur?—A. That is right.

Q. And your commercial equivalent for that product was Titanox-A?—A. That is correct.

Q. Now by referring to this chart I notice that during the years 1933 through a portion of 1936 that the price of your Titanox-A was very steady at 17 cents a pound. Do you know what the price of the commercial equivalent product of Titanox-A sold by Krebs was during that period?—A. No.

Q. Do you have the records to indicate what it was, as sales manager of the National Lead Company?—A. I don't know whether we have specific records as to what other prices were at the time.

Q. Well, do you have any way of stating to the Court, from your experience as sales manager of National Lead Company and Titanium Pigment Division, from your records what the prices were of Ti-Pur during the period of time that I have mentioned, namely, from 1933 through the latter part of 1936 when your chart shows the

3101 price of Titanox-A at 17 cents a pound?—A. I have difficulty in whether I should answer that by memory or whether I must refer to some specific records. If you wish me to answer by memory——

By the COURT:

Q. You knew your price was 17 cents a pound down to 1936?—A. Yes.

Q. I assume that any sales manager keeps himself abreast of his competitive prices?—A. That is correct.

Q. You try to find out by one way or another—— A. That is correct.

Q. You may not always get precisely correct information but you try to get as close to that as you can, is that so?—A. That is so.

Q. So you must have some recollection whether you

were at that time selling at a premium above it or whether you were selling at a disadvantage of Ti-Pur or whether the prices were exactly the same?—A. Oh, I have that very definitely, but I thought I might have some factual proof——

Q. Oh no.—A. My recollection is that they were sold at exactly the same price.

By Mr. DIXON:

Q. Now say from January 1, 1937 on—I am just taking an arbitrary date now, Mr. Corddry—were there any other grades other than those that you mentioned,
3102 Titanox-A, B and C, put onto the market by National Lead Company?—A. We put on the market a product called Titanox-L, or lead titante.

Q. Is there a corresponding product manufactured by the du Pont Company, or was there at that time?—A. No.

Q. Is there today to your knowledge?—A. No.

Q. Is there any product in the nature of Titanox-M manufactured by the du Pont Company?—A. Yes.

Q. What is the name of that product?—A. Ti-Sil.

Q. Is that product commercially comparable or equivalent to your Titanox-M?—A. Yes.

Q. And what is the price at which your Titanox-M is sold?—A. We have discontinued Titanox-M for the last three years.

Q. What was the price before you discontinued the sale of it, do you recall?—A. I think it was 5½ cents per pound.

Q. And what was the price of the corresponding commercial equivalent product of du Pont?—A. The same price.

Q. What percentage of the total sales of the National Lead products represented pigments, I am speaking of now titanium pigments, is represented by your grades, Titanox-A, B, C and M?

The COURT. And L? Or don't you want L?

Mr. DIXON. I believe the lead titanate, I under-
3103 stand, is a little bit different, your Honor.

The COURT. All right. You want to know the percentage of their total sales represented by A, B, C and M?

Mr. DIXON. Approximately.

A. 99 plus.

Q. In other words, that represents pretty close to 100 per cent of your entire sales.

Now, Mr. Corddry, the price of Titanox-A, as I understand it, according to this chart was——

Mr. WEBSTER: Is that Exhibit 23?

Mr. DIXON. Yes.

Q. —was 17 cents a pound in 1937, is that correct?—A. I cannot recall the price by year, but the chart is correct to the best of our ability.

Mr. WEBSTER. Shall I show him the chart?

The COURT. Yes. Go ahead and show him the chart.

Mr. DIXON. I thought he had the chart. Really I am sorry.

(Exhibit handed to witness.)

The WITNESS. The price was 17 cents.

Q. What was, if you know, the price of the corresponding commercial equivalent du Pont product, Ti-Pur?—A. That was the same price. That is from recollection.

Q. Yes. I understand.

3104 Mr. WEBSTER. I think, Mr. Dixon, in 1937 the price according to the chart was 16 cents. I don't know that it matters for your purpose.

The COURT. The witness says it was 17. I will take the witness's word for it.

The WITNESS. That is correct.

Q. Will you state to the Court what the price of Titanox-A was in 1938?—A. It was 16 cents.

Q. What was the price of Ti-Pur, the corresponding commercial equivalent product, at that time? The same?

The COURT. If we are going to get the same for all the years we can point them all in one question: Is the price of Ti-Pure and the Titanox-A of National Lead running the same right down the line?

The WITNESS. Yes.

Mr. WHITNEY. Not to interrupt any cross examination, but just to say that all these prices are in evidence already.

Mr. DIXON. I knew the National Lead, but not du Pont.

Mr. WHITNEY. Yes. Both of them, so this is really testing credibility.

The COURT. All right.

Q. What is the commercial equivalent of Titanox-B?—A. Ti-Bar.

3105 Q. And Titanox-C?—A. Du Pont Ti-Cal.

Q. And has there been any differences in the prices of those commercial equivalents of National Lead as against du Pont's corresponding equivalent products?—A. No.

Q. Now Titanox-L, is there any corresponding commercial equivalent product manufactured by the du Pont Company?

The COURT. The witness said no a long time ago.

Q. I believe you mentioned, Mr. Corddry, that you had lost some of your customers to du Pont. Did you ever lose any of them on account of price?—A. No.

The COURT. Manifestly no. He says the price was the same.

Mr. DIXON. That is all, your Honor.

Cross examination by Mr. WHITNEY:

Q. Mr. Corddry, when you say that a product is commercially equivalent you do not necessarily mean that is chemically identical, do you?—A. Not necessarily, no.

Q. Or physically identical?—A. No.

Q. And presumably it will accomplish most of the objectives that a consumer might have that the other product will accomplish?—A. That is right.

Q. But not necessarily all the objectives? One
3106 might accomplish something that the other one would not accomplish?—A. Yes.

Q. Now you are aware, aren't you, that, taking Ti-Pur for example, du Pont has at least four different types of Ti-Pur, HH, HHK, HHW and YCR?—A. Yes.

Q. And those have different, maybe not greatly, but to some extent different qualities?—A. Those four du Pont——

Q. Yes.—A. Yes.

Q. So that when you are answering that Ti-Bar is commercially equivalent to Titanox-B you mean in a general sense rather than in any precise sense, isn't that so?—A. Ti-Bar and HH, for instance, are similar commercially to Titanox-B-30. The du Pont Company would manufacture a grade, or it manufactured a grade of Ti-Pur, YCR, which is equivalent to Titanox-AA, so that each grade of Ti-Pur is equivalent, commercially, to a grade of Titanox-B-30, but not in groups.

Q. Then there are several different grades of Ti-Bar produced by your company, are there?—A. Yes.

Q. So that to that extent it would be right to say that when you were responding to Mr. Dixon's inquiry about Ti-Bar and Titanox-B you only meant in a general sense they were equivalent, because there are different qualities within each?—A. Yes.

Mr. WEBSTER. You do not mean to say there
3107 were several grades of Ti-Bar produced by both companies?

Mr. WHITNEY. Ti-Bar or Titanox-B.

Q. Now the same is true to an even greater extent as among various grades of Titanox-C or Ti-Cal, is it not?—A. Yes.

Q. I am told that du Pont has at least seven grades. I would just like to ask you whether, on the whole, you would agree there is grade R-20 that is a general purpose rutile calcium pigment for all kinds of architectural finishes—I am not asking you to agree that it is correctly stated, but it is a du Pont product—— A. Yes.

Q. And R-21 is more readily disposable and designed for gloss paints and enamel, is it not?—A. Yes.

3108 Q. And R-25 retains the superior properties of R-21 but it is less affected by water and humidity?

The COURT. The witness need not commit himself on that.

Q. (Continuing) Well, that is superior in the sense that the R-21 is superior to R-20?—A. Yes.

Q. That you would not disagree with. And R-30 has high flat hiding rutile type and has thick consistency and minimum in flats, is that right?—A. Yes.

Q. I won't burden you or his Honor any longer, except would this be fair to say that there is a very great variety of products between various companies within this 99-plus per cent?—A. Yes, sir.

Q. Now, not merely do you make lead titanate, which du Pont does not, but you have other products, do you not, too? That is merely an example of the products that you make that du Pont does not make?—A. Yes.

Q. For example you have—I do not know how to pronounce it—phthalate-treated products, do you not?—A. No longer, no. We did have that at one time—phthalate-treated products at one time.

Q. And other products similarly?—A. Yes.

Q. And has du Pont had really a great number of products that you have not seen fit to go along with or you have not had the equivalent of?—A. Well, I

3109 will say several.

Q. Well, I have a list here of over 20.—A. Well, they have been holding out on me.

Q. Who has been holding out on you? I like that answer. Who has been holding out on you?—A. I could not recall 20.

Q. I want you to answer my question, Mr. Corddry: who has been holding out on you?—A. No one.

Q. You meant that in humor, didn't you?—A. Yes.

Q. Now whenever du Pont would reduce or increase a price in respect of a product for which you considered that you had a commercial equivalent product, in the sense in which you have used "commercial equivalent" here, you would immediately reduce or increase your price in order to meet the competition, would you not?—A. Yes.

The COURT. How do you meet competition by immediately increasing the price?

Mr. WHITNEY. For the present let us take only a reduction.

Q. You would immediately reduce?—A. Yes.

Q. And vice versa, if you reduced du Pont reduced. As a matter of fact, how many increases of the price, for example, of Titanox A, have there been prior to the war?—A. None. Well, there was one.

Q. I think there was an increase in 1941, was there 3110 not?—A. An increase January 1, 1941.

Q. Then there was a second increase in the same year, was there not?—A. Yes.

Q. But no increase further until 1941?—A. That is correct.

Q. Which party first instituted that increase; National Lead or du Pont? Do you remember?—A. No, I don't remember.

Q. Wasn't that a price that was approved or recommended by the War Production Board?—A. No, I do not think so.

Q. Now, did there ever come a time when either company would produce an important product of different grade from that of the other company?—A. Will you repeat it?

Q. Did there ever come a time when either company produced a product that you would call improvement that had not theretofore been produced by the other company?—A. Yes.

Q. And would it be true to say that in each instance the other company promptly sought to match the product for quality?—A. Yes.

Redirect examination by Mr. WEBSTER:

Q. Mr. Corddry, when you said that the Titanox-A was the commercial equivalent of a du Pont product, did you mean to say that you and your salesmen would concede that the du Pont product was as good as Titanox A?—A. (No answer.)

Q. To put it another way: There were always differences, were there not, on the basis of which, —technical or use conditions—on the basis of which you and your salesmen made an effort to sell the Titanox product at the expense of the du Pont product?—A. Yes, that is true.

Mr. WEBSTER. That is all.

Recross examination by Mr. WHITNEY:

Q. In January, 1940, in respect of Ti-Pur, first is it not true that you heard that du Pont reduced the price one cent and that you thereupon followed suit immediately as soon as you could get your cards ready to give notice to your salesmen? Do you remember that example of the first reduction of price?—A. On the one grade of pigment?

Q. Yes.—A. No, I do not recall.

Q. I do not think we have to press it. And then in respect of the 1941 increases, isn't it true that your company announced early in December, 1940, that there would be an increase and then du Pont followed and issued an announcement to the same effect and price a few days later?—A. I do not recall whether we announced the increase prior to du Pont having anounced it, or whether they announced it prior to ours.

Mr. WHITNEY. I think, if the Court and Mr. Dixon will permit me to say it, I am not trying to put it onto you or saying du Pont originated it. I would be just as
3112 happy the other way.

Q. But it was the fact on these two increases in 1941 that it was announced by one of the companies and then the other one followed up?—A. Yes.

The COURT. Without prior arrangement?

The WITNESS. Yes.

Redirect examination by Mr. WEBSTER:

Q. Inasmuch as Mr. Whitney has brought up a price change in January, 1940, I would like to give you a copy of a letter dated January 16, 1940, taken from the files of the National Lead Company purporting to be a memorandum from Mr. Hagar to Mr. Edgerly, or Mr. Edgerly to Mr. Hagar, and ask you if that refreshes your recollection (handing to witness)?—A. It does not refresh my recollection, no. It is a statement of fact.

3113 The COURT. Mr. Dixon.

Mr. DIXON. I wanted to ask Mr. Corddry a question from this chart 23.

The COURT. Will you let the witness have 23, Mr. Webster?

(Handed to the witness.)

Recross examination by Mr. DIXON:

Q. By referring to the chart, 23, National Lead exhibit for identification, I notice a slight increase in the price of Titanox-C pigments in 1937. Do you recall that, Mr. Corddry?—A. Yes, I recall a slight increase in price.

Q. Do you recall whether a corresponding increase was made on the same day by the du Pont Company with their corresponding commercially equivalent product?—A. No, I can't recall that it was made the same day.

Q. Was that the time that the price was raised from 5¾ cents to 5⅞ cents?—A. Yes.

Q. You say you don't recall whether the Krebs or du Pont prices increased on the same day?—A. On the same day, no, I can't recall.

The COURT. Did you operate in those days on a strictly uniform basis or did you operate on a different discount basis with different customers?

The WITNESS. No. We operated on a uniform basis, with price cards printed and distributed to all cus-
3114 tomers, the terms the same to all customers.

Recross examination by Mr. WHITNEY:

Q. It would be a fair summary of your evidence to say that the competition between you had been on the basis of trying to sell quality, that your quality was better than du Pont's?—A. That has not been the principal basis on which we have sold our pigments. Our pigments have been commercially equal in value and we have recognized that fact, and we have had to use other means, generally speaking other means, to sell in competition to du Pont. That is, by knowing our customers intimately, by technical service, and using our best efforts to sell. Incidentally we bring in differences in grades or properties that we felt our pigment had over those in competition.

Q. And the adaptability of the customers' use needs as studied by you?—A. Yes.

Q. And then servicing him in respect of the needs?—A. Yes.

Q. So that he got not merely the product but he also got the service within the price of the product?—A. Yes.

(Witness excused.)

3126 FLETCHER W. ROCKWELL, called as a witness on behalf of defendant National Lead Company, being first duly sworn, testified as follows:

Mr. WEBSTER. If the Court please, we have prepared in one volume printed copies of certain correspondence taken by the Government from the files of the Lead Company relating largely to the Zirconium Corporation, and I think that if the Court will accept it it would be more convenient from every standpoint simply to introduce that printed volume in lieu of introducing each of the
3127 individual photostatic copies of letters, subject of course to comparison and correction.

The COURT. Is there any objection to that course? There is none. You may offer it in that form. As a single or multiple exhibit?

Mr. WEBSTER. As a single exhibit.

The COURT. Very well.

Mr. WEBSTER. I offer in evidence pages 1 through 107 of a page proof of certain correspondence dated at the top "January 20, 1945 Ad. Press".

(Marked Defendant National Lead Company Exhibit NL-28 in evidence.)

Mr. WEBSTER. There is a separate document at the end that I am going to offer separately.

Mr. WHITNEY. It may be helpful in the future, your Honor, if all agree, that the page numbering stay, otherwise there would be no way of referring to the respective documents.

The COURT. Very well, the pagination will remain.

Mr. WEBSTER. At the end of this volume there is a printed copy of an agreement between the Glidden Company, the American Zirconium Corporation and the National Lead Company, running from pages 108 through 112, which I simply ask to have marked for identification at the present time.

(Marked Defendant National Lead Company Exhibit NL-29 for identification.)

3128 Mr. WEBSTER. If the Court please, my plan, if I may, is to make certain comments concerning these documents and also, I believe, go through the documents, where it seems appropriate, and ask Mr. Rockwell certain questions about transactions referred to in the documents.

The COURT. Very well, you may proceed.

Direct examination by Mr. WEBSTER:

Q. Mr. Rockwell, where do you reside?—A. 277 Park Avenue.

Q. Are you the president of the National Lead Company?—A. Yes.

Q. How long have you held that position?—A. Since January 1938.

Q. How long have you been connected with the National Lead Company?—A. 48 years.

Q. In what capacity were you first employed by the National Lead Company?—A. As superintendent of a Western plant.

Q. How long did that employment continue?—A. 25 years.

Q. What was your next position with the company?—A. I came East to become production manager of the company.

Q. In what year?—A. In 1920.

Q. How long did you serve as production manager?—A. Until 1938.

3129 Q. How is the National Lead Company organized with reference to its branches or divisions?—A. We have companies and divisions and subsidiaries over the country all under local management.

Q. What are the principal divisions of the National Lead Company?—A. Well, there is the Magnus Metal Company.

Q. What is its business?—A. They make railway journals, journal bearings. There is the Titanium Division. They make titanium products. There is the Baroid Sales. They make weighting mud for well drilling.

Q. How about the American Bearing?—A. The American Bearing, well, they make journal bearings for Diesel engines. And there are a number of subsidiary companies, like American Lead. They are refiners of secondary metals. There is quite a number of smaller divisions.

Q. How about magnesium manufacture? Does the company engage in that?—A. Well, the magnesium, we don't do much with that.

Q. You have a plant, do you not, for the manufacture of magnesium?—A. Oh, that is down in Luckey, Ohio. That is a Government plant but we operate it.

Q. Is your organization set up so that the president has overall responsibility for the management of the company?—A. He has overall responsibility, with the management divided, that is, in charge of the local branches and subsidiaries.

3130 Q. When did you first familiarize yourself with the interests and operations of the company in con-

nection with European matters?—A. That was when I became president in 1938; and really, in the summer of 1938, when I went abroad, was the first time I had taken much interest in the foreign matters.

Q. Did you have occasion at that time to go into those matters in detail?—A. Not much.

Q. When did you first begin to take what might be called a detailed interest in the European matters?—A. Well, that was the time when the Department of Justice wanted to go through our files, and that was in 1942, I think it was.

Q. At that time did the Department of Justice cause a subpoena duces tecum to be served on you for the production of books and records?—A. Yes.

Q. What did you do about that?—A. I called up our counsel, Mr. Williamson, and talked with him about it.

Q. What did you decide to do about it?—A. Decided to let the Government have access to the files.

Q. Was anyone instructed to cooperate with the Government?—A. Mr. Kaegebehn was authorized to cooperate with them in every way he could, and spent quite a good many months with them while they were going through the files.

Q. Mr. Rockwell, when did you first become ac-
3131 quainted with the business of the company related to the American Zirconium Company?—A. In June 1938, I think it was. June 1938 I was elected a director.

Q. Do you recall now how long you served as a director?—A. Until, I think it was, 1943. That is matter of record here.

Q. I want to go through certain of these documents contained in National Lead Exhibit 28 and comment on some of those and then ask you certain questions about it.

Mr. WEBSTER. Page 1 and following, if your Honor please, are minutes of the American Zirconium Company for a meeting held December 20, 1939. The minutes show that Mr. Rockwell was present as a member of the board of directors.

In the middle of the page it is said that the royalty agreement dated January 1, 1935 with the Krebs Pigment & Color Corporation was brought up for discussion, there being brought to the board's attention the substantial amount of royalties which had been paid under this agreement to Krebs Pigment & Color Corporation during the year 1938 and this year. Also in this connection, atten-

tion was brought to the marked decrease in the profits of the corporation this year as compared with previous years; that a larger production seemed necessary to remedy the situation.

3132 And then there was adopted a resolution appearing at the foot of page 1 and carried over to the top of page 2, in which the president of the corporation was directed to confer with Krebs and to insist upon a modification of the agreement with Krebs by the elimination therefrom of all limitation as to quantities of titanium oxide which may be produced and, further, to take such steps as may be necessary to procure such elimination.

Q. Mr. Rockwell, do you recall that matter coming up?—A. Yes.

Q. Did you vote in favor of that resolution?—A. Yes.

Q. Was there any restriction of the sort referred to in those minutes in the license from the National Lead Company to the American Zirconium Company?—A. Not that I know of.

Q. There is in evidence a letter dated June 16, 1939 signed by you and addressed to Dr. Jebsen——

The COURT. Exhibit number?

Mr. WEBSTER. I am sorry; at the moment I haven't the number.

Mr. DIXON. It is Exhibit 382, your Honor.

Q. ——in which this sentence appears: "You know the Glidden Company has a license from us to produce up to 6000 tons until 1941; then they step up to 9000 tons which they are preparing their factory to turn

3133 out when the time arrives."

Do you remember that letter?—A. Yes.

Q. Is that an accurate statement?—A. No, that was in error because we had no restrictions, as I found out, on the quantities to be produced.

Q. In these minutes of December 20 there is also reference——

Mr. WEBSTER. If you will just follow this on page 2.

Q. ——to the purchase by the Zirconium Company of a towboat and certain other equipment; do you recall that?—A. That was equipment for operating the plant, getting material around, and so forth.

Q. You were recorded as voting in favor of that?—A. I was.

Q. Also at the end of page 3 there is a reference to a preferred stock dividend. By whom was the preferred stock of the Zirconium Company held?—A. The Glidden Company.

Mr. WEBSTER. If the Court please, the next letter, on page 4, dated November 6, 1939, refers to a different subject, on which I should like to comment.

The first letter in this series, from Mr. O'Brien to Mr. Garesche, is a letter stating that the Glidden Company would like to make arrangements to use the so-called micronizer, which is the apparatus heretofore
3134 described, used in the manufacturing process on which the National Lead Company held an exclusive license from the Pulverizer Corporation.

The next letter, page 5, is a response from Mr. Hagar, general sales manager, in which he says:

"We anticipate that there will be no difficulty in working out arrangements whereby your company can investigate the process in which you are interested and go farther with respect to a license should that be desired."

On page 6, Mr. Garesche, in a letter dated November 29, advises Mr. O'Brien of the Glidden Company that:

"We will be very glad to give you full information regarding the operation and installation of this equipment."

And he suggests that someone from the Glidden organization call upon Mr. F. J. Shirley, the superintendent at Sayreville:

"Who will be pleased to furnish you with full details."

He then says:

"You appreciate, however, that we cannot permit your representatives to view the equipment in operation, for reasons which have been previously explained to
3135 you."

I think the Court will recall that Mr. Garesche took the position that he was obliged not to permit a full inspection of plant operations at Sayreville.

On the next page, 7, Mr. O'Brien, in response, advises Mr. Garesche that it is his understanding

"that the license arrangement will be the same as Krebs, and that the minimum guaranty of 4000 tons will be split equally between National Lead, Krebs and ourselves or that we will pay a royalty of 50 cents a ton on one-third of 4000 tons or 1333⅓ tons. On any tonnage produced above this the royalty will be 25 cents per ton as per Krebs license."

Of course, the evidence also showed that the National Lead Company incurred considerable expense and applied considerable technical skill and energy to developing this micronizer for use in its titanium pigment business.

And then, also, Mr. O'Brien says that he will in the

future direct Mr. Rhodes of his company to interview the proper party to go into the details of operation, and so forth.

Mr. Rea suggests that I should bring out that National Lead Company was not receiving anything from
3136 Zirconium by way of royalty; that it was required to pay this royalty to the Pulverizer Company.

The COURT. So I observed in the letter.

Mr. WEBSTER. Then on December 20, page 8, an assistant secretary, a Mr. Cobb of Zirconium, wrote to Garesche and said that he had been informed that the micronizer "is in the process of installation" and that he assumes that under the circumstances American Zirconium will commence to report royalties just as soon as titanium dioxide has been treated in the mill.

And then on page 9 he simply accepts Mr. Garesche's comments as to the first 4000 tons and the method of handling the royalties and says that Mr. Garesche's statements would be carried out.

On page 10, in a letter to Mr. Garesche from Mr. O'Brien, reference is made to the exchange of technical information between the two companies, and Mr. O'Brien, on page 10, refers to Article VI and sets that forth verbatim.

Article VI, as your Honor will recall, relates only to the imparting semi-annually of technical information and contains that proviso at the foot which limits the obligations of the parties in that respect where there are prior commitments which would interfere with the full exchange.

3137 Then at the top of page 11 he refers to another article, namely Article VIII, which relates to exchange of copies of application. He refers to the fact that this Article VIII requires exchange of applications two months after filing.

Now the reason for that is shown in the next letter from Mr. Garesche, in response, dated May 23, 1941, on page 12, where he points out that

"The purpose of specifying in Article VIII * * * that you should send copies of your patent applications to us two months before filing is not in order to inform us of what you are doing, but is for the purpose of enabling us to forward the applications abroad * * *."

Then in the next paragraph he takes up this matter of the exchange of semi-annual reports and says:

"It appears that the reason for this was that we are so bound by prior obligations that it was virtually impossible

to prepare such reports without including information which we had no right to give."

And then goes on to say:

"Nevertheless, whenever we could, we have endeavored to inform you fully on whatever matters were of interest to you and which were strictly our own to give. For instance, you will recall that we furnished you
3138 blueprints and even the services of one of our engineers in connection with the installation of the Washburn tank. Another instance which might be mentioned is in connection with the Micronizer——"

Then at the end of that letter on page 13 he suggests:

"as a way of meeting the obligations of Article VI that both companies prepare and submit semi-annual questionnaires to the other, covering points of particular interest to each party and that we exchange such questionnaires and answers."

Mr. DIXON. May it please the Court, I don't want to interrupt Mr. Webster, but I rise to inquire as to whether we will follow the same procedure that we have followed heretofore on these documents, that counsel will be given an opportunity to comment after the entire series is completed or shall we interrupt as we go along? It is immaterial to us.

The COURT. What is your wish in the matter, Mr. Webster?

Mr. WEBSTER. It is immaterial to me. I think it is a matter of convenience of the Court. If you prefer to complete the examination I think it might perhaps be the more orderly way of dealing with it.

The COURT. I have no desire to keep Mr. Rockwell on the stand indefinitely and, of course, if we do cross-
3139 comment on each exhibit during the time he was on the stand we would be bound to run into that difficulty. Is it your understanding that you want Mr. Rockwell on the stand during an analysis of all of these exhibits?

Mr. WEBSTER. Yes, your Honor. There are some other exhibits coming up on which I want to ask him certain questions.

The COURT. Then perhaps we had better wait until Mr. Rockwell has concluded.

Mr. WEBSTER. Now the next letter returns to the business as such of the operations of Zirconium. There is a letter dated June 5, 1941, from Mr. Rockwell to Mr. Rogers, Secretary of the American Zirconium Corporation.

Q. Have you got that letter before you, Mr. Rockwell?—A. I have.

Q. Will you please describe to the Court your reasons for writing that letter?—A. There had been a good deal of discussion about wanting to increase the financing of the company so as to increase the capacity of the plant which we were not in accord with for several reasons, as I set forth in the latter part of the letter at the bottom of page 15, where I give some solutions or suggest some, because we didn't feel that the plant was being operated to the best of economy and that, therefore, we were not in favor of putting more money into the operation.

3140 That had been the matter of discussion before several board meetings and resulted in my letter to Mr. Rogers, who is secretary of the company.

Q. Now at the top of page 15 you suggested a reduction of the management fee from $25,000 to $10,000 per annum. Was the Glidden Company receiving a management fee at that time?—A. Yes.

Q. Was Mr. Joyce connected with the Glidden Company?—A. He was the president of the Glidden Company.

Q. Did you have a reason for thinking that the $25,000 management fee was excessive?—A. The fee was not excessive but they were not getting results.

Q. I notice you also suggest a reduction of selling commission from 5 per cent to 3 per cent.—A. That was because that fee——

The COURT. Who was getting it?

The WITNESS. The Glidden Company.

A. (Continuing) That was above what is ordinarily paid for commissions of that kind.

Q. Were these matters covered by a contract between the Glidden Company and the Zirconium Company?—A. Yes.

Q. Do you happen to recall how long that contract had to run?—A. No.

Q. But it was for a term?—A. It was for a term.

Q. You also suggest a reduction of the interest

3141 on the 600,000 preferred shares from 7 per cent to 4 per cent. Was there some reason for that?—A. There was a good reason for that, because the Glidden Company owned all of the preferred stock and was getting the dividends from that, whereas the common stock was paying nothing.

The COURT. Who held the common?

The WITNESS. The Glidden Company.

A. There were three: Glidden, Metal & Thermit, and National Lead.

Q. Now on page 15 you comment on the proposal for changing the process of the Zirconium Company to a rutile type pigment, and then go on to say that the National Lead Company had not brought out a rutile pigment but only a C pigment of high tinting strength containing the rutile crystal type. Will you tell us what that proposal was and what you opinion was as to that?—A. Well, that was very clear because right in this connection,

3142 where I said that we lacked confidence in the management, they were constantly wanting to change to something, and they were much interested in the rutile type of pigment which had not been produced by the National Lead to any great extent, and to change over on an undeveloped pigment would cost considerable money, not knowing how much. That is why I objected to the rutile type of pigment that then had not been very extensively put on the market; it had been an experiment, to get into it, and it would have cost an unlimited amount of money; untold amount of money, to develop it.

Q. As the representative of a stockholder, was it your position simply that it was bad business judgment for them to go into that pigment?—A. At that time.

Q. You say "at that time." Why?—A. Because it had not been developed; it would have cost a lot of money to develop it.

Q. Does the fact that this proposal was made in the middle of 1941 instead of at some other time, affect your opinion about it?—A. No.

Q. Now on page 15 you requested additional information from the management regarding the proposal for the rutile process and also an estimate of the cost of changes and an estimate of the production cost of new pigment.

Had you been able to get adequate information

3143 from the Zirconium Company about these matters?—A. No, and that is brought out in the last line where it says that I asked them not to give a hurried estimate, which was what Mr. O'Brien kept submitting—it was a hurried estimate. We wanted a detailed consideration of it.

Q. In the last paragraph you refer to a discussion which you had with Dr. Hirschland. Who was Dr. Hirschland?—A. I think he is the president of the M. & T. Metal & Thermit Company. He was also a director of the company.

Q. Of the American Zirconium?—A. Of the American Zirconium.

Q. What is the business of the Metal & Thermit Company?—A. Oh, they refine tin, recover tin from various articles, doing a great deal of the recovering of tin from tin cans during the war.

Mr. WEBSTER. On page 17 there is a copy of the minutes of the board of American Zirconium Corporation, of a meeting held June 25, 1941, at which Mr. Rockwell is reported as attending. In the middle of that page the minutes indicate that the ilmenite situation was referred to and discussed at length, and Mr. O'Brien stated that "the supply on hand at the present rate of consumption would last until some time in December, but that he hoped that an additional source of supply would be found,
3144 but he could not give definite assurance to the board" about that.

Q. Do you recall that matter coming up, Mr. Rockwell?—A. Yes.

Q. What was the situation at that time with reference to supplies to ilmenite?—A. Ilmenite was getting scarce, we could not get it from India any longer, where we had been bringing it from, on account of the demand of the Government on boats for other purposes; so not only they but we were getting short of ilmenite.

Do you care for me to speak about the McIntyre development which preceded this?

Q. No, I will come to that in just a moment.—A. Pardon me.

Q. Other than the McIntyre development, was there any other well established source of ilmenite at this time?—A. No.

Mr. WEBSTER. On page 18 the minutes report that the president referred to his letter to the directors, dated May 15, 1941, regarding the need of additional capital. And then later on in that paragraph it is stated that Mr. Horsburgh——

Q. Who was Mr. Horsburgh?—A. He was the secretary I think he is both the secretary of The Glidden Company and was also the secretary of the American Zirconium.

3145 Mr. WEBSTER. (Continuing). "Mr. Horsburgh, after making a rough estimate, stated that with additional capital of $300,000, the loan of the New York Trust Company and the advance of The Glidden Company of $100,000 would be paid off and that the other obliga-

tions could be met from the results of operations, * * *."

He was asked to prepare a budget setting forth the estimated income and the obligations, and Mr. O'Brien was asked to prepare a statement answering certain specific questions, asked him by Mr. Rockwell, as to what is being done to assure a supply of ilmenite, whether the use of domestic ores would affect, and the extent, the output of the plant and the cost of operations and necessitate the installation of additional equipment, and what he estimated the quality of domestic ores which could be used, and also those asked by Dr. Hirschland.

Q. With reference to that matter of additional capital, do you recall that matter coming up, Mr. Rockwell?—A. Yes.

Q. What was your position about that?—A. Our position was the same as it had been, that we did not care to put up extra capital for operating the company in whose management we did not have confidence.

Mr. WEBSTER. Now on page 20, if the Court please, there is a letter from the American Zirconium
3146 Corporation to Mr. Rockwell and Mr. Rogers, dated September 8, 1941, giving notice of a meeting to be held September 12:

"To discuss the proposition of the National Lead Company regarding the development of a supply of ilmenite in Essex County, New York, and decide whether the American Zirconium Corporation wishes to take a participation.

"To discuss and arrange for adequate financing of the American Zirconium Corporation.

"To discuss the plan of increasing the productive capacity of the American Zirconium Corporation to 9,000 tons per annum * * *.

"To discuss the matter of purchasing ilmenite for the manufacturing operations of the American Zirconium Corporation from The Glidden Company."

Then on the next page, 21, reference is made to a communication that Zirconium had from OPM who, according to this letter, insisted that the Zirconium Company must have a meeting to come to a decision regarding its participation in the National Lead Company proposition.

Then in the next paragraph Mr. Joyce reports that he explained to the OPM that the Glidden stockholders are extremely anxious to increase the productive capacity from 9,000 tons, but that the directors representing the

Metal & Thermit Corporation and the National
3147 Lead Company are reluctant to make the necessary additional investment in the stock to enable American Zirconium Corporation to properly carry out such plans. "They have stated that they are doubtful of a supply of raw material, etc."

Q. Now first, Mr. Rockwell, at this time, did you have under consideration the development of the McIntyre property?—A. Yes.

Q. Did you then know or have an opinion as to when the property would come into active production?—A. We did.

Q. What was that?—A. That was in July 1942, and it so developed that we were able to get going by that time, I think it was 1942. It was the next year. We got producing at the time that we predicted we would.

Q. That is, in the summer of 1942?—A. Yes.

3148 Q. Do you recall the discussion at this meeting or at the meeting referred to in Mr. Joyce's letter about the property of a man named Rhodes, down in North Carolina?—A. Yes.

Q. Did you make any investigation of Mr. Rhodes' property?—A. Yes.

Q. Will you describe what you did?—A. We sent some engineers down there to look over the property, although we had been pretty well advised before that there wasn't the ilmenite down there that was reported to be, and it would cost considerable money to get it out. It was a narrow vein, and while there was some quantity there we could not operate to full extent to get it out in the time required that we would need it.

Q. You say you sent some engineers down. You mean National Lead?—A. The National Lead.

Q. Did you have any opinion as to the propriety of the Zirconium Company taking over that North Carolina property or the wisdom of its taking it over?—A. No, we had no objection to their taking it over if they wanted to develop it.

The COURT. It actually was taken over by the Glidden Company?

The WITNESS. By the Glidden.

The COURT. Not by Zirconium.

3149 The WITNESS. In fact, it shows that Mr. Joyce took it over.

Mr. WEBSTER. That is right. And that is brought out on page 22, as I think your Honor has observed. The

arrangements were made by the Glidden Company to purchase the machinery and equipment and take over the lease from Mr. Rhodes and engage Mr. Rhodes as general manager of the mining proposition.

And then on page 23 there is reference in Mr. Joyce's letter to his willingness to supply ilmenite to the American Zirconium Corporation in a sufficient quantity to take care of its requirements for a 9,000-ton production, this to be supplied at the market price.

Q. Now, Mr. Rockwell, will you refer to the memorandum on pages 24 to 28 of this exhibit? Have you that before you?—A. I have it, yes.

Q. Is that one of the memoranda submitted pursuant to your request for more information about the Zirconium Company in connection with this meeting?—A. Yes. That was the financial statement.

Mr. WEBSTER. This memorandum, if the Court please, contains rather full data about the capitalization of the company and the investment. It refers to the fact that in addition to the stock which the Lead Company had obtained in exchange for the license agreement, it
3150 had made a $20,000 cash investment in the stock of the Zirconium Company.

Q. Do you recall that, Mr. Rockwell? Do you recall that investment of $20,000?—A. I recall it, although it was before I had any connection with the company.

Mr. WEBSTER. At the foot of page 25 reference is made to the fact that the company had operated at a loss during 1940. Then the situation regarding dividends and the five per cent sales commission to the Glidden Company, and the management fee is summarized at the top of page 26. And reference is made to the fact that the Glidden contract with Zirconium would terminate December 18, 1943.

Q. Now, Mr. Rockwell, will you turn to page 29, please. Do you recall that there was a meeting on September 11, 1941, at which the matter of the participation of the Zirconium Company—— A. That was the meeting of the National Lead board.

Q. Oh, yes. The National Lead Company. These are minutes of the National Lead Company of September 11, 1941. Do you recall taking up these problems with your own board?—A. Yes.

Q. And do you recall that you were instructed not to vote with reference to the proposal that the Zirconium Company participated in the McIntyre development?—A.

Yes, sir.

3151 Q. And also that you refrain from voting with reference to the proposal for taking over Mr. Rhodes' North Carolina property?—A. Yes.

Q. Do you recall reporting to your own board of directors your own opinion about the business and management of the company?—A. Yes.

Q. And do you also recall, referring to page 31, this reference in the minutes:

"It was further felt that the company should not refuse any reasonably fair offer for the purchase of its interest by other stockholders, should such an offer be made"?

A. Yes.

Q. Was your reason for that the same as you have expressed with reference to these other matters, that you had no confidence in the management?—A. We were anxious to get out in some way.

Mr. WEBSTER. If the Court please, on page 32 and following there are minutes of the meeting of the Zirconium Company at which was considered the proposal for participation in the McIntyre development, and that the matter was fully presented, that the estimated cost of participation by Zirconium would be about one million dollars, and that Mr. Rockwell stated that production and

3152 delivery from the mine was not likely to occur before July, 1942. Then there is also a discussion or reference to a discussion of the proposal with reference to the Rhodes property.

The minutes wind up with a recommendation, page 34, that the American Zirconium Company purchase 10,000 tons of ilmenite from the Glidden Company at $20 per long ton, and they show the corporation deciding not to avail itself of the offer of the National Lead Company, and that the National Lead Company be so informed.

On page 35 they state that Mr. Rockwell desired to be recorded as not voting on the resolution.

The COURT. Did the Rhodes plant ever go into operation?

Mr. WEBSTER. That is next.

On page 35 there is a resolution authorizing the officials of the company to accept the offer of the Glidden Company for 10,000 tons ilmenite, shipment to be made when the ilmenite is available from the Yadkin Valley Ilmenite deposit.

Q. Is that the deposit in North Carolina?—A. I think that is another deposit.

Q. That is another deposit?—A. As I understand it. (Mr. WEBSTER. (Continuing) The price to be $20 per long ton, and there again Mr. Rockwell is recorded as wishing to be recorded as not voting.

The COURT. What were you paying for ilmenite?

3153 The WITNESS. Ours is more than that, Judge. I think it was about $28.

The COURT. Was this 10,000 tons ever delivered?

The WITNESS. Well, I don't recall that it was delivered, because I get out of the Glidden Company and haven't followed it; but they had to put a great deal of equipment down there, and I have reason to believe they never did. But that was a small operation then after that.

Mr. WEBSTER. On page 36 it appears that the matter of increasing the production of the plant at Baltimore to 9,000 tons as well as the matter of financing were discussed, and then the memorandum which has previously been referred to is brought out.

Dr. Hirschland stated in behalf of himself, Mr. Rogers and Mr. Smith, that they were prepared to approve the issuance of the 4,888 shares of treasury stock and its offer for sale pro rata to stockholders at $30 per share.

Then in the next paragraph:

"Dr. Hirschland stated that in his judgment a sale of the 4,888 shares of treasury stock at $30 per share would produce sufficient funds to care for the company's present requirements."

Q. Do you recall having an opinion about that yourself, Mr. Rockwell?—A. That brings out very clearly that both Dr. Hirschland and ourselves had no confidence

3154 in the management. They had not been able to get up to 6,000 tons in any one year and yet they wanted to extend the plant and expend more money. And that is the reason we objected to putting up more money.

Mr. WEBSTER. At the foot of that page Mr. Horsburgh is reported as stating that the corporation's note for $275,000 held by the New York Trust Company fell due September 18th next, and that he positively refused to ask the New York Trust Company to renew it; further, he objected to the secretary making such request of the New York Trust Company.

Q. Do you recall who Mr. Horsburgh was?—A. Who he was? Horsburgh was the secretary of the—I said he was secretary. I beg your pardon, because Mr. Rogers was

secretary of the company. But he was one of the vice-presidents of the Glidden Company.

3155 Q. Do you remember why he refused to ask the New York Trust Company to renew the note?—A. He was just trying to force the note to be paid by others, and he said he would not go to the bank again for it.

Mr. WEBSTER. At the top of page 37 it is stated that:

"Dr. Hirschland stated that in view of the unsolved plant problems and the uncertainty as to the supply of ilmenite he was not prepared to approve, at this time, the increase of the plant to 9,000 ton production and the expenditure incident thereto."

Q. I gather that was your opinion also?—A. It was.

Mr. WEBSTER. If the Court please, the next document in here is a copy of a letter from the Office of Production Management, delivered in August 1941, though the date does not appear on the face of the letter, to Mr. Rockwell with reference to the McIntyre project.

Mr. Nelson says:

"In view of the fact that it is desirable to cease importing ilmenite ore from India into this country, in order to release shipping space for other critical and strategic materials, it is the wish of this office to open up domestic production in this country to the point where all

3156 necessary titanium dioxide can be supplied from such sources."

Then below:

"We understand that you are planning to operate an open-cut mine in Essex County, New York, with a proposed estimated capacity of some 180,000 gross tons of concentrates per annum, estimated by you to be about 45% titanium dioxide, to supply your own requirements."

Q. Did you go ahead with that development, Mr. Rockwell?—A. Yes.

Q. Did your company finance that development?—A. Yes.

Q. What is the approximate amount of that investment?—A. About $10,000,000, but, you understand, all the others were given an opportunity to come in.

Q. Yes, I am coming to that in just a moment.—A. Pardon me.

Mr. WEBSTER. At the top of page 39 Mr. Nelson states:

"We feel that it is desirable in the interests of national defense and in the interests of increasing the amount of titanium dioxide available for civilian uses, for you to make ilmenite ore available to such other manufacturers of

titanium pigments as may desire to obtain the same from you."

Then, below:

3157 "Accordingly, we direct you to offer, for reasonably prompt acceptance, each of the other producers of titanium pigments in the United States the right to participate in the said mining operations by purchasing their ilmenite requirements from you, to such extent as they may indicate, not exceeding, however, a total of approximately 180,000 tons per annum additional estimated capacity. You will make the ilmenite available either by setting up additional units or by allocating a portion of the output of one of your units, in order to supply their requirements.

"We direct you to offer to supply such ore for a period of at least ten years at an over-all cost which shall include the cost of extraction and treatment of the ore,"

and so forth.

Now at the top of page 40 Mr. Nelson says:

"We understand and appreciate that, to secure participation at this time, you will make no charge for profit, and that you cannot renew any offer on this basis subsequently."

And then, in the middle of page 40:

"In order to avoid any undesirable increase in the price of raw materials going into paint, we
3158 direct you to charge your share of the cost of development against the price of titanium pigments over a period of not less than five years.

"In your contracts with the participants, you will give each participant the same privileges with respect to the time of payment of his share of the cost of the development. You will also give each participant, not in default under its contract of participation, the right to suspend purchases of ore for such reasonable period or periods as he may desire, or to discontinue purchases entirely, upon six months' notice in writing."

And then on page 42:

"Since your arrangements with the participants may include further provisions not inconsistent with the foregoing, you will submit to us for clearance, prior to final execution, all contracts between yourself and other participants relating to their participation in this mining operation."

And, finally:

"For your information and files, we enclose herewith

copies of the correspondence between the Honorable John Lord O'Brian, General Counsel of the Office of Pro-
3159 duction Management, and the Honorable Francis Biddle, Acting Attorney General of the United States, concerning this proposed mining operation."

And then, at the foot of the letter, the enclosures are:

"Copy of letter from General Counsel, OPM;
Copy of letter from Acting Attorney General;
List of manufacturers of titanium pigments."

Then on page 43 we find a letter from Mr. O'Brian, dated August 7, requesting the Attorney General to approve this program.

And on page 44, the first letter from the Attorney General, stating that:

"In my view this program, if carried out in the manner described in your letter and in the documents which accompanied it, would not raise any questions under the Federal antitrust laws."

Then on page 45 is a list of "Other Manufacturers of Titanium Pigments" enclosed in the letter.

Q. Mr. Rockwell, you did carry out that program by making the offer to the other companies listed on page 45, did you not?—A. To the letter, yes.

Mr. WEBSTER. Copy of Mr. Rockwell's letter in response to Mr. Nelson's is on page 46, and on page 48 is a copy of the letter offering participation in this
3160 to the other companies, dated August 14, addressed to the Glidden Company and also to the Sherwin-Williams Company, and on page 50 a similar letter to the United Color and Pigment Corporation, dated August 14, 1941, and at page 52 the same letter, dated August 14, addressed to the du Pont Company.

Finally in this series, on page 54, a further letter from the Attorney General, dated September 23, 1941, approving a relatively minor modification in the arrangement with reference to the du Pont Company, which I do not think needs to be gone into.

Q. Turning to another subject, on page 56, there are minutes of a special meeting of the stockholders of the Zirconium Corporation held September 30, 1941. Will you turn to that, Mr. Rockwell?—A. I have it.

Q. And Mr. Douglas N. Cole is reported as being present as the representative of the National Lead Company, that is, holding the proxy of the National Lead Company. Was Mr. Cole at that time an employee of the National Lead Company?—A. He was my assistant at that time.

Q. In the next paragraph you are referred to as being present as a representative of the National Lead Company. Do you recall being there?—A. Yes.

Q. These minutes relate to what is called a plan of reorganization of the corporation and contain a reso-
3161 lution authorizing this so-called plan of reorganization and authorizing a contract calculated to carry out the plan between the Glidden Company and the Metal & Thermit Corporation and American Zirconium Corporation. Mr. Rockwell, do you recall that matter coming up?—A. Yes.

Q. Just describe to the Court what that relates to and what was done about it, first, with respect to the Metal & Thermit and, second, in respect of the National Lead Company.

The COURT. Would you mind doing that when we resume after a short recess.

(Short recess.)

Q. Mr. Rockwell, just before the recess I had asked you about the plan of reorganization that was proposed at the meeting of the stockholders of the Zirconium Corporation on September 30, 1941; and had asked you to describe it, that is, to tell us about the proposal and why it came up and what your position was with reference to it. Will you do that?—A. The offer was made by Glidden to purchase the shares of the other stockholders by paying with Glidden stock. The American Zirconium accepted but we did not. We had 10 per cent——

The COURT. You mean Metal & Thermit accepted it?

The WITNESS. Metal & Thermit accepted the offer but we did not.

3162 Mr. WEBSTER. The Court will note on page 58 that the plan is simply for Glidden to exchange 22,700 shares of common stock of Glidden for the 6800 shares of common stock of Zirconium, and that on consummation of the plan, Glidden would become the owner of more than 80 per cent of shares of the common stock and all the shares of preferred stock of Zirconium.

Q. Mr. Rockwell, turning to page 61, what was your reason for not taking advantage of this proposal for a so-called reorganization of Zirconium which would have the effect of a sale of your stock interest in Zirconium to Glidden in exchange for shares of Glidden?—A. We felt that if we had a stock interest there it was more valuable than just the cash offer to take Glidden stock; that we were willing to go along with that if they had

terminated their agreement on any future information or know-how and so forth, but—

Q. Now this correspondence, beginning on page 61, related, did it not, to a dispute between you and Mr. Joyce as to whether you had agreed to go forward with the plan. Do you recall that dispute?—A. Yes.

Q. Just to summarize it, what was the position taken by Mr. Joyce and what was your position?—A. Mr. Joyce claimed that he had gone back to Cleveland, after the meeting, and purchased Glidden stock with
3163 which to buy out the other interest, but we had taken the position from the first that we would not sell on the present basis, so we saw no reason why we should reimburse him for the stock, the Glidden stock, he claims he bought.

Q. Did you have knowledge of the fact that he was going to buy Glidden stock to carry out the transaction?—A. No, because he was going to exchange Glidden stock. We did not know whether he had to buy, or how much he had in the treasury, in the Glidden treasury.

Q. But if he acquired Glidden stock in this connection, it was not the result of any encouragement he had received from you, was it?—A. Positively not.

Q. Did you take the position throughout this correspondence that the exchange of shares was connected in some way with the license arrangement between your company and the Zirconium Company?—A. Yes.

Q. What was Mr. Joyce's position about that?—A. Well, he thought we had something big up our sleeves and he wanted to take advantage of that, and that he was not willing to terminate the contract then for future arrangements. I assured him we had nothing at the present time, but that was the reason I was anxious to cancel those contracts and agreements with him so as to terminate the whole thing, at which we would have surrendered our stock gladly.

3164 Q. Just to be sure that your reason for this is clearly stated in your own words, I want to ask you a question: What was your reason for not wanting to terminate the license to the American Zirconium Corporation in the event that The Glidden Company came into possession of all or substantially all of the stock of the Zirconium Corporation?—A. Again I say that we had no confidence in their management.

Q. Referring to page 66, at an early stage in this dispute, namely, on October 9, 1941, did you resign as a

director of the Zirconium Corporation?—A. Yes.

Q. And the letter on page 67 shows that that resignation was accepted before October 13th. What was your reason for resigning from the board of directors?—A. Well, we did not care to be represented on their board. They owned all of the Zirconium stock, we had 10 per cent, and there was nothing that a 10 per cent stockholder could do, so I did not want to interfere with anything that they might have under way.

The COURT. Did you ever agree to enter into this exchange agreement?

The WITNESS. On our stock? Yes, only verbally.

The COURT. You had agreed orally?

The WITNESS. We had agreed to, orally.

Q. That was subject to your being able to work
3165 out a termination of the license?—A. That is right.

Q. And the purport of this correspondence, which I am not going into in detail, in the interest of saving time, shows I believe that that was a condition of your oral understanding, is that correct?—A. That is right.

Mr. WEBSTER. If the Court please, another subject is brought up on page 81. This memorandum of November 14 to Mr. Turner from Mr. Garesche relates back to that matter of imparting semi-annually information to the Zirconium Company, and the letter of November 14, on page 81, and the letter on page 82, from Mr. O'Brien to Mr. Garesche, dated October 30, 1941. The questionnaire, on pages 83 to 88, shows how that worked out, namely, the Zirconium Company did submit a very full questionnaire and the National Lead Company took steps to respond to it and did respond to it, and Mr. Garesche asked Mr. Turner to give consideration to the advisability of the Lead Company compiling a questionnaire to be answered by the American Zirconium Company, so that Mr. Garesche's previous suggestion as to a means of carrying out the exchange without infringing other obligations that he considered important was implemented in this way.

On page 89, if the Court please, there is another letter from Mr. Kolb, the secretary of the company, calling the
Lead Company's attention to a special meeting
3166 of the common stockholders of the American Zirconium to be held December 9, 1941 for the purchase of changing the stated value of the common shares to provide a capital surplus sufficient to eliminate the P and L deficit and reduce the net value of patents owned

by the company; to increase the common shares of the company and authorize the sale of the same in an amount sufficient to provide adequate capital for the operations of the company; and to increase the capacity of the plant at Baltimore to 9000 tons of titanium dioxide a year; and the securing of adequate supplies of raw materials; and the expansion of the research department of the company.

On page 91 Mr. Cole suggests to Mr. Rockwell that, on the whole, he thinks the National Lead Company's position would be better protected if they did not participate in the meeting by proxy or otherwise:

"by reason of our lack of information as to the exact effect of Proposal 2, our unwillingness to subscribe to any additional capital under Proposal 3 and the various uncertainties involved in the increase of plant capacity under Proposal 4."

But he winds up by saying:

"On the other hand I see no justification for our opposing any of the proposals."

3167 Q. Mr. Rockwell, in consequence of this dispute did Mr. Joyce make the claim that your company was obliged to either take off his hands these Glidden shares, which he had purchased, or to compensate him for the loss resulting from the decline in the market value of the shares?—A. Yes, he insisted upon that.

Q. Do you recall that that dispute was finally settled?—A. Yes, it was disposed of later.

Mr. WEBSTER. I call the Court's attention to the telegrams and correspondence beginning on page 92.

Telegram from Mr. Rockwell to Mr. Joyce, dated December 9:

"Telephone call at four thirty failed to reach you at office Garesche will telephone in morning at ten."

The connection of that telephone call and telegram is shown, I think, by the telegram on the next page, page 93, from Mr. Joyce to Mr. Rockwell, where Mr. Joyce says:

"YOUR MR. GARESCHE JUST TELEPHONED ME GIVING ME YOUR ENGINEERS REPORT ON OUR MINING OPERATIONS IN NORTH CAROLINA. HE STATES YOUR COMPANY WILL NOT LOAN US TWO THOUSAND TONS OF ILMENITE TO BE RETURNED NOT LATER THAN MAY FIRST UNLESS OUR COMPANY WILL CANCEL OUR CLAIM AGAINST YOUR COMPANY FOR LOSS ENTAILED

BY REASON OF YOUR FAILING TO CARRY
3168 OUT AGREEMENT MADE WITH MR. ROGERS CONCERNING ZIRCONIUM CORPORATION AND UNLESS OUR COMPANY AGREES TO CHANGE OUR PRESENT ROYALTY AGREEMENT."

And then he goes on to say that they are appealing to Washington for a priority order for sufficient ilmenite to keep the plant in operation, and that if the Lead Company persists in its position, the company will be forced to cease production of titanium dioxide amounting to 600 tons per month, and that Mr. Joyce does not understand the attitude of the Lead Company, and that he is preparing a full statement for submission to proper United States Government authorities. Just what is meant by the word "proper" does not appear in this telegram.

In the night letter on the next page, dated December 10, 1941, page 95, Mr. Rockwell tells Mr. Joyce that National Lead Company's ilmenite situation is precarious; the delay of ore production under Mr. Joyce's program raises serious doubts as to whether any ore loan can be returned; and then suggests that "if such delay is not actual you can yourself supply Zirconium requirements." Mr. Rockwell says under such circumstances he can recognize no obligation to accommodate Mr. Joyce "dur-
ing the pendency of the present dispute between
3168a us over Zirconium situation in which you have shown no concern for our reasonable interest."

And then he declines to accept Mr. Joyce's statement as to the nature of that dispute and the present solution, saying they are not fully or accurately stated in Mr. Joyce's telegram.

3169 On page 96 Mr. Joyce advises Mr. Rockwell that he has received 500 tons of ilmenite from du Pont and that Sherwin-Williams has loaned him 200 tons—oh, yes. In response to Mr. Rockwell's night letter or telegram, Mr. Joyce says:

"dupont has loaned American Zirconium five hundred tons ilmenite and Sherwin Williams has loaned two hundred tons to help plant operations,"

and then makes a further appeal for 1,000 tons for immediate shipment, with the understanding that Glidden will cancel the claim against the Lead Company for the loss on the Glidden stock, to which Mr. Rockwell replied, on page 97, in a telegram dated December 11th:

"Glad to accommodate you with one thousand tons returnable not later than May first next upon the understanding stated,"

and he asked him to wire shipping instructions.

Mr. Joyce then replied on December 11th, on page 98:

"Many thanks please ship one car per day for five days starting tomorrow"

and so forth.

Then Mr. Joyce wrote Mr. Rockwell a letter dated December 11th, which appears on page 99:

3170 "Referring to our exchange of telegrams today, I am very glad to know that we have arrived at an amicable understanding."

And then goes on to comment on the shipments and confirms the understanding that the Zirconium Company or the Glidden Company is to return this ilmenite not later than May 1st next.

The next pages, page 100 and page 101, contain a recapitulation of the most recent exchange of telegrams, and winds up by Mr. Rockwell stating to Mr. Joyce:

"It is a satisfaction to me to have our dispute out of the way and have given instructions that ore shipments go forward as nearly as possible in accordance with your instructions. • • •

"Yours very truly."

The letter on page 102, from Mr. O'Brien to Mr. Garesche, and the letter on page 104, from Mr. Garesche to Mr. O'Brien, dated July 24, 1942, relate to the return of the ilmenite that was loaned and borrowed under the conditions that are described in the previous correspondence.

Q. Mr. Rockwell, do you recall that when this matter of a sale of the Lead Company's shares in the Zirconium Company to the Glidden Company came up, that Dr. Jebsen was in New York?—A. Yes.

3171 Q. Did you ask Dr. Jebsen for a report on the situation or for comment on the situation?—A. I asked him to review it and give me a synopsis of it.

The COURT. Isn't that memorandum already in evidence as a Government exhibit?

Mr. WEBSTER. It is in evidence.

Q. Had Dr. Jebsen had any previous connection with American Zirconium matters?—A. No.

Mr. WEBSTER. In passing, Dr. Jebsen felt that if the National Lead Company was to take a position with reference to the transfer of this license from Zirconium to Glidden, it should be stated that the license was not transferrable, so that there would be no basis for any claim that Glidden had been misled.

The COURT. I think that memorandum is already in evidence.

Mr. WEBSTER. It is in evidence, your Honor.

Q. Subsequent to this correspondence, Mr. Rockwell, in the spring of 1944 did the Glidden and Zirconium companies suggest to you that all the arrangements existing between those companies and yourself be terminated?—A. Correct.

Q. I direct your attention to page 108, which is marked National Lead Exhibit 29 for identification. Is that a copy of the agreement, dated March 9, 1944, terminating
3172 the agreements with the Zirconium Company and the Glidden Company?—A. Yes.

The COURT. It is?

The WITNESS. It is.

Q. In addition to this agreement, did you make any statement to the Zirconium Company concerning their rights to operate under the existing patents of the National Lead Company?—A. Yes, that is rather a gentleman's agreement, there will be nothing done about the past information and patents they have. It will continue operating.

Q. You will not take any action to stop infringement?—A. No.

Q. With reference to the existing patents?—A. Existing patents.

Mr. WEBSTER. If the Court please, I offer National Lead Exhibit 29 for identification in evidence.

The COURT. Does that go for Glidden or only for American Zirconium?

The WITNESS. American Zirconium.

The COURT. This free license?

The WITNESS. That would be transferred to Glidden now, that information. Let us see, there is a detail, I am not quite sure about—yes, that would be.

Q. You told Mr. Joyce that so far as the American
3173 Zirconium Company is concerned they could operate without fear of infringement?—A. Yes.

Q. Under the existing patents, is that correct?—A. That is correct.

Q. And the American Zirconium Company is still in existence, is it not, so far as you know?—A. So far as I know, yes.

Q. Mr. Re[illegible] suggests one item with reference to the return of this ilmenite which was referred to a moment ago. Was that ilmenite that was borrowed from you ever returned?—A. It was not.

Q. Mr. Rockwell, after the investigation by the Department of Justice commenced in the summer of 1942, did you do anything about your arrangements with respect to the British company?—A. Yes.

Q. Just tell us what you did.—A. After talking to Mr. Williamson and learning, really, what the matter was all about, I urged him, so far as he could, to try to develop without foreign interests a situation that would correct what the Attorney General's office was complaining of. Now, that has been very largely accomplished with England and about ready to straighten out with Canada.

Q. Have you been able, as a consequence of that, to arrive at a basis of agreement with the English company?—Yes.

3174 Q. Have they indicated to you and have you indicated to them that you are prepared to enter into a new form of agreement with the British companies?—A. Yes; and they have indicated to us that they are willing to modify their agreement.

Mr. WEBSTER. I ask to have this marked for identification.

(Marked National Lead Exhibit 30 for identification.)

Q. Mr. Rockwell, I show you National Lead Exhibit 30 for identification, which appears to be a form of agreement in blank as to date between the Imperial Chemical Industries, Ltd. and Imperial Smelting Corporation, Ltd., Goodlass Wall and Lead Industries, Ltd., Titan Company, Inc., British Titan Products, Ltd., and National Lead Company, and I ask you if that is the form of agreement on which you, that is you, the National Lead Company, and the British companies have come to a conclusion?—A. Can I accept your statement that this is the agreement we worked on?

Q. Yes.

The COURT. You ought to know Mr. Webster by this time.

The WITNESS. May I appeal to the Court? If that is so, why, I will say Yes.

3175 Q. I think you can accept my statement that this is the form of agreement prepared by your attorney, Mr. Williamson.—A. Yes.

Q. And are you ready to execute this agreement at a convenient time?—A. Yes.

Mr. WEBSTER. If the Court please, I offer this form of agreement in evidence.

The COURT. If there is no objection, it will be received.

Mr. DIXON. We haven't even seen it, your Honor.

Mr. WEBSTER. Excuse me. I will give you a copy in just a second.

I think our competitors are probably entitled to see it, being parties to the case. We are showing them things we haven't shown them before. There is some delicacy about it.

(Marked National Lead Exhibit 30 in evidence.)

Q. Are you at the present time engaged in discussions with the Canadian Titanium Pigment Company and its representatives and C.I.L. with reference to a similar revision of the Canadian arrangements?—A. Yes.

Q. Do you recall, Mr. Rockwell, giving your attorneys any suggestions concerning a revision of the arrangement between your company and the International Pulverizing Corporation, relating to the use of the micronizer?

3176 —A. Yes.

Q. Has that been reduced to the form of a new agreement with the International Pulverizing Corporation?—A. I think it has.

Mr. WEBSTER. I ask to have this marked for identification.

(Marked National Lead Exhibit No. 31 for identification.)

Q. Mr. Rockwell, I show you National Lead Exhibit 31 for identification and ask you if that is a copy signed by Mr. A. M. Stackhouse, president, on behalf of the International Pulverizing Corporation, and by yourself as president of National Lead Company, dated October 20, 1944, being an agreement between International Pulverizing Corporation and National Lead Company?—A. I will accept that.

The COURT. What is the substance of the agreement?

Mr. WEBSTER. The substance of the agreement is, if the Court please, a revision of the license arrangements so as to give the National Lead Company only a non-exclusive license.

The COURT. Are you offering it in evidence?

Mr. WEBSTER. Yes, I offer that in evidence.

Mr. DIXON. If the Court please, an examination of this document indicates that it has been executed on

3177 October 20, 1944, which was certainly subsequent to the date of the filing of the petition. I haven't had a chance to examine it, but, to that extent, we feel it would be objectionable at this time.

The COURT. A decree in equity, you know, speaks as of the date of the decree. Consequently, as far as admissibility is concerned, regardless of what other consequences

it may have, as far as admissibility is concerned, I think it would be admissible if he produced an agreement of the morning of the day the decree is about to be entered. Admissible.

(Exhibit NL 31 for identification received in evidence.)

Q. Mr. Rockwell, did you take advice of your attorneys or counsel in respect of the agreements between, or involving your company and certain German and French and other foreign companies?—A. I have taken counsel, but I think that is a legal question I cannot speak for.

The COURT. You have taken their advice? At least you have consulted with them?

The WITNESS. Yes, I have consulted with them.

The COURT. That is what I understand the question to mean.

Mr. WEBSTER. That is all.

The COURT. Chances are you talked to nobody but
3178 lawyers in the last couple of weeks.

Q. Have you been advised that the agreements with the German company, for example, have been terminated by virtue of the war?—A. I would understand that.

Q. Have you, may I say, discounted your investment in the stock of the German company?—A. 100 per cent.

Q. Have you taken a similar position with regard to your stock in the French company?—A. No.

Q. You think that there is some prospect of the French company being able to revive after the war?—A. May be.

Q. Now how about the investment in the Japanese company—have you written that down to some extent?—A. That will be in the same category with the German.

Q. Have you any intention of resuming after the war any of the territorial restrictions contained in any of the foreign contracts?—A. No.

Q. Have you any intention after the war of granting exclusive licenses under patents?—A. No.

Q. For use in foreign countries?—A. No.

Q. Or exacting exclusive licenses for operations in the United States from any of your former foreign associated companies?—A. No.

Mr. WEBSTER. It has been suggested, if the Court please, that in order to save some time and to give a very accurate statement of the setup of National Lead Company
3179 and the manufacturing interests it has, the branches and the nature of its production both in the pigments field and outside, that I have marked in evidence pages 18 to 22 of the report of the company for the year ending December 31, 1943.

The COURT. No objection, is there?
(No response.)
The COURT. Very well.
(Marked Defendant NL Exhibit 32.)
Mr. WEBSTER. No further questions.
The COURT. To what extent is the public interested?
The WITNESS. You mean stock interest?—A. 100 per cent.
The COURT. Generally distributed.
The WITNESS. Yes.

Cross examination by Mr. DIXON:

Q. Mr. Rockwell, I take it from your examination or answers to Mr. Webster's questions that you are rather familiar with the operations of the American Zirconium Corporation?—A. Fairly.

Q. Just how much time other than attending the directors' meetings of American Zirconium did you have occasion to spend investigating the operations of the plant of American Zirconium Corporation?—A. Not much.

Q. Did you ever visit their plant in Baltimore?—
3180 A. No.

Q. Were you familiar with the license agreement which your company had with American Zirconium Corporation?—A. Only in a very general way.

Q. Do you recall where you first got your information that there was a restrictive provision on the production of American Zirconium Corporation?—A. I got that from the American board meetings, where they began to want to get an increase in their plant.

Q. Do you recall when those discussions for an increase in the production of Zirconium first took place in the board meetings?—A. If I could refer to this record I could give it to you exactly.

Q. Yes, I will be glad to have you do that.—A. The meeting of December 20, 1939, or the meeting before that, is the first that I knew of that.

Q. You say that is the first time you knew of the restrictions on American Zirconium's production of pigment, titanium pigment?—A. Yes.

Q. About how much money did National Lead actually have invested in this company, if you recall?—A. $20,000.

Q. And they had received some dividends, had they, on their stock?—A. Yes.

Q. Do you recall the amount?—A. No.

3181 Q. Well, the American Zirconium Corporation did pay some dividends prior to 1939 on their stock, didn't they?—A. Yes.

Q. Now you felt, however, that by inefficient management they were losing money; that was your position, wasn't it, Mr. Rockwell?—A. Yes.

Q. And it is a fact, is it not, that Mr. Joyce wanted to increase the production of the company to put it on a more efficient basis?—A. That was his claim.

Q. Now about the time these discussions took place in the board meeting of American Zirconium I believe there was a reference to Zirconium producing or wanting to produce a new rutile pigment. Do you recall those discussions?—A. Yes.

Q. And I believe from your position taken in the minutes you felt that some of this money that Zirconium wanted which would be used to create additional facilities to provide for the manufacture of this new pigment, should not be spent by the new company, is that correct—A. Yes. Not on new—you mean to be spent on new development?

Q. On this new rutile pigment.—A. Well, he never put in a figure sufficiently large enough for that.

The COURT. He suggested that it cost $300,000; you thought that was an inadequate figure?

The WITNESS. An inadequate figure. And you see in there this shows that that did not include the cost

3182 of equipment for rutile pigment.

Q. Was National Lead Company producing a rutile pigment at that time?—A. Only to a limited extent. It was what they call a composite pigment, not pure.

Q. That was being produced under the so-called Tilman patents?—A. I can't answer that. It is a technical matter.

Q. They were the new rutile patents acquired from TG; do you know anything about that, Mr. Rockwell?—A. No.

Q. Do you know whether the du Pont Company was manufacturing on the market any so-called rutile pigment at about the same time?—A. I understood they were.

Q. Under your license agreement with the Zirconium, that company was not to get any patent applications of the National Lead or Titan companies, was it?—A. I will have to plead ignorance on a good deal of that patent agreement matter.

Q. Did you ever inquire of any of the Zirconium officials to see whether or not the patents, that is the applications of the National Lead, were made available to Zirconium?—A. No.

Q. You never made it your business to find out whether they had access to those applications, did you?—A. No.

Q. You know as a fact of course that under the National Lead-du Pont agreement those applications were made available to the du Pont Company, don't you?

3183 —A. Not from actual knowledge.

Q. You say not to your knowledge?—A. No.

Q. Did you ever have occasion to examine the agreement between the National Lead Company and the du Pont Company in 1933?—A. No.

Q. So that you never made it your business, I take it, to inquire as to whether the facilities of the National Lead were available to Zirconium under its license agreement in so far as patent applications were concerned?—A. No.

Q. I believe you testified at some length about this McIntyre project and discussions had with the Glidden Company or the American Zirconium board members in 1941. Do you know whether under that project producers like American Zirconium Corporation were to be required to contribute any capital to that project?—A. Contribute capital or pay a certain amount for the material.

Q. And I believe you pointed out to the Glidden Company or the American Zirconium Company at the meeting that in July or thereabouts of 1941 it would require an expenditure of about a million dollars on the part of American Zirconium Corporation to go into that enterprise?—A. That is right.

Q. And at that time there was some discussion among the board members about methods of raising addi-

3184 tional funds which you had already discussed to continue the operations and to expand operations?—A. Yes.

Q. Do you recall whether any statements were made in the board meeting about the requests for Zirconium to increase its production having been made by the Government to American Zirconium Corporation?—A. That was a statement made by Mr. Joyce.

Q. You had no occasion to believe that it was not true, did you, Mr. Rockwell?—A. No.

Q. But this McIntyre project was not opened up until about July, 1942?—A. Yes.

Q. When did you first begin to get useful ore from that project?—A. I think it started in July, 1942. We started very close to schedule.

Q. And the Zirconium management thought they could get their ilmenite from other sources without having to

put up a million dollars prior to that time, did they not?—A. Yes.

Q. And it was also provided that if ilmenite could be acquired for Zirconium at prices equal to or lower than that at which the Glidden Company was willing to supply it, that such prices would be those charged by Glidden to Zirconium for any ilmenite given to Zirconium by Glidden?—A. I did not quite follow that question.

Q. In other words, if the Glidden Company was
3185 to supply Zirconium with the ilmenite, it would not charge for that ilmenite any more than any other producer of ilmenite in the United States would charge for a comparable product?—A. That was their claim.

Q. And that was their statement, was it not, in the record of their meetings?—A. Yes.

Q. I believe you testified that you wanted to cancel this contract with Zirconium in order to cancel the exchange of know-how, so-called, between the companies, is that correct?—A. On future——

Q. On future know-how?—A. For the patents in the future; know-how.

Q. You mean just the patents?—A. Yes.

Q. In other words, you did not want to exchange the future patents?—A. Any patents or agreements relating to the future.

Q. Up to that time the National Lead Company had been securing all of Zirconium patents and patent applications, had they not?—A. I presume so. I don't know. That would be a matter of record.

Q. There were several discussions between you and Mr. O'Brien about being able to witness a so-called Washburn attack at one of your plants, were there not?—A. Yes.

Q. You would regard that as falling within the scope of technical information, would you?—A. We sent our
3186 men to his plant to establish that.

Q. They wanted to see one of these operations, didn't they?—A. Yes.

Q. And you advised Mr. O'Brien that your obligations prevented you from enabling them to witness such operation, didn't you?—A. That is right.

Q. Can you state to the Court what those obligations were?—A. Just according to the agreement. I am not familiar enough with the agreement. But we took no one into the plant.

Q. What agreement now are you talking about?—A. I am talking about the titanium agreements that this whole case is predicated upon.

Q. You mean the agreement between National Lead and du Pont?—A. I would say the whole agreement; whether it is 1920 or 1933, I can't say, but it was the titanium agreement that was had between the various interests.

Q. You mean all of those agreements prevented National Lead from enabling Zirconium to witness the attack,—I mean, whatever is in those agreements?—A. Yes.

Mr. WHITNEY. I think I will have to object. These agreements are all in evidence. They are several hundred pages long.

The COURT. Yes. All I can let this witness say is if he was the one who objected to the inspection, as to
3187 whether that was the reason that was in his mind.

The WITNESS. That was—yes.

The COURT. You were the one that objected?

The WITNESS. I was not the one, because I had nothing to do with it. It is our local management.

Mr. WEBSTER. The record shows that Mr. Garesche, who was the manager of the Titanium Division, was the man concerned with these matters.

The COURT. Were you consulted on it?

The WITNESS. I don't know as I was consulted on that particular one, Judge.

The COURT. If you were, you took Mr. Garesche's statement that it was not all right to do it——

The WITNESS. Yes.

The COURT. And you said, "Well, in that case don't do it"?

The WITNESS. That is it.

Mr. DIXON. That is all.

The COURT. Your chief interest in the administration of the company lies in the production angle or——

The WITNESS. No. The production-financial, that whole end of it.

The COURT. You have not been giving very much attention, however, to these agreements?

The WITNESS. No. These are details that are
3187a handled by the various branches and departments.

The COURT. You have not concerned yourself with that?

The WITNESS. No, I have not.

The COURT. Any questions?

Mr. WHITNEY. No thank you.

Mr. WEBSTER. I have no further questions.

The COURT. You are excused, sir.

(Witness excused.)

3188 IMRIK DEVEGH, called as a witness on behalf of the defendant National Lead Company, being first duly sworn, testified as follows:

Direct examination by Mr. WEBSTER:

Q. Mr. DeVegh, where do you reside?—A. In New York City.

Q. What is your profession?—A. I am a consulting economist.

Q. Where did you receive your professional education?—A. At the Universities of Budapest, Hungary, Leipzig, Germany, and Cambridge, England.

Q. Did you take a degree at the University of Budapest?—A. Yes, I took a Ph. D. at the Faculty of Law.

Q. Was there any reason for your taking that degree under the Faculty of Law?—A. Yes. The University of Budapest was organized in the four mediaeval faculties, theology, law, philosophy and medicine, and the Faculty of Law gave the course on economics.

Q. Did you also take the course in law as well as the course in economics?—A. Yes, I did.

Q. When did you receive that degree?—A. In 1928.

Q. Then you went to Cambridge, England?—A. That is correct.

Q. What was the nature of your work at Cambridge?—

3189 A. I went to Trinity College at Cambridge to get a Ph. D. in economics from the University of Cambridge. I spent a year there and then I had an opportunity to come to this country, and then I abandoned my further Ph. D. ambitions and came to the United States.

Q. Of what country are you a citizen?—A. Of the United States.

Q. How long have you been a resident of the United States?—A. Since 1931. I became a citizen in 1937.

Q. Have you practiced your profession in the United States since your arrival here in 1931?—A. Yes, I worked for ten years with an investment counsellor firm, Scudder, Stevens & Clark, in New York, and then in Boston. I worked in their research department. For the first seven years that I was there I did all their foreign research, which consisted largely of the following of operations of American corporations abroad, foreign subsidiaries and participations, and world business trends in general, questions of foreign business organizations and large enterprises in western Europe, Canada, and Latin America.

Then for the last three years that I was there, from 1940 to 1942 inclusive, I was in charge of general economic research and business forecasting. They had a very substantial research budget and that meant that I was the central coordinator for their research, economic research that is.

3190 Q. I think most of us know, but for the sake of the record, what is the nature of the business of the firm of Scudder, Stevens & Clark?—A. Investment counsel. In other words, they advise large investors on their investment portfolio. They are the oldest and largest firm in the country.

Q. Subsequent to the ten-year period with Scudder, Stevens & Clark, what did you do?—A. I became assistant to Mr. Charles E. Wilson, then Production Vice-Chairman of the War Production Board.

Q. What was the nature of your work with Mr. Wilson?—A. Research work, economic research work on various aspects of the war program.

Q. When did that connection terminate?—A. I left the War Production Board in July 1943.

Q. And since then?—A. Since then I have had my office in New York.

Q. Are you a member of any professional societies or organizations?—A. The American Economic Association, the Econometric Society, and the American Statistical Association.

Q. Have you written articles for professional publications on economic subjects?—A. Yes.

Q. Are you the author of the book entitled, "The Pound Sterling," that was published in New York in 1939?—

3191 A. That is right.

Q. Are you the author of an article entitled, "Imports and Income in the United States and Canada," in the Review of Economic Statistics for August, 1941?—A. That is right.

Q. Can you name several other papers of a professional or Technical character that you have written or presented?—A. Yes. I have written several papers for the American Economic Review which is the periodical of the Economic Association. I had a paper on "Savings-Investment and Consumption," at the Annual Meeting of the Association in 1940. Then I was asked to do a paper on the Keynes Plan called the "International Clearing Union." That was in the September 1943 issue.

Then I have another paper in the March 1945 issue on

the Bretton Woods Agreement. That will be in the March 1945 issue. Well, I recall one in the Investment Counsel Annual for 1941, I think, or 1940, I will say, on income distribution. In other words, they are largely either on international trade, or international payments, or on income distribution questions.

I don't know that I have to state more, but that is about the substance of it.

Q. Have you made a study of current publications in the United States on the so-called cartel problem?—

3192 A. Yes. I am familiar with that. I am familiar with the TNEC material, the Kilgore Committee material, the Murray Committee report last month about the post-war economic questions. I have not read of course all the TNEC hearings, but I am substantially familiar with the monographs. For instance, Monograph No. 40 is on foreign business practices. There is also a monograph on competition and monopoly in American industry. Then there is at least one volume of hearings on cartels. There are also several other volumes of hearings I think on patents, but I am not sure, I don't remember that.

Q. Have you read the monograph by Mr. Corwin D. Edwards of the antitrust division, Department of Justice, entitled "Economic and Political Aspects of International Cartels"?—A. Yes, I have.

Q. Have you read the Hearings before a Subcommittee of the Committee on Military Affairs of the United States Senate relating to scientific and technical mobilization and particularly to monopoly and cartel practices?—A. I believe so. I think there are several volumes of these. I am not sure which volume you are referring to.

Q. Have you examined a book entitled "Cartels", by Mr. Wendell Berge?—A. Yes.

Q. Published in 1944?—A. Yes.

Q. Have you been asked by me to make a study

3193 of foreign trade and industrial organization with reference to particular questions in connection with this case?—A. Yes.

Q. Now before that had you familiarized yourself as an economist with the literature concerning the organization of industry in, say, England and Germany?—A. Yes.

Q. Since my request to go into these matters have you made a further study of that literature?—A. Yes.

Q. Now I wish you would please explain to the Court or describe to the Court the literature relating to the organization of British industry, first for the period prior

to the first World War. Will you do that?

The COURT. How far back do you want him to start?

Mr. WEBSTER. Well, I simply asked him to describe the literature which I think will not——

The COURT. I say, that literature goes back a very long time. I don't know how far back you want him to go.

Mr. WEBSTER. I just asked him the question to——

The COURT. All right, I will take it.

A. Well, the most comprehensive and most fundamental history, economic history of England, of industrial England, is J. H. Clapham's work, which is called "Economic History of Britain," and part 3 deals with the period 1887-1914. That is a very bulky volume,
3194 about 600 pages, but it contains in substance most of the relevant information with respect to the organization of British industry. Its point of view is evolutionary rather than organizational. It deals with history, at its title says, rather than questions of organization as such.

The literature of the organization or combination movement, if you will, begins with Nacrosty's books—one is called "The Trust Movement in British Industry," and the other is called "Trusts and the State."

Then D. H. MacGregor wrote two books, one on "Industrial-Combination," in 1906, which is rather a theoretical book, and then another one, "Enterprise—Purpose and Profit," in 1934. But both of those are more theoretical.

The final book on industrial organization before the war is Herman Levy's "Monopoly and Competition," which was published in 1911.

Q. Do you happen to know whether Mr. Levy is still alive?—A. I do not know. He must be a very old man. He was then professor at the University of Heidelberg. I think he fled to England when the Nazis came in, because he published a book there in 1936. Otherwise, I don't know. This book on "Monopoly and Competition," was republished in a revised edition in 1927. And then he wrote a book on "Industrial Germany" in 1934, I
3195 believe, which was published in England—or 1935, possibly; I am not sure of the date. This is in substance the most important. There are, of course, numerous minor treatises, sometimes quite revealing.

Q. Mr. DeVegh, based on your study of these materials and your professional consideration of them, are you in a position to summarize the organization of British industry at various periods?—A. I believe so.

Q. Now will you please summarize as briefly as you think the subject permits, the organization of British industry prior to the first World War?—A. Well, the industrialization in England goes back further than in the United States and Germany. England was the low cost industrial producer of the mid-nineteenth century and developed along highly competitive patterns. There had existed monopolies before, and of course cartels have existed in England. Before there was a very famous English coal cartel which ran from 1770 to 1844, called the Newcastle Coal Vend. But essentially, in the mid-nineteenth century and during the third quarter of the nineteenth century England was, English industry was more competitive than any others. This was generally attributed to the effects of free trade and to the fact that British costs were very low, and a very large number of enterprises sprang up in every industry during the
3196 period of rapid development. England was the pioneering country in industry in the nineteenth century and that pioneering was rather exuberant in all directions.

In the first decade of the present century, however, there began to develop some very large combinations and mergers of existing enterprises and also increasingly numerous cartel agreements. These were partly prompted by technological considerations, namely, the compelling advantages of large size in production, and they were partly defensive against supposed German and American competitive pressures.

The authors most frequently quote the cases of the whiskey trust and industrial alcohol cartelization and the combination of wall paper manufacturers, which is a virtual monopoly, the associated Portland cement manufacturers' combine and various others.

Levy in his book describes some fifteen such combinations in great detail which he considered most typical.

Robert Liefmann, who is the principal author on German cartels, in one of his earliest papers published in 1897 on combinations of entrepeneurs, lists some forty international cartels which existed before 1896, and in twenty-two of them German and English industrialists participated. In other words, to that extent international
3196a cartelization had already made substantial progress in England.

The COURT. Is this a convenient place for you to pause?

The WITNESS. Yes, sir.

The COURT. We will suspend now.
(Recess until 2:15 p.m.)

3197 AFTERNOON SESSION

IMRIE DEVEGH, resumed the stand.

Direct examination continued by Mr. WEBSTER:

Q. Mr. DeVegh, just before the noon recess you were discussing the organization of British industry before the first World War. Will you please complete that and then describe what occurred during and as an aftermath of the first World War?—A. I mentioned a number of the cartels and trusts that were listed and discussed in some detail in the book by Herman Levy, and I think I only ought to add to that two quite different developments which antedated somewhat Levy's book. In 1893 George Elliott, the coal owner, wrote a letter to the London Times, which at that time was considered sensational, suggesting the establishment of a national coal monopoly. While nothing came of that at the time, in 1896 D. A. Thomas, later Lord Rhondda, one of the Welsh coal barons, put out a second proposal. I will read its title because it is quite characteristic and rather long:

"Some notes on the present situation of the coal trade with a plan for prevention of undue competition and for maintaining prices at a remunerative level," and discussed at length, but nothing eventually came of it, and the coal trade remained unorganized.

3198 By 1914, however, the organization movement in British industry had gone very far, so that Clapham actually made some very sweeping statements and said:

"By 1914 there was hardly a British trade in which there did not exist an association of some kind", and from the viewpoint of terminology, I think I ought to add that I do not believe that he meant purely trade associations; in other words, I mean, the word "association" I think in Clapham's mind, so far as I read the book, means association of a regulatory kind.

The reasons why this should have been done are rather complicated. The essential argument why British industry was not susceptible to monopoly and cartelization was that free trade permitted competition from abroad and competition from abroad would prevent the rise of cartels and monopolies.

This had been undoubtedly the case in a number of in-

dustries, but the result of appearance of competition from abroad almost invariably subsequently was the imposition of either special legislation or tariff protection. We are going to come to that in discussing the developments of the 20s.

In certain industries British costs were decisively the lowest in the world and, therefore, foreign trade was not a threat towards the end of the Nineteenth
3199 Century and only because a threat during the Twentieth Century.

This whole question of the transformation of British economy from the world's industrial monopolist as a nation freely competitive within that framework, to a position when the English have lost their monopolist position as an industrial country, but then tried to compensate for this loss, compensating by rapidly increasing organization of British industry and the rapidly increasing exploitation, as it were, of the domestic market, is really the substance of this evolution from 1890 odd until 1914.

Well, then, from 1914 to 1919 there occurred a very dramatic change or, rather, a further development which is very fully described in the famous report of the Committee on Trusts, which came out in 1919.

The British Ministry of Reconstruction in 1918 appointed a committee to study the trust problem, as they called it, and this committee wrote the report in 1919, which is the fundamental source of information of what happened to British industry up to that time and what the situation in British industry was at that point.

The report of the Committee on Trusts says in substance that the necessities of the war have caused every industry to form trade associations, where none
3200 existed before, and to strengthen associations that were already in existence; that the Government agencies found it much simpler to deal with trade associations rather than with individual war contractors and that, consequently, a well entrenched trade association network was created very much under Government prompting and with Government encouragement; and that this was very comprehensive. And the report itself says that, although the associations were created under pressure of war, there is little doubt that they will continue after the war for entirely different purposes.

The main body of the report describes the trustification and cartelization of the British economy under the war

exigencies in some detail, and there is a very interesting addendum to it, which was written by the four liberal—well, "liberal" is the wrong word, because there was a liberal party in England. Let us say the four radical, or four leftist members of the committee, namely, Mr. Ernest Beven, who is now a member of Mr. Churchill's Cabinet, Sidney Webb and J. A. Hobson, the economist, and a Mr. Watkins—I don't know who he was—and those four wrote an addendum in which they said that they had signed the main report because they completely agreed with everything it says, and then they go on and say that this, however, is not enough; the report does not state

3201 the facts of the case nearly strongly enough; the fact is, as they say, that free competition has practically disappeared from British industry. Moreover, they say that this result is not disastrous; that after all free competition produces waste and is even uneconomic and unsound, if you will, I forget now the exact wording, but the important thing is, that the public interests should be better protected than they are under the present system and that, therefore, the committee should have made further recommendations with respect to the protection of the public interests.

The COURT. A perfectly logical position for a man of Sidney Webb's socialist philosophy.

The WITNESS. Yes.

A. (Continuing) That addendum was followed by other papers of which two are particularly interesting, one by Mr. James Hilton—I forget now whether it was John or James—but, anyway, Mr. Hilton, secretary of the committee, and the other one by Mr. Percy Ashley, now Sir Percy Ashley of the Board of Trade, who then go on to describe in some detail the actual extent of cartelization of British industry, analyze a number of cases, and interpret them as a fairly general and all-inclusive movement.

I have the report with me, but I do not think

3202 that there is any point in my reading any of it.

Q. I just wanted to mention, without interrupting the course of your discussion, do you remember there are comments on the factors causing combination under a subtitle called "Influence of War Conditions on Combinations" in one of the addenda?—A. Yes. I don't remember now exactly what they said, and I would much rather produce the document and read it, if I may.

Q. Tell us about the first decade between the two wars.

1920 and 1930. What was the situation in England industrially during that period?—A. During that period the most interesting fact is the relative industrial decline of England, the stagnation after the depression from 1921 on, and the resultant very strong intensification of the tendency to cartelize, to organize industry, and to promote even State-sponsored monopolies. There was the Railroads Act of 1921, which merged compulsorily all the railroads of England into four systems. Then in 1923 the Committee on Civil Aviation recommended merging all civil aviation enterprises into a monopoly, the Imperial Airways. In 1920 the Dyestuffs Import Quota was imposed and in 1926 Imperial Chemical Industry was formed, very strongly encouraged by the Government. The enterprise was completely privately owned but the Dyestuffs protection was maintained, and I think
3203 there are numerous statements to the effect that the measure was encouraged by the Government, viewed by the Government with favor, especially because of the importance of dyestuffs, and this came out also in the League of Nations World Economic conference papers on the description of the chemical industry.

Q. Do you mind pausing just a moment to describe or to indicate the principal sources of information about this period in England?—A. First of all, there are the various statutes themselves, the Railroad Act of 1921, then the report of the Civil Aviation Committee, that I mentioned, then the report of the committee on the coal industry in 1926, the Coal Industry Act of 1930, the British Sugar Subsidy Act of 1925, which organized the beet sugar industry, then, of course, tariffs in the various finance acts. In 1915 England introduced the so-called McKenna duties which were the first duties on manufactures. I will come back to that later on.

Then in 1921 came the so-called Key Industry duties. I think there are numerous books on the subject, Fitzgerald's "Industrial Combination in England," published in 1927; then Plummer's "International Combination in Modern Industry," published in 1934, republished in 1938. "Alfred Plummer, International Combination in Modern Industry."

3204 Then, in part, I think there is material in TNEC monograph No. 40, but I think that is only about coal and cotton.

Q. Do you recall the liberal industrial inquiry?—A. Oh, yes, the Liberal Party in 1928 published a report called

the "Liberal Industrial Inquiry"—called "Britain's Industrial Future," sub-title being "The Liberal Industrial Inquiry," and this was the official pronouncement of the labor party, which had been challenged by both its conservative and its liberal opponents about what Liberalism can contribute to the solution of Britain's very serious industrial problems.

As we recall, England did not share in the world recovery and was the first industrial country to develop chronic unemployment.

It has a section on "Industrial Combination," where it says that, of course, the public interest should be protected but this protection of the public interest does not mean that combinations should be made unlawful and that, in fact, wasteful competition and all the other evils of competition have to be checked, and that, essentially, all that is necessary is publicity for cartel agreements and other, well, trade association moves. Then it goes on to say that

trade associations in particular should be super-
3205 vised by the Board of Trade and should be formed whenever 50 per cent of an industry wants them, and when 75 per cent of an industry wants a certain rule to be enacted by this trade association, then, subject to the sanction of the Board of Trade, the trade association should be able to compel 100 per cent of the industry to take the required measure.

And I think that this is, as a matter of fact, a very interesting document because it goes to show to what an extent the orthodox liberal thought had relinquished its original free competitive position by 1928 which, after all, was still the high point of the liberal come-back in economics, I mean, it was the peak year of European recovery after the first World War.

The British Government, however, was not controlled by the Liberal Party at any time after the fall of Lloyd George in 1922 and did not give much consideration to what might be described as philosophical conceptions with respect to competition. It went ahead and organized as best it could every industry that it thought required organization. I have already mentioned the sugar industry, the coal industry, the cotton industry, the iron and steel industry, civil aviation, chemicals, and I think I ought to mention now the import duties that were imposed very definitely with the idea of protecting the home market and developing in the home market new
3206 industries for defensive or other purposes.

The first industry tariff was the McKenna tariff

in 1915, which put a rate of 33⅓ per cent on automobiles, cycles, musical instruments and flat rate on films. I think that was the entire list. There may have been something else too, but, in the main, that was duty to exclude luxuries in war time, but then they were maintained after the war, and a very large number of additional items were added in the Key Industries Duties Act, or words to that effect, of 1920 or 1921. I am not quite sure now whether it was 1920 or 1921. There a large number of items, specified types of machinery, were placed on the protective list with the rate of 33⅓ per cent, optical instruments with a rate of 50 per cent, magnetos, I think, also with a rate of 50 per cent, and these industries then, under this protection, did develop quite fast.

There is a book by Mr. Frederick Benham called "Great Britain Under Protection," which was published in New York in 1941 and gives full detail regarding this evolution. There is also a book published by the Cambridge National Economic Research Bureau, that is, Cambridge, England, not to be confused with the National Bureau of Economic Research in this country, although it is the English equivalent, that was called "Trade Regulations of the
3207 United Kingdom," which came out in 1943 and gives a complete list of both the changes in tariff regulations and special treatments for special industries, like the dyestuffs industry, which I mentioned before, and also a list of commercial treaties, quota agreements and so forth entered into.

Both those books are much more important, of course, from the point of view of the 1930s, when the integration of British industry along more concentrated lines proceeded.

Q. Will you go on into that discussion with regard to the facts about the concentration of the 1930s?—A. The great difference between the 20s and 30s is that the 20s were the decade when privately-controlled combinations completely entrenched themselves in British industry and where correct behavior, which means correctly non-competitive behavior, became a very well established matter in British industry.

The British Government only took action in those, maybe, dozen special cases that I have mentioned, and with respect to tariff protection.

In the 1930s this went very much further. In the 1930s, first the impact of the great depression and during recovery considerations of rearmament impelled the British Govern-

ment to take much more active part and to encourage industry to organize as best it could.

3208 The so-called May Committee report on the steel industry in 1932, I believe, advised very completely the rationalization. The tariff was enacted in 1932, in the spring of 1932. A flat rate of 10 per cent on everything, except raw materials and manufactures. On manufactures the flat rate was 20 per cent except for machinery, chemicals and other items considered important, on which the rate was 30 per cent on iron, and steel. The Ottawa agreements, followed this tariff legislation, giving the British Government, I mean, British industry, rights of considerable exclusiveness within the Empire.

The Import Duties Advisory Council was also set up in 1932, which was a committee to advise the Treasury on how to handle the tariff and pretty much how to act in trade negotiations, and its advice is, I believe, generally followed.

With respect to steel, the case is very famous and very well known. The Continental Steel Cartel was granted a quota of 600 odd thousand tons imports into England for the year 1934 and a smaller quota for 1935, and British steel makers were, I believe, given special tariff protection of 50 per cent in order to be able to rationalize without interference from the imports.

I have the steel reports here with me, if any more detail is needed, but I think that is sufficient.

3208a I think I ought to mention that the first international cartel in which the British Government participated or, which was sponsored by the British Government, rather, was the Stevenson rubber plan, which went into effect in 1922 and was a major innovation of the previous decade.

3209 During the 1930's these became quite numerous; I mean, the tin cartel of 1931, the rubber cartel of, I think, 1933 or 1934, the tea cartel, the cocoa cartel—I mean, all of these were British-sponsored—and the interesting thing in that connection is, I mean, the British Government has been very strongly accused by liberals in England of being under the influence of the large corporations and moneyed interests.

There is a book by Mr. Simon Haxey, called "Tory M P", which describes, among other things, how 181 Conservative members of Parliament hold 775 corporate directorships, and how Sir Patrick Hannon, the first vice-president, that is the executive head of the Federation of British In-

dustries, the industrial supercartel, if you will, is also a member of Parliament; and it pointed out that a number of Cabinet Ministers had a number of directorships in corporations, which they relinquished for the time of their tenure of office, and, of course, the book draws certain unflattering inferences with respect to the business influence on Government during the Conservative era of the 1930's.

Q. Are you familiar with the expression "terms of trade" as used by the British?—A. Yes.

Q. And what does that mean?—A. Well, "terms of trade" is a technical term in economics, and it means
3210 the relationship of import prices to export prices.

It has been always a matter of great concern in British discussions of British economic policy that the terms of trade should be as favorable as possible for England, that is to say, that imports should be bought at the lowest possible price, and exports should be sold at the highest possible price, so that the relationship of export prices to import prices should be as favorable to England as possible, and this has been a very strong motive in British Government action with respect to international trade.

The question of elasticity of demand comes in very strongly, namely, where demand is inelastic, prices can be raised very substantially without loss of volume; and in this connection it is also important, I think, that from the British point of view, rubber, and tea, and cocoa and other colonial raw materials, are, in substance, exports from England, because the costs of production are all paid in sterling or its equivalent in British colonial areas, and the proceeds are dollars or French francs, or marks, or whatever the case may be.

The climax to this industrial reorganization of England was the Dusseldorf conference in March—on March 15th and 16th, I think—1939, which is described in the Kilgore Report, Part II, in which the delegations of British and German industrialists, specifically, I think, of the
3211 Federation of British Industries and its German equivalent, Reichgruppe Industrie, held a meeting in which an agreement was drawn up, but which never became operative because of the outbreak of the war, purporting to divide up the world industrial markets between English and German interests and to the exclusion of third countries—of competition from third countries.

Q. Have you examined the current literature with reference to the organization of British economy with a view

to forming any opinion as to what the attitude of the British is going to be in this respect after the war?—A. Well, that, of course, to some extent is prophecy, but the current English literature suggests that they mean to have a very strong, centrally organized economy. I think that the Committee for the Study of the Organization of Peace here in New York put out a pamphlet in December, 1943, summarizing published plans of British industrialists, every one of which envisage the creation of industry-wide organizations for each industry with coordinated production and selling.

The British delegation at the International Chamber of Commerce meeting at Rye, New York, last November, and also took quite a strong stand in this respect, which was reported in the papers.

3212 The Attorney General, Mr. Biddle, made a speech in Boston, I think, last Wednesday, where he stated that he expected all British industry would be cartelized after the war. I do not have the original text of his speech. I have written for it, but I haven't got it yet. I have only the newspaper report, but that was the substance of it.

And the white papers on post-war employment and land utilization also very strongly indicate that the British Government is going to play a very active part in the organization of post-war industry.

Mr. Geoffrey Crowther the editor of the Economist wrote an article in the Yale Review for I think this last issue, the winter of 1945, about British industrial organization after the war in which he apparently describes but also advocates a system of government control, cartelization in part and in part actual government operation of large industries. I have the documents here. I don't know how far you want me to go.

3213 Q. I don't think there is any need to go into that any further. I want to ask you the same questions about the organization of industry in Germany and I would like to have you take us through the period before 1914 just as quickly as you think you can without leaving out any important matters.—A. Well, before 1914, in Germany, cartelization was fairly widespread. The official source of information is the report of the Cartel Commission published in 1905, of which I unfortunately do not have a copy, but which is fully described by authors on German cartelizations, including TNEC Monograph 40, and Mr. Robert Liefmann's subsequent book on "Cartels, Combines and

Trusts," which was published in New York in 1932, of which I have a copy here. That book also offers relevant documents after 1923 which we will refer to later.

The substance of it is that cartelization first began in Germany in the 1860s or 1870, had a slow start but flourished from 1890 on, and was accepted as a form of organization of industry. This government inquiry of 1905, I think, lists 385 cartels which they had investigated at that time. The units in German industry were much larger than in Britain, in the British industry. From the start, you see, the development of German industry coincides in point of time with the development of
3214 American industry. Modern American industry began with the Civil War. Modern German industry began with the wars against Denmark, Austria and France in 1870–1871. The development was very rapid, in fact the fastest, except for the United States, and the size of the enterprises was also the largest, except for the United States.

There is an excellent American publication, as a matter of fact, on monopolistic combinations in the German coal industry by Mr. Francis Walker, which was published by the American Economic Association in 1904. And I think the United States Industrial Commission in 1901, a study by Mr. Jenks, on "Combinations in European Industry." I don't have the Jenks, but I have the Walker here.

Anyway, German industry was fairly extensively cartelized by 1940, and the Government on the whole didn't look upon it with disfavor because the Germans were a nation of technicians and technical efficiency was obviously permitted by these large undertakings, coordinated production and so forth. The political leaders of the Reich thought that such an organized growth was preferable to haphazard fluctuation even from the view of military economy.

During the war, again I think we can go over that
3215 quite fast because the situation has changed in Germany so much, during the war they had the same.

The COURT. You mean the first chapter, the present war?

The WITNESS. No, I am talking about 1914 to 1919.

A (Continuing) The same thing happened in Germany that happened in England, only very much more so, namely, trade associations were formed right and left. Walter Rathenau was Minister of Economics or possibly the title was Minister of Economic Warfare, but I think

it was Minister of Economics, he I think in 1916 drew very extensive plans for the wartime realization of German industrial resources, and, as a matter of fact, it was in 1916 that a very large part of the German chemical industry was merged in a so-called community of interest which is now known as I.G. Farbenindustrie.

When the war was over and the Socialists came into power, Von Moehllendorf; who was I think Under-Secretary of State in this Ministry of Economics, although I am not quite certain, anyway he was one of the Under-Secretaries of State, he proposed a very extensive plan for the trustification and State control of German industry. This was opposed, I believe, by industrial interests, and came to nothing. This was in 1919. And then
3216 came an extremely disorganized period in German industry, where all the old cartels broke up under the strain of inflation. There was no sensible way of allocating markets, fixing prices or anything under the conditions that prevailed in Germany between 1919 and 1923. On the other hand, enormous mergers took place in a very senseless way because everybody was going into real assets, fixed assets, and particularly haphazard corporate giants were created which after 1923 had to be broken up and reorganized.

I think that is really all that need be said about it.

Q. What was the difference in the attitude of Germans toward cartels during the liberal regulation of cartels between 1923 and 1933? That was a very different form of attitude than the attitude that developed later, was it not?—A. Oh, yes. In 1923 the first cartel ordinance was published, in 1923, which regulated cartels. The text is reprinted in Liefmann's book which was published here in New York in 1932; so it is easily available. It was a system of Government supervision of cartels, but otherwise it did not hamper their freedom of movement and freedom of organization. And at that time I believe it was semi-officially estimated that there were something like 2500 cartels in German industry. And under this system cartelization of course spread, I mean this was very favorable climate for cartelization and it spread
3217 fairly extensively.

From 1926 to 1930 the German Government held a major inquiry which had a very peculiar name, which was called the Enquete, which means inquiry, into German industry. It published findings of voluminous proportions which are briefly summarized in TNEC Monograph No. 40,

which I mentioned several times. And also I think in the TNEC hearings, although I don't remember now whether it was an exhibit there or not.

Q. I was going to ask you, and I have gotten to a point where it would be appropriate to do so, about the French attitude during this same period.—A. Well, in France, the old code was very strict in prohibiting all forms of combination and agreement, both of employers and of employees, and the first breach in that was some time in the Nineteenth Century, I think in 1886, when trade unions were recognized. But while the French legal situation remained very obscure with respect to cartelization, the idea itself spread very strongly and in the Twenties the French ideas of cartelization played a very important part in Europe. In 1924, Mr. Jouhaux, a French Socialist, who was one of the leaders of the French Socialists—he was the head of the C.G.T., which was the French labor organization—proposed an international conference for the reorgani-
3218 zation of European industry. Mr. Louis Loucheur at the League of Nations meeting in September 1925, made this an official proposal, and Mr. Loucheur was a representative of French heavy industry, and as a result a world economic conference was called by the League of Nations in 1927.

Of course publications of this conference, the publications prepared before the conference and then at the request of the conference afterwards, are a very important source of material with respect to the degree of cartelization and what was expected of it at that time. And the expectation was that it would help to cure the economic ills of Europe created by the World War.

Now this might seem strange approach to us, but the fact is that both the French and the Germans at that time felt that that was a way to pacify Europe. The argument ran something like this: that the war created a number of new frontiers and industries fell within these new frontiers in a completely haphazard, unplanned way; none of them were fitted for the country in whose borders they found themselves. The only way to break through these walls of nationalism was to form international industrial agreements. And, as a matter of fact, Mr. Briand in his plan for a united Europe and the plans he worked out with Mr. Stresemann in the late Twenties were all to some extent inspired by these conceptions
3219 which were also at the center of the 1927 conference.

A very famous example was the steel cartel and the steel agreement between France and Germany which antedated even the World Economic Conference. Prior to 1918 Lorraine shipped iron ore downstream through the Ruhr, and the Ruhr shipped coal upstream to the Lorraine, and that was a two-way traffic which was economically very sound because the same parties carried traffic both ways. And the very rapid development of Lorraine and the Ruhr industries was connected with this two-way traffic.

When Lorraine went back to France there was a frontier and the tariff wall that stopped this traffic, and as a result the French had too much iron ore and not enough coal, and the Germans had too much coal and not enough iron ore. And that was the economic foundation of the first French-German steel cartel after the war.

In the Hapsburg Empire this kind of case was quite typical. I mean, the industries of Bohemia were originally built up for a market of fifty million people and then they found themselves with an empire of thirteen million Czechoslovakians for their domestic market, and had to somehow find a way of making a living. Now, on the other hand, new competitors within the new frontiers did, naturally, everything to exclude the old, big competitors who now happened to have fallen on the other side
3220 of the frontier, and this led to some of the fantastic economic complications and uneconomical methods of production that were so characteristic of Europe during the '20s, even more so during the '30s.

And this, incidentally, was also a considerable incentive for German industry to seek cartel agreements in all directions towards Eastern Europe. Poland was a very thoroughly cartelized market, Czechoslovakia was a very thoroughly cartelized market, so was Austria. The Czechoslovakia cartel law of 1933 required a cartel register, so we know exactly how many cartels they had, and how extensive they were. And the same is true of Poland, although I don't remember now when the Polish cartel law dates from—I think it also dates from around 1932. I think Reichert's books on cartels, a German book published in 1935—it is called the cartel law—that I referred to—or something like that—also gives the dates.

Q. This period prior to 1933 was a period characterized to a large extent by voluntary combination and cartelization?—A. Certainly. This was wholly a private economy; the Republic was under the control first of the Socialist

pa. ty and then the coalition of Liberal parties under Mr. Stresemann until 1930, and then Chancellor Bruenning came into control in 1930, and they had no organization principles with respect to economy. I mean, they were ideological Liberals and to the left of the Liberal.

3221 Q. Have you reached a point where you can describe for us what happened after 1933?—A. Yes. I just want to mention that in 1930 the cartel ordinance was revised, the 1923 cartel ordinance was revised, in the light of the results of the Enquete. Well, when the Nazis came into power, which was at the end of January, 1933, the whole situation completely changed, because they had very positive ideas as to how they meant to run the state and the German economy, and they put that very speedily to effect.

The first thing they did was to proclaim a large make-work program, I mean, the first philosophy, at least as stated, the first philosophy of the large Government expenditures was essentially the idea with the WPA; you generate a large body of public works, and that creates re-employment.

Then in July, 1933, they published a decree authorizing the Government to compel cartelization in industries where they felt it desirable, and then very shortly afterwards they changed their base and said what they are interested in is not to create employment, but to create national defense. And from then on the whole economic direction of the Reich was subordinated to military requirements.

This was of course very expensive right from the start.

In February, 1934, they published a decree, a law,

3222 rather, for the reorganization of the industrial economy in which they gave themselves very extensive powers, and they used those powers in a series of subsequent decrees putting the whole of the German industry into compulsory cartels. And this was the decree of November, 1934, amended in 1936. There was a super-cartel, the Reichsgruppe Industrie, and under it every industry was combined both horizontally and vertically; a regional organization was created in regional chambers of industry which covered the entire German economy, and the Government made no bones about it. They stated very openly that the purpose of this was to subordinate industrial production and the organization of industry to the political purposes of the Reich.

Q. Have you made a study of I. G. Farben and the com-

petitive situation in the German chemical industry?—A. To some extent, yes.

Q. Will you just describe that to us, please.—A. Well, I. G. Farben originated in cartels in the chemical industry, some of which go back to the turn of the century; several component companies had various syndicate arrangements from 1902 and 1903 on. Then the six largest chemical companies were merged in a community of interest in 1916 and the present enterprise was created in 1926, when one of these six merged enterprises absorbed the others
3223 and rechristened itself the I. G. Farbenindustrie A.G.

This company had a capital stock of about 720,000,000 marks, plus some 250,000,000 marks of bonds. In other words, it was a billion mark corporation. I think it was the largest enterprise in Europe, except England. Imperial Chemicals is larger in terms of total assets. I mean, I think that as of the late 20's the total assets of Imperial Chemicals were about £100,000,000, that would be about $500,000,000, and I. G. Farben would be about $400,000,000. That is the order of magnitude of these two corporations. I do not have a reliable or accurate estimate of exactly how large a proportion of German chemical production was concentrated in the hands of I. G. Farben, but I believe that it was of the order of between a third and a half of total output and a considerably higher proportion of total export trade in chemicals.

Q. Have you any basis for an opinion with reference to the conditions that an outside chemical company would face in endeavoring to compete with the I.G.?—A. Well, my opinion is that it would be very difficult. First of all, the company was very large. In the second place, the company was a very efficient producer. The two greatest chemical inventions of this century are both associated with I. G. Farben, namely, the development of
3224 synthetic nitrogen and the development of hydrogenation of coal. These are by a very wide margin the most spectacular developments, and both were completely I. G. Farben-developed. In other words, their technical excellence in the 20's is not subject to doubt, I think. Moreover, the general business management of I. G. Farben I understood was always extremely efficient. They had a very complete sales organization. They controlled the German market very completely. They had cartel agreements with everybody within Germany. They had a number of agreements of course also with their foreign competitors. And, lastly, they were close to the Government.

The I. G. Farben, I understand, used to finance indirectly the Frankfurthe Zeitung, which was a liberal newspaper. It was the leading internationalist corporation in Germany during the 20's as opposed to the steel industry, which was the leading nationalist industry. They had very far flung international interests and they meant to protect them, and that always was a two-way street. One was that they reached out into international markets, protected their own domestic markets, and the other was that they were very close to the German Government, and, therefore, I imagine would have very substantial influence with the German Government with respect to policy as it affected chemical imports and trade in chemicals generally.

3225 The COURT. Taking the European or the Continental situation as a whole, over the period you have described you moved from competition to combination and from combination to cartelization, and from cartelization on a voluntary basis to cartelization with the benign approval of the government, and from that to compulsory cartelization in many instances.

The WITNESS. Just about that. Or, rather, the adoption of cartelization as an instrument of national policy. I would say that was the——

The COURT. I am surprised you have not moved further eastward and pointed to the monolithic organization of industry in the U. S. S. R.

The WITNESS. Partly because I have not been asked the question.

The COURT. That is a very good reason.

Q. There is in evidence, Mr. DeVegh, a letter in which the I. G. Farben in 1933 expresses some concern about the possibilities of competition in Europe on the part of the du Pont Company. Have you any views as to why the I. G. should have or expresses such feeling?—A. Well, the imputation of motives is always a difficult matter, but I think we have several very tangible clues. One was that in 1933 the dollar was depreciating, while it was the official policy of the German Government to maintain

3226 the mark at parity. Now that meant that if ever at some future date German exchange control were abolished and German import controls were relaxed, which of course in 1933 were very strong, then the cost reductions due to dollar depreciation, which were cost reductions in terms of marks, mark equivalent, not actual reductions in dollar costs, might become great enough to make American costs competitive with German costs.

Then, as I said, it is my understanding that I.G., up to 1933 at least, was the leading internationalist combine in the German sphere of influence, although it was naturally very completely coordinated by the Nazi Government and used to the utmost for the furthering of their own purposes subsequently. And I should imagine that under such conditions they would feel that, as in 1933, there is nothing to fear because import controls alone make any import from the United States, competition from du Pont, nonsense, because they can always go to the Government and prove that chemical imports from the United States are superfluous, whether from an employment point of view or technological point of view or any other point of view, and the Government, which was very hard pressed for dollar exchange anyway, would certainly accept that reasoning. But if the management felt or hoped that eventually they would be rid of the Nazis and a freer
3227 regime set in, then the situation might be very different.

Q. You have mentioned the exchange problem. Do you consider that that affected trade between the United States and Germany and the United States and England in the 30s?—A. To a very considerable measure.

Q. Will you please give your opinion and your reasons for your opinion upon that, but first, if you will, discuss it in terms of the dollar shortage during that period.—A. Yes. Well, the best source as a matter of fact on the subject of the dollar shortage is a study put out by the Department of Commerce, Economic, Series No. 23, by a Mr. Leary, which discusses the balance of payments of the United States over two decades. His essential argument, I mean of that pamphlet, is not really subject to controversy. I believe every author on the subject accepts it. As a matter of fact, some of my own papers and my book are very much along the same line. I just thought it would be preferable to refer to a Government publication rather than to my own personal opinions.

The argument in substance is this, that the imports of a nation will go up and down with its own national income because naturally the bigger the national expenditure the more will be spent on total consumption and more will be spent on imports; conversely, when national income and expenditures go down, imports go down.

3228 During the 20's the United States were very prosperous, imports into the United States were very high as compared to subsequent figures. Our imports

used to run into four billions a year, and subsequently they dropped as low as a million and a half, a billion and three-quarters at times. Secondly, during the 20's the United States was the principal source of international lending for the revival of world economy. This meant in reverse for the foreign countries that they had a very plentiful supply of dollars which they could spend right and left as they wanted, and which they did spend right and left.

The COURT. Mostly "left" as we now see it.

The WITNESS. Yes, your Honor.

A. (Continuing) Well now, in 1930 this golden era came to a very abrupt end. Foreign loans became completely unsalable in the United States. As a matter of fact, American lenders began to pull in their previously extended loans and at the same time the onset of the depression made our imports toboggan, and there was a very sharp reduction in imports.

The COURT. Simultaneously the Smoot-Hawley Tariff Act went into effect.

The WITNESS. And the Tariff Act clinched the deal.

A. (Continuing).

3229 So, in 1931 the foreign exchange situation in Europe became very critical and its essential manifestation was a desperate dollar shortage. They could not find enough dollars to pay for their imports from the United States and to pay the claims of American short-term creditors as they were maturing. As the result, there developed a run first on Austrian and then on German banks, and all banks in Germany were closed I think on July 13, 1931. And from then on a very strict regime of exchange control went into effect in Germany.

Then two months later, a little over two months later, September 21, 1931, Great Britain abandoned the gold standard, and while no exchange control was imposed the depreciation of the pound automatically made imports from the United States 33 per cent more expensive.

I think I had better follow through very briefly each country separately rather than jump from country to country if I may.

Q. I will be glad to have you do that. A. In Germany what happened was that the Government then decreed a base period of foreign exchange ration and the foreign exchange ration of each company was its foreign exchange supply for commercial imports from July 1, 1930 to June 30, 1931, which was already substantially depression level,

significantly below pre-depression, and there was a
3230 rigid control of exchange transactions imposed which steadily grew in complexity.

Now for the Germans the depreciation of the pound was a very serious blow because that made exports to England very difficult and exports from England to third markets very attractive to the third markets as compared to German exports. So, in May 1932 they cut the basic quota in half. So, from then on the industrial enterprise was only entitled to 50 per cent of the foreign exchange it had during the base period 1930-1931. The Nazis stuck to this for a while, and then in February 1934, in several very rapid steps, reduced the basic quota from 50 per cent to 5 per cent and imposed a complete import prohibition without Government license on really everything of any industrial interest or importance, the purpose avowedly being to import only things that were necessary for national defense or, rather, for rearmament.

And from then on they were in constant hot water foreign exchangewise and progressively defaulted on more and more of their foreign obligations because they were inflating the domestic price structure, making German production more and more domestically centered and relatively high priced so that their imports were only—the exports were only competitive if they gave subsidies in
many instances. Certainly, they were importing a
3231 vast amount of materials for ultimate war purposes. That is really the whole story there.

In England the story is much more varied because the dollar shortage there only lasted until 1934, after the depreciation of the dollar when, paradoxically enough, our stabilization and our paying $35 an ounce for gold bailed them out because, substantially, the British Empire substantially produces something between two-thirds and three-fourths of the world's yearly gold production, and there was a billion dollars a year in their laps. So, from 1934 to 1937 certainly there was no major dollar shortage in Great Britain.

In 1938 the dollar shortage began to appear again because of rearmament requirements and the renewed slump in the United States. In the fiscal year 1936-1937 the United States actually had a small import surplus on merchandise account because our national income recovered and that attracted imports, while our exports stayed down because of the exchange restrictions abroad that locked them out from foreign countries.

This situation lasted until the fall of 1937 when a new domestic slump in the United States lopped more than a billion dollars off our imports, so that in 1938 we had a billion-dollars export surplus exclusively because of
3232 the drop in imports, not because we boosted our exports. And the result of that was a renewed sterling crisis. Pound sterling dropped from $5 to $4.66. At the time of Munich and of course when this war broke out, and from Munich until the outbreak of the present war the pound sterling was again a weak currency where dollar payments were a problem where there were informal restrictions on capital movements and so forth. As soon as war broke out very complete exchange restrictions hit the sterling area. In the gold standard countries the same situation with respect to the dollar shortage existed until 1936 when they abandoned the gold standard and then there was a period of relief either in 1936 or 1937, and the renewal of the dollar shortage in 1938 due to rearmament abroad and to our lack of imports into the United States after the slump in the fall of 1937.

All countries, in substance, with the exception of 1936 and 1937, it was only a temporary alleviation, had their rigid exchange controls chiefly aimed, if I may generalize now, at an exclusion of imports and substantially the exclusion of imports from the United States. This is brought out very neatly by some charts that the Department of Commerce published which showed that the share of the United States in world trade dropped very much more than the share of other countries, clearly indicating
that the dollar shortage was the real problem. But
3233 when countries like, oh, any country in the Balkans, or the Baltic countries or Poland or Czechoslovakia or any others imposed exchange controls their first consideration was that they did not have dollars, and their imports from the United States always dropped considerably more than their imports from Germany, England, and so forth.

Of course, with this regime of exchange control, exchange clearing arrangements also became very frequent. That meant that two countries, first sometimes two industries in two countries and then two countries as a whole will reach an agreement that all their mutual payments would be canalised through specialized accounts. The British had a large number of these agreements from 1933 on; the Germans of course excelled in them and had the largest number of them. The system there was, that

they first ran into, that by over-importing from a smaller country and then turning around to a smaller country and saying, "You have to buy from us what we want to sell you."

I think that in substance the main importance of these exchange restrictions is twofold. One, the exclusion of imports from the United States, and the other, that in order to operate such a system efficiently you have to cartelize your industries because you have to allocate imports.

3234 You are not allowed enough to satisfy each one, they have to be allocated, and the allocation has to be based on some kind of quota in the domestic market.

Q. In your opinion, would it have been feasible for an American company engaged in selling a chemical product, specifically a pigment for paint, to engage in exports to an appreciable extent to Germany or England during the period of the 30s?—A. Not to an appreciable extent. I should imagine that a can of paint can always be exported. I mean, trifling amounts. I think if more than trifling amounts were involved in something that is so patently domestic, consumer product, at least as long as it is aimed at the consumers' market and not to some war use, of which I have no knowledge, I think it would be quite out of the question.

Mr. WEBSTER. Your Honor, I am going to turn to another subject. Perhaps this would be a good time to take a recess.

The COURT. We will take a short recess.

(Short recess.)

Q. Mr. DeVegh, this case relates in part to the efforts of an American company to promote a relatively new product internationally. Now based on your survey of the cartel situation in England and on the Continent, and also the matter of exchange control that you have just described, how would you as an economist describe the

3235 competitive problems of such a company, that is, a company engaged in attempting to promote a relatively new chemical product, namely, titanium pigments for paint?—A. Well, I do not know anything about the titanium pigment industry specifically. Taking the situation more anonymously, as any new industrial product or any new patented product or something like that, I would say that the competitive condition during the 1920s would already have been a very considerable difficulty and during

the 30s, for all practical purposes, well, if not insurmountable from the outside, at least very close to it. And I think that they would have two very marked features, and one is that there exists a very high degree of imperfection of competition in manufacturing, and specially in the manufacturing of chemicals, and the other is that the behavior of foreign enterprises and foreign governments would be very strongly monopolistic or not competitive, according to our standards, and very strongly aimed at exclusion or at such unfair practices as to result in very much the same thing.

Q. I wish you would describe, if you will, each of those features and then point out its bearing on a company engaged in the sort of enterprise that I refer to, and I would like to have you describe those two phenomena rather briefly.—A. There is really a problem
3236 in describing it. One can visualize competition in industry as going all the way from an imaginary and impossible extreme of perfect competition to an equally imaginary and impossible extreme of perfect monopoly. Now perfect competition and perfect monopoly are very accurately described in any text book on economic principles, and the perfect competition of the economist has a large number of requirements beginning with perfect knowledge of the market, perfect independence of each buyer and seller, such a size distribution of buyers and sellers that not one of them can by his action influence the price,—in other words, for any one of them the price is given,—perfect homogeneity of product, so that the product of one seller can be substituted for that of the other, and perfect mobility of the factors of production. In other words, you can go into the market and come out of it at will.

Now, this is a theoretical abstraction which is a very necessary tool for economic analysis but which every economist realizes does not exist and is not even translated.

The COURT. As rare as a Euclidean triangle.

The WITNESS. Yes. If I only knew what the Euclidean triangle was I could say. I have been trapped, your Honor; I wish to withdraw my "Yes."

3237 Q. Well, go ahead.—A. Well, the point is that manufacturing invariably requires some plant investment and especially in chemicals a very considerable plant investment which in itself makes competition imperfect in

the terminology of the economist, meaning that the conditions of perfect competition do not exist. That does not mean that imperfect competition is less competition. It can be more competition. Just as a ride on a lame horse might be very much more painful than a ride on a very healthy horse. Both are horses.

In fact, I should imagine that the correct way to describe the imperfect competition of the economist is that that is free competition of the law. It implies nothing with respect to the behavior of the competitor in any way. The degree of imperfection of competition can be measured possibly by the number of sellers. I mean, an industry would be more—the competition in an industry would be more imperfect if there were a fewer number of sellers or if a larger percentage of the total industry were controlled by one seller or a small number of sellers. Competition would be more imperfect if the product differentiation between individual producers increased, so that Chesterfields would not be substituted for Lucky Strikes and vice versa.

But these degrees of imperfection are I do not
3238 think in any sense degrees, of themselves, degrees of competitiveness. They do have one very important effect, namely, that they make competition very much more dangerous than the competition of theoretically perfect conditions, because the price in perfect competition is the price needed to bring the highest cost seller still needed to satisfy the demand. Up to that point everybody's costs are taken care of. In imperfect competition there is absolutely no telling whose costs will be taken care of. And because of the capital investment necessary in most modern industries this has the important effect that after each upswing, after each period of expansion, whether restricted to the industry or universal in the economy, when they are making a down-swing there will be a vast amount of excess capacity in certain industries. That excess capacity has given prime costs and on top of that large overhead cost and depreciation. As long as the price stays above the prime costs it pays to keep the excess capacity running even at a loss. And of course it has been considered good industrial policy in the past at times and under conditions of depreciation to sell even below prime costs in order to keep the good will of the customer and keep the organization together, and similar points of view. This is a very major

competitive hazard and the hazard itself is perfectly
3239 objective. It does not of itself represent anything with respect to the behavior of competitors, except that a company independently wants to get as much of the market as it competitively can. This represents a very much greater hazard for something that is beginning in the face of established businesses, that is to say, it is a greater hazard for the small plant than it it for the large plant. It is a greater hazard for the small plant than it is for the large plant; although all such generalizations have their own imperfections, exceptions can be construed to everything. But this is essentially true.

The other factor that has a great deal to do with this aspect of the imperfection of competition is at the monopoly end. It is the fact that in modern industrial technology there are substitutes for almost anything. I mean, the village hardware store is a monopolist for a small segment of the market. The International Nickel Company is a monopolist for a segment of its market but it is not a perfect monopolist in any sense because the moment you move a little further away from your central monopoly area you run into the competition of a substitute product or a substitute supplier, and the range of modern industrial substitution especially in the chemical field is extremely great. So that each product within a very narrow range is monopolized. Then
3240 in a twilight zone it is a competitive product. Then, beyond that zone it ceases to have economic competitive value. For a specialized enterprise, for a small enterprise there are difficulties in this fact of substitution because, after all, the substitutes are owned by somebody, and if the owner of the substitutes is large and powerful and well diversified it can go very far in endangering a new venture, and this endangering, still at the present level of discussion, does not imply anything unfair on the part of the large enterprise.

To make it quite concrete, a small factory if it can hold its own with respect to prime costs or its cost of production, including depreciation, has not yet solved its competitive problem because the large enterprise may have such a tremendous advantage by way of advertising, nation-wide advertising, nation-wide sales organization or a sales organization distributing a very large number of products so that the incremental cost of selling the new product is very small; whereas the new organization would have to apply its entire sales overhead on its one

new product and it starts with a very substantial handicap.

3241 Then I think that the question of resistance to business fluctuation is very important. A new product, an untried product, is very much more vulnerable than—a single product is much more vulnerable—than a diversified business where various products can offset one another. The loss on one can be absorbed by the other, or absorbed in income tax, and even out fluctuation in earnings and so forth.

Then there is a second major aspect of this competitive problem and that is concerned now not with the theoretical qualities of imperfection and the hazards created for small companies by imperfection, but with the hazards created by the effect of what I might describe as monopolistic behavior, or behavior in that exclusion, which is an entirely different phenomenon, where the local or national interest uses methods aimed at preventing competition from materializing on the part of the new venture or new product.

Especially in the chemical field, it is notorious that national governments in Europe have considered the chemical industry a war essential industry and have taken steps to safeguard it, to build it up and to prevent it against outside competition so as to create the strongest possible industry, both in the case of England and in the case

3242 of Germany. I referred to the organization of a chemical industry here. Similar developments have taken place in a number of minor European countries.

Invariably the point of view is, since this is a strategic industry, the arts of the chemical industry should be stimulated, native chemical engineers should be encouraged, the industry should be made financially strong, independent from foreign competition, and whenever necessary, I believe, very far-reaching legislative enactments have served to exclude competitors from abroad.

Q. I think you have already touched on the effect of this combination movement abroad on new products. I just want to ask if there is anything that you have said with reference to the imperfections of competition and what you have called monopolistic practices, that is, restrictive practices in Continental countries or in Europe, whether or not there is any particular aspect of that that is important or emphasized in the case of a new development attempting to find a place for itself in a European or English market?—A. Well, I would say that the implication

for a new development was that either it came to terms with people within the fart, or else it would stay out. In other words, the alternative is to come to terms or not to trade.

Q. Getting down to a somewhat more precise application of this discussion and of your opinion, have you,
3243 first, an opinion or do you know how the various ways in which an American company, desiring to engage internationally in the promotion of a relatively new product, would go about doing that; and then, after you have stated that, I wish you would give your opinion, if you have one, as to the advantages and disadvantages of each of those means of access to foreign trade in that form?—A. Well, the various obvious ones are exports, or wholly owned subsidiaries, or partly owned foreign subsidiaries, or foreign licensees. I cannot think of any other way of doing it. Each one of these has, so to say, its own anatomy, if you will.

The export trade, that is to say, the promotion of a new product in foreign markets by exports from the United States, has been, before the first World War, the most frequent, and, of course, at that time our industrial technology was not as developed as it subsequently became, but nonetheless manufacturers were a steadily increasing proportion of the total exports from the United States. Yet even then they ran into all kinds of problems, and the realization that there existed very particular problems in the field of exports led to the Webb Act, which permitted a limited form of cartelization for an American corporation engaged in export trade.

The problems were envisaged, I believe, as essen-
3244 tially competitive problems, and the idea, as far as I can see, of permitting exporters to combine was to strengthen their bargaining position abroad by not having to compete against each other.

I believe that the Federal Trade Commission gave an opinion in its famous Silver letter, which is quoted in TNEC Monograph No. 6 in full, to the extent that these Webb associations can combine with foreign associations with respect to division of territory, I think, and that their effect on domestic price is all right, I mean, if their effect is to raise the domestic price, that is all right, so long as it is incidental to the main purpose, but, as I say, this is all in the Silver letter in TNEC Monograph No. 6. I think it is page 125 to page 127.

It is a very significant document from the viewpoint of

the approach and the problems that came up relatively early in the life of that piece of legislation.

Now, the problems that were foreseen and perhaps somewhat uncertainly grappled with in the Webb Act and by the Trade Commission in the early period became very marked subsequently and very marked, of course, with every development and specialization in industrial technology, the trouble being that the easiest way for anybody to get rid of competition is to go to its own national government and say that they want a protective
3245 tariff because that tariff will help employment, and that tariff will help the dollar shortage and so forth.

The result of this has been that the scope of American exports during the 1930s has been strikingly restricted and especially in industries, as I have had occasion to point out just before, that are infected with a genuine or a spurious national interest from the viewpoint of the foreign producers, the method of breaking into a market by exports from the United States is one that is steadily diminishing in importance. The exports move from the United States when they are liberally supported by credits or when we are a monopolist and the export cannot be obtained elsewhere—monopolist in a real economic sense. I mean, for instance, in machine tools in 1938; in 1938 and 1939 the world machine tool industry was operating at capacity. If the French or German or English or Japanese wanted additional machine tools for their own rearmament, they had to buy them from the United States, and so they came and bought from the United States. That is what I mean by being a monopolist seller in a given situation, you see. Then, of course, when they have to buy, they will have to buy, but when there are domestic substitutes, of course the question does not arise, and the tariff protection is only the least of it.

3246 I mean, whenever they can tie up a small company or a new product in patent litigation, by developing a set of incomplete patents, and then carrying it through their local courts, obviously that is, for all practical purposes, another method of excluding a competitor or making life difficult for him.

Therefore, the other alternatives have become rapidly more important during the past quarter of a century. Direct investment of American corporations abroad represents a very substantial capital investment and a very substantial source of income, and by direct investments are meant foreign subsidiaries of American corporations.

They are fully dealt with in the Department of Commerce publications on the balance of payments of the United States and foreign capital investment of the United States. There are a large number of them. In these cases, the major alternatives are wholly-owned subsidiaries abroad or partly owned subsidiaries.

3247 I also mentioned the third alternative, namely, the licensing of foreign producers, which is a somewhat enfeebled case of American interests in producing abroad. But, in some respects, belongs in this discussion.

The wholly-owned subsidiary is, in a sense, from the viewpoint of well-knit, well-organized industry, like many British industries, a Trojan horse, an enemy within the walls. Of course, very many American companies have wholly-owned subsidiaries abroad and many of them have had a very prosperous and successful existence, but wherever there is a domestic trade, that has preexisted, in other words, wherever the new product is a substitute product for something for which well entrenched interests are well equipped, the breaking in of the wholly-owned subsidiary is a very difficult thing. I mean, "Buy British" is going to be a very much louder cry against a product that is produced by that American factory, that factory that is wholly-owned by an American parent company, when there is already an entrenched industry on which this new American-owned factory is trying to, if I may say, "muscle" in. They view it as an unfair poaching on their preserves.

The method that has been very frequently employed by —I mean, a number of methods have been employed to get around these double difficulties of being able to export at will and having difficulties in running

3248 a 100 per cent owned foreign subsidiary and pretending that it is a foreign company, I mean, domestic in the foreign country, one of which was partial manufacture of export products abroad, which eventually developed into full manufacture of the export abroad and ultimately develops into the sale of a part of the foreign company, foreign subsidiary, to local interests.

The increasingly preferred case is that of American companies forming subsidiaries abroad and taking in local interests so that the foreignness of the enterprise is diluted, and so it appears in the foreign market represented by domestic interests strong enough to protect the venture against other domestic interests in the foreign country that are hostile to it.

The cases of this are really extremely numerous and are rather increasingly so, even in countries like Latin America, where local interests are quite difficult to draw into an enterprise because of great differences in background and corporate experience.

These mixed ownership propositions are very popular in England, France, Germany and the Scandinavian countries, where technological knowledge is very similar. And vice versa, I mean, take the cases of mixed ownership, such as the Shell Union, which is partly owned by Dutch interests, and I don't know whether the British still
3249 have an interest in American Viscose, which they had, and S-K-F is largely, but not entirely, foreign-owned; there are a number of instances in this country where the mixed form exists.

Thirdly, there is the alternative of the licensing of wholly-foreign-owned manufacture.

Q. And the alternative, of course, is not doing anything at all?—A. Well, that definitely is implied in what I said, unless you have a friend in court as it were.

Q. I think now that we have got near the end of this if your Honor will permit me to ask you a guess question, namely, have you any guess as to what will be advisable in the case of an American company of the sort I have described to you in the future, after the war?—A. I think that from the viewpoint of the economic situation abroad and the institutional organization abroad, the answer is implied in what I said, in other words, you either produce in alliance with native interests in the foreign countries involved or else you do not get a share of the market.

The COURT. I was rather impressed by the extremely high degree of correlation between the increasing number of economists and the increasing barriers to foreign trade. I don't know whether it is purely accidental, but the graph shows a very strong degree of correlation.

You may examine, Mr. Dixon.

3250 Mr. DIXON. No questions.

(Witness excused.)

3252 Mr. WHITNEY. I think Mr. Dixon has a stipulation before we proceed.

Mr. DIXON. May it please the Court, we wish to read into the record the following stipulation entered into between the parties to the proceeding as follows:

(Stipulation as corrected.)

Stipulation as to certain facts

It is hereby stipulated between the parties to this action, by their respective attorneys:

(1) That an appropriate official of du Pont, if called by the plaintiff, would testify that du Pont sold 124 tons of pure TiO_2 to Virginia Chemical during the period from August 5, 1937 to December 1, 1944.

(2) That an appropriate official of National Lead, if called by the plaintiff, would testify that National Lead shipped 100 tons of TiO_2 to Chemical & Pigments Company, St. Helena, Maryland, in 1939; that 25 tons of TiO_2 were shipped to Chemical & Pigments Company, St. Helena, Maryland, in 1940; that 70 tons of TiO_2 were shipped to Chemical & Pigments Company, Collinsville, Illinois, in 1940; and that 80 tons of TiO_2 were billed to The Glidden Company, Cleveland, Ohio, and shipped to Chemical & Pigments Company, St. Helena, Maryland, in 1943. He would further testify that The Glidden Company sells the pigments of Zirconium, using Chemical & Pigments Company, a subsidiary of Glidden, as the selling agent.

3253 (3) That an appropriate official of du Pont, if called by the plaintiff, would testify that du Pont sold to Zirconium and/or its affiliate The Glidden Company, the following specified tonnages of pure TiO_2 for the years indicated:

Year:	Tonnage
1931	118
1932	440
1933	635
1934	306
1935	202
1936	62
1937	61
1938	84
1939	331
1940	452
1941	510
1942	1739
1943	953

(4) That an appropriate official of Virginia Chemical, if called by the plaintiffs, would testify (a) that Virginia Chemical produced only pure TiO_2 under its license from du Pont dated August 5, 1937 (Exhibit L); (b) that

3254 Virginia Chemical produced during the period from August 4, 1937, to June 30, 1944, the following net tons of pure TiO_2:

Year:	Tonnage
1937	300
1938*	2896
1939	4014
1940	5024
1941	5499
1942	5755
1943	6437
1944 (six months)	3647
	33,572

and (c) that said tonnage was all of the pure TiO_2 produced by Virginia Chemical during said period and constituted the entire production of titanium pigments produced by Virginia Chemical during said period.

(5) That an appropriate official of Zirconium, if called by the plaintiff, would testify (a) that Zirconium produced only pure TiO_2 under either its license from du Pont dated January 1, 1935 (Exhibit I), or its license from National dated May 6, 1935 (Exhibits H, H-1, and H-2); (b) that Zirconium produced a total of 523.895 tons of pure TiO_2 from January 1, 1935 to May 6, 1935, and produced 33,662 tons of pure TiO_2 from May 6, 1935 to July 1, 1944;
3255 (c) that Zirconium produced during the period from January 1, 1935 to July 1, 1944, the following net tons of pure TiO_2:

1935	2206
1936	3053
1937	3316
1938	4403
1939	5281
1940	4829
1941	6568
1942	1796*
1943	236*
1944 (six months)	1974
	33,662

* No production from October 1, 1942 to September 30, 1943, inclusive.

and (d) that said tonnages were all of the pure TiO_2 produced by Zirconium during said periods and constituted the entire production of titanium pigments by Zirconium during said periods.

(6) That du Pont's response to Paragraph 17 of the subpoena served on it by the plaintiff on October 30, 1944 is that it has no corporate records showing that either du Pont or any of its controlled subsidiaries filed any suit

alleging infringement of any titanium pigment patents of du Pont or of any such subsidiaries.

(7) That National Lead's response to Paragraph 17 of the subpoena served on it by the plaintiff on October 30, 1944, is that it has no corporate records showing that either National or any of its subsidiaries filed any suit alleging infringement of any titanium pigment patents of National or of any such subsidiaries.

(8) That Titan Co., Inc.'s response to Paragraph 17 of the subpoena served on it by the Government on October 30, 1944, is that it has no corporate records showing that Titan Co., Inc. filed any suit alleging infringement of any of its titanium pigment patents.

(9) That du Pont's response to that portion of Paragraph 19 of the subpoena served on it by the plaintiff on October 30, 1944, calling for "the original records or books * * * showing the manner and method of arriving at" its price lists is that it has no such corporate records.

(10) That National Lead's response to that portion of Paragraph 19 of the subpoena served on it by the plaintiff on October 30, 1944, calling for the "original records or books * * * showing the manner and method of arriving at" its price lists is that it has no such corporate records.

(11) That an appropriate official of du Pont, if called by the plaintiff, would testify that the entire stock interest of Commercial Solvents in Krebs was purchased by du Pont on December 31, 1934, and that from 3257 and after said date until dissolved, Krebs was a wholly-owned subsidiary of du Pont.

(12) That an appropriate official of Titan Co., Inc. if called by the plaintiff, would testify that Titan Co., Inc. never granted a sublicense pursuant to the licenses received by it from du Pont under the license agreements dated July 27, 1937, June 20, 1938, April 21, 1939, May 10, 1940 and June 23, 1941, respectively (Plaintiff's Exhibits M, N, Q, R and S), on a cash royalty basis and therefore never paid to du Pont any cash royalties under said license agreements.

(13) Plaintiff's Exhibit 42 (page 209 of the transcript herein to the contrary notwithstanding) should not be deemed in any way to indicate royalties paid by du Pont (since there were none) under the du Pont-Titan Co., Inc. license agreements dated July 27, 1937, June 20, 1938,

April 21, 1939, May 10, 1940 and June 23, 1941, respectively (Plaintiff's Exhibits M, N, Q, R and S). Said Exhibit 42 refers solely to royalty payments made under the agreement of January 1, 1933, between Titanium Pigments and Krebs (Plaintiff's Exhibit E).

(14) That National Lead does not sell any titanium pigments which are commercially equivalent to the following titanium pigments which are, or have been, sold by du Pont:

3258 TiPure LG.
TiPure WR.
TiPure SI.
TiPure 33.
TiPure R 300.
TiPure R 510.
TiPure R 610.
TiBar O.
TiBar HHK.
TiCal R 25.
TiCal R 30.
TiCal R 31.
TiCal R 35.
TiCal HO-NS.
TiTint LG.
TiTint DG.
TiTint LB.
Titone L.
Titone 178.
TiTone J.
TiTone P.
TiTone NR.

(15) That du Pont does not sell any titanium pigments which are commercially equivalent to the following titanium pigments which are, or have been, sold by National Lead:

3259 Titanox L (Lead Titanate).
Titanox A (Phthalate Treated).
Titanox A 24-NO.

(16) That an appropriate official of du Pont, if called by the plaintiff, would testify that the price lists contained in Plaintiff's Exhibit 42 are accurate; that the prices and terms of sale indicated on such price lists are the actual prices and terms of sale established by du Pont and were in effect from the effective dates indicated on such price lists until the effective date of the next succeeding price list; that such price lists include all of the titanium pig-

ments sold by du Pont during the period when such price lists were in effect; and that such price lists and the prices therein contained were announced on some occasions prior to their effective date and on other occasions subsequent to their effective date and not necessarily concurrently with price announcements made by National Lead.

(17) That an appropriate official of National Lead, if called by the plaintiff, would testify that the price lists contained in Plaintiff's Exhibit 24 are accurate; that the prices and terms of sale indicated on such price lists are the actual prices and terms of sale established by National Lead and were in effect from the effective dates in-
3260-61 dicated on such price lists until the effective date of the next succeeding price list; that such price lists include all of the titanium pigments sold by National Lead during the period when such price lists were in effect; and that such price lists and the prices therein contained were announced on some occasions prior to their effective date and on other occasions subsequent to their effective date and not necessarily concurrently with price announcements made by du Pont.

(18) That an appropriate official of Zirconium, if called by the plaintiff, would testify that neither National Lead nor any of its subsidiaries received any royalties from Zirconium under the license dated May 6, 1935, granted to Zirconium by Titanium Pigments.

(19) That an appropriate official of National Lead, if called by the plaintiff, would testify that the files of National Lead contain a draft of Plaintiff's Exhibit G on page 1 of which appears the following handwritten notation: "Left by Dr. Jebsen July—1933—FMC-WCB".

(19a) That an appropriate official of the defendant
3262 du Pont, if called by the plaintiff, would testify that du Pont received no royalties from the National Lead Company or Titan Company, Inc. for licenses granted Titan Company, Inc. under plaintiff's exhibits M; N; Q, R and S, respectively, and that the du Pont Company paid no royalties to the National Lead Company or Titan Company, Inc. for licenses granted the du Pont Company by Titan Company, Inc. under plaintiff's exhibits Q, R and S, respectively.

That an appropriate official of the National Lead Company and Titan Company, Inc., if called by the plaintiff, would testify that neither of said companies paid any royalties to the du Pont Company for any licenses granted Titan Company, Inc. by the du Pont Company under

exhibits M, N, Q, R and S, respectively, and that neither of said companies received any royalties from the du Pont Company for any licenses granted the du Pont Company by Titan Company, Inc. under plaintiff's exhibits Q, R and S, respectively.

(20) This stipulation is made for the purpose of saving the time of the Court and counsel on the trial of this case and it may be set aside or modified by agreement or by direction of the Court in the event that such action may be deemed necessary or desirable in the interest of justice.

(21) The matters agreed to herein are for purposes of this action only.

3343 JOHN F. DALEY, called as a witness on behalf of defendant E. I. du Pont de Nemours & Company, Inc., being first duly sworn, testified as follows:

Direct examination by Mr. GESELL:

Q. Mr. Daley, you are employed by the du Pont Company, are you not?—A. That is right, sir.

Q. In what capacity?—A. General manager of the pigments department.

Q. How long have you been employed by the du Pont Company?—A. Thirty years.

Q. Will you state briefly what positions you have held in the company during the last thirty years?—A. Well, I started in 1915 in smokeless powder production work; went from there, after the war, into the chemical part of the business, stayed in production work, manufacturing, in charge of various processes, aluminum sulfate, paint and varnish, and then into pigments, going into the pigment department in about 1925. I was plant manager for the pigment department at their Newark plant for some time. I became production manager——

Q. When did you become production manager?—A. About 1931 or 1932, and I stayed as production manager for a matter of close to ten years, and I was director of sales of the department.

Q. Now, you were production manager for ten years?

3344 —A. Yes.

Q. That brought you up to about 1942?—A. No. It was probably about eight years, because I was sent under sort of lend-lease arrangement to the explosives department to start up the first smokeless powder plant that the United States Government directed for this war out near Louisville, Kentucky.

Q. During what time were you on that assignment?—A. Well, that was from November, 1940, until June, 1942.

Q. During that period you were technically production manager but on an assignment to an explosives plant job, is that right?—A. That is right.

Q. What happened in 1942?—A. I came back and was assigned to the job as director of sales, and I stayed there for four months.

Q. Of the pigments department?—A. Of the pigments department.

Q. At the end of that four months what did you do?—A. Well, the War Department of the United States Government asked for my services as—well, it was deputy field director of ammunition plants for the Ordnance Department of the Government, and I worked with them in a sort of supervisory capacity over production of all the ammunition for the War Department.

Q. Until when?—A. Until June of 1944.

3345 Q. You returned to the du Pont Company then?—A. Yes.

Q. In what capacity?—A. Came back as sales director.

Q. How long were you sales director?—A. Probably about six weeks, because we had some illness in our higher management and I became an acting assistant general manager for about a month or so.

Q. That would be about when?—A. July of 1944.

Q. When were you made general manager?—A. September or October; probably October of 1944.

Q. And you have been general manager since that time?—A. Yes, sir.

Q. When did Mr. Rupprecht die?—A. September.

Q. 1944?—A. Yes.

Q. Now the pigments department, as I understand it, is one of a number of departments in the du Pont Company, is that right?—A. That is correct.

Q. How many are there?—A. There are ten major or manufacturing departments in the company.

Q. And then certain service departments?—A. There are probably another ten service departments, engineering, legal, publicity or public relations, and various others of that kind.

Q. What is the scope of the activities of the pigments department?—A. The pigments department has full jurisdiction over any matters pertaining to pigments as

3346 manufactured or sold within the du Pont Company.

Q. What are the principal products that the pig-

ments department handles?—A. Your titanium products, lithopone and dry colors are the three major divisions of the pigments department.

Q. And there are certain other pigments that you sell?—A. No. Well, we re-sell zinc oxide and a few items of that kind. They are more or less minor.

Q. How is the department organized internally? You are the general manager; and how many employees do you have?—A. Probably 1200 employees in the department, as a total.

The COURT. That includes manufacturing personnel?

The WITNESS. Yes, sir. We have four plants, and that includes the people at the four plants and in our main office.

Q. How many of those are engaged in the sale of titanium pigments?—A. In the sale?

Q. Well, in the titanium pigments operations.—A. About 700.

Q. And how many plants does the du Pont Company operate for the manufacture of titanium pigments?—A. Two.

Q. Where are they located?—A. Baltimore, Maryland, and Edge Moor, Delaware.

Q. And when were they built initially?—A. Well, 3347 the Baltimore plant was acquired from the Commercial Pigments Corporation in 1931.

Q. Since that date it has been expanded, has it not?—A. Yes, sir.

Q. When was the other plant built?—A. The other plant was built, I think, in 1935. That was its initial operation.

Q. Approximately how many customers does the pigments department have for titanium pigment?—A. I had that figure checked up by the Trade Analysis Division. In 1944 we sold to one thousand separate customers.

Q. And approximately how many different titanium pigment products does the division sell?—A. Roughly 40, currently active ones that is.

Q. As general manager to whom are you responsible in the du Pont Committee?—A. The executive committee of the company.

Q. Is that a committee made up of certain directors of du Pont Company?—A. No. That is a committee made up of eight vice-presidents of the du Pont Company.

Q. And in what respect are you responsible to that committee?—A. Well, the regulations of the company require that certain matters, prescribed items, must be referred

to that committee for any kind of a definite or final decision. That would include requests for new
3348 construction in excess of a certain amount of money which must be submitted to them; any matters involving patents or licenses must be submitted to them through the legal department or the committee on patents. I could not think of them all offhand, but there are other matters of broad company policy which might have some effect on another department of the company that you would normally recognize as a matter you should clear with them before making any commitment for the company.

Q. What, if any, commitments and agreements made by your department must be submitted to that committee?—A. Any purchase contract, for instance, in excess of a given amount, or covering more than a certain period of time, and likewise with a sales contract of similar specified values or duration; commitments as to patents or patent licenses.

Q. Commitments as to technical information?—A. Yes, any commitment which would involve giving away something which you might regard as the property of the company, such as would be the case with technical information.

Q. How often does the committee meet?—A. The executive committee meets regularly every Wednesday.

Q. Are the reports made to the committee in writing or by personal presentation?—A. I think invariably everything taken up with the executive committee is in
3349 writing. That is a requirement.

Q. Do you ever appear before the executive committee in your capacity as general manager?—A. Oh, yes.

Q. In what connection would that be?—A. Well, in addition to those other matters that must be referred you must submit a monthly report to the executive committee of the progress in your department, the performance for the month, and once every four weeks, or once every month you must go up and discuss that particular report, in addition to going up on any other submission which you have filed with them with request for authorization for any discussion they might want to have on it before they pass on it.

Q. In other words, you make a written submission on one of the matters that comes within the scope of the work as you have described, and, if they want to talk to you about it, they call you up?—A. That is right.

Q. How many members are there of this committee?—A. Eight.

Q. And it is responsible, is it not, to the board of directors of the company?—A. Yes.

Q. Now I believe you said that you had approximately a thousand customers, is that correct?—A. That is right.

Q. What type of person are those customers?—A. Well, they are largely in the major fields which we sell to; that is paint, paper, printing inks, floor covering, rub-
3350 ber—they are probably the five largest fields—welding rods.

Q. They are all manufacturers, are they not?—A. That is right.

Q. And they purchase titanium pigments for what purpose?—A. For further processing into the particular product which they, in turn, sell to direct consumers.

Q. You have no sale of titanium pigments, as such, to an ultimate consumer of those products other than these manufacturing customers?—A. I do not think so, no; none at all.

Q. Now will you indicate what sort of sales force you have, the type of men you employ as salesmen, what their training is, and generally what the field of their activity is.—A. Well, to start with, in the pigment business you have got to realize the consumers' problems in selling pigments. The pigment business is rather along the lines of drug prescription business. That is what it currently has developed into, at any rate. Let us take, for instance, our major outlet, which is the paint industry. There are probably 12 to 15 hundred paint manufacturers in the United States. They represent every kind of an extreme with respect to size of the outfit, the size of the company, the type of equipment which they use, the different paint consuming fields which they in turn cater to or sell to, the type and extent of the technical organization which
3351 they have within their own organization, the type of formulations which they employ. Paint manufacturing is something like baking a cake. If you ask ten women to bake a cake they will ultimately bake ten cakes and you might like the chocolate, but they are all good cakes, but they are not made the same way. Neither do paint manufacturers make a paint for outside house paint all the same way, and all these conditions go in there. To meet these conditions that exist in these paint manufacturing establishments, you have got to have a techni-

cally trained man to sell your pigment, because he must appreciate the differences in the problems with the separate paint manufacturers. The type of paint generally referred to as a mountain district type of paint is different from the paint made in Philadelphia or Boston, generally speaking, or in the Middle West. The paint you have made for use in Florida or in your southern seaboard states is quite different, or should be, than the paint made for consumption in Illinois or Indiana.

The paint manufacturers will use stone mills, pebble mills, or roller mills, just depending on what the particular man elected to put in. Now any one pigment ground in the separate types of mills will give different results and may give different results as to gloss, as to fineness, which is your level, your smoothness of your film. There
3352 the difference is created by the conditions within the paint plant. You have to know that and to know what that particular paint manufacturer wants and the type of trade he is trying to sell to, whether it is a refrigerator manufacturer who wants a blue-whiteness, and the highest degree of gloss and the greatest degree of smoothness. He is willing to sacrifice some other property if he gets them. Now, your type of salesman must go in there if he can and find out what type of customer the paint manufacturer is that his product is for; what properties he emphasizes; what vehicles he uses with the pigments.

Q. What do you mean by "vehicles"?—A. I mean the oil, the liquid part of the paint. At one time you had linseed oil and China wood oil and the fish oil and turpentine, and that is all. But now you have a thousand separate vehicles available to the paint manufacturers and thus with your highly technical, big laboratory organization you must understand and know the different properties of the various vehicles and what they will do in the paints, and you must be up with that, and he must know it, so you have to have these technical salesmen to bring us in that kind of a story if we are going in to replace a product by a competitive titanium manufacturer.

Q. Now those differences in uses and the different problems you meet within the paint field, are they
3353 also met within the other fields to which you sell titanium pigments?—A. Yes, sir; they are identical problems; but the general number of problems and the degree of problems are present in rod manufacturers, or

paper or printing inks—the field really makes no difference.

Q. And I take it from what you said your salesmen are all technically trained so that they know how to advise the manufacturer to whom they are selling?—A. Well, we still have a number of salesmen, a few, I should say, of our older men, who are still with us who started years ago in selling of lithopone and took over part of the titanium sales trade. But any salesmen whom we have put out, and that would represent three-quarters of our sales force I would say, in the last fifteen years has been a technically trained man.

3354 Q. Well now, would you give us a typical instance of how a salesman might get and retain a particular titanium pigment account?

The COURT. What kind of fly and what kind of reel?

A. Well, normally the salesman has created some goodwill, or at least he is allowed in the door, he is allowed to talk, and he finally, we hope, reaches the point, or we will assume he reaches the point where he says, "Won't you try my stuff? It will give you some advantage over what you are using." He may have by that time through a number of visits been able to figure out that he is a man we would like to have, the type of trade he is selling; "We would like to have a better gloss"; and "I have something that will give you a better gloss. Will you try it out?"

And he may get the agreement of the paint manufacturer to try it out in competition with the material he is using. And, normally, that will be probably in a laboratory scale. And he will be told that it doesn't give any improvement in gloss and, therefore, they don't care to upset their factory conditions by trying it out on a larger scale. And he will then try to get the permission to bring a technical service man in with him, somebody who can get the detailed problems of this paint manufacturer
3355 and probably samples of his vehicles and his grinding conditions and take them back to our laboratory and work with the research crowd back there to find out why our material didn't give the expected improvement in gloss that we thought and hoped it would.

And he will go back and say, "Now we can prove it," and proves it again in the laboratory. And the man says, "All right, I will try that again." And he tries this out in the plant, and you may get an order. You try it out in the plant and it may or may not give you the degree

of improvement on this full plant scale equipment. If it does not, again you have to have your technical service men stay there in that paint manufacturer's plant to watch and figure out why it didn't give you this degree. Perhaps we can come back with enough information to again go to work in the laboratory and again correct the conditions—and I am covering a period normally of six or eight months—and finally you get in with a product which gives that man that advantage which is the important advantage to him in the type of trade which he serves.

Q. Does that involve presenting to the prospective customer technical comparisons of the properties of a du Pont titanium pigment and the competitive pigment of another manufacturer who is trying to sell the customer, or who has the account?—A. I don't quite get your question.

3356 Q. That is a little involved. Let me ask you this question.—A. These people depend on physical results. Now you necessarily have to discuss with that manufacturer, and depending again on the man's organization—you will find today that most of your paint plant superintendents are technically trained men, and then they also have the old super-doctors over in their laboratories; so your man necessarily has to discuss the technical side of the product. He would love to be given the opportunity if they will listen, he will fill out the order if they just listen. That is just making character and selling. And, normally, that is what happens. In addition to the physical tests to demonstate the quality that you are after.

Q. Now in this process do you meet competition of National Lead?—A. Oh yes.

Q. How would you characterize that competition?—A. I would characterize it as plenty tough. They have got their good, big share of the business and very good products.

Q. Do you also meet any competition from Virginia Chemical and American Zirconium?—A. Yes, sir.

Q. Well now, how does evidence of this competition come to your attention?—A. It comes to our attention through our salesmen, the salesmen making regular calls; and according to our system, our so-called trade record system, a salesman sends in a written report on a

3357 prescribed form of each call, reporting whatever information he can get at that plant with respect to what the customer is now using, what particular grade

of competition he is using, and what efforts he made to sell, and what is to be done, what help he might get from the laboratory in helping him sell that particular account.

Q. Do your salesmen and technical people call upon and solicit the business of National Lead accounts?—A. Regularly.

Q. Do they call upon and solicit the business of the Virginia Chemical and Zirconium accounts?—A. Regularly.

Q. I believe you said you met competition of Virginia Chemical and American Zirconium.—A. Yes, sir.

Q. How would you characterize that competition?—A. How would I characterize the competition? I would characterize it like any other competition, that is tough; and they have the regular line of titanium products of good quality.

Q. Have you taken customers from time to time from National Lead?—A. Yes, sir.

Q. And from Virginia Chemical?—A. Yes, sir.

Q. And from American Zirconium?—A. Yes, sir.

Q. Have they taken customers from you?—A. They have, all of them.

Q. Have you any information as to the extent to which there is a shifting of customers as between you and
3358 National Lead?—A. Well, I had occasion to have that investigated, and our records—our trade record analysis shows that during the years 1935 to 1941, I believe that was the period covered, we lost—or we gained on the average 25 accounts per year and lost on the average of seven accounts per year. And during that period our peak gain in any one year was 53 and our peak loss was 12.

Q. When you say gain and loss you refer to gain and loss from National Lead?—A. That is right.

Q. In selling titanium pigments do you meet the competition in the market of any other form of white pigments?—A. Well, we meet lithopone and white lead particularly. They are the two outstanding pigments.

Q. What companies are the principal manufacturers and sellers of lithopone?—A. New Jersey Zinc, Glidden, Sherwin-Williams, Eagle Picher. I believe they are the four.

Q. Are those large or small companies?—A. No; they are all large companies.

Q. Who are the principal sellers of white lead?—A. National Lead, Eagle Picher. They are the two that I can think of at the moment.

Q. Now when you say you meet competition of lithopone

and white lead, what do you mean by that?—A. You are selling in competition with those two pigments. Now you have got to have a product which to the customer
3359 represents better money value or better quality. And we compete with those other products on that basis. That is what I say.

Q. Do some of your customers use these various forms of white pigments in combination?—A. Oh, yes. The average outside house paint, for instance, will carry both titanium and lead and zinc oxide, for instance.

The COURT. All mixed in the one can?

The WITNESS. Yes, sir.

Q. Will you describe briefly the nature of the research organization which the pigment department of du Pont Company maintains in connection with titanium pigment activities?—A. Well, we have laboratories at our Baltimore and Edge Moor plants, to start with, and a central research work pigment laboratory at Newport, Delaware, which is detached from either of those two plants. Altogether, we have about 80 chemists doing research work on white pigments.

Q. Has the research work grown or diminished in the years since 1940?—A. Since 1940? I don't believe I could answer that accurately. I was out for such a period there that I don't know exactly what the comparison between 1940 and 1944 would be.

Q. Well, over the period—— A. Our research expense has been on such an ascending line—I go back to a period of 15 years now, that I just can't visualize a reduc-
3360 tion, except for the possible war effects of some sort.

Q. Will you describe briefly how you develop a new titanium pigment product?

The COURT. How you develop it?

A. How you do it or why you do it?

Q. Well, both. Perhaps, why you do it.—A. Well, we have those 80 research chemists to tell you the "how." But with our contact with the consuming industry, with 20 or 25 technically trained men, we are being constantly advised of the deficiencies of our pigment, both from the standpoint of the things that the consuming manufacturer, the paint or paper or what not man, would like himself to do as an improvement from time to time wherein we are deficient to competition.

Now we will take that sort of information and after proper discussion back and forth with our technical de-

partment, we will determine whether or not that is a fit subject for a research project, and if it is it will be fitted into the program and research work will be done on it. And, on top of that, we have a regular monthly meeting within the department of our New Products Committee which would include representatives from research, production, and sales, sifting over new possibilities, suggestions and so on which we encourage from various sources.

3361 Q. I meant to ask you when you were discussing the organization of the pigments department whether or not it was the practice of the department for the various managers of different divisions and various key men to meet together frequently?—A. Yes; for several reasons. I mention one of them there, and in that group would be the management. Another one would be the monthly discussion of costs in which research and management and production and sales are all interested, naturally. Another one would be forecasting. We have——

Q. Forecasting sales?—A. We have to forecast our sales every three months and forecast it for the next twelve months, and at certain intervals to make a so-called more high spot, longer range forecast for three-year periods.

Q. Do you have such meetings to discuss production and planning problems?—A. Oh yes. Well, your sales forecast will necessarily lead into a consideration of more capacity, and then you plan as to how to arrive at that, what additional equipment you will have to put in, what improvements, process improvements your research organization in the interim have been considering, and when would be the proper time to turn it over to the engineering design division for detailed study, and so on.

Q. You have had those meetings of this type with your staff during the time you have been general manager and acting general manager, have you not?—A. Yes, sir.

3362 Q. Did Mr. Rupprecht have such meetings while he was general manager?—A. Oh yes, regularly.

Q. You attended those meetings as production manager or as sales manager, whichever your position was?—A. That is right.

Q. Now, Mr. Daley, I want to direct your attention to a chart which has been marked for identification by the clerk as du Pont Exhibit for identification 94. Do you have a copy of that chart before you? It is entitled "Du Pont Productive Capacity and Sales of Pure TiO_2, 1932-1944."—A. Yes, sir.

Q. Was that chart prepared under your direction and supervision?—A. Yes, sir.

Q. What was the source of the information contained on the chart?—A. The production capacity information is the official record of the pigments department as submitted by the production department as to their ability to produce, with such figure always being approved by the management. The sales information is the actual official records of the trade analysis section of the sales department.

Q. And this chart was prepared from that information?—A. Yes, sir.

Q. Now do I understand correctly that the horizontal line which appears on this chart in heavy black straight lines is plant capacity for pure TiO_2?—A. Yes, sir.

3363 That is the official rated capacity.

Q. What do you mean by "rated capacity"?—A. Well, that is regarded as the maximum amount that the plant can produce per month.

Q. And the jagged line shown in somewhat lighter width on the chart shows actual sales per month; is that correct?—A. Yes, sir.

Q. Now from time to time that jagged line rises above the horizontal production line and the area is shown in heavy black on the chart. Do you notice those situations?—A. Yes, sir.

Q. What do they represent?—A. The jagged line below the horizontal capacity line——

Q. I was talking about above, Mr. Daley; the blacked in portion.—A. The blacked in portion above represents periods where sales were in excess of current capacity.

Q. Where the jagged line is below, that represents, I take it, where sales were less than rated capacity?—A. That is right.

Q. The chart covers the period from 1932 to 1934, does it not?—A. Yes, sir.

Q. Why was it started in 1932?—A. That is when we started in the titanium dioxide business.

Q. Now examining the chart for the period 1932 to 1939, will you describe what it shows, as a trade produc-

3364 tion man?—A. It shows that we started in the business, and I said that is when we started in the business, that is when our first accurate sales records were available; it showed in our early stages in the business, in the year 1932, we were selling at below the then rated capacity of the plant and that in 1933 we went very sharply above our capacity with the requirement of expanding our

plant of the same year, and about the time we got that finished in 1934 we again oversold that. So we expanded again to a greater percentage all of our then existing capacity, and then a year after we completed that we again oversold it and made another small expansion, carrying us into 1935; and we immediately oversold that, and then made a very substantial expansion in the early part of 1936.

Q. That was soon exceeded, I gather, in 1937?—A. Again, in 1937 we exceeded that. And then took a period of 18 months or so of a depression period when we were undersold, but before the end of 1939 we were back up again in an oversold position and have practically stayed there ever since.

Q. When you say "depression period," you mean a period of general economic depression?—A. Yes, sir.

Q. Not just for du Pont's titanium pigment business?—

3365 A. No. I might point out if I may, Mr. Gesell, that each one of these periods, each one of these expansions is a matter of something that happened, materializes let us say, about a year or more after you do your initial planning.

Q. So that during this period you discuss there was just a constant scramble as to whether sales would be ahead of capacity or capacity ahead of sales?—A. I was in production exclusively at the time and I remember that sales were ahead of capacity or were forecasting that they very soon would be, and I was scrambling for a period of eight solid years. That is my vivid recollection.

Q. Mr. Whitney points out the big dip that took place in 1942, below the line. Have you some explanation for that?—A. Well, in 1941 it appeared as if every buyer of pigments decided that he would never again be able to buy pigments—that was the general conception, because it was something akin to a buyers' panic, because in 1942 we had customers that didn't buy anything for eight or nine or ten months, they had way over-bought in 1941, and on top of that the paint business itself took a sharp curtailment in 1942. So you had the cumulative effect of over-buying and under-consumption which accounted for that dip in 1942.

Q. Well now, will you turn briefly to the chart which has been marked——

The COURT. Are you offering that in evidence?

3366 Mr. GESELL. I was going to identify them both and offer them both, your Honor.

Q. ——du Pont's Exhibit 95 for identification. Do you have that in front of you, Mr. Daley?—A. Yes, sir.

Q. That is a similar chart. I want to reflect the relationship between capacity and actual sales of Ti-Bar and Ti-Cal in the period from 1935 to 1944.—A. Yes, sir.

The COURT. Those are the extender pigments?

The WITNESS. Yes, sir.

Q. Why does this chart start in 1935?—A. Well, that is when we first entered the extender titanium pigment field.

Q. It is made on exactly the same basis and from the sources as the previous chart?—A. That is right.

Q. Will you comment briefly on the relationship between actual sales and capacity for the period 1935 through 1939, as indicated on that chart?—A. Well, we started in this business in the middle of 1935 and were able to make some substantial initial sales during that first half-year. Before the end of the second year we hit a peak period of two or three months of approximately 95 per cent of our capacity. Then after dropping back down again for a period of nine months we did the same thing again in the following year, and then a second peak that same year which sold our entire capacity. Then by the end
3367 of the third year we were substantially oversold, requiring an expansion in the fourth year.

Q. Then, from then on through 1941 you were constantly in an expanding production situation, with sales in excess of capacity most of that time?—A. Yes, sir.

Q. Now referring to both charts, will you explain the situation briefly as it has existed since 1940? I refer particularly to the fact that there have been constant sales of TiO_2 in excess of capacity for that period, whereas there have been few sales in excess of capacity of the extender pigments could switch to lithopone, which in the and our inability to get a continued supply of ilmenite from our regular sources, we had to use other grades of ilmenite which curtailed our total production of TiO_2 and which at the same time greatly increased our production costs.

Now, we elected to take the TiO_2 and sell it as such rather than produce it and consume it in an extender—to make the extender pigment. Now, the consumers of extender pigments could swith to lithopone, which in the early part of the war was available, and could switch to white lead, which was available, more readily than they could switch—than could the consumer of titanium dioxide.

Q. So you automatically put a self-imposed ceil-
3368 ing on production of extender pigments?—A. That is right.

Q. As indicated by the dotted line which appears in the years 1941 to 1944 on the chart, identified as du Pont Exhibit 95 for identification?—A. That is right.

Q. And that permitted you to take care of these excess sales of TiO_2 in that period, as shown on Exhibit 94 for identification?—A. That is right.

Q. What is the rough ratio of the Ti-Bar used in the extender pigments to the ultimate product? Two to one? Three to one?—A. No. We consume—our rate of capacity let us say consumes 30 tons of TiO_2 in extender pigments, and 110 tons for sale as such.

Q. So that to take care of these sales of TiO_2 which extend above the production line on Exhibit 94 for identification, it was necessary to make a larger drop below the production line on Exhibit 95 for identification to account for that ratio?—A. Yes. 40 tons a day of extender pigments is 12 tons a day of TiO_2. That shows your relationship for those differences.

Mr. GESELL. Now at this time, your Honor, I would like to offer these charts in evidence.

The COURT. No objection. They will be received.

(Du Pont's Exhibits 94 and 95 for identification received in evidence.)

Q. Mr. Daley, I show you du Pont Exhibit 19,
3369 being a letter of Mr. Rupprecht to you under date of November 15, 1933, and ask you whether you carried out the instructions contained in that letter?—A. Yes, sir, we did.

Q. Will you state what the practice has been with respect to the subject matter?—A. The practice has been to show on the shipping container the patent numbers under which the product is manufactured.

Q. Now, Mr. Daley, some reference has been made in this case to the fact that the sales contracts used by the pigments department contain the words "for the buyer's own consumption." Do you recall that those words appear on the sales contract forms that are being used?—A. Yes, sir.

Q. Have you made any investigation to determine how long that phrase has been used on the sale contract forms employed by the titanium pigment division?—A. Yes, sir.

Q. What are the results of that investigation?—A. We found a contract which was signed in 1932 and the form

was printed in 1931, as shown by the printer's data on the form itself. That is the oldest one we could find; anything prior to that had been destroyed. We found that one.

Q. Is this the form I show you, the one that has been marked 96 for identification?—A. Yes, sir.

3370 Q. Now state, if you know, what the practice is generally in the chemical business in respect of the utilization of this phrase on sales contracts of this type.—A. I would say that it is generally used throughout the chemical industry.

Q. Mr. Daley, what percentage of your business is sold on a requirement contract basis?—A. Well, in normal times——

Q. I mean, prior to the war.—A. That is what I mean. Better than 95 per cent of our business would be on a requirement contract basis.

Mr. Gesell. I offer du Pont Exhibit 96 for identification. Not the printed matter on it, Mr. Dixon.

The Court. It will be received. There is no objection.

(Du Pont Exhibit 96 for identification received in evidence.)

Q. Mr. Daley, have you caused an inquiry to be made into the records of the du Pont Company, and specifically the pigments division department, to determine whether or not at any time the du Pont Company has refused to license anyone under any titanium pigment patent?—A. Yes, sir, I did.

Q. What is the result of that investigation?—A. We have never refused to so license anyone.

3371 Q. What is your understanding at the present time of the obligations of the du Pont Company toward the National Lead Company?—A. I did not follow that.

Q. What is your understanding of the obligations of the du Pont Company towards the National Lead Company as to patents?—A. We have currently an agreement to notify the National Lead Company not later than six months after filing of any patent application and to license National Lead Company under any patent.

Q. Is that obligation contained in the agreement of 1933, as amended?—A. Yes, sir.

Q. Do you have any other understanding or agreement of any kind or form with the National Lead Company?—A. No, not at all.

Q. What are your obligations toward the National Lead

Company, if any, in respect of the exchange of technical information?—A. We have none.

Q. Have you any understanding or arrangement with that company in respect of plant visits by them of your plants or you of their plants?—A. No, none at all.

Q. What are the obligations of the du Pont Company as you understand them toward the so-called foreign associates of National Lead Company as to patents?—A. We have no obligation to the foreign associates of the National Lead Company, other than as provided to give them refusal of any patents that we have when we care to offer.

3372 Q. You are referring again to the provision in the agreement of 1933, as amended?—A. Yes. That is what I thought you meant.

Q. What are your obligations toward the foreign associates of National Lead, if any, in respect of technical information?—A. None at all.

Q. What are the restrictions, if any, with respect to du Pont's right to sell titanium pigments outside the United States?—A. We have no restrictions other than might be covered in any patent matters.

Q. By that you mean you are free to sell in any part of the world?—A. Yes.

Q. What are the rights of others as far as between the du Pont Company and them as to selling in this country?—A. I don't know of any restriction.

Q. Are there any obligations of any kind in respect of titanium pigments between the du Pont Company and the so-called Blumenfeld interests?—A. No, not at all.

Q. Mr. Daley, have you had any discussions or conferences of any kind with any representatives of the National Lead Company in respect of manufacturing capacity or production at any time?—A. No, sir.

Q. Had you had any discussions or correspondence with the representatives of the National Lead Company at any time in respect of price policy and price changes?—

3373 A. Will you excuse me a minute? On that previous question you said, did I ever have any——

(Previous question read.)

The WITNESS. In the early days when the original agreement was made with the National Lead Company I attended a couple of so-called technical meetings and went to visit the St. Louis plant of the National Lead Company.

Q. But other than that you had no relations?—A. No.

Q. Have you had any discussions or correspondence of

any kind with any representative of the National Lead Company in respect of price, price changes or price policy?—A. No, none at all.

Q. Have you had any such discussions or correspondence in respect of terms and conditions of sale?—A. No, sir.

Q. Have you had any discussions or correspondence of that character in respect of territories in which you sell?—A. No, none at all.

Q. Or could not sell?—A. No, sir.

Q. Any discussions or conversations at any time with representatives of National Lead in respect of solicitation of customers?—A. No.

Q. Or any such conversations or correspondence in respect of restrictions upon customers?—A. No, sir.

Mr. GESELL. That is all.

3374 Cross-examination by Mr. DIXON:

Q. Mr. Daley, do you know Mr. Corddry?—A. No, sir.

Q. You don't even know who he is?—A. I know the name as a sales manager or technical manager for National Lead Company.

Q. Have you ever met him at all?—A. No, sir.

Q. You have never spoken to him?—A. No, sir.

Q. Now, you were production manager, as I understand it, for the Krebs Company from 1932 to 1942, excluding the time that you were working for the Government?—A. Yes, sir.

Q. What were your duties as production manager? Were you in charge of the operation of the two plants of the du Pont Company that were manufacturing titanium pigments?—A. Yes, sir.

Q. Where was your office located during those years?—A. In Newark, New Jersey, and Wilmington, Delaware. And I say that because our management was at the two places and I was part of the management group.

Q. It was your duty to see that the two plants in particular, insofar as the titanium pigment branch of the business that might operate was concerned, operated smoothly and turned out the product they were supposed to produce; that was your job, wasn't it?—A. That was part of the job, yes.

Q. When did you first take over sales or have anything to do with the sales of pigments? That was in the year 1942, wasn't it, for about four months?—A. I believe it was 1942, yes, sir.

Q. Mr. Daley, do you know Mr. Corddry?—A. No, sir.

3375 Q. Well, up to that time you had not had anything to do with the sales branch of the titanium pigment business, had you?—A. The office in which I was located as production manager for that period was more or less between the offices of the general manager and the sales manager; and your everyday conduct of the business of the department necessitated your regular contacts with sales.

Q. Who was the sales manager of the company during that period of time?—A. G. A. McCorkle.

Q. But you were production—— A. G. A. McCorkle.

Q. You took over his duties, did you, in 1942?—A. Yes, sir.

Q. And you acted as sales manager and production manager for about four months, did you?—A. No, sir.

Q. What position did you hold during that four-month period in 1942?—A. I was director of sales and I relinguished my production duties entirely, and Mr. McCorkle stayed as sales manager under me.

Q. So that you sort of became sales director over the previous sales manager?—A. That is right.

Q. You held that position for about four months, as I understand it, and then went with the Government on special work, or for the Government, for about two years?—A. Yes, sir.

Q. Until you recently returned; and are now
3376 manager of the pigment division of the du Pont Company?—A. That is right.

Q. Well now, I take it that from your positions which you have held with the company that until recently you did not have very much to do with the actual sales of the du Pont Company in the tifanium pigment business; is that correct? A. No, I didn't have anything to do with the actual sales. I had to do—I had a rather close knowledge of the departmental policies with respect to sales, necessarily.

Q. Well, you were not directing the sales force, that is what I mean, of the du Pont Company?—A. Correct. That is right, sir.

Q. How long had you been directing the sales force of the company?—A. I did it for that four months' period.

Q. Yes.—A. And I did it for another month or six

weeks in 1944, that is as director of sales; and since then, the overall management responsibility.

Q. When you were sales manager during the period that you have mentioned, did you yourself go out into the field to conduct sales solicitations of any particular customers?—A. No.

Q. So that all of that work was done by your salesmen, is that correct?—A. Yes, sir.

Q. So, as far as any direct knowledge or experience in the field is concerned, you have no such knowledge,
3377 other than what we may have come to you from such salesmen as represented the du Pont Company in the field; is that correct?—A. I don't think I quite follow that.

Q. (Read.)—A. Yes, that is correct.

Q. So that when you made the statement that Virginia Chemical, for instance, or Zirconium was tough competition, you meant that that is what the salesmen had told you; is that correct?—A. That is evident from the—what I mean is, it is stressed in their regular reports on calls on customers.

Q. Now, as a production man of costs can you tell the Court what relation there is to production and production cost, in so far as the quantity of the product produced is concerned?—A. The effect of quantity on cost?

Q. That is right.—A. Volume.

Q. Quantity production on costs.—A. Generally speaking, increased volume will tend toward making lower costs.

Q. We are talking now about titanium pigments.—A. Yes. You asked the question then with specific reference to titanium.

Q. That is right.—A. Well, you will get your benefit of course from a certain part of your costs which constitutes the top management and some selling ex-
3377a pense and items of that sort which you prorate over a given volume and with your direct costs being a less influence we will say.

3378 Q. Let us refer only to production costs as distinguished from sales costs. Can you state to the Court from your experience as a production manager in the titanium pigment plants of Krebs, what that relation is between increased production and lower costs, if there is any?—A. I couldn't give you an offhand yardstick on it, no, sir; it couldn't be done without referring to some quite involved figures.

Q. Is it a fair statement to make that as the production increases ordinarily the cost of production will be reduced proportionately?—A. Yes, sir, in this way, if I may amplify that.

Q. Yes, certainly.—A. Your raw material costs, usually, no; your direct labor costs, maybe a little bit; your plant overhead costs, yes, to a greater extent. Now you have got to get your relationship of your three and your sum total, and what not.

Q. Your problem as production manager from the time you held that position for du Pont, I take it, was trying to keep your productive capacity ahead of the sales; is that correct?—A. Yes, sir.

Q. And that was during the period say roughly from 1932 to 1940, when you were in that position?—A. Yes.

Q. Now, Mr. Gesell asked you about Exhibit 19, where these patent numbers were put on containers. Do you know any particular reason why they were sup-
3379 posed to be put on containers?—A. Not specifically, except that we already had been doing it and we were told to include these particular numbers——

The COURT. You don't know the legal consequence?

The WITNESS. No, sir. I couldn't tell you offhand.

Q. In other words, you were just following the instructions to put the process numbers on the packaged product?—A. That would be right, sir.

Q. Now, have you ever examined or read the agreement between National Lead and the du Pont Company?—A. This so-called 1933 agreement?

Q. As amended in 1941.—A. Yes, sir.

Q. Do you know whether there are any restrictions in that agreement on the sales of products by the du Pont Company, as to where they might be sold?—A. There are no specific statements in there on restricting du Pont about selling, no, sir, as I recall.

Q. In other words, under the 1933 agreement, as amended in 1941, you state that there are no restrictions on the right of du Pont to sell in any particular territory; that is your recollection of that agreement?—A. Yes, sir.

Q. When did you first read the 1933 agreement as amended in 1941?—A. In July, 1944.

Mr. DIXON. That is all. Thank you very much.

Cross examination by Mr. WEBSTER:

Q. Mr. Daley, who are the largest lithopone
3380 manufacturers, according to volume of production?—A. Well, I am sure that New Jersey Zinc is the

largest, I believe that is. Now, just where du Pont and Sherwin-Williams and Glidden fall in there, I don't know. But du Pont is either second or third, I believe, according to our best estimates.

Q. And Sherwin-Williams is either second or third or fourth?—A. I believe so, yes.

Q. Are you testifying that the second, third and fourth positions are uncertain, or that you just don't happen to know the facts?—A. I just don't happen to know for sure which is the larger. I know that New Jersey Zinc is the top one.

Q. And then either du Pont or Sherwin-Williams is second?—A. Yes, sir.

Q. And, then, who is the third or fourth?—A. Glidden.

Mr. WEBSTER. That is all.

Mr. DIXON. If the Court please, I would just like to ask one question if I may.

The COURT. Yes, of course.

Further cross examination by Mr. DIXON:

Q. You testified, I believe, Mr. Daley, that the 1932 contract form which you had found had the language on it "for buyer's own consumption". Do you know why that language was put in the contract?—A. No; but I have inquired. I have asked, I have investigated, and I
3381 think I can tell you.

Q. But you don't have—— A. Let me put it this way. We have other contracts which I found dated 1918 by other departments of the du Pont Company which carried the same wording. I have gone back as far back as 1918.

Redirect examination by Mr. GESELL:

Q. That is the 1931 form executed in 1932 that Mr. Dixon is talking about, is it not?—A. Yes. It was printed in 1931, by the printer's dating.

The COURT. You are excused, Mr. Daley.

(Witness excused.)

3388 The COURT. What page is Exhibit 1229 on?

Mr. DIXON. It is not printed, your Honor; it is a separate exhibit I believe.

We wish to make it clear that Exhibit 1229 not only includes a list of the patents but also the patents themselves listed therein. In the event any one of them may become material we thought it advisable to have the——

The COURT. Copies of the actual patents.

Mr. DIXON. That is right.

We also ask leave of the Court to withdraw present Exhibit 24 for the plaintiff which is an official list of the prices of National Lead Company for their pigments and to substitute therefor a different schedule prepared by National Lead which contains the same information and which is in little more readable form than the present exhibit.

The COURT. Why not simply substitute the new paper for the old paper Plaintiff's Exhibit 24, marking
3389 the new paper "Plaintiff's Exhibit 24"?

Mr. WEBSTER. That is agreeable. As a matter of fact it was stipulated that that might be done when it was offered.

The COURT. I recall so.

(The schedule referred to was then substituted and marked Plaintiff's Exhibit 24.)

Mr. DIXON. I believe that completes the exhibits, your Honor.

Mr. WEBSTER. I do not think there is any point at this stage in commenting in any detail on these memoranda that relate to exchange of technical information, except possibly to say this, that we produced here pursuant to subpoena several file cabinets full of information that was generally described perhaps as know-how and this is evidently the essence that has been squeezed out of that bulky material.

Mr. DIXON. I want to add a comment to that, that these exhibits were selected because of the date of the exhibits rather than particularly because of the contents of the material because, as Mr. Webster has indicated, the know-how file or material submitted to the Government pursuant to the subpoena contains several drawers full of material which, obviously, we have sampled and, some of which is already in evidence, and it would be mere
3390 duplication to put in any more of that kind.

The COURT. All right.

Mr. WHITNEY. Your Honor, I think I ought to comment briefly. The first set of exhibits, as Mr. Dixon says, are to show that there was an exchange of know-how in the summer of 1932, that it began in the summer of 1932. In other words, it began in connection with the plant visits and during the course of the negotiations. That carries to Mr. Dixon a significance sufficient to warrant its being the principal subject matter of his rebuttal case.

I suggest to your Honor that it again illustrates the absence of any serious case here. We all know from

common experience that when large concerns negotiate important agreements the negotiation goes on for a period of months, frequently years, before there is a form of signature. And if the agreement is beneficial, and of course our defense is that this was at that time, in this brand-new art, they begin to operate under it at once, while they are negotiating. And so here this exchange of information started during the negotiation instead of waiting for a formal execution. In fact, the fact that the Government attaches importance to that is to my mind evidence that they misconceive what their case ought to be, if they had any.

3391 Also, I attach great significance to the fact that in their rebuttal testimony they have gone back to the period prior to November 1933 for their entire evidence. In this court of equity that seems to me to represent practically an admission that they have no case.

Now the next is that there are two exhibits, at pages 3713 and 3714, relating to Blumenfeld. They have this significance, your Honor: As he says, they filled out the file by providing letters in September 1933 and November 1933, written by Blumenfeld after the conference, about which we had such extensive direct examination and cross examination, in the summer of 1933. They are full letters in which Blumenfeld is pouring out his heart about what is interesting him, and there is no references at all to territorial matters. The subject matter is entirely the exchange of information.

And, finally, Exhibit 122-A on page 3716 is an ICI letter. The only significance I can see in it is that they show that they have no idea about what du Pont's position is in these matters. At page 3717, in the middle:

"It may be that, in view of the du Pont interest in the other Travacore Company, any broad general move to consolidate the raw material position would
3392 have to await a more complete understanding between National Lead and du Pont."

But that is merely speculation as of the autumn of 1932 and was before the English agreement in which, in any event, we had no part.

So, far from objecting to these exhibits I think that they are of no importance either one way or the other.

Mr. Gesell says, now that they are here perhaps for clarity of the record we ought to know who signed the exhibit at pages 3633 and 3634. It is not shown. I think L.E.B. would be Barton, at page 3634. And at page

3633, is that Washburn to Kingsbury?

Mr. WEBSTER. That is probably what it is.

The COURT. Is it Kingsbury to Washburn to Kingsbury?

Mr. WEBSTER. Apparently it is Washburn to Kingsbury, on page 3633, your Honor.

If the Court please, there is one other matter of mechanics that I might bring up. I was permitted to offer in evidence, and there was received, some research and sales material which was quite bulky, and I thought the Court put a very proper limitation on that in respect of possible future printing in the event that the Government is required to take an appeal in this case. I think that in the case of these patents it might be well
3393 to have the same understanding in advance.

The COURT. I think it is entirely in order to have the same understanding and unless I hear something strongly asserted to the contrary I shall assume that such is the understanding. That is expensive material to reproduce.

It usually contains documents and charts. I do not see any occasion for doing so.

Mr. DIXON. I might say the reason we felt obliged to put it in, your Honor, was in view of the rather complete exhibit by Mr. Kaegebehn of certain patents, expressing his opinion thereon concerning them. And it is purely for reference work that they be made part of the file.

The COURT. Very well.

Mr. DIXON. Obviously, we are not interested in having them printed in full.

3712 United States District Court Southern District of New York

Civ. 26-258

UNITED STATES OF AMERICA, PLAINTIFF

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, DEFENDANTS

Before Hon. SIMON H. RIFKIND, District Judge

NEW YORK, *October 1, 1945; 10.30 a.m.*

APPEARANCES

John F. X. McGohey, Esq., United States Attorney, for the Government; William C. Dixon, Esq., Special Assistant

to the Attorney General, Ephraim Jacobs, Esq., Special Attorney, of Counsel, Bethuel M. Webster, Esq., and Clifton P. Williamson, Esq., Attorneys for National Lead Company and Titan Company, Inc.; Bethuel M. Webster, Esq., Clifton P. Williamson, Esq., Edward L. Rea, Esq., and Milton Handler, Esq., of Counsel. Cravath, Swaine & Moore, Esqrs., Attorneys for E. I. du Pont de Nemours and Company; William Dwight Whitney, Esq., John Logan O'Donnell, Esq., and Gerhard A. Gesell, Esq., Nestor S. Foley, Esq., of Counsel.

3713 Mr. WEBSTER. May it please the Court, before any matters in connection with the decree are taken up I should like to advise the Court we decided that it would be very helpful to us, and we thought it would be helpful to the Court, to ask Mr. Handler to associate himself with our presentation in connection with the decree, and we have done that. We would like to have your Honor accept his appearance as one of counsel for the National Lead Company and Titan Company, Inc.

The COURT. I would be glad to do it. I understand there is to be an application for an adjournment, or is that abandoned?

Mr. WEBSTER. Well, having in mind our conversation with your Honor and with Mr. Dixon and Mr. Whitney, we went as far ahead as we could and we felt the matter of adjournment might swing to some extent on what your Honor's plans are and what we are able to accomplish.

The COURT. I won't know those plans possibly before the end of the day.

Let me indicate I have received first a page proof of the findings of fact and conclusions of law. I have received from the United States a proposed decree under letter date of September 14, 1945. I have also received from the United States a memorandum entitled "Trial Memorandum No. 9," and I have received from National

3714 Lead two copies of a memorandum in opposition to the proposed decree. If anybody else has sent me any matter which I have not mentioned you had better call it to my attention now.

Mr. WHITNEY. We did not send any papers, but we might as well give them now. I appreciate your Honor may well wish to include all in one decree, but for convenience at least we thought we would make up a draft decree against du Pont as if there were to be separate decrees, and maybe your Honor will conclude they will be separate decrees.

Mr. WEBSTER. If the Court please, there is one further matter of a preliminary sort that might be taken up now. At the last meeting in connection with the proposed findings it was suggested that the De Vegh memorandum might be included by stipulation. We have a stipulation signed by counsel for the United States, du Pont and ourselves providing for approval by the Court.

The COURT. Very well. If you will hand it up I will endorse it. You can have it marked so there will be no question because there were two drafts of it. Let it be marked as NL Exhibit 34. The stipulation can be filed. You may leave it with the clerk to be filed.

Now with respect to the findings, have you gentlemen all agreed upon this proof, or are there corrections to be proffered?

Mr. GESELL. There were one or two matters from
3715 our side we want to take up on the findings, two to be exact. The first is at page 55. In the second full paragraph you will notice the words "as a practical matter" which appear in the findings. The Government I believe desires to have those words stricken. That suggestion was not discussed with your Honor at the time. We would like the words to stand. That is one matter that is open between us.

The COURT. All right. Let us dispose of that.

Mr. DIXON. May I indicate, your Honor, that we believe the findings as found by your Honor do not contain the words "as a practical matter," at least from the copy of the final findings which was turned over to us at the time of the completion of the hearing.

Mr. GESELL. Oh, well, that arose from this situation, your Honor: You will recall the Government handed your Honor pages containing their suggestions and those pages did not reflect omissions and on that page these words had been omitted,—I am sure by oversight,—so we never had this matter up before.

The COURT. Do I understand those words did occur in the draft of the findings which I transmitted to counsel?

Mr. GESELL. They did.

The COURT. But at a subsequent hearing at which we considered changes, the omission of those words was not called to anybody's attention so it was not considered?

3716 Mr. GESELL. That is the situation.

The COURT. All right. What is the argument on that, Mr Dixon?

Mr. DIXON. Well, we regarded the words "as a practical matter" at the time of making the changes as being immaterial in a sense, and also as indicating what we felt was not of import in connection with the finding. In other words, we feel that the finding was or should be that TP was assured by DP that there would be no exports.

The COURT. Is it inconsistent with analysis of the relations between DP and NL which is embraced in other findings?

Mr. DIXON. Well, we feel that it is, your Honor.

The COURT. In what respect?

Mr. DIXON. In this respect, that it tends to indicate that there was a qualification to the statement by du Pont in connection with the assurances given that was not warranted by the subsequent action of du Pont, not only at the time of this finding but from their conduct thereafter, and that the words "as a practical matter" are not justified from the subsequent conduct, not only of du Pont in not actually exporting, but also in connection with the other findings which had been gone into at length which we submit shows the cooperation of du Pont with the combination.

The COURT. This finding is addressed to the nature of the understanding or intelligence exchanged between
3717 du Pont and the other parties conspirators in the situation at the time of the making of the agreement and the time of the exchange of the communications between du and TG via NL. That is what we are talking about?

Mr. DIXON. Correct.

The COURT. As to what was said and done at that moment the subsequent events may serve only as possible evidence if we do not know what was said and done at the time. But if we do know what was said and done at the time, then the subsequent conduct may or may not be related to what was said and done? I will hear Mr. Gesell on that.

Mr. GESELL. Well, we feel, your Honor, that the words "as a practical matter" should remain because they are consistent with your Honor's opinion indicating that what at that time was said to National Lead was the intention of du Pont Company with respect to exports, and particularly inasmuch as it appears in the paragraph where the finding is that du Pont did not agree it helps to indicate the meaning of the words there.

The COURT. All right. I will allow the language to stand.

What is the next point?

Mr. GESELL. The next one and only other one has to do with the famous finding 57 on page 36. That is the finding with respect to Canadian prices.

3718 The COURT. How did we leave it at the time of the last session?

Mr. GESELL. At the time of the last session we expressly left it open, I believe, your Honor, and your Honor said we would be in a position to submit additional facts bearing on that question. You will remember the American Producers' letter of Mr. Beschorman, and the question that arose at the time was whether or not du Pont had in fact maintained the 10 or 15 per cent differential on prices charged in Canada and there was no evidence in the record to show what prices du Pont had charged in Canada, and the record was also silent as to whether or not CIL had later sold the titanium pigments it purchased. I have worked out with Mr. Dixon a stipulation covering the du Pont facts which we would like to file in the record for the purpose of completing the record as to what du Pont charged, and when your Honor has had a chance to glance at that I can perhaps summarize it and indicate our reasons why we think the finding should be modified to exclude any reference to du Pont.

The COURT. On the basis of the stipulation are you prepared to make any modification of finding 57, Mr. Dixon?

Mr. DIXON. No, your Honor.

The COURT. You feel the stipulation does not warrant any change?

Mr. DIXON. That is correct.

3719 The COURT. Let me read the finding and then I will read the stipulation. The discussion is no longer as vivid in my mind as I wish it were but I think it will be refreshed as I see some of this material.

Mr. GESELL. I hand your Honor the stipulation.

The COURT. What was the percentage mentioned in the Producers' letter?

Mr. GESELL. 10 to 15 per cent, your Honor, Mr. Beschorman's telegram said.

The COURT. All right. Now I will hear you on it.

Mr. GESELL. If I may I will review the facts and point out what we deem of significance to the stipulation. In connection with the transactions involving BTP and Laporte, your Honor will recall there were some telegrams

and letters exchanged between Beschorman and, representatives of BTP in which inquiry was addressed to Beschorman as to whether or not American Producers would maintain a price differential of 10 or 15 per cent above the British price in Canada so as to facilitate British sales in Canada as opposed to American. Mr. Beschorman said American Producers will not sell at the British price but maintain a 10 or 15 per cent differential. Some time later CIL wrote to National Lead and said, "We don't like to keep maintaining this differential and isn't there something we can do about it?" National Lead's reply to CIL does not appear in the record. There is no evidence
3720 of any CIL communication to du Pont.

Now the facts as we now have them before turning to the stipulation seem to us to be that the evidence indicates that National Lead maintained a differential of 10 or 15 per cent in view of the CIL letter, and we are proceeding on the assumption that is what the record shows.

The first point to bring out is that duPont did not maintain any such differential. Its sales to CIL were slightly above the British price after CIL assumed the Canadian duty and excise tax, but the differential, as a mathematical matter, which does not appear here, is about .3 per cent. In 1937, however, when duPont sold to CTP the price that duPont charged CTP was less than the British price; 17.6 as against 18.4, so that during the period duPont's price was both below and above the British price and never at the differential and we assume always different from National Lead's price.

The question that your Honor asked at the time of the last hearing was whether or not the differential had been maintained. We think this shows it was not maintained. The other question your Honor asked was, "How do you account for Mr. Beschorman's letter?" We feel that to the extent we can account for it it appears in the existence of this Canadian duty on American titanium pigments, of 15 per cent as compared to the Canadian
3721 duty on British titanium pigments which were zero.

The COURT. You say Beschorman said, "'We will sell at a price which will, after adding duty"——

Mr. GESELL. Bound to leave this differential.

The COURT. Give the British the advantage of their Imperial preference system?

Mr. GESELL. Perhaps Mr. Beschorman also knew, except for those few sales in 1937, which were then quite in

the distance, that DP was selling entirely to CIL and CIL was not reselling, and therefore if those sales were not to be considered in Canada in the usual sense we were not participating in the Canadian market, therefore there was no necessity of doing anything with respect to getting an assurance from duPont.

The COURT. So that Beschorman was doing a favor to CIL? I should not say CIL but rather BTP in that he was announcing a policy which would facilitate a private deal between BTP and Laporte?

Mr. GESELL. Right, and which did not comprehend DP.

The COURT. And duPont's participation at all?

3722 Mr. GESELL. Right, and we think that these figures and the details as to the pricing which we now have, showing the complete absence of any maintenance of the differential are conclusive on that point.

The COURT. One of the considerations which was raised for consideration was that it seemed to me unlikely that N. L. being in competition with D.P., would in effect exclude itself from the Canadian market by agreeing to charge a price in Canada which was higher than du Pont was charging to Canadians.

Mr. GESELL. The figures indicate that N. L. had substantially greater sales in Canada than D. P. during the period. N. L. had a lower price before C. T. P. was formed and thereafter C. T. P. purchased almost exclusively from N. L., and only in one year purchased a small amount from D. P., and D. P.'s price to C. T. P. was higher than N. L.'s price.

The COURT. I see that is what you have now demonstrated, but at the last hearing I could not quite understand why N. L. would agree unless it also had the cooperation and understanding of du Pont that it would keep its price at a differential which would not leave N. L. at a serious competitive disadvantage, which you say in fact did not occur.

Mr. GESELL. Yes, sir, and in fact D. P. was not

3723 very active in the Canadian market, selling almost exclusively to C. I. L., its affiliate, if you will. Perhaps the explanation for that is the lack of rights of D. P. in Canada under the Blumenfeld patents. In any event they did not attempt to enter or exploit that market before or after this agreement.

Mr. WEBSTER. I am in entire agreement with Mr. Gesell's analysis of this from the standpoint of du Pont

and I think this can be added as a footnote indicating that the entire finding should be removed. It now develops that what Mr. Beschorman was talking about was the normal differential based upon the Canadian tariff. He also had in mind the anti-dumping provisions of the Canadian law, so that when he made the statement that American producers would sell at ten to fifteen per cent above he was talking about the tariff situation as he then saw it and understood it.

Now this is another fact not of record, but something that has been looked up since, just to check this, and that is, the actual price was never 15 per cent. It was either in some cases over 15 per cent or in some cases below 15 per cent, so that the operation of the agreement was more or less consistent with what you would expect under the Canadian tariff's anti-dumping provision.

3724 Mr. Dixon. May it please the Court, we have one other exhibit we wish to offer in evidence in connection with this matter which we will ask an exhibit number to be left blank for at this time because we won't be able until we consult the record to tell just what it should be unless we can give it an additional number. I do not recall offhand. Perhaps the defendants can tell us what the last exhibit was.

The Court. Is there any objection to the offering of the exhibit before we get to the number? There seems to be none. Very well, it will be received and a number retained for the purpose of receiving this exhibit.

Mr. Gesell. The stipulation has been received, has it not, your Honor?

The Court. The stipulation is a stipulation and of course I accept it as such and in that sense it is received.

Mr. Webster. It is a fairly long letter.

Mr. Dixon. I just want to offer it in evidence.

The Court. All right.

Mr. Dixon. And secondly, in connection with this question, I would like to offer a short memorandum concerning this Canadian situation, which will take only a few moments to read. It is Government's memorandum 10.

The Court. Government's memoranda?

Mr. Dixon. Yes.

3725 The Court. Suppose you proceed and tell me about it, or what you want to dispose of.

Mr. Dixon. Well, would your Honor care to read that first?

The COURT. Yes, all right. I shall read it first. I have read it and will you please talk to me about it now?

Mr. DIXON. Yes, sir. Now, if the Court please, the point involved here reads: that this agreement was one to maintain prices above the prices charged for titanium pigment manufactured by British companies in the Canadian market and sold by them in the Canadian market.

Now the only additional evidence which du Pont has submitted here is evidence of sales made to CIL during the years 1934, 1935 and 1936, and then the sales made by or sales made to CTP in 1937, at which time the report, as your Honor will recall, indicated that there was really another company selling in the Canadian market.

Now we have here a question similar in many respects to that involved in 1933 where assurances were necessary concerning what the American producers would do. That is what BTP was asking, and that is what Laporte wanted to know. They were not inquiring whether du Pont was selling in the Canadian market. It may well have been that they were making sales only to CIL, but, however that fact may be, it was also possible that
3726 they would make other sales to other persons other than CIL, because there is nothing in this record to indicate that Laporte had any knowledge of the fact of these agreements. They are referred to in the memorandum. So what was necessary was that the position of the American producers on sales, if any, in the Canadian market be made clear to Laporte.

The COURT. So that Laporte would know when it was getting a percentage of the market it was getting a percentage of something real.

Mr. DIXON. That is right; that it was not just something that would be cut down by du Pont coming into the market and selling against the Laporte product.

So these sales, and that is the only additional evidence that is offered by du Pont, are certainly not what I would term competitive sales in any sense of the term, but even regarding them as sales from one point of view, it is significant, as pointed out in the memorandum, that the sales made by du Pont to CIL were above the prices of the British Products. In other words——

The COURT. Let us get it clear what we are talking about, because we do not want to get lost.

Mr. DIXON. That is right.

The COURT. What you mean is, taking the net price to

du Pont and adding thereto the tariff and delivery charges, D. P.'s delivered price to CIL in Canada,
3727 was higher than if CIL had acquired the same quantity of titanium oxide from a British producer, or Laporte.

Mr. DIXON. That is right.

The COURT. Now, by how much higher? Mr. Gesell says it is some infinitesimal percentage.

Mr. GESELL. .3 is the percentage, your Honor.

Mr. DIXON. Well, it was above the British price.

The COURT. Well, the significance of that is this, and I do not want to lose you by interrupting you——

Mr. DIXON. That is perfectly all right, your Honor.

The COURT. If we had evidence of a proposed agreement "above," and we found .3 per cent increment above, that might justify the finding, but where you have an agreement which says ten or fifteen per cent, and that is the only evidence we have to support the findings of "above," and then the fact is that the evidence shows a percentage of .3 per cent, then have you got sufficient other facts which tie in with your evidence, and, consequently, does that justify the finding?

Mr. DIXON. Our answer to that is still yes, your Honor.

The COURT. And why?

Mr. DIXON. For the reason that the sales to CIL on the documents we have referred to in our judgment
3728 cannot be regarded as ordinary sales to a consuming member of the public in the Canadian market as such.

The COURT. Why not, if du Pont had not been selling, perhaps Laporte could have sold it, or BTP might have sold it.

Mr. DIXON. Well, under the arrangement existing——

The COURT. Assuming Laporte had not had any real hope of making the sales whilst D. P. were engaged in making the sales with CIL, nevertheless why isn't it a sale?

Mr. DIXON. You mean the sales from du Pont to CIL?

The COURT. Yes.

Mr. DIXON. Certainly I do not think even du Pont would disagree with the 1¼ per cent discount, and that is what it amounts to from the American price which they gave to CIL, and which was given to CIL because of the relationship between CIL and DP, and which would not have been available to any other person in the Canadian

market had du Pont been free to have sold in that market.

3729 The COURT. Well, we have the discount, and the discount does not explain the discrepancy between the 10 and 15 per cent and the .3 per cent. If it did it would completely clinch your case, that is, if the normal discount from du Pont to CIL was equal to the difference between the agreed upon differential and the actual differential, then your case would be clinched, but the unfortunate thing or fortunate thing is that it does not fit, because you must realize that when you have a fact, that if you really do not hit upon the truth the small elements do not tend to fit together. In other words, where we have only arrived at a partial truth, there is a condition existing where you do not have freedom from jagged ends, and this seems to be one of those jagged ends.

Mr. DIXON. Supposing, for example, that du Pont made no sales at all in Canada, what would have been the situation then?

The COURT. I don't know.

Mr. DIXON. We would still contend, as we have in our argument——

The COURT. Then it is possible that we would draw certain inferences from the general relationship between the writer of the letter and what occurred from the text of his letter and arrive at one or the other of those inferences, and then we would check against the avail-

3730 able material. It would be like a finding based upon scientific inferences where you had nothing to prove it. However, you have a fact which tends to disprove it.

Mr. DIXON. The question as we see it gets down to this, your Honor: Whether your Honor regards these sales to CIL as sales which were made in the competitive process by du Pont or whether they are to be regarded as isolated sales by du Pont to its Canadian partner, which, in our opinion, explains the reason for the discount, and which in turn explains the reason why the differential or the price actually paid by CIL was not within the 10 or 15 per cent markup theretofore agreed upon.

The COURT. Let me ask you this——

Mr. DIXON. Yes.

The COURT. Do you find evidence of NL sales in Canada?

Mr. DIXON. NL sales, your Honor?

The COURT. Yes, to other consumers in Canada.

Mr. DIXON. Through agents.

The COURT. Through agents, and the prices, the delivered prices of NL to its Canadian customers were 10 or 15 per cent above the British prices, is that right?

Mr. DIXON. You mean actual sales to the public now as distinguished from whatever relationship NL had with its Canadian agencies?

3731 The COURT. Yes.

Mr. DIXON. Concerning which we have no evidence except that it may have been that they were shipping on a consignment basis or any other basis.

The COURT. Well, on such evidence as you do have, does it show 10 or 15 per cent markup as against British prices?

Mr. DIXON. Yes, and it shows——

The COURT. Now is that reflected so that a man who bought on the American basis actually paid more money than on the British basis?

Mr. DIXON. That is correct.

The COURT. Assuming he had NL products?

Mr. DIXON. That is right.

The COURT. And to that extent the American producer was operating above the British producer?

Mr. DIXON. That is right.

The COURT. It gave them a private tariff price?

Mr. DIXON. That is correct.

The COURT. Now you do not find affirmatively that du Pont sold in the Canadian market on any such basis?

Mr. DIXON. Yes.

The COURT. So we can't get away from the affirmative evidence. That is A.

And, B, as I understand it now, you do find some sales by du Pont to a specialized class of consumer,

3732 to wit, CIL, which is at odds with this arrangement.

Now you say you can explain this "at odds" by saying there is a unique kind of customer, but you know that in an industrial product of this kind everything becomes more or less fungible which enters into the stream of commerce in some form or other, and if a gentleman can buy from CIL titanium which it bought from du Pont at a less amount than that which he or they bought from Laporte, the fact remains that you would expect a closer and more faithful application of this agreement, if it were

an agreement between du Pont and CIL, who were deeper in the British family than NL was, isn't that so, because they had several relationship lines running into CIL?

Mr. DIXON. Well, except that we find here that in 1936 CIL, the Canadian partner of duPont, is clearly expressing its accord with this agreement.

Now there again we submit it is immaterial whether CIL was selling the product, and if it bought from duPont or not, it was recognizing the agreement.

The COURT. There is no doubt about that. In fact, we have a subsequent letter which says in effect, "Let us quit. This is not producing. We no longer need it."

I have not any doubt in my mind that NL agreed to maintain a price differential in Canada; and I do not think that is disputed. The question is whether DP likewise
3733 agreed, and whether it agreed with NL.

Mr. DIXON. That is correct.

The COURT. I would be inclined to find as I did find, because of the absence in documentary evidence I would say that there was enough shown of a cooperative atmosphere here in an effort to play ball so that if NL agreed and NL acted as it did, it is not unwarranted that DP was involved, so that DP authorized it in some form or another.

Mr. DIXON. It seems to me, your Honor, that this exhibit that we offered explains or at least presents our point of view on this as well as we can state it ourselves.

The COURT. You mean this memorandum?

Mr. DIXON. This is an additional exhibit that we offer. We offer it only because it seems to us that it again is comparable in a sense to the statement by Ewing. It is a statement of the obvious.

The COURT. Let me see it, please.

Mr. DIXON. Yes, sir. We direct your Honor's attention to the last paragraph.

The COURT. This is 1931.

Mr. DIXON. That is right.

The COURT. Well, now, this agreement is supposed to have been made in 1935.

Mr. DIXON. Correct. That is our point, your Honor, that the whole understanding here as to whether
3734 assurances were or were not given cannot be regarded as an isolated transaction in the sense that you can take the sale to CIL and say that that was a sale

separated entirely from all these transactions. We explain that sale. We show the reason for it at that price, but we still say that that does not show and it is not evidence which would overcome a positive statement by a co-conspirator after the conspiracy has been in fact joined as to what the American Producers would do, and the statement there in that exhibit, again which we feel is the obvious, that duPont was making a deal or speaking for their Canadian customer or Canadian partner, and those assurances were recognized, as we have pointed out in the record, by CIL, and we can go no further than that to support our position, because obviously, as your Honor knows, there is no positive evidence or oral evidence that we could get in. Now, this actual understanding must be based on inferences.

Mr. GESELL. Of course, I would like to point out that when you are not a party to an agreement it is also hard to get positive evidence that you are not, and we did not have anything to do with it.

The COURT. Of course, this placed in the general background of the situation does not throw any light on the immediate problem, which problem is this: Where you have a general situation of this kind, it is true that you can draw certain inferences, and the general
3735 situation here I think would warrant the inference that duPont was included in an authorized way in the word "producers," but like all inferences of that broad character where you find something which throws very serious doubt upon it, there is then the logical line which snaps, and then you are left with just the broadest kind of situation, because DP and NL were involved in an agreement and, as a result, therefore, you can infer a great many specific agreements, which again, of course, is an inference and I do not think any system of logic would sustain it, as it gets too thin, and the mere fact that there was such an agreement does not warrant the inference that on a particular day they made a deal for a specific purpose to put X out of business.

Mr. DIXON. Well, we would be inclined to agree to that, your Honor. However——

The COURT. This is all it comes down to. We have a general situation which normally would warrant the inference that when they made an arrangement for Canadian prices, duPont and NL would both be in it, but we have evidence that in fact duPont was not in

it. Now I think we will have to strike or modify this finding. How do you want to modify it?

Mr. GESELL. Are you speaking to me, your Honor?

The COURT. I am speaking to Mr. Dixon. Maybe you want to retain the wording that NL did make this agreement with somebody, which, of course, is clear.

3736 Mr. DIXON. Well, as pointed out in our brief there was a Canadian price agreement, and it seems to us there is absolutely not even an open argument on the record to contradict that.

The COURT. Yes.

Mr. DIXON. Now the question is who made that agreement and with whom was the agreement made.

The COURT. You now have evidence that NL made the agreement with CIL, and made the agreement possibly with BTP, as to which you have documents, and I think that is obvious.

Mr. DIXON. That is right.

The COURT. And maybe as to Laporte, but I do not think you can put in Mr. duPont. How do you want the language modified? Do you want to say that in 1935 NL agreed with CIL and the other parties that you mention?

Mr. DIXON. CIL, BTP and Laporte.

The COURT. NL agreed with CIL, BTP and Laporte?

Mr. DIXON. Yes.

The COURT. To maintain prices on titanium pigments sold by NL in Canada above the prices charged and so on?

Mr. DIXON. Yes, your Honor.

The COURT. All right. Do you all have the change?

Mr. GESEL. Yes, your Honor.

The COURT. All right.

Mr. DIXON. May I for a brief moment sug-
3737 gest that we feel in view of the documents referred to in the memorandum, your Honor, that because of the relation between CIL and duPont, as clearly shown by these documents, requiring consultation and so on, that there should be some reference in this finding to the relationship or to these documents, which by your Honor's finding is completely written out of the record as of no import? We feel that it is important.

The COURT. You mean these findings do not reflect any kind of relationship between du Pont and CIL?

Mr. DIXON. Your Honor, the findings——

The COURT. I understood that there was not only questioned the relationship but there was given the precise percentage in four decimal percentages of their stock ownership.

Mr. GESELL. That is correct, your Honor.

Mr. DIXON. Yes, that is correct.

The COURT. And that ICI was the other partner and, of course, the record also shows that ICI was one of the important partners of BTP. If you want to rely on the consanguinity you have the story there.

Mr. DIXON. All right.

The COURT. Are there any other elements in this finding?

Mr. WEBSTER. I think if your Honor is disposed to retain the finding at all, the analysis that has now
3738 been made of it by your Honor would warrant changing it to read that in 1935 NL agreed with BTP to maintain prices on American titanium pigment.

The COURT. And not with CIL?

Mr. WEBSTER. And not with CIL or Laporte.

The COURT. I think one of the letters which was introduced in connection with CIL speaks about the agency.

Mr. WEBSTER. That was a long time later and did not relate to the arrangements which had to do with the new BTP situation.

The COURT. Well, wouldn't it warrant the inference that CIL knew about this arrangement and cooperated in this arrangement that NL made with BTP?

Mr. WEBSTER. Well, you are referring to the arrangement that was made in 1935, which was to facilitate the price agreement with BTP and Laporte?

The COURT. True.

Mr. WEBSTER. But CIL was the outlet of BTP in Canada. CIL knew about the arrangement, that is, it came to its attention at some time, and later it did write the letter that your Honor refers to.

The COURT. Well, I think that would warrant the inference that they participated in this agreement.

Mr. WEBSTER. If that were so, it might be more accurate to say that in 1935 NL agreed with BTP
3739 and perhaps with the knowledge of CIL.

The COURT. I think that is an over-refinement. The actual business here was conducted between them. In other words, this CIL never knocked at the door of NL and said, "Why are you charging me higher prices than I can get from BTP?" They certainly knew about it.

They acquiesced in it. Therefore, I think I will let it go at this.

Mr. WEBSTER. How about the reference to Laporte?

The COURT. Laporte, of course, was the beneficiary of this whole arrangement, and undoubtedly it was executed at the instance of Laporte.

Mr. WEBSTER. That is true.

The COURT. So I suppose they can be called partners to this agreement.

Mr. DIXON. Your Honor, I am wondering whether in view of your Honor's other finding with reference to the relationship between CIL and du Pont, you would consider adding to this finding, as we feel it is justified, the following:

"That in view of the arrangement between CIL and du Pont I infer that du Pont had knowledge of this agreement."

The COURT. What do you say to that?

Mr. GESELL. Well, I am not for it, your Honor. I think that raises the question that came up in our long conference on the findings, and where it was per-
3740 tinent to a finding to have it rest on that inference your Honor indicated he was so inferring. But where the finding here excludes du Pont, I see no need of referring to an inference which, after all, your Honor must take into consideration in connection with the finding.

The COURT. Mr. Dixon, how would this in any way affect the case against du Pont? Assuming du Pont did have knowledge of this agreement, how would it in any way vary the result?

Mr. DIXON. Well, it would give the Government certainly the argument from this finding that du Pont acquiesced in and to that extent aided in this price agreement.

The COURT. That you are not warfanted in finding, and if that knowledge would permit such an assumption, then I should deny it, because the reason why it was struck out was because of the fact that the evidence indicated that they did not aid.

Mr. GESELL. Your Honor——

Mr. DIXON. If I may interrupt for a moment——

Mr. GESELL. I was the one who was interrupting.

Mr. DIXON. ——the position that we are in is that we have the positive finding, or, I mean we have the positive language——

The COURT. No doubt about that.

Mr. DIXON. ——and we feel you cannot surmount
3741 the difficulties of presenting a positive truth here, but to say there was no inference of any discussion in view of the 1933 discussion between Rupprecht and Beschorman concerning the Canadian market and so on, that this matter was never discussed, that they have no knowledge of it, we believe that certainly such positive language should not be excluded.

The COURT. Well, let us skip all of that. I have not any doubt in my mind that du Pont knew about it.

Mr. DIXON. Well, that is all we are asking, your Honor.

The COURT. The one other thing, of course, is that they were in this business and of course they knew about what the market situation was, but the question, the only question between you or the one, rather, that I want you to address yourself to is why should I say so? In what way does it affect the result?

Mr. DIXON. Well, I believe, your Honor, I stated my position on that. At least it gives us the opportunity to argue for whatever value the argument may have in the event that it becomes material, that to that exent du Pont must have known about the arrangement and could not have been without knowledge of this instrument.

Mr. GESELL. Your Honor, he has that argument in any event, doesn't he?

The COURT. There is no doubt about it.

3742 Mr. WHITNEY. Could I recall what happened with respect to the major Canadian contracts?

The COURT. Yes.

Mr. WHITNEY. In finding 56 on page 34, your Honor there referred to the inference that du Pont had knowledge, and then went on to say that it obviously required proof to make that inference, but that there was no evidence as to whether that was proved or whether it was disproved, and perhaps that was proper to do in respect to a major contractual arrangement. However, as Mr. Gesell points out, here is a contractual arrangement which is so indefinite that we do not even know from the evidence how long it lasted.

The COURT. That is right.

Mr. WHITNEY. And it seems to me that Mr. Gesell's statement is proper, which he made in his argument, that an inference doesn't further the finding in any way.

The COURT. All right. I will leave it out.

Is there any other change proposed or are there any other changes proposed with respect to the finding?

Mr. REA. Yes, sir, one other minor change, page 12, second line. We would like to have inserted after "was cancelled" the words "by agreement".

The COURT. Page 12?

Mr. REA. The line at the top of the page.

The COURT. "The license from the defendant NL
3743 to Zirconium was cancelled on March 9, 1944."

Mr. REA. We would like to have inserted after the word "cancelled" on the second line the words "by agreement".

The COURT. That is after the words "was cancelled"?

Mr. REA. Yes, sir, after the words "was cancelled".

The COURT. Do you have any objection to that?

Mr. DIXON. I believe we did object to it at the time, and your Honor decided not to put it in.

The COURT. I do not recall it.

Mr. DIXON. Because of the inference that it was mutually satisfactory and so on that this agreement be cancelled.

The COURT. There was a formal agreement, wasn't there?

Mr. REA. That is right.

The COURT. And it has an exhibit number?

Mr. REA. That is right.

The COURT. What is the exhibit number?

Mr. REA. I can't tell you offhand.

The COURT. I will put in "was cancelled by agreement Exhibit blank," and you will fill it in. The reason I put that in is because if you write in the words "by agreement" it might mean some degree of mutual satisfaction of some kind, whereas what we mean is by an instrument.

Mr. REA. Yes, sir.

3744 Your Honor, if you will turn to page 18 in finding 42, the second from the last line, there the statement is made just as we asked for it.

The COURT. I said I am giving it to you with the words "by agreement, Exhibit blank."

Mr. REA. All right. There is no exhibit number given here, but that is all right. We are perfectly willing to put in the exhibit number.

The COURT. Let us not go back to that, as, I understand it, nobody is complaining about that now.

Mr. REA. Then we would like to make the same change on page 63.

The COURT. Where is that?

Mr. REA. In the second full paragraph.

The COURT. In No. 84?

Mr. REA. Yes.

The COURT. What more do you want there?

Mr. REA. Well, we want to say that the agreement was cancelled.

The COURT. There is a difference between cancelling a license which conceivably might mean a unilateral act and saying that an agreement was cancelled. That necessarily means a bilateral act. So you really do not need anything more there.

Mr. REA. All right.

3745 The COURT. Any other changes?

(No response.)

The COURT. I have not taken the trouble to read all this.

Mr. GESELL. We have done that, your HONOR.

The COURT. I am relying on the several very able lawyers here to do that for me, and with the two minor changes or several minor changes that we made this morning, if you will give me a final and complete copy I will sign it and file it.

Mr. GESELL. We thought, your Honor, we would try to get it out to the printer right away. However, there are some typographical errors——

The COURT. I would assume so.

Mr. GESELL. Mr. Jacobs, Mr. Foley and Mr. Rea have all been carrying on the work so that we could have it done immediately.

The COURT. I shall not reread the instrument. I am relying upon you to make any typographical corrections that are involved, and at the same time also make whatever other corrections are necessary so that such corrections will carry out the rulings I made at the last set of hearings, and I will ask the clerk to file this stipulation, and you will also please supply me with a number for this unmarked exhibit that we have spoken about.

Now we go to the decree. Have you gentlemen
3746 decided as to whether you are going to offer any evidence?

(No response.)

The COURT. I take it the answer is no.

Mr. WHITNEY. Your Honor, we did not feel like rising and talking at this particular moment and would not have done so but for a certain point suggested by Mr. Dixon, which with great respect to him is unthinkable as an issue or which may become an issue.

The COURT. Then you will want to be heard on it?

Mr. WHITNEY. I might like to put in a very small amount of evidence.

The COURT. All right.

Mr. WEBSTER. Well, inasmuch as a record is being taken here, I do not want to be put in the position of indicating by silence that we shall refrain from offering evidence in the event that it becomes material on the issue referred to by Mr. Whitney.

The COURT. Very well.

Mr. DIXON. I might add this word to what has been stated by counsel for the defendants: The Government also, depending upon the progress of this argument, reserves to itself if necessary the right to present further evidence.

The COURT. Yes. Will one of you please just do one thing for me: Call my attention to which paragraph it is of this proposed decree that provides for four corporations?

3747 Mr. DIXON. 9.

Mr. WEBSTER. 9.

Mr. DIXON. Page 5, Judge.

The COURT. Yes.

Mr. DIXON. I might add, your Honor, there is one slight error on page 5. The first paragraph, paragraph numbered 8 of the proposed decree, that should be paragraph 9.

The COURT. You mean the middle of that page?

Mr. DIXON. The middle of the page; it should be paragraph 9.

The COURT. It says paragraph 9, Counsel.

Mr. WEBSTER. It is 9 in the amended one.

Mr. DIXON. That is what I thought.

The COURT. Well, I do not have any amended one.

Mr. GESELL. I do not think you saw the first one, your Honor.

The COURT. All right.

Do you want a record made of the discussion which will be relatively informal from this point forward? It is up to you. If you want to pay the reporters you are at liberty to do it, but this is not a WPA project and you do not have to do it.

Mr. WHITNEY. Unless your Honor strongly opposes I would rather have it taken down. I think it may be helpful later.

3748 The COURT. All right.

Mr. WHITNEY. As I think I indicated, your Hon-

or, I do not think this is a case where there is necessarily going to be an appeal. I think much depends upon the course that the argument may now take on the statements which will be made, so that in reading over the minutes after the hearing is closed it might be a great help.

The COURT. Very well. As long as one of you want it I am sure the reporter will report it anyway.

Mr. WEBSTER. We are agreeable, your Honor, to having a stenographic record.

The COURT. Now, Mr. Webster indicated in a memorandum some of these provisions he had no objection to under the decision as rendered. If you will give me those numbers I will check those off and read them as a block or treat them as a block.

Mr. WEBSTER. Well, in general we do not now contest in connection with the framing of this decree paragraphs 1 through 7.

The COURT. 1 through 7?

Mr. WEBSTER. 1 through 7. We will suggest some minor modifications in paragraphs 1 through 7. We do oppose paragraphs 8 and 9 in their entirety. We will sug-
3749 gest some substitutions for paragraphs 10 and 11, and I believe paragraph 12.

The COURT. What about 12?

Mr. WEBSTER. Just a minute, please. I have forgotten what 12 is at the moment. We are suggesting a substitution for paragraph 10.

Mr. WHITNEY. Your Honor, we have some points on paragraph 1.

The COURT. I know. We will come to that in due time.

Mr. WEBSTER. We have some suggestions and additions concerning paragraph 11. We have a substitution to suggest for paragraph 12. We have a proviso that we should like to add to paragraph 13, and suggest that paragraph 13 subparagraph 2, be removed. We have some comments to make about paragraph 13, subparagraph 3.

We have no present suggestion about paragraph 14, which is the usual visitation provision.

The COURT. Mr. Whitney or Mr. Gesell, whichever one of you desire to be heard.

Mr. GESELL. Does your Honor want to hear us on all the paragraphs?

The COURT. No. I just want to get a general idea. If there are any of them which are excluded or any on which there is no dispute, you need not comment on those paragraphs.

Mr. GESELL. We have some problems on paragraph 1, the definitions.

3750 Mr. WHITNEY. I might say for convenience, your Honor, that it is apparent that paragraph 1 ties in to the later substantive items about licensing, and I think if we start at 1 we will be starting at the back end of the problem.

The COURT. All right. However, as I gather it the biggest problem here is going to be this divestiture problem, and maybe also the free royalty scheme, and the know-how, and perhaps this foreign divestiture business. I take it that those are really the three crucial points that we have under discussion. I take it, Mr. Dixon, that you will want to open up.

Mr. DIXON. All right, your Honor. I shall direct my remarks to the question of licensing first.

The COURT. Give us in a brief outline, please, the general scheme that you have envisaged by which you hope to attain the objections outlined, namely, the elimination of the restraint on trade and the achievement presumably of a competitive system in this industry. Now what is the general scheme as you see it?

Mr. DIXON. At the outset we feel that in view of the present position in this industry of the two defendants in which they have a capacity, as I understand it, of approximately 70,000 tons for National Lead and around about 50 for du Pont, it is necessary if there is to be any real competition restored or effected in this industry,

3751 that there be a divestiture of some if not all of the operating plants of the defendants which will make real competition a fact.

Now, this industry at the present time, as the record shows and as your Honor well knows, is completely dominated by the two defendants, who have 100 per cent of the business in the extended field and approximately 90 per cent in the pure field. The only other companies in the business, the two licensees of duPont, have plants which have a top capacity at the present time based upon the restriction in effect about or prior to the filing of this suit, of 9000 tons a year, for less than 10 per cent of the total production.

Now, with the two defendants operating as they do plants producing 100 per cent of the composite and 90 per cent of the pure pigment, the Government feels that there would be available the opportunity to con-

tinue the domination of this industry by the two defendants principally because of the present position which they enjoy in that industry, comparable we feel to a practical monopoly in fact and in practice.

To effect, therefore, any real competition and to enable even the present two companies, the licensees of duPont, to engage in both the composite as well as the pure field, it would be necessary in our opinion to bring them down to at least a comparable level in the sense that there is some kind of a balance among the
3752 companies that would then be operating in the industry.

The COURT. Let me ask you a question.

Mr. DIXON. Yes, sir.

The COURT. And this is purely reflection in response to your argument.

Mr. DIXON. Yes, sir.

The COURT. Let us hypothetically assume that at the close of this case we had found a situation, not the one we did find but that one company dominated the field, to wit, NL-DP; that this one corporation occupied one hundred per cent of the extended field and 90 per cent of the pure.

Mr. DIXON. Yes.

The COURT. Then let us suppose it was determined to break that up because it had been achieved by violations of the antitrust laws—maybe I am suggesting a situation akin to the Aluminum Company although not with respect to percentages. Then suppose the defendants had suggested that the company be split into two companies, each of whom would engage both in the manufacture of pure and extended pigments, of approximately equal size, say one to have about 45 and the other 55, or 50-50, or 47-53, and that appropriate steps were taken so that there would be genuine competition between those two companies in the sense that the directors of the two companies were completely separated, bringing about a split-up of the old board into new and
3753 independent boards and so on; would you think that would be regarded as a measure designed to carry out the purpose of the antitrust law? Do you have my question in mind?

Mr. DIXON. Yes, your Honor, and I think it goes right to the crux of the case assuming that there were no other companies in the industry, but, the point that I am arguing, is that the Government would specifically say

that we did not feel that would be sufficient for the reason that it would then allow either company to have about 50 per cent of the industry standing alone. True, there might be competition between those two companies, but from experience in other matters we found that 35 per cent in a given industry may be sufficient in and of itself to set the pace for everyone else in that industry.

The COURT. Where the others are 5%, 6% and 7%?

Mr. DIXON. That is right.

The COURT. But how about where the others are also 35 per cent?

Mr. DIXON. Where the others are of the same percentage, 35 per cent may not be enough assuming that you have, as we would have to assume here, fair and open competition. It might be sufficient, but it would depend upon the particular industry: the incentive that there might be for new capital to come into that
3754 industry under those circumstances, and I might add that the Government today in the aluminum case, to get back to that although that is not on all fours with our situation, but nevertheless the Government has found that even though the Court has decreed the possible dissolution—not at the present time, they want to defer the action—that there is an extreme reluctance to the point that there is practically no one who is interested today in going into the aluminum industry in the sense that they will buy or put additional capital into the surplus war plants formerly operated by the Aluminum Company. And the only explanation is that until the new capital feels that they have at least a comparable or reasonable chance of competing, that the size and the position of the company in the industry is sufficient to deter any new capital from having any interest in the industry, on those facts.

The COURT. Well, did you suggest in the dissolution of the Aluminum Company anything in the way of how many companies should be formed out of it?

Mr. DIXON. No, your Honor. It never reached, as I said, and has not reached the stage or the question as to what form dissolution will take, assuming that that is what the Court finally does, and in the opinion of the Government that will probably be the ultimate action that will have to be taken. Certainly it would not meet the views of the Government to break up
3755 the Aluminum Company into two companies leaving each company with about 40 per cent of the in-

dustry under its control.

Mr. WHITNEY. Might I interrupt a moment? I want to raise something in the nature of a jurisdictional point if Mr. Dixon will permit me.

Mr. DIXON. Certainly.

Mr. WHITNEY. And I think that the least I can do is to state in the nature of a warning the position I am going to take so he can address himself to it.

The COURT. Yes.

Mr. WHITNEY. I am going to take the position that we are now confronted with what I think is a genuine fraud on the part of the prosecution. I will put that on the record. This case was publicized as a perfect test case on international cartels. There is not one word in the press about divestment; there is not one word in the complaint; there is not one word in the record; there is not anything to this claim, and there is not the remotest justification that this Court, or any other court on appeal on this record would consider this question or listen to this argument.

The COURT. Well, your point has been made in Mr. Webster's memorandum, and it is unquestionably one of the problems we will have to struggle with.

Mr. WHITNEY. I charge fraud.

The COURT. We won't take that as the announce-
3756 ment of the institution of an action in deceit. So please go ahead.

Mr. WHITNEY. Your Honor, I want to suggest at the outset that your Honor should consider this as a jurisdictional matter, and I object to your Honor considering this question.

The COURT. I looked at the complaint and it says to take such measures as in the opinion of the Court would accomplish the purposes of the act, or some such very general language. I suppose it is broad enough to enable the Government to suggest most anything.

Mr. WHITNEY. That is precisely the point I want to argue, because I believe your Honor's supposition of it may reasonably be completely unfounded. In other words, I do not feel that that is the law, even in its most extreme and imaginative aspect, and I do not feel for one moment that the justices on the Supreme Court who dissented in the Hartford-Empire case would consider that equity has arrived to the point of degradation so that it would be represented by trying a case on a 51-page complaint, and then with seven specific para-

graphs of prayer, and then at the hearing on the decree, which is the point of the whole case, have it consist of a discussion of a completely different form and completely unrelated relief that can only be based upon a completely different charge in a completely different case in evidence, and justify it under the phrase that the plaintiff has such other and further and different
3757 relief. Now, your Honor, that is not distortion of language; that is murder of a language.

The COURT. Well, I did not hang that on that clause in the complaint.

Mr. WHITNEY. Will your Honor kindly assist me and state any other clause that is remotely related to it?

The COURT. If you will give me a copy of the complaint I will be able to read the complaint.

Mr. WHITNEY. I will raise the jurisdictional point.

The COURT. There is also a paragraph in the prayer which is rather broad, to put it modestly.

Mr. WHITNEY. Prayer No. 5, that the Court adjudge and decree that the defendant and so on.

The COURT. I am taking time to get the steam out of the semantics.

Mr. WHITNEY. You will not get the steam out of this, your Honor; it will stay there to the last minute. There will be no relaxation of the heat.

The COURT. Well, as far as the foreign divestiture is concerned, that is paragraph 5.

Mr. WHITNEY. Yes, sir.

The COURT. I assume that is paragraph 5.

Mr. WHITNEY. Yes.

The COURT. And as far as the royalty situation is concerned, I suppose that is paragraph 6 and paragraph
3758 7. I do not find any specific paragraph, but still I can't get excited about the prayer for relief. I do not think prayers for relief are very important elements of the complaint in any way.

Mr. WHITNEY. I agree with your Honor. I think that is so, but that is not the point I am making to your Honor.

The COURT. No, I understand your point.

Mr. WHITNEY. The point I am making to your Honor is that before the court introduces a judicial branch of the Government into the investments of thousands and hundreds of thousands of people and into an industry, the Court has to have some knowledge. Now your Honor may have great knowledge, knowledge that you may have acquired independently, but if the judicial process is going

to operate it has got to be upon a complaint and upon evidence introduced under the complaint. I am not talking merely about the prayer. That is just the most dramatic way to point it up, but there is nothing in the complaint about it and there is nothing in the evidence about it, and in addition there is no remote conceivable basis for your Honor to take action upon it.

In the aluminum case that was the problem. The Aluminum Company had by acquiring plants built up an alleged monopoly, and the question in the case was whether that should be broken up by divestment of plants, and that was the issue charged and that was the issue tried.

3759 Now, there has not been a word of evidence in this case along those lines and so your Honor has no basis upon which to consider the question.

The COURT. Very well.

Mr. WHITNEY. So that I am respectfully making a motion that this subject be barred from this discussion. It is a sheer waste of time, and it is a reflection upon our judicial system to even entertain it.

The COURT. Very well. That reflection may remain. You may proceed.

Mr. DIXON. I might state briefly that at the time of the opening statement of counsel——

The COURT. No. Please let us not go into that.

Mr. DIXON. All right.

The COURT. Let us hear the proposition on the merits.

Mr. DIXON. Now, that was the reason why the Government is asking for the type of divestiture suggested in paragraph 9 of the proposed decree.

This is, relatively speaking, your Honor, a young industry. The position which the defendants today enjoy in that industry is one resulting from, in the view of the Government, this combination, and for the reason I gave a moment ago if this industry is to be thrown open so to speak to companies who actually and sincerely desire to enter into this business, and I think the record

3760 clearly shows that this is a coming business in the sense that titanium pigments are rapidly and soon undoubtedly will effectively eliminate lithopone, for example, entirely from the market, so that if the position of the defendants is to be maintained, it would mean that they would have for all practical purposes between the two of them approximately 50 per cent of the production of the composite field, which is perhaps a field in which they are forging ahead, as the record shows, with those new type of pigments all the time, and not the pure pigment. The pure pigment, as your Honor recalls, is the basic pigment.

Now, what incentive is there going to be for any new enterprise to come into this industry? That is point one.

Point two is, what about the present condition of the two other companies, the only other two companies in this industry fettered and shackled as they have been in their capacity to expand by the du Pont restrictions?

I say that competition as we view it means some kind of an equal opportunity to compete upon a basis where the price or the cost of production and those other elements which enter into the determination of the ultimate price of that product to the consuming public are comparable for all competing companies.

Now from that arrangement, as I have indicated, the defendants, even assuming that these contracts are cancelled, are still going to be in the position in the industry in which they are today, and where they will continue
3761 to dominate and be in a position to dominate this industry, so that as a practical matter the Government contends that to meet that situation there should be competing companies created by the defendants in this industry where they each have the two plants, separate plants, which subjects itself to an arrangement whereby partial or complete divestiture of those plants could be worked out upon a plan to be submitted once the principle is established that that is to be done, so that if it were accomplished what we would have here in this industry would be six companies, four of which would be independent and would have at least a comparable productive capacity. They would still be ahead of the other two companies, the licensees, but that is a condition and a condition that we are taking into consideration in asking that the four companies be set up to make more certain the fact that when this industry is open that we will not have two companies with a capacity of 100 per cent of the composite, 90 per cent of the pure, or if you want to put it the other way, each one of them with 50 per cent of the composite, 45 per cent of the pure, and the only other two companies in the business being only in the pure field with a capacity of approximately 20 per cent of the present capacity of the defendant companies.

Now it might well be that——

The COURT. Let me see if I can understand your point.

3762 Mr. DIXON. Yes, sir.

The COURT. You visualize a situation in which your four companies would be created out of the existing two, and the two already in existence, so that would make

six companies, none of whom at the time they get started have anything more than about 25 per cent of the field?

Mr. DIXON. That is right.

The COURT. And you feel that with the six companies operating there will be a fair amount of competition, and the inequality in size will not be such as to stifle competition?

Mr. DIXON. Yes, sir.

The COURT. Now first let me ask you about a few premises that you seem to have accepted.

Mr. DIXON. Yes, sir.

The COURT. First, is there any particular advantage or is there any statute which says that the competition of four is better than the competition of two, or that the competition of six is better than the competition of three or four? That is No. 1.

No. 2: You seem to be under the impression and acting on the premises that a small company producing about 5 per cent or 10 per cent of the total consumption of a country is in an unequal position as compared with one which produces 50 per cent. Is there any evidence to support that, and I mean not only evidence in this
3762a record, but is there any economic history in this country or abroad which warrants an inference of that kind. The record in this case would tend to contradict that fact, because you do have these two companies which do seem to have a certain function. Also, I have not heard that either of them has gone bankrupt or was not enabled to compete effectively with the two large producers. Now, what about those two points?

3763 Mr. DIXON. First, to answer your first point, your Honor, there is to our knowledge no statute or yardstick, so to speak, that can be applied arbitrarily, as we view the situation. It is a matter of discretion to be exercised by the Court as to what it feels is essential and necessary to restore competitive conditions to this industry, and it is our view on that basis, based on what I have indicated, for example, is the aluminum situation, to get back to that for a moment, that effective competition requires certainly more than two companies in the business with the capacity of production.

The COURT. Is there anything in the statute or in any of the decisions which provides that a court may affirmatively establish conditions which will with reasonable assurance produce competition? My impression is at this moment that the statute and the cases simply reveal a

set of situations in which you remove obstacles which may exist in the path of competition. Those two things are not the same, and I thought that my opinion drew that distinction; that what the statute enjoins is the interposition of restrains on competition. But, I did not understand that the statute ever imposed upon a court the duty of so rearranging business enterprises in this country so that the opportunity or actual condition of competition would exist.

3764 For instance, let us suppose the setup of these six corporations that you speak of. Is there anything in the law which would prevent any one of those corporations from acquiring the assets of one of the other of those corporations the day after the decree?

Mr. DIXON. Well, we have anticipated that possibility——

The COURT. But you mean that you may by judicial direction prohibit them from so doing?

Mr. DIXON. That is right.

The COURT. I say is there anything in the law today, assuming you have six going corporations, and presumably the six corporations which this court would establish would be genuine competitors, is there anything in the law which would prevent one of them from acquiring the assets of another of them the day after the decree was signed unless I, by further decree, say "You cannot do that which the law permits you to do"?

Mr. DIXON. Well, I think the Clayton Act on acquisitions——

The COURT. I thought that had been stopped. I used the word "assets."

Mr. DIXON. I see. Acquiring assets. Well, we would take the position, of course, that there would be no real difference between acquiring assets and acquiring

3765 stock where the practical effect is to acquire the business.

The COURT. That is right, but is there anything in the law which would make such a transaction illegal, In other words, let me put it this way: Assume you have a business in which six equal competitors are engaged in the field and each of them enjoys 16⅔rds per cent of the business; is there anything in the law today which prohibits one of those six from acquiring the assets and the business of another of those six?

Mr. DIXON. Perhaps not, your Honor.

The COURT. Would the Attorney General have a right

to say anything about it, or any court? Maybe the answer is yes, but my impression is the answer is no. I may be in error about that. I suppose you might drive my argument further and say no, and I might ask you, would one of the five be able to acquire one of the others, and we would possibly come to a point at which the statute would interpose a direction. Maybe that is the point where this Court ought to stop its decree. I am speaking now as a purely reflective matter, and I don't want you to get any impression I have formed any judgment on this.

Now it is true that in framing a decree you may sometimes prohibit the parties from doing that which the law permits them to do. I did that recently and the
3766 Supreme Court sustained me. I said in one case they could not make fair trade agreements, although the statute says they can do so, but I said they cannot do it for six months, which is very different from saying they never can do it. I do not think we can deprive citizens from doing what is given them by general law in perpetuity, although you might restrain them in order to permit the normal relationships to establish themselves. The reason I ask that question is to get you to work backward. If I cannot do it after that condition has been created, have I the power to create that condition?

But the more fundamental question which I first pressed upon you, has the court power to rearrange businesses in such a way as to create, affirmatively create, competition, or is the court's function limited to the elimination of obstacles to the opportunity to compete? Now manifestly these agreements are obstacles to the opportunity to compete and they should be stricken down. Maybe patents handled as they were handled in this case, might constitute obstacles to competition which should be put under some form of regulation over and above the regulation of the patent laws. But have we got to the point where an equity court has to authorize stock issues and formulate capital structures and arrange bond issues and stock issues and determine their relative amounts,
3767 and select boards of directors, and then, having created business entities, order them to go into the market and compete? That is the basic question which I don't say I know the answer to, and I want very much to be enlightened on it.

Mr. Dixon. Well, your Honor, that was why, for instance, we submitted the rather short, brief memorandum

which to our point of view sets forth the power and the discretion which the court had——

The COURT. In other words your answer is "Yes," an equity court does have that responsibility and that power?

Mr. DIXON. Yes.

The COURT. All right. Go to the next proposition and find it in the statute, as you are dealing with the anti-trust statute. I do not expect you to find it in the language of the statute, but can you find it in the decisions and call to my attention where the court has undertaken such a responsibility?

Mr. DIXON. Well, of course, the Standard Oil case that we point to probably can be cited as a case where there was not anything except a breakup of the combination. The corporations involved there were already in existence.

The COURT. That is right, just as we are breaking up a combination here which we found to exist between National Lead and du Pont. At least on the evidence here we made a finding that there was a connection and
3768 the decree proposes that that be severed. Nobody is going to argue why that should not be done.

Mr. DIXON. We would perhaps go further in direct application of the principle of the Standard Oil case which we feel states that the combination must be effectively dissolved by coming to the premise that it cannot be effectively dissolved without the relief which the Government requests be granted here being given to this industry. In other words, the power of concerted action, so as to speak—of course the restraints can be dissolved in the sense that contracts, as such, can be dissolved, or the parties can be enjoined from doing anything further pursuant thereto—but we feel that where you have a condition in the industry such as you have in the titanium pigment industry, where the record shows that restraints on production were imposed, and the defendants have been enabled thereby to reach a position in the industry such as the defendants have in this instance, that to the extent that it is practicable and possible for the court to do so, and in the exercise of its discretion it may, in order to, first, effectively dissolve the combination, and this would without any question dissolve them, and second, it would accomplish not only dissolution of the combination but it would create a condition in the industry where free competition would certainly be an unchallenged fact.

3769 The COURT. I do no dispute that. I have no doubt that, assuming that the corporations were launched, and that they did stay in business, and that they competed with each other, there would be competition. I do not dispute that. The question is whether that is what the court should direct. Here is what I want to know. I take it from your comment that there is no precise precedent in which a court has taken a corporation and split it in two, or in four, where that corporation had not illegally become the product of four or three or more units. That does not put you out of court. It may be there is no precedent, because the event has not occurred. You would be in worse shape if such events had occurred and the courts refused on principle to do it.

You may argue that proposition, or argue that as a matter of reason and logic the court should do it; therefore that takes you back to the question, is there any case which says that it is the function of the court to create competition rather than to create opportunity for competition, or to eliminate the obstacles to competition.

Mr. DIXON. Offhand I can give your Honor no such case. In other words, in that sense, we are here asking your Honor on the broad grounds of discretion, to exercise your discretion——

The COURT. You are dealing with a matter of
3770 relatively first impressions.

Mr. DIXON. That is right, and that is our position here on this matter. In the Hartford-Empire case, for example, which was a combination of more than two companies, the court finally said it would rather not try the actual dissolution or breaking up of those companies into separate groups, and so on, but it tried the other end——

The COURT. Did not the Supreme Court disapprove of its choice?

Mr. DIXON. No; I have not read it recently, but I thought they moderated the directions of the District Court.

Mr. WHITNEY. It never arose.

Mr. DIXON. The Government asked for clarification of the first ruling as to whether that precluded the trial court from ordering dissolution, and the matter is still, even in the memorandum opinion of the Supreme Court in the Hartford-Empire case, not entirely too clear on that point.

The COURT. We are dealing with a matter which is more or less in the field of general history rather than a field which is one of the mysteries reserved for lawyers. We know we have had big enterprises in this country.

Take the United Shoe Machinery situation which went through the courts, did the court say "Carve it up"? Undoubtedly if it had the United Shoe Machinery split in several units perhaps an enterprise which Mr.
3771 Justice Brandeis might have looked with favor upon, and perhaps if the decree said, "They shall never achieve a capital size more than a million dollars so as to keep the size down," you would have had more competition, but the Supreme Court did not do that. How about the United States Steel Corporation?

Mr. DIXON. Those decisions, of course, referring to Brother Whitney's remarks here, were made several years ago. What the present court would do with regard to the trend of economic matters——

The COURT. I don't know.

Mr. DIXON (continuing). The Supreme Court perhaps does not know.

Mr. WHITNEY. They decided the case last year. How can we presume to say as lawyers the Supreme Court did not know what it was saying and Mr. Dixon does not know, although it wrote two opinions in the last six months on the subject. We are now in cuckoo-land again. We have some opinions to analyze.

Mr. DIXON. Their recent case is, I suppose, one which my friend Mr. Whitney may be referring to.

Mr. WHITNEY. The Hartford-Empire.

Mr. DIXON. And of course the Hartford-Empire, which I am, of course, well aware of——

The COURT. Did the problem come up in the Associated Press case in any shape, manner or form?

3772 Mr. DIXON. Not definitely as yet.

The COURT. Did the Government ask that the Associated Press be broken into several competing units?

Mr. DIXON. No; that the membership and facilities be made available——

The COURT. That is comparable to your royalty situation, but that is not the same as saying, (a) that National Lead shall not remain in the titanium business, in effect, because you are telling them to create two corporations and sell the stock of those two corporations—or am I in error about it?

Mr. DIXON. No; that is correct.

The COURT. So you are saying National Lead shall discontinue, as far as it is concerned, the business of manufacturing titanium or selling titanium at all. Of

course that might be all right except isn't that pretty compelling in character?

Mr. DIXON. Of course, to answer the question of the Court on that particular phase of our relief, or requested relief, we are not of course contending, and I am sure your Honor understands, that National Lead cannot engage in business under the requested form of relief. We are asking the court that they divest themselves of the business.

The COURT. Then they could start all over again?

3773 Mr. DIXON. That is right. In other words, they would be in the position where anyone else coming into this industry would be in at the present time.

The COURT. In other words, theoretically, after they sold these two corporations they could then go back in business. I suppose you would not let them sell to a company which would not compete, which would not be unusual in the sale of a business of this character.

Mr. DIXON. No, not under those circumstances. But I wanted to make it clear, of course, that the relief which the Government requests here—

The COURT. Does not contain such an expression of restraint?

Mr. DIXON. Yes, and we obviously would not ask for it and I don't want the impression to be created that we are trying to prevent National Lead from engaging in the business. What we are trying to do here is to assure competitive conditions for all in this industry and it might well be, perhaps, that a partial divestiture might accomplish that. This would still allow them part of their present business, providing it could be a completely separate unit. That is the problem and that is why we have asked for divestiture.

The COURT. Let me ask this question. I gather from the decree there is more than one plant in the NL picture. What would you have done if they had concentrated their manufacturing all in one factory instead of more than one?

3774 Mr. DIXON. We would have an extremely more difficult problem than we have here, your Honor.

The COURT. In other words, that would be a problem that would constitute a headache?

Mr. DIXON. That would be a problem, or your Honor would—I mean those facts——

The COURT. I asked the question for a purpose. If we had to deal with a situation of that kind, it would as a

practical matter to some extent circumscribe the scope of action the court could take. Why should not we take advantage of circumstances which tend to solve the problem in part? Now for instance you do have four corporations, and assuming that we can recreate a full and free competition, untarnished in any respect, why should not we take advantage of that? If we had one corporation we would feel that we accomplished something quite noble if we split it in two. Now we have two. Why not be content with that, forgetting the fact that we also have two little ones? If we had one corporation and succeeded in splitting it into two big ones and two little ones we would really feel we had made history in antitrust law? I say that simply because I may not find a case in which a court accomplished any such thing by decree.

Now here you have a situation in which we find four corporations; two big ones and two little ones; why
3775 should not we say "Blessed be He for what we have." I don't intend to be facetious about that. I am serious about it.

Mr. DIXON. Well, to get back to the first question that your Honor suggested, supposing there were only one plant here, I mean supposing du Pont and National Lead just had the one plant, and the situation were such that it would be impracticable, or otherwise impossible, to do what we contend can be done here; that would be certainly a factor which your Honor should, and the Government would naturally expect would be considered and which we would take into consideration in determining what relief we feel the court should grant to make what your Honor has indicated should be done here to make this industry open at least to whoever wants to come into it.

Now if you had just the one plant I say we would have a problem here. Perhaps I would still be arguing, or may still be arguing, for complete divestiture, and I would have perhaps a much stronger argument assuming there is any merit to that contention at all, for complete divestiture, if that were the situation.

The COURT. Whom would you divest of what?

Mr. DIXON. We would divest National Lead——

The COURT. And du Pont of that plant?

Mr. DIXON. That is right.

The COURT. Then whom would you invest with it?

3776 Mr. DIXON. Whoever——

The COURT. So you would have another mono-

polist in lieu of the former monopolist. That might accomplish a fine and a criminal penalty but would it accomplish competition?

Mr. DIXON. As I said, you would have a situation there where, as a practical matter, we would have a problem of arguing a little something different from what we are arguing here.

The COURT. That is right, because the circumstances would be such as to dictate the choices you were to make.

Mr. DIXON. Correct.

The COURT. So why should not we take advantage of the circumstances here in making our choices? We have four corporations. Why should not we say "That is one of them. That is much better than if we only had one. It has solved one of our problems. That monolith has been broken into four; two big and two little ones. We do not know which is better. We do not know the optimum size for competition. Here we have an opportunity for genuine experimentation; two big ones and two little ones. All we want to make sure is that there is no deal inside here which would destroy the effectiveness of the competition and we want to make sure that in future the door shall not be closed as it was in the past, and we want
3777 to make opportunity free." But you go further and you say "Not only should we make opportunity free, but we should—I presume in the single plant situation you would say that in some way—we should direct the parties, or the United States to raise the capital to establish a competing business."

Now maybe that is what ought to be done, but has it ever been done? What does the Congress say? Has any court suggested that would be within the scope of a judicial decree? I do not think so. At least I don't remember any such instance.

Mr. DIXON. No. I think your Honor is correct, and I hope I am making it clear to your Honor, basing our request here for relief of the type requested, namely, divestiture, on the ground of the exercise of a discretion by the court for the purpose of making certain that effective competition will exist, and can exist in this industry, regardless of whether anyone else comes into it, and that is a question——

The COURT. Would you insert the word "reasonably" in front of the word "certain."

Mr. DIXON. That is right.

The COURT. Then you come to the problem of where should you stop. Clearly, if we had ten or twelve corporations, we might have more competition than if we had four or six. Yet you do not suggest formation of
3778 ten or twelve because you think that would be an unreasonable fragmentation of the situation we have here. Why is not four an adequate fragmentation, and why is six so much superior to four when you have the advantage that the four are available breathing institutions, whereas the six you would have a situation where at least four of them would be newly born institutions?

Mr. DIXON. Well, to take the question of just having the four corporations, that would be the situation we would be in if your Honor did not give even partial divestiture.

The COURT. That is right.

Mr. DIXON. You have the condition which I urged at the outset, of the two companies enjoying the position which they now enjoy, and this is a practical and not an academic matter in this industry——

The COURT. They enjoy strength and magnitude and power.

Mr. DIXON. That is right.

The COURT. But does it follow that little Virginia Chemical cannot effectively compete with big du Pont, assuming that it was under no obstacles? Is that the fact? I mean I do not know. I have not read any economists who say that such is the fact. I have read some professors who say that but I have not seen that. Isn't it true that little corporations efficiently managed can effectively compete with big corporations?

3779 Mr. DIXON. Well, of course the Government is urging the position of small business.

The COURT. Don't forget as far as the Government is concerned, we are not concerned with whether they can make as much money as big ones. That is not the purpose of the Antitrust Law. It is a consumer statute, isn't it?

Mr. DIXON. Right.

The COURT. At least in part a consumer statute. Is there anything to indicate the consumer cannot get at least as efficient service out of the little corporations as well as the big ones?

Mr. DIXON. We have here in the record, of course, the experience of Zirconium with the limited production.

The COURT. Is Zirconium today out of the business?

Mr. DIXON. Well, they are in business.

The COURT. They are still manufacturing pure TiO_2?

Mr. DIXON. Yes.

The COURT. Under what? du Pont license?

Mr. DIXON. That is right.

Mr. WHITNEY. I think Mr. Dixon ought to tell your Honor, if he knows it, that the American Zirconium Company has bought a plant and is engaged in going into the business.

The COURT. In going into it? I thought they were.

Mr. WHITNEY. Not going into it, but on a larger scale expanding the business.

3780 Mr. WHITNEY. He might at the same time tell your Honor the record shows it is not the "little Virginia Chemical" but a division of the American Cyanamid Company and the War Production Board has authorized it to increase its business to three times the present size. If we are going into those facts let us try those facts. They happen to be completely diverting from the discussion that is going forward because unfortunately those companies are growing so rapidly that we won't have the benefit of these little businesses Mr. Dixon is hoping to install.

The COURT. I suppose "little" in any context is a variable as to size. In this context in the presence of NL and TF, Zirconium and Virginia Chemical were little. Of course, I was aware of the fact that all of them had assets of parents which are large.

Mr. WHITNEY. I am afraid the fact is they are not little in the context of National Lead and du Pont. They were in the business with plants all the way from the winter of 1936, '7, '8 and '9 up to the beginning of the war.

The COURT. It may be partly due to what is happening here, I don't know.

Mr. WHITNEY. The decree will be operating in the future.

The COURT. What I am trying to get at, if we are going to have a check-up that will limit size, as such,

3781 maybe the Congress should do that directly and not have equity courts determining what the optimum size should be for a competing business. I don't know the solution. I do not know that the courts are qualified to find the answer to it.

Mr. DIXON. Our position can be briefly summarized, your Honor, in the premise that your Honor has discretion to do what we have indicated and what we have asked you to do, and the reason we are asking it is because of two things, first, we feel that it is necessary to effectively—

effectively is the word I am emphasizing—dissolve this combination; second, that it is necessary in order to create an atmosphere here, if you want to use an extremely vague term, which will be susceptible to the exercise of free competition in this industry. Now if I am wrong in my premise, then your Honor is correct and you should grant no type of divestiture.

The COURT. I cannot be correct because I have not even stated a fact. I am only asking questions, and you must not arrive at the conclusion I have expressed a view. Even when I use declaratory sentences they are still questions.

Mr. DIXON. As I said, this is a practical matter and the Government has found from experience, and probably Mr. Whitney would say that it something we ought to offer evidence on, and perhaps if your Honor feels we ought to have that we can do it, that new capital, as such—we feel that that is essential here—will not venture into an
3782 industry where there is such a tremendous gap between the production capacity and the knowledge and everything else of the industry as exists here between the two defendants and the other two companies that it is true are in the business, and they are now making efforts to expand, and so is du Pont and National Lead, so whatever they may be able to take up, the gap will still exist and the competitive disadvantage, assuming now production capacity, gives them something on the competitive end, and we think that is sound, if we get into a question of costs why I think we could show that the greater the production the lower the cost.

The COURT. Within limits.

Mr. DIXON. Within limits, yes. And the defendants, unless there is a severance of part of their capacity, at least to a point where there will be something akin to equality of production would not enable, theoretically at least, the smaller companies to compete on a cost basis and we contend that the condition which exists here in this industry, which we know exists, as the result of this combination——

Mr. WHITNEY. Your Honor, surely that is not supported in the record. These are mere statements.

The COURT. Let him go on. You will be given an opportunity.

Mr. WHITNEY. I have to interpose an objection to the introduction of the evidence at the moment it is introduced.

3783 THE COURT. No evidence is being introduced.

MR. WHITNEY. But my friend is saying what he knows about this industry and which he confesses is not in the record. Surely there is some limit to oral argument.

THE COURT. Yes, there is.

MR. WHITNEY. And it has to do with the record, does it not?

THE COURT. Your objection is noted.

MR. WHITNEY. That is all I asked. That is very important, that you know it as it goes along because vice leads to vice.

Mr. DIXON (continuing). Is to enable these companies to continue to be and to have a distinct competitive advantage over not only the present companies but anyone else that might come into the industry.

We realize as a practical matter there are bound to be some competitive disadvantages. We do not expect to equalize them, but we are asking the Court to do, again within the exercise of what we feel is its discretion, and certainly under the cases we view he has the authority to do it, by making, for example, a partial divestiture that would make certain that even the two companies would not be at whatever competitive disadvantage there may be, by reason of their present capacity as compared with the present capacity of the two companies, and, of

3784 course, when you have competition cost is a matter of extreme importance in this industry as in any other industry—cost of production. And while we may dissolve the contracts, if we leave National Lead and du Pont in a position where with their present capacity they are able to produce at 8 cents, or whatever their cost may be, by reason of the advantages of their present capacity over the other companies, certainly that is a factor which, in our opinion, enters into a determination of the question of whether you are going to have effective relief or whether we are just going to have something here on paper which, while it dissolves the contracts, leaves the parties where they are, which position they reached because of this combination.

Now of course the defendants would argue to give what we ask is to penalize them. In other words, the Court is exacting a penalty of these companies by requiring them to divest themselves of either all or part of their plants. Now it is not a penalty as we view it. The purpose of it is to accomplish what we have sug-

gested should be accomplished and what we think the facts and the record here shows can only be accomplished providing you have those competitive disadvantages minimized insofar as it is possible to do so, and by any order that this Court may enter.

Now there are still going to be some disadvantages competitively speaking, even if your Honor were to
3785 do as we have suggested, but they are brought closer together where we are in a position to have what is akin to real competition from the point of view of the ability to compete of those companies. Now you may have four companies in the business. That does not necessarily mean that you are going to have effective competition.

The COURT. It does not. You might have twelve and still not have effective competition.

Mr. DIXON. Yes, but all we are asking the Court to do is, even with the four companies, put them in a position where they will be on as nearly an equal basis from the point of view of the ability to compete as is possible for this court to do, and then the newcomers that care to come in the industry will know they are not going into an industry that National Lead, having a capacity of 70,000 tons and du Pont 50,000, have the advantage, but at least they will have some fair chance if they want to construct a plant of 20,000 tons to get the benefit of that quantity production in their price costs.

The COURT. Is there any historical evidence to support the proposition that when two companies occupy a very important segment of the field that similar companies hesitate to enter it?

Mr. DIXON. Well, that is the experience, as I said, that the War Plants Division of the Government is
3786 finding at the present time with the aluminum industry, to go back to that, which is more nearly comparable.

The COURT. You are speaking still of little giants.

Mr. DIXON. That is right.

The COURT. Suppose you accomplish your purpose. You split these companies up in the way you suggest and then du Pont is out of the business, and let us suppose that Standard Oil acquires one of those companies and the other company is acquired by a new outgrowth of small private entrepreneurs. Standard Oil has a large chemical division, and great big laboratories and so on, and unlimited sources of capital, and pretty soon it has

extended its competitive capacity to three or four times its present size and it then occupies eighty or ninety per cent of the field. Is there anything you could do about it under the law?

Mr. Dixon. I think definitely there should be something.

The Court. What?

Mr. Dixon. If the business reached a point where Standard Oil Company controlled ninety per cent of the business, that, standing alone, would not necessarily be an evil. It would be very persuasive evidence.

The Court. Just let us suppose you had furious competition. I am assuming that the five other companies that will emerge out of this reorganization would
3787 be of Simon pure character and all be staffed by ex-officers of the Department of Justice with an eye single to the preservation of the pure competitive system. Now, nevertheless Standard Oil has tremendous capacity and it achieves a condition of eighty per cent of the industry. Is there anything you can do about it under the law as it presently stands.

Mr. Dixon. I would say no, your Honor.

The Court. Doesn't it follow then if you say Standard Oil can be getting away with it, if you say to du Pont, you cannot do it today, that you are penalizing du Pont?

Mr. Dixon. No, it does not seem to us that you are penalizing it.

The Court. What I mean by penalizing, you are prohibiting it from doing something which all other citizens may do—only in that sense.

Mr. Dixon. As I said, we are not asking the Court to decree that duPont cannot engage in this business.

The Court. But you do not let them go up to eighty per cent, or would you let them go up to eighty per cent?

Mr. Dixon. Yes. For example, your Honor, let me make our position clear; we are asking merely that the Court order what the government feels will put this industry at the present time, when it is accomplished on a basis where free competition will be assured to the country.

3788 The Court. You want to start them off right.

Mr. Dixon. That is right. They have never had a chance, in other words.

The Court. What about these four you create. They all start even but finally four of them control one hundred per cent of the business and a new fellow wants to come in, isn't he up against the same situation? Or do

you think there is some virtue in having four competitors rather than three or two?

Mr. DIXON. No. To answer your question, the Government is not interested nor concerned about the number of companies then in the business providing they have reached their position in the business by and through the exercise of what is commonly known as whatever they have in the free competitive system. If, however, any one of them had reached that position by indulging in practices which were in restraint of trade, the Government would very definitely, say five years from now if that were the situation, think that that was a condition to be dealt with.

The COURT. Well, of course, if they had engaged in practices in violation of the statute, and regardless of whether they succeeded in obtaining any position thereby, you would want to stop the practice.

Mr. DIXON. That is right.

The COURT. So it is not the attainment of the
3789 status that is the objective but the engagement in certain practices.

Mr. DIXON. That is right.

The COURT. You have a very difficult problem. I do not know the answer. I assume you are going to resume after lunch and talk about the European situation? Or are you not going to talk about it?

Mr. DIXON. We are not going to say much about it unless your Honor wants to hear our position as to the relations——

The COURT. I am troubled about how you are going to get the Europeans to import into the United States as against a tariff provision. That is number one. I also want to know how you are going to get National Lead and duPont to sell abroad since you are not suggesting that I do anything about British, German and Japanese patents.

Mr. DIXON. We have asked there on the patent angle a licensing of those patents so that whoever desires to use them will have the right to those foreign patents so they will have the right to utilize them if they care.

The COURT. But you are not going to give any American producer any BTP patents?

Mr. DIXON. No.

The COURT. You cannot do that.

Mr. DIXON. No.

3790 The COURT. So to the extent that the Frenchmen and Germans and British have the patents, the

Americans are still going to be at a disadvantage in exporting to those countries, and vice versa?

Mr. DIXON. That is right.

The COURT. We will take a recess now until two-fifteen p. m.

(Recess until 2:15 p. m.)

AFTERNOON SESSION

Mr. DIXON. I believe we were about to discuss, when we adjourned, the question of the relief requested by the Government as to the foreign patents involved in this proceeding, and as is indicated in the proposed decree, paragraph 10, your Honor will note that we are asking that the defendants be required to make available to all persons who desire to use them, the foreign patents under the control of or owned by the defendants.

Now here again we have a practical question and a practical problem as to what the Court can do to open up foreign commerce to this industry in view of the conditions found by the Court to exist. We feel that this is as far as the Court could go, by making the foreign patents owned or controlled by the defendants available to American users, to the extent possible. That will at least
3791 enable them to sell in the foreign markets the products manufactured under or arising out of the use of those patents.

Of course there is no way of forcing competition by either forcing the defendants or any other company to sell in the foreign markets, or the co-conspirators to sell in the American market, and that again is another one of the reasons why we have asked for the type of relief that we have asked the Court to grant in this case. We feel that it is all an essential part of and necessary to the creation of free enterprise and free competition in this country.

Now on the patent questions generally, or the question rather of licensing of the patents involved in this industry, your Honor will note that we are asking in the proposed decree for compulsory royalty-free licensing. I am frank to say that that request was made for the purpose only of preserving the rights of the Government upon that question.

The COURT. In view of the Hartford case?

Mr. DIXON. That is right. We recognize the status of the law on that question and the present ruling of the Supreme Court by a 4-to-2 decision, now a 3-to-2 decision,

on that question. However, insofar as it relates to the question of relief, it is perhaps another form of divestiture.

Mr. WHITNEY. Allow me to point out that the
3792 Standard Oil case, which you cited this morning, never existed at all because it is a nothing to nothing decision under this philosophy.

Mr. DIXON. At least I think the Judges are still in position to pass upon the question. I recognize Mr. Whitney's distinction but I think it perhaps may not have as much merit as most of his arguments usually have.

However, as I indicated, it seemed to us that bearing the Hartford-Empire case in mind, where the Government had asked for divestiture and the court had seen fit to defer that question giving royalty-free licensing until it could determine whether that was adequate to restore free competition to that industry, that as I stated, recognizes that in asking here for divestiture.

The COURT. Plus royalty?

Mr. DIXON. Plus royalty; our requests for relief are in the alernative. I mean I do not want the Court to understand that should it feel that it would be willing to grant some form of royalty-free licensing, that it would necessarily be the position of the Government that we would also require, in addition thereto, or ask the Court for, complete divestiture under paragraph 9 of the decree.

Now on the royalty-free requirements we do feel that in considering that as the requisite form of relief that the Court may see fit to do what it did in the
3793 Vehicular case where the Court was frank, in its supplemental opinion, to recognize that question as having been passed on by the Supreme Court in the Hartford case and holding that it would nevertheless, within the exercise of its discretion and within its jurisdiction, grant royalty-free licensing for a period of time until and upon the showing that conditions in the industry no longer required that type of relief.

In other words it was not, as was the original relief granted in the Hartford case, an out and out grant of patents on a royalty-free basis; it was, as Judge Leahy indicated in his supplemental opinion in the Vehicular case, granted until such time as a showing could be made that it was no longer essential to the restoring of a condition of free competition in that particular industry. So as I indicated, we are making these requests in the alternative and feel that some form of royalty-free licensing,

as laid down in the Vehicular Conveyance case, may well be granted by the court, and, in the alternative, some form of divestiture, either complete or partial, and if a preference were to be requested by the court it would be the request of the Government that some form of divestiture be granted for the reasons urged in the argument this morning, that the competitive disadvantages on the greater capacity to produce are, as we see this case and this industry, determinative of our reasoning for that type of relief.

3794 We have in addition to that asked for compulsory know-how or granting of technical information to the two companies now in the industry and such other companies as may in the future come into this industry, so that the disadvantage which would otherwise exist, and the preferred position which the defendants enjoy at the present time by reason of the exchange and of the combination, would be dissipated to the extent that it is possible by this court to make those instrumentalities of the combination available to other companies in the industry or anyone else who might desire to come into the industry.

So that, in substance, as your Honor indicated this morning, the Government is asking here, in order that there may be what we feel is effective relief to this industry the form of divestiture, either partial or complete, as requested in paragraph 9, or some form of royalty-free licensing of the patents to the industry within the limits as specified by Judge Leahy in the Vehicular Conveyance opinion, or possibly both; second, compulsory know-how, or technical information, available to anyone in the industry, or desiring to enter the industry.

The COURT. And not limited to the know-how related to the patents?

Mr. DIXON. That is right. As your Honor knows, the record is replete with the fact that plant visits and

3795 that sort of thing——

The COURT. All I wanted to know is, your proposal was not limited to the patents.

Mr. DIXON. That is right, your Honor. And as to those patents which have not yet issued, or as to which the defendants may acquire title within a period of five years from the decree, we are asking comparable treatment as to those patents, except that on those the court may fix a reasonable royalty in the event the licensees or parties who desire the use of those patents, are unable to determine or col. to some agreement on the royalty

itself; in other words, those to be licensed upon that reasonable royalty basis.

I think that, in substance, covers the principal requests——

The COURT. How about the sale of the foreign stocks?

Mr. DIXON. Well, that we feel is essential and necessary to complete divestment by National Lead from the co-conspirators who are not within the jurisdiction of the court. The problem there in any event is a most difficult one and where the co-conspirators are before this court the relief would not be so difficult. But certainly insofar as this court can go in cutting the knot and the tie to the co-conspirator not within the jurisdiction of this court, we feel that the only way that that can be
3796 done is to require the defendants having those interests to completely divest themselves of those interests within a period of time and on such terms as may be prescribed by the parties and approved by the court.

The COURT. You have no objection to the American producers engaging in foreign production?

Mr. DIXON. No, we have not, your Honor.

The COURT. Through subsidiaries?

Mr. DIXON. That is right.

The COURT. So assuming that National Lead sold its interest in BTP, you would have no objection to National Lead then acquiring a British manufacturing company?

Mr. DIXON. A British manufacturing company?

The COURT. Yes.

Mr. DIXON. No.

The COURT. Well, would you have objection to its reacquiring BTP?

Mr. DIXON. Well, yes, very definitely. I mean that is why we have prescribed in the next, I believe, to the last paragraph of our decree we would construe that action as one which would tend to recreate the very condition which this court has found to be illegal.

The COURT. Of course where you have a parent-subsidiary situation, complete parent-subsidiary situation, you do not have a problem of restraint of trade, do you?

3797 Mr. DIXON. You mean where it is one hundred per cent owned?

The COURT. Assuming that National Lead owned BTP one hundred per cent, there would be no violation of law in BTP agreeing not to compete with its parent.

Mr. DIXON. That is right. That, in substance, your Honor, sets forth the position of the Government as to the relief which we submit is necessary to accomplish the throwing open of this industry to a system where you will have, in fact, free competition.

The COURT. Have you considered the proposed revision of the agreements between National Lead and the British or Europeans?

Mr. DIXON. We feel, your Honor, that those agreements in and of themselves must be completely stricken from any consideration that the court will give here to the relief to be ultimately granted.

The COURT. I have not read those agreements, or if I have I have probably forgotten them, but anyway, you do not think they accomplish the degree of severance which you think should exist?

Mr. DIXON. Definitely not. As a matter of fact your Honor may recall, and as I said, the problem here, assuming that is done, is still going to be a most difficult one to establish a condition in fact where there may
3798 be competition, but through the course of Dr. Jebsen's testimony I think your Honor asked him the question as to what extent those relationships would be ignored by the companies even assuming there was complete severance by stock ownership, and as I recall it, I think Dr. Jebsen said something to the effect that the personal equation the court would realize is something hard to evaluate and eliminate.

The COURT. That is right.

Mr. DIXON. For that reason we are asking, to the extent it is possible to do so, that that cord be completely cut and even with the complete severance of that cord the condition will still, at least in our opinion, be anything but one in which there is liable to be fruitful competition arising by the present companies engaged in the business, but the problem is a practical one and to the extent we can sever that cord and impose other restrictions on the resumption of those relationships that we wish to do everything possible to accomplish that purpose in effectively dissolving the combination.

The COURT. Do you suppose its holdings in Titan Gesellschaft is salable?

Mr. DIXON. I have not been informed, your Honor, as to just what the present status of those stockholdings are. I would assume that there would be several factors to take

into consideration there, namely, the question first,
3799 as to whether that company is still in existence as one which could produce, and, second, whether there is anything salable, and, third, what will be the future policy of the Allied Powers with regard to not only this particular interest——

Mr. WEBSTER. If I may——

The COURT. Maybe they will be producing titanium on the Volga.

Mr. DIXON. It might well be, Judge, if they continue the present method, apparently, of taking reparations from Germany, it might well be that TG's plant will wind up somewhere in the Russian territory.

Mr. WEBSTER. If the Court please, when we received the Government's requested decree, we were really so astonished that we thought we would have to reread the Court's opinion to find out if there was anything in that opinion or in the findings that would justify any such relief as the proposed decree seemed to foreshadow.

The COURT. That is an ordeal you do not want to be subjected to.

Mr. WEBSTER. But we did look again, at least by process of reading, and we found that we had a case in which National Lead Company had entered into agreements found by the court to be illegal to divide the world into fields and imposed restrictions on the use of patents and on the use of products manufactured under patents. We
3800 do not find anything in the opinion which indicates that the Lead Company has ever made any improper acquisitions. We did not find any mergers or combinations or unions of any kind which might be criticized, or indeed which had been criticized, in the pleadings. We did not find any of the features of a case in which divestiture has heretofore been requested by the Government. What we found was a case of agreements and we assumed from what the court said in the opinion that it would expect those agreements to be effectively terminated for all purposes and for all time.

At the conclusion of the opinion in the next to the last paragraph,—the last paragraph was one for which Mr. Dixon and Mr. Whitney and the rest of us I am sure are very grateful for your Honor's generous recognition—in the next to the last paragraph that the Government shall submit an order to give effect to the Sherman Act, and plaintiff is entitled to a decree which will restore titanium to free competition. The means of preventing such a de-

velopment must be provided and the power to prevent it must be shorn from those who by combination have acquired it.

The COURT. You did not find any language there which says "and the Government with the aid of the court must establish competitive units of business"?

Mr. WEBSTER. No; we did not, your Honor. In fact the Government's first seven paragraphs seem in general
3801 to be so appropriate to carrying out what your Honor foreshadowed in that paragraph that we could scarcely believe that the divestiture provision had been seriously proposed. It seemed to be an addition which was thrown in here as a sort of trial balloon to see what would happen to it.

Now the first seven paragraphs, as I indicated this morning, subject to some clarification, are acceptable as being appropriate to the kind of decree which we believe this opinion indicates the court will make. In the first place, that part of the decree will terminate the 1920 agreements. It will terminate the assumption agreements under which National Lead became a party to the 1920 agreement. It will terminate the 1933 agreement with du Pont. It will terminate the agreement with IG, with reference to TG. It will terminate the British agreements.

The COURT. Or at least it will disable you from performing under them.

Mr. WEBSTER. It will terminate, so far as we are concerned, the Canadian agreements. I may say, in parenthesis, it goes even further because it proposes to terminate agreements made between European companies, namely the Agreement of Four and the Agreement of Six and Agreement of Deliveries, simply on the basis, I assume, that TINC was a party to those agreements. Just how the court can effectively terminate an agree-
3802 ment made and performable and performed in Europe is, I find, philosophically difficult.

The COURT. You say the most it can do is prohibit TINC from performing.

Mr. WEBSTER. Certainly it can prohibit TINC from performing under those agreements.

The COURT. And it would be up to TINC to stay out of this country so it would not——

Mr. WEBSTER. It puts TINC in peril of what may be done in the future. I don't think the risk is a vast one. I think your Honor's question as to what might happen

to TG and TG stock in the future, presents a condition which TINC may get some benefit from if at any time an attempt is made to enforce those agreements which I think is really academic.

The COURT. As a practical matter?

Mr. WEBSTER. As a practical matter. Now we would have liked your Honor to approve that proposed British agreement which was really a modification agreement and by its terms cancelled the old British patent licensing agreement but left the British 1933 agreements in force for certain limited purposes because of the contractual right, but this decree, as proposed by the Government, will terminate those British agreements and we will then have to see what we can do to salvage the stock in the British company.

Now to go on to the next phase of the decree,
3803 which seems to us in general an appropriate provision, is you have complete compulsory licensing of the patents, so far as this court can provide.

The COURT. Of all existing patents.

Mr. WEBSTER. Of all existing patents.

The COURT. Controlling the licensing for a period of five years thereafter.

Mr. WEBSTER. That is correct. Now we took it for granted that the court would require effective licensing and indeed if the court will adopt a suggestion for clarification which we propose to offer, it will go beyond what the Government has suggested. It will require reciprocal cross-licensing. To spell that out, if the American Cyanamid requests the du Pont Company and the National Lead Company to give it licenses under all of their patents, it would be required to give du Pont and the National Lead licenses under its titanium patents. We think that is essential and we think it is consistent with the spirit of relinquishment of restraints on patents.

Now we also would go beyond what the Government suggests in another respect: We would urge the Court to enable the du Pont Company and the National Lead Company to continue to cross-license each other under these patents. Strangely enough, the purpose of this case,
which in part was to strike down an agreement be-
3804 tween the du Pont Company and the National Lead Company in the terms now suggested by the Government, would forbid the execution of patent licensing agreements in the future between the du Pont Comapny and the National Lead Company which we believe would

create a situation not in harmony with freedom of trade and freedom of the use of patents, but inconsistent with that. In other words, if we are to have patent licensing we want complete unfettered unrestricted patent licensing. But as I say, we are prepared to acquiesce in a decree which will require us to grant licenses under patents taken out within the next five years.

Now again to discuss for a moment those provisions which are intended to create a condition in harmony with the law and to shear us of the right to prevent a development of a plan, development of a condition, consistent with the law, we think the know-how provision is appropriate and we would expect to have a decree in which we would be required to give know-how necessary to put to use patents that are licensed by our company. We think the Government's suggested provision goes far beyond that; that it would require us to become a sort of nursemaid, teaching the manufacturing skills, technological skills that are not related to the use of patents that would put us into their manufacturing business and that would lead to all kinds of controversy and disorder.

3805 The COURT. Isn't your suggestion, theoretically at least, equal to zero, because I was under the impression that a patent to be good, meaning valid, must sufficiently disclose the art so one skilled in the art could practice it without further instruction?

Mr. WEBSTER. Your Honor, that is a very interesting observation because we have just been discussing that very point together during the noon hour and Mr. Williamson made, at one point, substantially the same observation that your Honor has now made. We think that theoretically a chemist as skilled as the chemist who made the invention and applied for the patent, or one perhaps who was capable of becoming as skilled as that, would be able to take a series of patents and put them into use. On the other hand, as a practical matter, the know-how that we are talking about is the know-how that would enable a concern or a group of chemists not familiar with the manufacture under patents of titanium pigments, to put the patents into operation as a group to get started in the manufacturing business under the patents, and we think that is as far as it ought to go. We think it is difficult to define exactly what that is, but we are willing to take any amount of trouble to try to do that. We think that the line between that, and as I say serving as a kind of wet nurse

to the X Company's chemist or the Cyanamid Com-
3807 pany or the Sherwin-Williams Company or the Pittsburgh Plate Glass Company or the Zinc Company for a period in perpetuity, or during the life of the patents, is very impractical and very unwise and an unnecessary provision. Indeed, we think it is confiscatory so far as it requires us to devote our technical organization to the solution of the technological problems of those companies.

Now having said that which I have, I think it shows that it is our desire to work out a decree honestly in harmony with the law which will involve a complete dissolution of the combination under attack in this case; namely, the combination between the National Lead Company and its foreign associates, and between the National Lead Company and the du Pont Company. Having said that, I think it is almost unnecessary to say that we are not prepared to accept any provision which goes beyond the reasonable necessities of the case which was tried here. Indeed, if I may suggest again parenthetically, if it should develop conceivably that that issue, or those issues, should be gone into, we have notes which indicate that a case tried on those issues even if properly pleaded, would take a long period of time. There are many issues together with the acquisition and use of these properties and the uses to which they could be put in the future which would have to
be explored, which would have to be determined by
3808 the court. I think we are far from needing to go into anything of that kind because with the authority of my friend and colleague, Mr. Handler, beside me and the vehement statements of my gifted friend, Bill Whitney, behind me, there is no case in which dissolution or divestiture has been required where the acquisition of the properties has not itself been illegal. I think that was fully developed, and my friend, Mr. Dixon, conceded that when your Honor pressed him somewhat on the point. What he would do, however, would be to ask your Honor as a matter of discretion to go far beyond what any other judge as a matter of discretion has been willing to do.

The COURT. You would call it indiscretion.

Mr. WEBSTER. In fact, even in cases where divestiture was regarded and under the pleadings and trial of the case might be regarded as appropriate; namely, the Can Company case, and the Hartford-Empire case, the Towing Company case cited in our memorandum, the courts have declined to exercise their discretion under those circum-

stances to require a divestiture where they thought a condition in harmony with the law could be brought about or restored without dissolution, so that you not only have a situation in which no measure of dissolution is appropriate under the existing statutory and case law, but you have a situation in which even if it were appropriate
3809 we should argue under the facts of this case that the discretion should not be exercised.

Now I submit to your Honor a fortiori that the only basis on which the Government comes to you for this form of relief is on the basis that they want your Honor to go way out beyond anything that has ever been done before. They are asking your Honor a very unreasonable thing.

I am not going as far as my friend Whitney in saying that the point is exactly jurisdictional, but I think it is very highly discretionary, and that any exercise of discretion in that direction would certainly be excessive.

I would just like to go back a moment and take advantage of the remark made by Mr. Dixon. He spoke of this as a young industry, as a coming business. He spoke of the capacity of other companies. He used optimistic phrases, indicating what is in fact the case, that the industry is a flourishing industry. It is an industry in which the demand for pigments exceeds the capacity for production; it is an industry in which the opportunities to go into the business if the restrictions are removed are enormous, and it is an industry in which there are any number of companies with vast chemical technical know-how ready to enter into it the moment that this court's decree becomes effective, and Mr. Dixon knows that, and I say in frankness he should say so to your Honor, and I think he did say so when he said it is a coming business; it is a growing business, and so forth.

3810 Now I would like to say just a word about the foreign investments. It is no secret to any of us that as to the foreign interests, that that has been a source of concern and embarrassment and difficulty all the way through the trial and before the trial, and counsel were eager to do something to bring about a satisfactory condition. Of course, in the case of TAS, we own one hundred per cent of TAS, and, as your Honor now appreciates, TAS is no longer a manufacturing company: it is a sales company that also holds stock in a mining company in Norway. We own most of the stock of SIT, the French sales company. The remainder is held by small private interests and firms, and it seems to me that with reference

to those companies nothing should be done.

With reference to the German company and the Japanese company, which fall into a different class, Mr. Dixon and your Honor know quite as much about those as we do. All we know is what we see in the papers.

The COURT. Mr. Whitney might know more.

Mr. WEBSTER. They have been largely destroyed. The plants in the case of the German company are in the hands of the British Occupation Forces. The plants in the case of the Japanese company are presumably in General
3811 MacArthur's hands, and I believe within the last few days he has taken over all of the economic interests of the entire country, including those of the Emperor.

Nobody knows what those stocks are worth, or whether they can ever be sold, or whether there is anything to sell. So really, we come down to talking about just two major interests and no more.

The COURT. British and Canadian.

Mr. WEBSTER. British and Canadian, BTP and CTP. Our suggestion in that proposed agreement was that we reduce our interest in the British company from approximately 50 per cent, though we actually own 44 per cent, and it might be said that we control an additional 5 per cent held by Greef, making 49 per cent. Our suggestion in the proposed agreement was that that be further reduced so that the interest of the Lead Company would be equal to the interest of ICI, ISC and GW, and then there would be a 25 per cent interest given to each of the companies set forth in the proposed agreement, which would then remove all of the restrictions of all sorts, and let nature take its course. We think that is a practical arrangement.

We believe that in the present condition of our economic relations there should be a tolerance of that character for an effective American investment, and that we should
3812 not be required because of some quixotic application of the antitrust laws to foreign trade, to give up an investment just at the moment when the investment is beginning to look as if it had some real value, and then turn around and buy another company, or to try to buy competitive companies that I think would be very reluctant today to sell out to us, or finally to completely nationalize the National Lead Company and just stay within the confines of the United States and not to have to go out.

Maybe that is the thing to do, but I do not think it is a good thing from the standpoint of public interest, and I believe the same considerations apply to CTP.

Unless my colleagues have something they want me very much to add or perhaps modify what I have already said, I think that is all that need to be said by us, your Honor.

Mr. WHITNEY. If your Honor please, I may take a little more time than is necessary, but that won't be a new proceeding on my part. I feel that the case means so much that I know your Honor will permit, if necessary, a little more time, so that I may be sure that I put before your Honor all the thoughts that we think are material even if your Honor is already in possession of them by independent thinking.

Now I should like to begin with a five-minute re-
3813 view of the case as such. This is a lawsuit in which the plaintiff very properly under modern professional motions announced to the public that it is bringing a test case on international cartels. This was, as the phrase was used by one of the Assistant Attorney Generals whose name is on the brief, a textbook International Cartel to lay before the Court for a ruling thereon. Now to come from publicity to pleadings, the complaint was consistent therewith. I referred to it this morning, and there is no need to go into it at greater length. It is a complaint throughout which presents an issue as to an international combination and the existence thereof, an international combination based principally upon agreements as to patents, and therefore appropriately enough, it fell within a branch of the antitrust division of the Department of Justice that I believe was called the Patents and Cartel Division, and our friend, Mr. Berman and I had the pleasure of arguing the last case in the Supreme Court against each other, and he was put in charge of the division, and one of his most talented confreres, Mr. Dixon, has been with us from the first.

3814 Now, the case was a patent and international case. That is the case that the public was told about; it is the case that was pleaded, and it is the case that was tried and we can't have read the 1400-odd exhibits as we had to do or heard the speeches we had from the first moment without being aware of the obvious, and that I submit to your Honor governs the situation.

When the time came when we were at the end of the case and where we have the decision of your Honor, and

that is, of course, what governs us today, and whatever is in the decision we take as true for the purposes, of course, of this argument——

The COURT. Pro tem, anyway.

Mr. WHITNEY. Yes, sir. I just want to refer to three paragraphs of that.

At the bottom of page 59 is the only place that I can find in which your Honor made a finding, and it was in general language, to give National Lead and du Pont together domination and control over the titanium pigment business in the United States. I take it that the word "together" was an added word of art and represents when you add them severally, together. And your Honor found that that was the necessary effect of the agreement, Exhibit E, and of the du Pont assurances, and when you came to the final generic findings of fact you introduced them in paragraph 95 by saying, "The agreements and understandings entered into between the defendants
3815 and the other corporations herein named in finding 1 have had the following necessary effects, and I think the whole point in the decree that such evils as there are were found to be the necessary effects of certain agreements from which it follows under the principles of cause and effect can survive, for the way to dispose of the effect is to remove the cause; hence, to strike down the agreements, otherwise the findings are made meaningless and the evils are said to result from something other than the agreements, but that is not so.

Now the second point in the finding is that the principal paragraph relating to the domestic business, which, of course, was a minor and collateral incident in the case, is paragraph 78 at pages 57 and 8 of the print. And your Honor found that there was active competition between National Lead and du Pont.

Now I don't press these findings because I am going to hoist anyone with them. I am profoundly convinced that the evidence supports them. Mr. Daly answered on examination—I have forgotten whether it was direct or cross—that the competition with National Lead was plenty tough. The competition of Virginia Chemical and Zirconium likewise was, and then your Honor refers to the sales and repeated reductions in price, and finally you found that there was no selection of territorial customers, and under that thought business identity is the product of agreement or collusion.

3816 Now, in my brief experience if we were to go to the Supreme Court in this case from whatever decree was given, or if the Government were to go, there would be a heavy preponderance in favor of your Honor's findings, and the chance of any of us reversing any of the findings would be very small.

The findings are, if I may be allowed to say so to your Honor, reasoned findings and carefully reached findings, and the tendency of the Court would be to look at them and say, "What are the facts of this case?" Well, the classic instances of antitrust violations are, agreement upon price, division of territory and limitation of production.

Finding 78 answers that those are not present in the case. I think that would have a profound effect on the Court in passing upon the decree.

Now, the third point that I would like to call your Honor's attention to is that when it comes to the specific finding as to the Zirconium and Virginia Chemical, paragraphs 84 and 85 on pages 63 and 5, your Honor finds that the evidence does not warrant the inference that the licenses granted were pursuant to a common plan between National Lead and du Pont. Now, in other words, this comes for disposition as a case in which there have not been those agreements and practices in restraint of domestic trade which are characteristic of the typical combination between two or more seeking to restrain
3817 domestic trade except in that special class of case of which this is one where domestic trade is found to have been restrained by patent license agreements and those alone, and to the extent of that and to the unlawful clauses therein. For example, the quantity limitations. Therefore, it is a patent license case as far as we are concerned in addition to being an international cartel.

Now, if your Honor please, on the patent license side of the case, your Honor wrote an opinion with which it is going to be difficult for any of us to quarrel, and again if you will forgive me for pointing that way, and your Honor knows I am not trying to seem as if I were handing compliments up to the bench which does not mean much, but I only say that the opinion strikes me as one of those antitrust opinions that has strength within itself, because it is factual.

Now, as the opinion goes along it makes certain findings and draws certain inferences against duPont, and those findings and inferences relate to the activities of a Mr.

Rupprecht almost exclusively in the year 1933, but I quite agree continuing down in their effect at least to the forties, and there is a finding, to revert to the findings, that the exchange of know-how, for example, ended in April, 1940, and after that it was a question of the continuance of the license agreement and, as we all know, Mr. Rupprecht is dead.

3818 The result of that is that one does not have before him an opinion or findings which would lead any court to feel that it was dealing with a substantive intent toward wrongdoing in the titanium field, which is all we are concerned with, on the part of the DuPont Company.

The duPont Company is in the position that it has found that one of it managers did a postive wrong in joining an international conspiracy in 1933, and that certain necessary effects and consequences of that joining and the agreement represented thereby have flowed on down. That is the size of the case.

Now, your Honor was very fair again in pointing out that the duPont position was entirely different from the National Lead position. I do not need to belabor the phrases. They are familiar to all. Your Honor was so kind on our side of the case, so just as to point out in many different phrases that our agreement deviated sharply from certain other agreements, and that our position was in short contrasted to that of certain others and so on. Now, finally, as it has been abundantly pointed out this morning by your Honor, we are not here concerned with the type of case in which either the charge or the offense was of our growth as such. There is no charge and there was no charge ever that we had wrongfully acquired extra plants or absorbed extra companies and were on the road toward a monopolization or restraint of trade.

3819 Now with that background I come to the law, and I have I hope in good humor twitted brother Dixon once or twice during the trial about his reluctance to recognize the Hartford-Empire opinion, and I went away before lunch in order to give him ample peace and time to read it, but he has had the charming insouciance, to say to your Honor again that he is not very clear about what it means, but being reasonably clear about what it means I want to go briefly into it, because it is obviously the law on this topic and has been decided within the last 12 months. Before going into it, though,

I want to note this vital point: When the Hartford-Empire situation and this system of licenses and agreements in the glass industry was disclosed to this country in 1938 we were all, even those of us in dreadful Wall Street, profoundly shocked. It was a scandalous picture, and it was treated as such. It was a case that was immediately brought, the Hartford-Empire case, in order to pillory one with the worst examples, and then it came on to trial, and you can't read of a more arrant set of violations of the antitrust laws than are described in the opinion of the District Court for the Northern District of Ohio, and that opinion and those findings of fact were adopted by the Supreme Court of the United States and, as Mr. Justice Black said, "The history of this country has perhaps never witnessed a more completely and successful economic tyranny over any field of industry than that accomplished by these appellants."

3820 And Mr. Justice Rutledge wrote a separate opinion, as they were anxious to explain clearly their immediate positions in the case without indicating any easy going along together, so that they each had their own viewpoint and that is why they wrote separate opinions, but Mr. Justice Rutledge said, "This is a long adventure in monopoly and unlawful restraint of trade."

Now, it was because those two dissenting justices found that this was a scandalous case that they suggested that there ought to be particular remedies going beyond the duration and regular remedies applicable under the antitrust laws in this particular case, and here in our case we have just the opposite.

We have got in respect of du Pont at least an opinion and finding which show that although the learned district court judge has been satisfied that in substance and effect du Pont through Mr. Rupprecht did join the conspiracy, yet he has been at pains in justice to point out the moderate extent of the violation, and thereby making this the opposite kind of case from the Hartford-Empire case as a matter of degree, because Mr. Justice Holmes taught us all that all law at least ought to be a matter of degree.

Now, therefore, I am saying not by way of argument, but I sumbit to your Honor that the decree in this case in respect of du Pont ought to be definitely and

3821 measurably milder than the decree against the Hartford-Empire Company. Now with that background I come to the Hartford-Empire opinion and the majority opinion for the Court. Although one of the most agreeable

intellectual pursuits I have had since I got back last week has been reading your Honor's opinion about doing business as the result of solicitation, and having had occasion to appear before the learned justices who sit on appeal in these cases, I think your Honor turned over backward because I think perhaps you could put a few more in. But however that be, I do not fear very much such an intellectual adventure in respect to the present constituency of our Supreme bench when it comes to reviewing an effort by these earnest young men within 12 months to overrule or bespatter its last year's decision. I am not afraid of that. However that may be, here was the decision: Now, at pages 4 and 5 of the opinion we are told that there were a group of exclusive licenses, the critical distinction between exclusive and non-exclusion, and we have not had exclusive licenses exchanged with National Lead. We did unfortunately and you have found it to have been wrong in doing so granted some exclusive licenses abroad, but we had no exclusive licenses inside the United States. But in this case, describing Mr. Justice Roberts' outline, there was an exclusive right to manufacture milk bottles in the Thacher Company, and there was an exclusive right for fruit jars in the Ball Company, and in effect the
3822 Owens Company had exclusive use of certain types and methods of manufacturing.

Now, that was a profoundly different situation from that in our case and merited very much more severe treatment. Then in addition Mr. Justice Roberts points out that the defendants had pooled the efforts of their legal staffs and contributed equally to the purchase of patents and the expenses of litigation except for one patent purchased back in 1934, the Leuchs patent. They had not anything of that sort in this case.

Then when it came to the commercial features, on page 8 Mr. Justice Roberts points out that the parties assigned production quotas. Your Honor has found just the opposite here. They allotted production in one field, in one company, and in turn to other companies.

The production and the manufacture and the sale of machinery was suppressed and prices were maintained by agreement. Then he points out at page 13 the distinction between legitimate use of patents and the prohibited abuse of the restrictions incident to the ownership of patents, and refers again to the suppression of competition and the employment of the joint patent position to allocate fields of manufacture and to maintain prices, the same points again exactly.

Now, it was against that background that the majority of the courts proceeded to review the decree and to enter the reversal of what had been done before.

It stated the principle on page 50 that we may not
3823 impose penalties in the guise of preventing future violations just like your Honor said this morning, that the theory of the equitable jurisdiction under the anti-trust laws is not to punish and put the defendants in a different non-competitive position with others. The Court said in the Hartford case that you may not place the defendants for the future in a different class than other people, the "in a different class from other people" being in itself quoted from prior opinions, I believe, of Mr. Justice Holmes in the Swift case.

Now, the practical applications of those principles so far as we are concerned occurs first at page 19, or pages 18 to 21, and I will summarize it in this way: On 18 the Court is considering the vital paragraph 24 of the decree of which A provided for royalty-free licenses under existing patents and, B, for licenses at a reasonable royalty under future patents and, C, that the defendant should make available the knowhow; that is to say, should make available under A and B at cost plus a reasonable profit all drawings and patents relating to the machinery or methods used in the manufacture of glass where embodied in the license invention.

Now, then, the cost as it were applied a subprinciple to this specific principle and said in effect that it goes beyond what is required to dissolve the combination and prevent future combinations of like character.

3824 Then turning over to page 21, the Court ruled on what was required, and as to A they said that as to existing patents the decree should be modified to permit the reservation of reasonable royalties. As to B they said that a defendant hereafter acquiring a patent must be entitled to a satisfactory price if it is used by others electing to use it, or refused as a license and so forth.

Now as to C they said that this paragraph 24-C should be deleted.

The COURT. That is the knowhow provision?

Mr. WHITNEY. That is the knowhow provision.

Now, if your Honor please, when the time came to have a rehearing on this a few months later the court, as courts generally do on rehearings, adhered to its position. Of course, I pointed out to the Government only a few comparatively minor changes such as where the words

"standard royalty" were changed to "uniform reasonable royalties." The other provisions of the decree to which I have made reference stood as they were and that one, of course, stood in substance, and I cannot avoid having a little humor mixed with my sympathy for Mr. Dixon when he says in effect that the Court did not know what it was doing.

Now he has been very fine about it. He did not go as far as his brethren did in the vehicular case, which, if your Honor wants to read a special pleading in a des-
3825 perate cause he would read the type of argument to Judge Leahy, that in effect Judge Roberts did not know what he was talking about, because he thought he was talking about rentals all the time, and must have been surprised after the rehearing because he was still using the word "royalties" when all the time he was talking of leases and rentals. The only reason I mention that is because today Brother Dixon still comes here and talks about what Judge Leahy really wanted to do. Well, Judge Leahy does not say really that he wants or wanted to do anything different from the Supreme Court. He just makes a flat decision. He just says, "The Government now urges that a provision for royalty-free licenses must be inserted in the decree, and if defendants object the objection will be sustained because I am unable to agree with the Government's reading of the Hartford-Empire case. I am unable to agree that the Court has power to mandate a royalty-free license where the patent has been used as an instrument in violation of the antitrust laws. If the Court could permit such a provision it would obviously be tantamount to cancellation of the patent." He goes on to say that the patent is not to be cancelled by making it royalty-free because it was once used as a device to violate the antitrust laws and so on.

The one possible explanation I can think of concerning Mr. Dixon's extraordinary theory is that perhaps when he is telling a district court judge about a certain
3826 decision by higher authority, that it must be read with the thought in mind that he does not agree with the higher authority instead of meaning simply that he is practicing a judicial function in accordance with the age-old Anglo-American tradition.

Now, if your Honor please, you will find that case or you have probably read it, but it is in the C.C.H. Trade Regulation Service at page 57,935 in their delightful way of paging, the issue of September 13, last month. It has

not yet come out in the reports, so far as I know, and it being the only District Court case up to date on this weighty issue——

Mr. WEBSTER. There is another decision, your Honor, which is referred to on page 35 of our memorandum, a decision by Judge Wyzanski.

Mr. WHITNEY. Well, the Standard Oil case, it came in sort of indirectly, and Judge Wyzanski's opinion I do not have here, but it is consistent.

Now the result of my submission to your Honor is that the only serious problem in this group, and before any court after all we must consider this as if your Honor had been removed to some higher sphere, I mean on the earth, and after finding these facts and writing this opinion, and a new judge came on as the appellate judges do, and said, "Now, here is the situation," and I respectfully submit that the only question for the Court in that posture would be what if any should be the modification of the
3827 Hartford-Empire decree comparable to duPont, or beyond what was comparable to Hartford-Empire.

Now in substance we are prepared to accept most of the Hartford-Empire decree. We have only suggested a few modifications and very mild ones, because we have a certain deference to the injured feeling of the Government, and we want to show a decent modesty even though we think we are entitled to more.

After all, we agree to royalties that we think we can competitively live under or that are fair. Curiously enough, we do not always see eye-to-eye with Mr. Webster, and I might explain those differences in principle so your Honor will have them clearly in mind. We generally, of course, take the same line he does, although we are not involved as he is with the foreign contracts and agreements.

We agree first, of course, that the agreements must be struck down in their entirety, as they were the cause of the whole thing. I would be quite prepared as a lawyer to make an argument that I think would be an honest and a sound one to your Honor that the decree in this case should stop there. Now, why?

Under the patent law as Congress has refused to amend it a patentee is free to grant licenses or to withhold licenses as he sees fit, and the wrong here being the entry into certain agreements, and those agreements being
3828 struck out it would seem that that should end the matter in accordance with the subject of decrees under the antitrust law.

For example, the Antitrust Division in January, 1938, published this little blue book. They have not published one since. It is the most admirable summary of the 428 cases up to that time under the antitrust laws. True, upon reading it you will find that excluding the indictment cases and excluding the equity cases where the facts were not heard on the merits, the form of relief was uniform through literally upwards of hundreds of cases. They were the elimination of the practices complained of; they were enjoining combinations; they were declaring illegal and perpetually enjoining its operations and so forth and so on in every case. That was the standard and uniform interpretation of preventing and restraining, and this case, I respectfully submit to your Honor, comes to its proper end as far as du Pont is concerned after you cut us free entirely from any existing National Lead agreements.

Our manager, Mr. Rupprecht, got us into something in 1933, and your Honor said consequences have flown from it of a serious character, and your Honor has it in your power to cut us free from that, and when that is so then we go on in competition, and I respectfully submit that that is the only decree that ought to be entered.

However, in deference to the wishes of perhaps
3829 more practical associates of mine we have submitted to your Honor a draft of a decree in which we have gone considerably further and quite specifically after making a definition which is slightly different from the Government's definition, very slightly. For example, we have changed "construed" and we have eliminated "and compounds" after "pigments". We have undertaken to concede that there should be given a direction to us that we must as in the Hartford-Empire case give a license on uniform reasonable and non-discriminatory royalty terms, and that is paragraph 5, on page 3 under our existing patents, and they are listed in appendix A, schedule A, to the draft.

Now, we don't see any reason at all why we should be compelled to license as to future patents. We have been free of the exchange of information with National Lead for five and a half years, and we are perhaps developing inventions of our own, and doubtless Cyanamid and Glidden and National Lead may be developing patents of their own, and so may outsiders. Indeed, if I might copy Mr. Dixon's freedom of slightly going off the record,

outsiders are doing it, and there are very large companies filing applications, and indeed we are pretty frightened about some of them.

Now, Mr. Gesell points out that we have in our appendix the existing applications as well as the existing patents, everything that has yet been filed. And that I submit to your Honor is the maximum to which
3830 your Honor ought to go in respect of du Pont, having judicial regard to the Hartford-Empire case. They say royalty-free, no uniform royalty. That infers that there be reciprocal licenses to the other parties. That is to say, if any party licenses it must be on the other party's reciprocal licensing.

The COURT. I am curious about that. Does that other case, the Hartford case, require reciprocal licensing?

Mr. WHITNEY. I do not think it has any, your Honor. It has been in the general run of consent decrees, and I think the explanation of Hartford-Empire was——

Mr. DIXON. Only as to parties that are party-defendants to the present time.

Mr. WHITNEY. I beg pardon?

Mr. DIXON. Only as to parties that are party-defendants to the present time.

Mr. WHITNEY. Yes. I think the Hartford-Empire situation was peculiar in that the Hartford-Empire Company was exclusively a licensing company, and what it had done was try to monopolize all the licensing, and so it was visualized that the one-year brand license by Hartford-Empire, which, after all, was to escape the dissolution and every other thing that was hanging over it. But we think if the point is going to be, and I hope it is going to be, to throw open the industry so that everybody can license each other, and each man charged whatever is a reasonable royalty, and people can
3831 refuse to take a license or decline to take it, that then at least the cards would always be stacked against us, and if we were compelled to license people who refused to license us back, that would mean that we would be sued by those people at the very moment that we were licensing them.

I now come to a point at which we diverge we regret from Mr. Webster, and that is it seems to us that the logic of the decision must be that National Lead and we do not go off exchanging royalty-free licenses, but that we have to respectively make sure of the order that we were licensing from each other and, if so, we would have

to pay whichever one of us took the license a royalty, or if both took it we would have to pay cross-cutting royalties.

I notice your Honor never misses a point like this, and, so——

Mr. WEBSTER. Your Honor, it seems to me——

Mr. WHITNEY. ——rather than hide it I would say it looks as if we both have to take licenses from each other, and maybe we would make a little bit of change if——

Mr. WEBSTER. Your Honor, it seems to me, so that there won't be any confusion about this, that I should state that we are not suggesting that there should be royalty-free licenses in respect to du Pont. We are simply saying that the decree should be so drawn if we are on the same footing——

The COURT. I understand.

3832 Mr. WEBSTER. In respect of du Pont.

The COURT. Yes, I understand.

Mr. WHITNEY. I misunderstood it. Thank you.

Mr. WEBSTER. And this provision for reciprocal licensing is not a case in which the Court requires reciprocal licensing.

The COURT. I understand.

Mr. WEBSTER. It simply provides for compulsory licensing on condition.

The COURT. On condition. I understand that.

Mr. WHITNEY. Well, your Honor, that really brings us into harmony, as previously we did not quite understand it.

Finally, if your Honor goes against us and wants to impose something in respect to future penalties, why, then, I would suggest something like six months, which is the formula your Honor could use or perhaps alternatively until the effects of the conspiracy shall have been dissipated.

Now the difficulty I think with the second one is that despite its theoretical soundness it does not seem to me very practical, because it makes us come back to your Honor, and then we have the question as to what is the conspiracy, and obviously we ought not to have to answer in our domestic field for the effects of these international negotiations which may go on for years, and that has been the essential conspiracy in this case, so that

3833 I think I am being fair in suggesting the compromise with the Hartford-Empire doctrine, that we be made to give royalties under our existing patents if your Honor will have in mind any existing patents and appli-

cations filed up to five years after the ending of our exchange of knowhow with National Lead.

The COURT. Yes.

Mr. WHITNEY. I appreciate that your Honor has found that we have an unreasonable advantage over competitors by this exchange, but whatever advantage we had in the way of enabling us to make inventions, patentable inventions, and file applications thereon, must have been exhausted well within the period of five years. In effect, as I submit to your Honor, a true cutoff date would be as of that date, April, 1940, and then in effect we are putting in the future inventions for five years thereafter, thereby meeting with what we think to be the reasonable side of the Government's five-year suggestion by taking patents as of now instead of patents as of April, 1940.

The COURT. Let me ask you just one question which occurs to me.

Mr. WHITNEY. Yes, sir.

The COURT. Assume a situation whereby that was extended for a short period of time beyond this date, wouldn't that simply lead to a condition whereby the filing of the new application would be deferred until the expiration of that time, or is there some
3834 risk involved in such deferment which I am not aware of?

Mr. WHITNEY. Yes, your Honor, there is a big risk involved in it, because you have got to file promptly after conception, and then you may have to prove your conception.

The COURT. And if somebody else files in the interim?

Mr. WHITNEY. Yes, so that it would not be a practicable thing to dodge around it.

The COURT. It might if it were a very short period; say if it were three months.

Mr. WHITNEY. I can only say this, your Honor: I do not claim to be a patent lawyer, but I have dealt a good deal in patent matters, and it is a terribly dangerous game.

The COURT. To delay it?

Mr. WHITNEY. Yes.

The COURT. All right.

Mr. WHITNEY. Now the thought that I would like to leave with your Honor is that five-year thought, which I think is an unusual one because it is quite a unique thing where in fact the exchange did happen and terminates more than five years.

The COURT. Yes.

Mr. WHITNEY. Now, then, as to the knowhow, your Honor, I think the Supreme Court obviously thought very strongly about it because it just said no. It is
3835 very curious to realize that it said no in respect of the true octopus, but I think the very real reason was the reason that has been missed by some of my friends. It is the reason that your Honor had hold of when you spoke of the fact that a patent ought to make a disclosure sufficient to enable it to be worked.

Now at some point there comes the ending of the disclosure of the invention and the commencing of the more mechanical technique of working it out. Of course, I am going on the theoretical basis that the patents are real patents.

Now it is really in restraint of competition in the true sense of the word to have any one or more companies telling all the other companies all about how to do everything, because there has got to be some reward for originality and ingenuity in working things out. It may be precisely because we got a better mechanical technique that we got ahead, or the others perhaps got ahead of us because of their better mechanical technique, but if the District Court is going to set any value of our respective disclosures it is going to take on a task from which perhaps the Supreme Court would recoil. After all, it was originally one judge who had the knowledge to realize that he could not issue a mandatory injunction, but it was a new doctrine when he announced it in 1857 or whenever it was, and it may well be that the Supreme Court knew very well what they were doing.
3836 I think we have to always assume when they have done something clear that they knew what they were doing, and that is that it was not any use for courts of equity to embark upon further extending the patent conception by mandatorily ordering companies to tell each other the way they operate, which would really open the way to all sorts of devious withholdings of information back and forth, and all sorts of charges and countercharges. Let them each go as best they can and see what the other fellow has done as soon as the product comes out, and let them use their own ingenuity in trying to find a way to get at it.

Of course, it is not always realized in that fashion, though. These are great corporations and there are still incentives to ingenuity, because the individual man gets

a higher salary or gets additional pay if he finds a new way of doing it, and if his company has to give it right away to the competitors, he is not going to get those rewards. Now, therefore, he is going to have that much incentive.

Now, of course, in this case, five and a half years ago we cut off this exchange of knowhow, and now we have to start in again pro tanto to putting an end to the competition. Of course, at all events, I think it is better to stand on the Supreme Court opinion. I am only citing a few suggestions as to why they gave the opinion they did.

Now, finally, I think that applies to everything
3837 of substance except this matter of divestment, and I am so bold as to have drawn the impression that your Honor this morning realized the wrongness of that, and the only thing I would like to say is this, and I want to say it in quite an informal way if I may, your Honor. Mr. Dixon speaking off the record, and I protested as usual or as it is my duty to do or my conception of my duty, and I only want to say that I can bring evidence here on that issue. I can bring actual witnesses about the prospects of expansion in this industry, and Mr. Dixon can cross examine them, or I can put in applications to the War Production Board that are official records and can prove by the War Production Board, due to the happy circumstances that some time results even out of the worst situations the fact that people have applied for priorities, and at least as they are our competitors and we are their competitors, and these people, as I have said, have applied for priorities and are proposing to double their capacity, and it is no doubt public knowledge.

3838 I have no doubt that the Supreme Court, and I suppose your Honor, would accept a citation to it in a brief almost but we are reluctant to point the record on that sort of thing for merely prudential considerations, that is to say, merely a matter of time. In other words, if it is not necessary we do not want to go into it and of course I realize that if your Honor says, "No, I am not going to answer your question, Mr. Whitney,"—because I must accept your Honor's answer and then confer with my colleagues and then make a request—but would your Honor consider it unfair if we were to ask you whether you might indicate whether you are ruling with us or against us on that issue, because if you are ruling with

us I do not think we would have to write a brief, and, of course——

The COURT. I do not know the answer now, but I think it is perfectly fair for me to say I will tell you in sufficient time to give you the opportunity to do that if I think it becomes necessary.

Mr. WHITNEY. Well, I thank you, your Honor, because I think the Government will be pleased with that.

And the only final thing I want to say about that is on the law and it has already been well said by Mr. Webster and I doubt the advantage of saying it again but I will just summarize it. As I see it, and I have made a considerable study of the antitrust laws, there have broadly been two types of cases; the first is what we might
3839 call the big glamour case the public generally thinks about and actually the Senators and Congressmen were thinking about when they passed the Sherman Act. Those are the cases of a single big company which has acquired additional plants and builds itself up into a great big classification like the Standard Oil or, as Mr. Dixon referred to, the tobacco, steel and aluminum industries and in the Circuit Court of Appeals, but in between a number of others like Reading where they have spread into other fields, coal as well as railroads, and so on. Now, in those cases the gist of the wrong is the acquisition of the additional properties and the additional companies and therefore the dissolution of the combination involves the divestment of the additional properties. The other class of cases, which was not much in the mind of Congress I dare to think when the Act was passed, but which has provided the heavy majority of the cases, have been cases in which two companies made an agreement between them, which agreement was of a character objectionable under the antitrust laws, and there the uniform system to which I think Mr. Dixon is not disagreeing this morning when your Honor called for authority, has been to strike down th agreement. Now of course to people whose minds run more largely to the left wing or who perhaps are more forward looking than backward looking it has tended to say, "What is the use of a system of law
under which you only stop what is being done.
3840 There ought to be a little punishment added on too." But what I think they have overlooked is that the Sherman Act provides for punishment if the Government wishes it, and I think the reason it has developed into equity under the Sherman Act and they simply strike

down the agreement is it is recognized there can be both kinds of suits in the situation, and indeed there are both kinds in this situation.

That also is of aid in discerning the difference between two defendants. Mr. Webster's client may be as beatific in reform as we were, but I think he will have to agree it was a naughty boy originally.

Now insofar as a statute is to have any element of punitive application as distinct from purely remedial application, then it becomes an important judicial function to measure the punishment to the crime. Obviously whenever there has been a conspiracy in the criminal courts and two or more have been convicted they get different sentences depending upon their respective participations. So that if there be any punitive element to come into this, whatever there should be, there should be a divergence reflecting the divergence in the guilt, but if it be remedial then it stays remedial.

Now we have passed out of the 17th and 18th century logic in the law and I am quick to concede there is something in the nature of a punitive element in our present antitrust decrees. I say in the nature of it because I
3841 think what it really serves is that where the Court is certain that a certain result will not be achieved by a certain kind of decree than it may give more which looks to the outsider like punishment but really is a greater remedial act. It is very interesting that neither Mr. Justice Black nor Mr. Rutledge came out and said even those people ought to be punished. What they said was, "These people were so bad that we do not think you can cure their wrongdoing by your kind of a decree." And the majority said, "We will give them the worst decree we can short of confiscation," and the majority certainly recognized that the problem was not A, B, C, because the majority were all the justices who participated in affirming your Honor's decree to which you referred this morning, and they recognized that you want in a bad case like the Hartford-Empire to go beyond the mere technique of striking down existing agreements, not because you were punishing; not even Mr. Justice Black and Mr. Rutledge, but because you were giving full relief.

Now here I submit to your Honor that more than full relief would be given by requiring us to open on a uniform royalty basis to the whole world our existing patents, because more full relief or full technical relief would be given by striking down our contract between ourselves and National Lead.

The COURT. The thing that troubles me about divestiture, Mr. Dixon, is this: Where you have a case where company A and company B have been joined together and the Court orders them disjoined, you know company A once had an independent existence and conceivably might carry on in the future as an independent enterprise. Here you have one company and you start dividing it. Let us assume it has two equal plants but it has not got two chief chemists. It may only have one chief chemist. It has only one board of directors. It has only one chief executive, one sales manager, and so on. All of those constitute, of course, the company. Would not the Court be taking a very grave risk, in effect, to say that we will take a certain fund of capital which does not belong, of course, to the management at all—it belongs to the stockholders and creditors presumably—and that we will set it aside and sever it and then we are going to—I do not know by what method—set up the various personnel organizations in the two enterprises and hope that each of them is going to become a living business enterprise. It takes more than just a plant and a fund of money to constitute a business. Now of course the only precedent I know where dissolution was used in a difficult case—it was used only in a minatory way—was when Solomon ordered the child divided, but he did not mean it. I am afraid we may slice the child up if we did that. I do not know. Those are thoughts running through my mind and I want to think about that.

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I take it Mr. Dixon will want to have some more things to say and I also assume we may want to go in an actual reading of the text of the decree, but I think it might perhaps be useful if I had a chance to read some of this material. However, I will do it either way you want. We will resume tomorrow or resume after a few days. Which do you prefer?

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Mr. DIXON. Speaking only first for the Government, we would prefer, since we are here, if it is agreeable to the Court, to resume tomorrow.

Mr. WHITNEY. Your Honor, my colleagues came from Wilmington and Washington and they will be agreeable if we can move along as quickly as we comfortably can, whatever you think best, so we can sort of keep moving along and we do welcome the opportunity, when your Honor comes to lay down to us what the substance of the decree is, if we could have a last opportunity because some time a word slips in here and there.

The COURT. I will give you the same opportunity on the decree as I did on the findings so we can safeguard that.

Mr. WEBSTER. I think we have gone along so far today in thrashing out the general principles involved that it would be desirable to proceed tomorrow anyhow if your Honor is prepared to do so.

The COURT. I am.

Mr. WEBSTER. In that connection we have some suggested substitutions I might hand up to your Honor (handing).

Mr. DIXON. I am not certain whether your Honor has readily available, and if not I will be glad to present
3844 to you, copies of the Hartford-Empire case—the two opinions of the Court in that case.

The COURT. I will be glad to take them. I have no doubt they are in my chambers, but if you have them in convenient form I will take them.

Mr. WEBSTER. In addition to what we have today, your Honor, in typewritten form we suggest that paragraph 13, sub-paragraph 2, be removed entirely as unnecessary as simply covering ground otherwise covered.

The COURT. All right. Then we will resume tomorrow morning at 10.30 and we will try to move along as rapidly as possible and any points that I find impossible for reaching agreement on I will tell you so we can get to actual drafting at as early a date as possible.

(Adjourned to October 2, 1945, at 10.30 a.m.)

3845 UNITED STATES OF AMERICA

vs.

NATIONAL LEAD COMPANY, ET AL.

New York, October 2, 1945; 10.30 a.m.

Hearing resumed.

The COURT. The exhibit which we received yesterday is now marked Government's Exhibit 646-A.

And these documents which you have handed up are the final print of the findings?

Mr. GESELL. That is right, your Honor.

The COURT. I shall sign one of them and have it filed.

Mr. Dixon, are there any general remarks you wish to make this morning?

Mr. DIXON. Yes, your Honor. May it please the Court, first I find that I inadvertently yesterday overlooked the

fact, when discussing the patents, that the Alien Property Custodian had vested title in 32 of the patents involved in the litigation, so that when the final decree is worked out that fact, of course, would have to be kept in mind insofar as those particular patents are concerned.

Now I wish to briefly comment upon the defendants' proposals as submitted to the Court yesterday as to the relief which they are suggesting the Court grant the Government in this case. At the outset, as I understand
3846 the position of duPont from their argument yesterday, they take the position that this is only a patent licensing case and therefore the relief involved should only go to such type of remedy as the Court can give concerning the patents involved. We do not in any sense of the term concur with that limitation upon this case. In our opinion this is definitely a combination case and it is no better demonstrated than the findings of the Court, particularly those which point out the necessary effects of the combination. In finding 59, for example, where the Court has found that the necessary effect of it has been to give duPont and National Lead joint domination and control of this industry.

We are dealing here with a practical situation, and as I looked over and listened to the proposals made by the defendants as to the type of relief concerning patents which they were suggesting the Court grant, I am frank to say that I was wondering who had won this lawsuit, and in a sense that if the proposals which the defendants are apparently seriously making here are accepted by the Court, I don't think it takes more than even a cursory analysis to see that the defendants would be much better off in every way with this lawsuit over.

The COURT. Well, I have not any doubt about it. That is the object of the lawsuit; to put all these defendants and all other producers of titanium in what the statute regards as a superior position. I suppose if it is true,
3847 as the statute says, that the competitive system is superior to the regulated commercial system, then the fact that we create a competitive system should benefit not only those who heretofore were with it but those who were not, and naturally I would suppose they would make more money, produce a better product at a cheaper price and serve their stockholders with greater dividends. That would not prove that the decree is bad. That would indicate that the decree had achieved perfection.

Mr. DIXON. Perhaps I created the wrong impression with the Court. I meant to indicate that the defendants would be better off in the sense that they would be securing not only patents from each other which they now have on a royalty-free basis, but they would be receiving royalties on those patents which they are not now receiving and, secondly, if serious consideration is given at all to the proposals, cross-licensing of patents and know-how as submitted by the defendants, we would find that the other companies in the industry, for example, would be required as a condition of the receipt of any license from the defendants to give to them licenses of their patents.

The COURT. Now let me put this question to you——

Mr. DIXON. Yes, sir.

The COURT. ——and I am reacting only to your suggestion without any previous reflection on this problem.

Mr. DIXON. Yes, sir.

The COURT. Let us suppose that upon any particular day in the course of this year, without analyzing a condition affecting titanium, there having been no lawsuits, no indictment or anything, and we had found the following conditions to prevail: That there were two companies in the field in active competition with each other; that the policy of each of those companies was to offer licenses upon all their respective patents to anybody who applied to them at uniform and modest royalties; that in response to this general invitation several companies had applied and had received such modestly priced license agreements; that it was one of the conditions of such license agreements that persons so taking advantage of this general offer open to the whole world was to extend a similar and reciprocal opportunity to the offerers, and that as a result of that these several companies that had taken advantage of those offers had for modest royalties licensed these two companies, and the result was that we had four or five or six companies in the field; that each of them enjoyed access to all the patents in the industry; that all of them were, therefore, able to make use of the most advanced art in the industry and that the product consequently had been much improved over a short period of years; that there was no territorial allocation; that there was a freedom of international movement, and that there was price competition, quality competition and every other form of competition that you can envisage; assuming that were the fact would you not say that that was the ideal condition

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contemplated by the Sherman Anti-Trust Law?

Mr. DIXON. The answer is obviously yes, your Honor.

The COURT. All right. Now let us see whether some of your strictures upon some of the suggestions made are well founded. Tell us what would be putting the defendants in a better position, and by "better" I suppose you mean that which is more consistent with the antitrust laws, A, no territorial agreement; B, no non-competing agreements, C, compulsory licensing at uniform and modest royalties. I am using the word "modest" in lieu of the word "reasonable" because I want to suggest what is intended, the intention being a condition such as the industry can readily handle without establishing an undue advantage one over the other not justified by an investment involved in these patent ownerships, and also as it is suggested in one of these propositions, not only as to all existing patents but as to all patents filed or issued over a period of five years, or all applications that will be filed over a period of years, I do not remember which.

Mr. WEBSTER. Yes, your Honor, all patents issued over a period of five years.

The COURT. Yes, all patents issued over a period of five years, and that will presumably take care of all applications now in and those that will be put in as a result of inventions made within this period of time.

3850 Now, why doesn't that begin to approximate, forgetting now the feature of costs; you know what I mean, forgetting that feature; and assuming that you may have to do more in order to prevent a recurrence of the inertia and a continuance of certain factors as a result of the inertia; but assuming the past and assuming that was the condition created, why doesn't that approximate the condition which you a few minutes ago assented would constitute an ideal situation under the Sherman Anti-Trust Act?

Mr. DIXON. Well, my first answer to the question is that it gives to the defendants the full benefits of the position which they now enjoy in this industry and which they have reached——

The COURT. By unlawful means?

Mr. DIXON. That is right.

The COURT. Now if by benefit you mean wealth, there is a way of doing it; that is, you can indict them, try them and convict them and fine them, and take some of that wealth away from them, but is there any method under

the equity procedure by which we can make them disgorge their ill-gotten gains? Is there any such method?

Mr. DIXON. Definitely yes, your Honor. We feel that there is, and that is the reason why we have requested the partial or total dissolution of these companies.

The COURT. You mean by divestiture?

3851 Mr. DIXON. Yes, divestiture.

The COURT. That does not really, strictly speaking, make them disgorge, because presumably they would get their money back for whatever they disposed of.

Mr. DIXON. That is true, your Honor.

The COURT. So it does not deprive them of their wealth.

Mr. DIXON. The purpose, of course, of asking for a partial or total divestiture is not as indicated by the defendants punitive. In one sense, any remedy which the Court grants here might be construed as punitive, but it depends upon what you call the effect of what you are trying to achieve, and it is the effect or the dissipation of the effects of this combination that the Government is concerned with, and that is all.

The COURT. Let us focus attention on precise propositions.

Mr. DIXON. Yes, sir.

The COURT. Is it the object of an antitrust proceeding to dissipate the effect of an antitrust violation, to wit, the effect of the defendants having grown strong and powerful? Would that effect in and of itself isolated from other effects bring about such a condition and, if so, has the Court ever done this, namely, try to dissipate the commercial potency of an offender under the antitrust laws where you did not have aggregations, mergers

3852 and combinations which are simply undone, but merely financial and commercial potency. That is what I want to know.

Mr. DIXON. Yes. Your Honor's question, of course, goes directly to the point, and I intended to pass upon it or discuss it hereafter, but I am very glad to discuss it now.

The COURT. Any way you see fit.

Mr. DIXON. Because it does, in our opinion, go to the crux of the relief which this Court in a decree could grant to the Government or the public.

The COURT. I think you are right. It does.

Mr. DIXON. Now, as indicated yesterday, we are fully satisfied from an examination of the cases that the precise question which your Honor has asked has never been passed

upon by any court in the sense that you are effecting, assuming you do, a break-up of a company or companies which have achieved their size and which gave them the domination in the industry without the acquisition of any competitive units. In other words, the cases on that and where dissolution has been effected are, of course, the Standard Oil Company case and the tobacco cases.

The COURT. No, I think there are cases which are against you on that. For example, let us draw a fairly necessary inference from the aluminum case. Now, the fact that the Court in dealing with the aluminum case, as I see it, said, "We will wait until after we know
3853 what happens from the disposal of the surplus plants. We will wait and see."

Now that suggests what might become relevant to the issues; otherwise there would be no point in waiting. It would follow, therefore, that if it develops that as a result of the disposal of the aluminum plants by the Government that other active competitors came into being who will operate in competition with the Aluminum Company, then presumably the Aluminum Company is not going to be shrunk down in size.

Now, clearly, if ever there was a case where the Court found that a Company had become big in part by virtue of the violation of the antitrust law, I think the aluminum case is one. Am I wrong about that?

Mr. DIXON. No, I think you are right, your Honor.

The COURT. And, nevertheless, the Court did not say, in following your analysis in an attempt to agree with you——

Mr. DIXON. Yes.

The COURT. ——it didn't say regardless of the character of the competition which may develop by the post-war disposition of the surplus aluminum plants we think the Aluminum Company has become big and powerful as the result of violations of the antitrust laws and must be deprived of that power and strength and, therefore, we are justified to A, split it up; or, B, compel it to close down; or, C, abolish it altogether. I do not know, but the fact is that they did not do any of
3854 those things but instead they said, "Despite the violations we are going to wait and see and if reasonable competition is established by virtue of those other plants, then we are going to let the Aluminum Company stay put."

Now doesn't that affirmatively show that your theory

not only has not been dealt with affirmatively by the courts, but that a contrary direction has been given it by the latest decision that we have on the subject?

Mr. DIXON. May I respectfully suggest to your Honor——

The COURT. That is simply a question. I am not committed to that view.

Mr. DIXON. Yes.

The COURT. I have to keep repeating that.

Mr. DIXON. All right.

The COURT. Because every now and then I get questions read back to me. However, this is not my judgment, but it is simply a question.

Mr. DIXON. Yes, sir, and naturally it is a very fair question, and in answer to it may I suggest that there were other considerations entering into the decision in the aluminum case, particularly the effect of dissolution during a war, which would obviously mean the disruption, assuming it were accomplished to an extent perhaps of the administrative facilities and so on; the productive facilities of the Aluminum Company.

Now, as we construe that opinion, that was cer-
3855 tainly one of the factors entering into the exercise of the discretion of the Court, and in suspending, shall we say, final judgment on the question as to whether or not the Aluminum Company as a monopolistic creature created through the practices referred to in that opinion should or should not be dissolved.

The COURT. What did they say as to the reasons? What reason did the Court assign for this waiting? Did it say, "We do not want to upset the productive capacity of this enterprise in the midst of the war?" Or did they say, "We do not know what kind of competitive effect will be created as the result of surplus disposition"?

Mr. DIXON. Your Honor's second remark is, the statement of the opinion.

The COURT. Well, aren't we, therefore, entitled to infer that that is the reason which motivated it?

Mr. DIXON. Well, in a sense you may. In our opinion, the Government does not so construe the opinion in the sense that it was a finding by the Court that dissolution of the company would not be effected if it should develop upon further evidence that dissolution was the only way of restoring competition to the aluminum industry.

The COURT. That is right. I quite agree with you and underscore the purpose which you have said. In other

words, they would dissolve the Aluminum Company
3856 if that were the only method of restoring competition to the aluminum industry. They would not dissolve the corporation merely because it had become fat by virtue of law violations.

Mr. DIXON. However, to go a step further, may I suggest to the Court that we clearly take the position that the principles of equity are such to prevent, or should prevent violators of the law to retain the benefits of that violation.

The COURT. I underscored that difficulty in a footnote in my opinion. I do not know what to do about it, and that is where I am waiting for a construction which would give me a sense of moral pleasure undoubtedly, or would give a judge a sense of moral pleasure if, having found somebody had violated the law, he could in some way exact retribution, but I do not know how to do it. Now you show me how and I think it would give me some satisfaction to do so, because I have no doubt as to who won this lawsuit even if there may be some doubt on the part of some members of the bar, and if I knew how I would proceed to do so, or to do what you say, but you must first show me and give me a formula to sustain it within the mandate of the statute before I can exercise that pleasurable instinct.

3857 Mr. DIXON. May we suggest first if the principle which we have stated is applicable, and we feel it is, that one of the principles which should influence and persuade the Court in determining what relief is granted should be, that in so far as it is practicable and possible to do so, to restore the conditions of this industry to the status quo ante combination.

The COURT. Is that ever a possibility?

Mr. DIXON. Not one hundred per cent in the sense of the term, obviously no, because you would never——

The COURT. The past result is irretrievable.

Mr. DIXON. Yes, but that does not necessarily mean you may not take such practical measures, assuming they are practical, to effect that purpose and to carry out that principle.

The COURT. Now let us see if we can frame the issue there so we can see it with precision. The defendants suggest, as I gather from their argument, that the objects of a decree under the antitrust law are (a) to dissolve the combination; and (b) to take such additional measures limited by this factor, that those additional measures shall

be only such as may prevent the resumption of the illegal activity or at least to eradicate the force of their continuity. They say that is all you can do. It is an injunction essentially rather than a mandatory direction. You have to stop people from doing
3858 illegal things which they had been doing, and such additional measures are purely ancillary to the accomplishment of an effective halt on the previously illegal conduct. You say that that is not the entire scope of the decree.

Mr. DIXON. That is right.

The COURT. That in addition the decree should attempt affirmatively to recreate a condition which would have prevailed had the illegal steps never been taken and including in that such things as creating the kind of competition which would have been created, and even the kind of business structures which would have existed, had the violations not occurred. Is that right?

Mr. DIXON. In substance that is correct, except with a qualification.

The COURT. Which one of those theories do you contend is sustained by the decisions? And if you say that yours is not sustained by the decisions you presumably argue that logic requires the development of the decisions in that direction. Let us make up our minds on which line you are going to proceed.

Mr. DIXON. Well, perhaps I can take the middle of the road course and say that there are certain statements which, in our opinion—that is, made by the Supreme Court—which indicate what the trend or what the court should do in circumstances such as these, and I have previously referred to——

3859 The COURT. Which is the strongest case that you think supports your view if you feel you are going to rely on authority? One good case is better than a lot of weak ones.

Mr. DIXON. Decidedly. I say that there is no direct authority we can find adjudicating the question that we are discussing here.

The COURT. There is no question that over the past decade the court has been moving in the direction of a stricter enforcement of the antitrust laws. Isn't that right?

Mr. DIXON. That is correct. That is my view.

The COURT. So we are not dealing with a historical

period in which the court is moderating the force of the antitrust laws.

Mr. DIXON. It is really the other way.

The COURT. As in the patent situation, where the courts have been restricting the scope of the monopoly and they have been increasing the scope of the antitrust laws.

Mr. DIXON. That is right.

The COURT. Despite this tendency, which I think has now progressed for more than a decade, the court has not quite reached the point that you now advocate, and you think it is moving in that direction.

Mr. DIXON. Yes, I think that is correct.

3860 The COURT. Now what clues are there, or what language is there, which suggests that that is the doctrinal trend which the Supreme Court has said this court should anticipate?

Mr. DIXON. Perhaps I can only refer to the Crescent case.

The COURT. That is the Theatre Amusement case?

Mr. DIXON. That is right. The decision was December 11, 1944, in which Justice Douglas wrote the opinion of the court. Justice Roberts dissented, and Justices Frankfurter, Murphy and Jackson took no part in the decision.

The COURT. So you had a six-judge court.

Mr. DIXON. That is right.

The COURT. And the decision went in what proportion?

Mr. DIXON. The decision went in favor——

The COURT. No, in what proportion out of the six? How did they divide?

Mr. DIXON. The decision was five to one. So it is clearly a majority of the court. Not like the famous Hartford-Empire case, which was a 4-to-2 decision. This is a 5-to-1 decision in which, as I stated, the opinion is written by Justice Douglas. Now in this opinion the following language is of interest and it is rather short, so I will read it.

3861 The COURT. Before you read it, just refresh my recollection as to what the case held. I remember it only vaguely.

Mr. DIXON. Well, it was a theatre or amusement case and the Government had taken the view that the relief granted by the trial court was not adequate to protect the public interests on the question of acquisitions, and the Supreme Court agreed with the contention of the Government and the decree was modified to that extent. And in

the course of the opinion the court made the following statement:

"The court has quite consistently recognized in this type of Sherman Act case that the Government should not be confined to an injunction against future violations."

As we pointed out that of course is more or less——

Mr. WEBSTER. "further violations" is the language.

Mr. DIXON. That is right, "further violations."

Mr. HANDLER. It is on page 17 of the memorandum.

Mr. DIXON. "Dissolution of the combination will be ordered where the creation of the combination is itself a violation."

The COURT. Where creation of the combination is itself a violation.

Mr. DIXON. That is right.

The COURT. Does that limit his general language
3862 or is that an illustration of his general language?

Mr. DIXON. Well, in our view it illustrates the general language of the court. Now of course the defendants take the view here that the only time you can have a dissolution or effect dissolution, is where you have a combination resulting from the acquisition of competitive units. And we frankly admit that the cases are all of that character. However, we suggest to your Honor, pausing for a moment to apply reasoning to these cases, to ask the question as to what the difference is, if any, between a case where the combination has acquired the power to dominate and does dominate and control an industry through the acquisition of competing units, or where it acquired the domination and the power by means of being able to, as in the instant case, exclude others from actively being able to compete in the industry.

The COURT. Well, I suppose that Mr. Webster and Mr. Handler would agree that this language would, if the facts warranted, support more drastic action with respect to the stock ownership in the European companies.

Mr. WEBSTER. No, I don't think so at all, your Honor.

The COURT. All right, then I will give you a chance later. If I do not get a concession I will wait until he finishes.

3863 Mr. HANDLER. I think there is a certain ambiguity, your Honor, in the word "dissolution," and if Mr. Dixon would permit, it might be helpful if I pointed that out.

The COURT. Do you want him to?

Mr. DIXON. I would rather finish, if your Honor please.

The COURT. All right, you finish.

Mr. DIXON. There is without doubt perhaps some vagueness or ambiguity as to what the word "dissolution" means in these cases.

The COURT. There it meant divestiture, didn't it?

Mr. DIXON. Yes.

The COURT. Of certain theatre buildings.

Mr. DIXON. That is correct, and in that sense there was not any ambiguity. Dissolution meant divestiture. Now the defendants therefore argue that dissolution as used in the antitrust cases can only be applied to those cases where you are divesting the combination of the companies which it illegally acquired. Witness the cases cited. And that is where we come to the parting of the ways and we submit to the Court that there is no sound reasoning for distinguishing between the manner by which the combination acquires its position of dominance in effecting relief. The important consideration that the public has, or is interested in, is what is the effect
3864 and what can be done to dissipate the effect, and that is the Government's concern.

The COURT. Well, take this language of Mr. Justice Douglas: "Those who violate the statute may not reap the benefits of their violations." That taken literally, tends to support your contention, but isn't that just rhetoric? That does not mean they are really going to be asked to give up the money they made as a result of the combination, does it?

Mr. DIXON. I think that is true. We would not argue that.

The COURT. But essentially I assume these are profit-making enterprises. They are not built up and extended simply pro gloria industrie. It is to earn money. And the benefits of their violations, expressable in terms of money, and I don't know of any case, and I don't suppose Mr. Justice Douglas means, they are to give that up and give it to the consumers. So he therefore adds his language which I suppose should be treated as a clause or limitation upon the generality of his statement when he says to "avoid an undoing of their unlawful project." In other words, that kind of benefit he speaks of means the avoidance of any undoing of their unlawful practice. If that is what that means then even the strongest case does not go to the extent of saying, we are going to shrink down big

companies because they have grown big by virtue of
3865 illegality. Does it?

Mr. DIXON. Well, perhaps you cannot read that into that statement, no.

The COURT. Now let me move a step further, because we have to proceed with the argument. I suppose we could engage in a discussion of it ad infinitum. Assuming that the law is that in an appropriate case you can do what you say should be done here, is this the kind of a case in which that principle should be applied? In other words, what are the criteria when the shrinking down should be done as you suggest?

Mr. DIXON. To specifically answer your question on that point of the case, we submit that it should be done where the obvious position in the industry of the companies involved is such that that fact in and of itself might reasonably tend to deter other companies from coming into the industry or new capital from coming into that industry.

The COURT. Now let us see. Let us hold on a minute. Let us suppose that instead of two companies which we are now dealing with, this was a combination of the four or five big and powerful enterprises, and they had jointly dominated the industry in the sense that those five occupied the fields to the extent of ninety per cent of the consumed products. Now you break up the combination. You sever the bonds which unite those five. There is no
3866 doubt that they had grown big, powerful and rich by virtue of illegal law violation. Would you say that in that case we should shrink each of the five down because in view of the magnitude of those five the chances of new competitors entering the field are not as good, or at least you surmise they are not as good, as they would be if each of those five was shrunken down to half its size?

Mr. DIXON. If you had those five companies in the industry and they were approximately on an equal basis as far as ability to compete in the sense of productive capacity and so on was concerned, customers and position in the industry, I would say that would be satisfactory, the object being to create——

The COURT. Competition?

Mr. DIXON. That is right.

The COURT. What principle of law, or what rule of economics is there which suggests that competition among five is necessarily superior to competition among two?

Mr. DIXON. None, your Honor.

The COURT. There is not any?

Mr. DIXON. That is right.

The COURT. I mean we might without reflection assume so, but the minute you subject it to scrutiny you realize there is no logical support for the assumption that competition among two is any less desirable than competition among five. Perhaps for other purposes it may be that the public has an interest in not having this titanium industry in too few baskets. From the point of view of security in the event of war, or something of that kind, but as far as Adam Smith is concerned, his ghost is satisfied by two as well as by five. Is that not so?

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Mr. DIXON. It might well be.

The COURT. Consequently I say to you is this a case in which the principle you advocate should be applied in view of the fact that forgetting the two minor enterprises and there will be a footnote on "minor" with Mr. Whitney saying "minor on the way of becoming major," but excluding the two minor companies you do have two corporations which are powerful without question and undoubtedly neither afraid of the other, and in a position to compete if they only would compete.

Mr. DIXON. Well, obviously your Honor forces me to the position of answering no. I mean in the sense that we could probably have effective competition from only two companies if they were in the industry.

The COURT. When you say I force you to a decision——

Mr. DIXON. I mean logically you have, because there are conditions under which that might well be the case. We do not think that the principle applies necessarily to antitrust cases, and that brings me back to the point that I was urging for this requested relief. That you cannot look at it alone from that point of view, but should apply—but if my premise is wrong why then my relief should be denied.

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The COURT. We might conceivably come over to your proposition within the narrow scope of the ancillary relief we discussed before if we said that although it is true that competition could prevail as effectively between two as among five, where you have the situation where there had been no competition between two, then you cannot rely upon that competition developing and that you must have power to stipulate, but don't forget in this case the finding is unique in that you have a situation there was competition between the two. Maybe that finding is not justified and maybe it is not true, but I do not remember the Government protesting or urging I should find there was no com-

petition between the two, so therefore the so-called ancillary relief which is sometimes granted to dissipate the force of inertia is here in this peculiar case least likely to become necessary.

Mr. DIXON. Well, of course the word "competition" as used in our findings read in a general sense may have a variety of meanings.

The COURT. Undoubtedly.

Mr. DIXON. And "competition" as defined, as the
3869 findings found in this case, is confined principally to a contest to serve customers, in substance, and the product competition certainly was eliminated from the picture in view of the fact that both companies had access to all the patents and patent applications of each other, so in that sense we have a restricted type of competition here, if you want to call it competition, and it properly can be so described.

The COURT. Well, any competition. We do not have the absence of competition which affects adversely the interests of consumers. That is what you have to concern yourself with. In other words, the fact that they did not compete with each other in their productive processes, assuming there was no violation in the sense it excluded others than themselves, insofar as they did exchange it was a benefit to consumers. Let us not over-look that. In other words, as between themselves the condition of non-monopoly in the art existed which would have existed if there were no patent system, which of course would be desirable on a short run anyway from the point of view of consumers. So when you say there was a restricted competition I may go along with you, but it was not the kind of restriction which adversely affected the interests of consumers. There is where perhaps we get into the question of speculation.

3870 Mr. DIXON. The Government would take the position, your Honor, that it does not necessarily follow that because you have this type of competition found to exist in this case, which may or may not be beneficial to the public, that is not proof that the public would not have been better served with perhaps a better product and a lower priced product, had the combination not exercised the power which it did exercise in this case.

The COURT. That is not a supposition. Assuming we start with decided propositions which I have decided, and as far as I am concerned I do not intend to go back of that; in other words, we have already concluded that it was

harmful in the sense of colliding with the policy of the statute. I am not here to pass upon the ultimate economic fact today that to do what the defendants did because they excluded the whole world outside of their particular enterprise, and insofar as the world was already restricted to the extent it was within that restricted world, whether to that extent it was a benefit to consumers rather than an injury. In other words, this exchange in itself, in its limited sphere, did promote and advance the art in its limited sphere, and the criticism of it is that it was a limited sphere, not that it was an exchange. If this were a universal system of exchange nobody could have criticized it; isn't that true?

Mr. DIXON. It is possible. Well, that is the reason for going back to our position as to the request for dissolution here on the principle that we feel that insofar as practical to do so that the status quo ante should be restored.

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The COURT. Now that is an important proposition and I would like to know whether or not it is supportable either by authority or by reason; that the object of the antitrust decree is to restore the status quo ante. I wish you would focus your analytical powers upon that, because I have an open mind on that.

Mr. DIXON. The only thing that I can add to what I have already said, your Honor—I am frank in making the statement to your Honor—is to again refer to Justice Douglas's opinion in which, as we view it, he states a cardinal principle of equity here when he says that those who violate the act or the law may not reap the benefits of their violations. Now we might put a period there. There is not one——

The COURT. If you put a period there, it would be a universal which could be so readily riddled that it would not stand up very long.

Mr. DIXON. That is true.

The COURT. So therefore you cannot put a period there.

Mr. DIXON. But he does state a principle of equity which would seem to us to be applicable to antitrust cases. Now let us assume for the moment that it is applicable. On that premise what could a court of equity do? And there we submit that in this case the court should, in so far as it is practicable and possible—within those limits of course—endeavor to restore the parties to the status quo ante position.

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The COURT. Of course your decree would do nothing

of the kind, you realize. Your decree would not at all restore the status quo ante. It would create a condition which man has not yet seen, namely, the existence of four enterprises which have had no prior existence either in fact or in human contemplation.

Mr. DIXON. That is why I said "in so far as it is practicable."

The COURT. Now which ante would you go to in order to find the status that you would restore? Would you go back to 1920?

Mr. DIXON. No.

The COURT. And recreate National Lead, Titanium Pigment, up in Niagara Falls, and Mr. Jebsen's laboratory? Of course when we use the language, status quo ante, even assuming it is a valid principle, that means this: A and B have combined illegally. We undo it and we restore the status quo ante, namely, A is in his own corner and B in his. Therefore in these cases you do not have to
3873 really resolve these troublesome questions we have been dealing with here because the proposition is ultimately another proposition which is unchallenged. Here we have a proposition which is not equal to another proposition which is unchallenged. "Status quo ante" here leaves us no place. I don't know where I should go to. It really is an absolutely unpointed direction to say "We are going to restore the status quo ante," because the direction yields no point of reference, and in fact as I read your decree you do not propose to go to any status quo ante. Therefore it seems to me that the principle of restoring to status quo ante is not a useful tool in antitrust law, and that we must find other criteria which are more relevant to the social policies which Congress intended to be enforced. I take it that that social policy is in briefest terms, the elimination of man-made obstacles to the free competition system. Now if that is so, we go back to the question we had yesterday, whether in achieving that the court can go further and undertake the task of the entreprencur, namely, the establishment of business enterprises, the allocation of capital, equipment, personnel, market product, all the things which in the aggregate make a living business. Can a court undertake that task, assuming that it would be a good thing to have it done? Is it equipped to make an acceptable judgment on those questions? It may be that that is what the Con-
3874 gress intended the courts to do, although I am frank to admit that I would approach the solution of that

kind of a problem with great trepidation, because I seriously doubt that the evidence in any antitrust case ever provided a court with the data, and I am sure that his experience does not provide him with the necessary judgment and experience to authorize him to risk other people's money on his conception of what will be a successful business enterprise, and that is what you really get down to.

Mr. DIXON. Well, we, of course, would not want to put the court in that position at all, and we would not, on the question of the requested relief along the lines we have been discussing, require the court to do that. We had, as the proposed decree provides, indicated that the defendants should submit a plan as to how that could be done, and so forth.

The COURT. In other words, you wanted them to make a suggestion. That is all that amounts to. Well, the responsibility has to be the chancellor's.

Mr. DIXON. In the last analysis it would be. Subject always to being proved to be a practical proposition. We are not asking the court to do something here which would require it to operate a business but merely to create the condition where, assuming someone else was interested in buying that business, they would have the oppor-
3875 tunity to do so and thus thereby further guarantee effective competition.

The COURT. Back in 1920 a group of statesmen, not sitting as a court but as a tribunal, attempted a thing like that and they dissolved an enterprise and created a new one called Austria, but it turned out to be an unsuccessful enterprise and did not have apparently the economics sufficient to sustain it. Supposing I say that the St. Louis plant of the National Lead Company—there is one, isn't there?

Mr. WEBSTER. Yes, there is.

The COURT. If there is another one, I have forgotten it, but the St. Louis plant should be set up as an independent enterprise. Well, what are its relations to a source of ilmenite? Shall we leave the source of ilmenite with the St. Louis plant or shall we leave the source of ilmenite with the New Jersey plant, or shall be split this ilmenite source and give it half to St. Louis and half of it to New Jersey? And now let us go a little further——

Mr. DIXON. May I interrupt to say we would not expect

to even ask the court to venture into such a determination.

The COURT. I would have to do it sooner or later.

Mr. DIXON. Why?

The COURT. Because I assume if I went through
3876 with your suggestion Mr. Webster would come along with a suggestion as to how we would do it and unless Mr. Webster has ceased in the art of advocacy and is acting here as a special master, which I take it he is not being paid to do, he would come in with a proposal which would best serve the interests of his clients, not necessarily the best interests of the Department of Justice, and disputes would arise. Conceivably he might come in with one enterprise which is practically a gilt edged proposition and likely to succeed, and another enterprise which would turn out to be a shell and in the private judgment of the company would be one of those things which would just collapse after a little while like one of the misfortunes of war.

Mr. DIXON. It might well be, your Honor, that might be the result. My point is all we are asking the court to do is to provide the opportunity, assuming someone wants to do it—that might be a bridge to cross—but all the Government is interested in here in trying to accomplish is, assuming someone might want to buy the St. Louis plant, to use your Honor's example, and it was a shell that is set up, that would be their business risk. It might turn out well. It might turn out a complete failure. The question of whether or not someone would buy it would be the question. Now with that the Court is not to be concerned except in so far as under the plan naturally the
3877 Government, assuming it were operated, would be interested and want to know who was buying the plant.

The COURT. And of course I would have to make sure they are setting up a salable parcel, because they could frustrate the purposes of the decree by offering something which was utterly unmarketable.

Mr. DIXON. That might well be true. The test there would be, insofar as the Government is concerned, as to whether or not there was any desire on the part of anyone, any new capital as such, to acquire the plant.

The COURT. Tell me this, is there any experience which the Department of Justice has had, or the courts—the Department of Justice has signed hundreds of consent decrees which is a formal administration of the antitrust law—is there any recorded instance in which fission, to

allude to the atomic history, fission took place where there were not pre-existing seams to open up?

Mr. DIXON. I would hesitate to answer that question, your Honor, without talking with someone who handles the consent decrees section, or the consent decrees in the division.

The COURT. What I am afraid is, you are asking me to do surgery, and surgery is a risky business. It is a much different and a much simpler task to take apart that which man has put together, but to cut living tissue is
3878 risky enterprise.

Mr. DIXON. That the Government is not interested in doing either, your Honor, obviously. The proposition we are arguing here and urging the court to consider is based on the assumption that it is possible and practical to do it. If our premise is wrong, then the relief should be denied, because otherwise the Government would not be requesting it. We are going on the assumption that this industry—perhaps it is a matter that the court would want to hear some evidence on, and if it developed that it was impracticable to do that urged by the Government, then the Government would be agreeable to finding that that was not the best way of effecting relief to this industry. I am discussing the principle.

The COURT. I understand. That is what I want to get, and the principle is what?

Mr. DIXON. And the principle is, we are submitting it to the Court, at least our point of view that it would not require the Court to do the things which your Honor has rightfully feared perhaps he might be forced to do in carrying out such proposals as are urged by the Government in this request for relief.

The COURT. These problems that we have been discussing do not really apply to the requested disposition of the stock of the British Company, Canadian Com-
3879 pany, French Company, and I assume all of that stock is held through Tinc——

Mr. WEBSTER. Not all of it, your Honor.

The COURT. Some by NL?

Mr. WEBSTER. Yes.

The COURT. Well, in any event BTP is an enterprise and we have become accustomed to the slight flow of ownership and presumably when some of that stock was held by National Lead or held by International Smelting it would not make any difference to the enterprise as a going concern. There the question is more directly related to the

problem as to whether that is a necessary step in giving effective relief. But here you have got an additional problem when you are dealing with the domestic scene.

Mr. DIXON. That is why I indicated to the Court that if it should develop on a proper showing that the proposal urged here by the Government was not practicable or feasible, I want to make the statement here now that we would be the first to say to the Court that that was not the type of relief we would ask the Court to go along with.

3880 The COURT. Let me ask you this, Mr. Dixon,——

Mr. DIXON. Yes, sir.

The COURT. ——as far as the distribution of the foreign stocks are concerned, is that founded upon the belief that that is necessary in order to prevent by reason of continuity of previous association the continuance of a policy of restrictive imports and exports, or are there some other bases for that request?

Mr. DIXON. That is the principle, your Honor. There are, of course, what we might call incidental reasons flowing from that, such as the doing of those things which will make more certain the recreation of the relationships. As we pointed out yesterday, we have a most difficult problem here at the very best in dealing with the foreign companies.

The COURT. Yes. And in the other situation you have a more difficult problem.

Mr. DIXON. Yes, sir. We are dealing with stock. I mean it is an easy matter to say that the stocks should be sold and to whom it should be sold and so forth, because you are only, figuratively speaking, dealing with a piece of paper that represents control.

The COURT. Yes.

Mr. DIXON. However, in the divestiture proposition you are dealing with physical assets.

The COURT. Yes, that is right.

3881 Mr. DIXON. And the piece of paper which would represent that asset after the corporation would be created would be the thing that would be sold there.

The COURT. Yes.

Mr. DIXON. But, as I have indicated, we are arguing principally now on the assumption that it is feasible and practicable, and if evidence should develop or be submitted, assuming that your Honor sees fit to go into that phase of the requested relief, as I have indicated before, the Government would upon such a showing clearly state to the Court and state to you that we felt

it would not accomplish the desired result.

First we say that the industry involved here is particularly adaptable to that type of——

The COURT. Division.

Mr. DIXON. Division. If it were wrong and the showing should be made that we are wrong, we would not ask this Court in the exercise of its discretion to order that kind of relief. We feel, however, that it is feasible and practicable to do it.

The COURT. Would you be prepared to proceed to prove that? After all, the affirmative would be yours on an issue of that kind.

Mr. DIXON. Well, we would call first the defendants.

The COURT. Themselves?

Mr. DIXON. Yes, sir, themselves, to prove that
3882 fact. They are the ones who have the most knowledge concerning this business, and on that basis, of course, we would submit the evidence to the Court for its further consideration.

The COURT. All right. Mr. Webster, Mr. Handler, or any one of you who desires to enlighten me on this subject, I shall be glad to hear.

Mr. DIXON. Pardon me, your Honor. I see that I have the language here of the Supreme Court in the Standard Oil case, to further indicate what I have in mind. On page 278 of 221 U. S. where the Court, as we pointed out in our brief, discusses the relief, says:

"The exertion of such measure of relief as will effectually dissolve the combination found to exist in violation of the statute, and thus neutralize the extension and continually operating force which the possession of the power unlawfully obtained has brought and will continue to bring about."

Now that is the sort of thing——

The COURT. Yes, but there are a number of cases and I thought you might cite those when you were discussing or talking in terms of power. There are quite a number of cases and I daresay that was one, but I think the tobacco case takes the position or talks ostensibly in terms of power.

Mr. DIXON. That is right.

The COURT. Of course, that is a very adjectival
3883 word.

Mr. DIXON. After all, your Honor, what is power? Power is nothing more than the position of

these companies in the industry, the customers that they now have, plus the goodwill of those customers.

The COURT. Yes.

Mr. DIXON. That is all power is.

The COURT. But you talk about dissipating that power, and then if you go out and represent what they did to dissipate it you have a different problem.

Mr. DIXON. That is right.

The COURT. Is there anyone else who wants to speak?

Mr. DIXON. Pardon me, your Honor. Mr. Jacobs has suggested that our position perhaps ought to make clear, if it is not already clear, to the Court on the patent situation, on the compulsory licensing phase of the case, and your Honor has previously stated the proposition as to our taking that view for the purposes only of the record. However, we do urge and submit to the Court——

The COURT. Just a moment, please.

Mr. DIXON. Yes, sir.

The COURT. You mean the free licensing?

Mr. DIXON. The free licensing as such.

The COURT. Which has so far been held to be improper.

3884 Mr. DIXON. That is right.

The COURT. Let me ask this question that I meant to ask you yesterday——

Mr. DIXON. Yes.

The COURT. What argument is there to be made in opposition to the proposition that if compulsory or free licensing is to be granted, that a reciprocal obligation from the beneficiary of that privilege should not be exempt?

Mr. DIXON. Well, I can very well visualize vehement opposition to such a proposal by even the present companies in the industry who would regard it as bringing about a difficulty with which they would be faced, or a condition imposed by the Court as a requisite to their receiving the license.

Mr. WHITNEY. I have to object to that evidence, your Honor. I will have to object to the witness as not being qualified.

The COURT. I want to know why shouldn't they be exempt.

Mr. WHITNEY. He is taking advantage of the situation when he speaks of there being such companies in the industry. After all, there is one sorehead in the industry,

and I do not want that statement going into the record.

Mr. Dixon. What was that?

Mr. Webster. He said there was a sorehead helping you.

3885 Mr. Whitney. Your Honor, just so there will be no misunderstanding, because I really did not mean to interrupt——

Mr. Dixon. That is all right.

Mr. Whitney. ——but I feel in this particular instance I was justified. All I mean is this: I take it that your Honor is asking questions of a general character but essentially legal in content, and the reason I interrupted brother Dixon is because the reply was exclusively evidentiary in character.

The Court. Very well. However, assuming that such was the fact, but I do not take it as a fact, and that is because I am not receiving evidence at this time, but assuming that the prospective beneficiaries of a free grant do not like it, is there anything by which they can justify their disaffection?

Mr. Dixon. As to that I am in no position to state, your Honor, I don't know.

The Court. Well, is it a fair thing to do, or would it defeat the purposes of the statute to exact such a condition from them?

Mr. Dixon. I can see where that may be argued, and that was the argument made by the defendants during the course of this trial, that the whole combination or purpose was to permit the industry——

The Court. After all, there is nothing to prevent Webster from making a private agreement for an
3886 exchange. I mean it is the lesser of the greater evil.

Mr. Webster. We found it was quite successful.

The Court. That is, an exchange which has a very limited relationship in comparison to making a universal exchange.

Mr. Dixon. May I ask this question? I do not understand whether your Honor was thinking along the line of having this on a royalty-free basis.

The Court. Assuming royalty-free, why shouldn't it be perfectly proper, assuming royalty-free, that if Virginia Chemical wanted all the National Lead patents free, that Virginia Chemical should offer National Lead an equally free license on all of its titanium patents?

Mr. DIXON. I can see where that might have considerable merit, your Honor.

The COURT. And if it is on a stipulated control, modest royalty but compulsory, and if Virginia Chemical wants access to the du Pont patents, why shouldn't du Pont have the advantage of all the Virginia Chemical patents? Otherwise you will arrive at a situation conceivably where Virginia Chemical would simply change places with du Pont in becoming the dominating factor in the industry under this extraordinary advantage of being able to take everything for itself and keeping everything that it has.

Mr. DIXON. Well, if I understand your Honor's
3887 question, it is directed to the granting of royalty-free licenses by the defendants?

The COURT. No. I am suggesting it on both premises.

Mr. DIXON. I understand, or, in other words, to anyone who wants the use of these patents on a reciprocal basis.

The COURT. Of course, a new man going into the industry, probably he has not anything to offer anybody in return.

Mr. DIXON. That is what I was about to come to.

The COURT. Ordinarily he would have nothing, but if he has it should he keep it as his exclusive property and get everything that his competitors have? There is a vast difference there.

Mr. DIXON. That is the situation that I was coming to, that someone else might come into the industry with no patents and he might be perfectly willing and probably would to assume that reciprocal obligation, and it might well be that the Government would be satisfied with that kind of arrangement, because here the ultimate purpose of this whole case, which has taken so much of your Honor's time and the time of everyone else, is to open up this industry to be certain that it is free and competitive and upon an equal basis, and so that there are no disadvantages
foisted on anyone who wants to go into the industry,
3888 and on the suggestion that your Honor has made the Government might very well be receptive to it.

The COURT. Now I assume that if there is a time limitation on the one hand, so that all patents up to midnight of a certain date are subject to this compulsory licensing on the one side, maybe the same patent invitation ought to apply on the other side, but let us put it this way: At this moment I am unable to contrive an argument which has plausibility as to why it should not be done, and that is why I asked about the Hartford-Empire case, and the

answer, of course, was effectively given that in that case you were dealing with a purely licensor organization which had no use for patents except for the control of licensing, and consequently there would be no benefit to it in receiving such cross-licenses.

Mr. WEBSTER. You also had a different kind of case involving different kinds of businesses. Some people were making bottles; some people were making flat glass and all that sort of thing.

Mr. DIXON. We are exploring the field here on the question of relief as well as the law, which is, in the opinion of the Government new in the sense as we have pointed out concerning which there are no adjudicated cases, and we have an open mind in the sense that our sole purpose here is to accomplish for this industry that which will be best in the general interests of the public, and whatever will best accomplish that is what the Government wants.

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We have submitted the decree in the form in which we feel that the desired result will be most effectively accomplished and, of course, have based our arguments and statements in support of that decree.

The COURT. I have found this argument very instructive. I had not really given as much thought to this problem previously as I have given to it in the course of this argument, which has crystalized a number of issues in my mind.

All right, Mr. Handler.

Mr. HANDLER. If your Honor please, adding anything to the discussion at this stage of the case would be almost like painting the lilly. However, there are just one or two comments I would like to make which may be of some assistance.

The COURT. Yes.

Mr. HANDLER. I think a good deal of the obscurity that has entered into the Government's argument is by reason of the ambiguity of the term "dissolution", which has a much wider meaning than the divestiture of physical property or the divestiture of stock.

An antitrust decree may take two forms; the negative form of restraining future wrongdoing and the affirmative form of undoing the wrong which has been committed. When the wrong is undone we speak of dissolution, and dissolution arises not only in the cases involving fusions or capital combinations, it arises in cases involving loose arrangements, so to speak, among

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legally independent competitors. However the dissolution prayer may come up, it seems a remedy and not a punishment, and a remedy which is granted very cautiously and with extreme reluctance by the courts only on to most clear and convincing showing that this far-reaching remedy is necessary to undo the wrong.

For example, in every Trade Association case, where a trade association indulges in price fixing, the combination of territory control, the control of production, or similar activities, principally the exchange of statistical information involving the Sugar Institute and the Maple Flooring Lumber cases, for example, the Government traditionally will request dissolution of the trade association, and that is only granted when the Court feels that the wrongdoing has so thoroughly permeated the association that a negative restraint upon the indulgence in the activities from which a violation of law is spelled out will be insufficient.

Similarly, where the suit involves the legality of a contract under the antitrust laws, which is really the heart, or at least one-half of the present litigation, the Court has to determine whether the wrongdoing has permeated the entire agreement. If it has not, and if surgery is advisable, the Court will merely restrain or excise those portions of the agreement in question and permit the agreement to stand.

3891 Likewise with the patent pool, if the patent pool is possible of lawful continuance, the Court will eliminate from the pool those practices which are obnoxious and permit the pool to stand. But, and this is the important consideration in every case in which dissolution is sought or has been sought in the past or can be sought in the matter of logic, having regard to the nature of the statute, its structure and the purposes of dissolution, the dissolution is directed against the wrongdoer. That is why it is so important to point out that where you have property divestitures, and where the original acquisition of the property or the stock was unlawful, then dissolution is an appropriate remedy having regard for all the circumstances of the case. It is an appropriate but not a necessary remedy to undo the wrong, to wit, the acquisition of the property.

Now, here the wrong consisted of two things: The international cartel based upon the agreement and the patent pool. Both are being dissolved. The wrongdoing

is being undone. Extrinsic to the dissolution, the undoing of the wrong, the Government comes in here and seeks to have divestiture of property and stock.

Now our proposition is that under the cases there must be an antecedent finding that that which is dissolved stands in violation of law. You do not dissolve something which is inherently lawful unless you desire to
3892 punish the parties for their extrinsic violation.

Now if you consider the structure of the statute and what the courts have had to say about the nature of dissolution, it becomes perfectly apparent that dissolution may never be asserted in such a case as this, but the Government, because it has won a victory here, imposes certain conditions upon the defendants as a punishment for their having been bad boys.

Now, in the history of the statute, numerous suggestions were made on the floor of the Senate where the principles adopted have far-reaching sanctions and include punishment of a most onerous character.

The original bill introduced by Senator Sherman did not have all the sanctions which are contained in the present law. Now the structure of the statute is very interesting and I think most illuminating. The statute imposes punishment for wrongdoing in the form of a criminal penalty. It provides a remedy for disgorging all profits made for wrongdoing through an action for treble damages, and it is interesting to note that in the course of the debate a proposal was made to permit the union of suits of agreed victims of a conspiracy in order to further effectuate the purposes, and that provision of the statute was rejected by the Congress, and they provided that the aggrieved individual must sue by himself to recover his damages which then may be trebled by the Court.

You have a provision for forfeiture of the prop-
3893 erty in movement in interstate commerce used to carry on the conspiracy. The Congress was not unaware of it or of the potentialities of the remedy of forfeiture, and as a means of implementing the statute they adopted forfeiture, but they limited the forfeiture to one thing, to wit, the forfeiture of goods moving into interstate commerce.

And then they went on to provide that a court of equity might enjoin violations of the statute. The wording of the statute there is very narrow and we, of course, make no point of that, because there have been 55 years of con-

struction of the statute, and the equity provision has been given a very broad construction, having regard for its purpose, to wit, remedying and undoing a wrong.

Now, the suggestion has been made that the cases that limit the relief in equity are legal antiques which are not entitled to any weight today, which suggestion seems to me to be quite unfounded, because the latest word on the subject is the decision in this circuit of the Circuit Court of Appeals in the aluminum case, which your Honor well pointed out before, and there Judge Hand stated:

"Dissolution is not a penalty but a remedy. If the industry will not need it for its protection it will be a disservice to break up an aggregation which has for so long demonstrated its efficiency."

Now the opinion in the Crescent case does not
3894 affect that statement of Judge Hand's in the slightest. On the contrary, it supports everything that has been said by us.

There Justice Douglas pointed out that dissolution has been afforded in cases involving capital combinations, and manifestly if a group get together, as in the old Standard Oil and American Tobacco cases, and build up a trust or monopoly, an integration, or fusion, the only way to bring about a condition honestly in harmony with the law would be to split up the trust into various segments, and that is what was done, and that is all that Mr. Justice Douglas means in the sentence which was called to your Honor's attention by counsel for the Government, "the undoing of their unlawful project."

In other words, dissolution is never ordered unless that which is being dissolved is in and of itself unlawful.

Now as to the question which your Honor asked as to whether this point has ever come up, I think the answer is in the affirmative. It came up a fortiori by implication in the Hartford-Empire case. There you had acquisitions which in and of themselves may have been considered unlawful, and despite the fact that you had acquisitions, and you had, as Mr. Whitney pointed out so well yesterday, the most flagrant type of antitrust violation, indeed there is no violation of the antitrust laws that has ever been reported in any of the recorded cases that you can't find in the record of the Hartford-Empire case. That constitutes
3895 the real textbook of antitrust violations. Despite that, however, no dissolution was even ordered of the acquisitions which might arguably have been said to have been unlawful. This record, of course, is entirely barren

of any acquisition which can be so claimed either of property or of stock.

Now your Honor has raised the question about the use of the concept of power in the antitrust cases in which dissolution has been decreed. There, of course, Congress had in mind the source of the power, the essential wrongdoing of the acquisition. The source of the power there is the absorption, the fusion of the case into one legal entity. Here the source of the power such as exists as between du Pont and National Lead is the agreement, the horizontal agreement between the two companies.

You have to sever the two companies, and you are going to enjoin that agreement. You are going to enjoin them from ever making another agreement of the same character. The vocal cord has been severed, and the power has been completely destroyed.

You have gone much further than that, and I think that this phase of the case has not received the attention from the Government that it deserves. Here we have two American companies that have engaged in this patent business or international cartel, and by the same token you could have one American company. And I think that
3896 would be the more orthodox pattern, because we are dealing here with companies whose power stems from the patent laws of the United States. They obtained patents, a great many of them.

Now, your Honor has found after a lengthy trial that those patents were used wrongfully, and you would have the choice here of either restraining the future wrongful use of the patents, which would follow the orthodox procedure of the decree, or you could go further, as was done in the Hartford-Empire case, and shear those patents of all of their monopoly advantages by making them available to everybody.

Now, the impediment that arises in new competition in this industry in the past has been the lawfully-granted monopoly in the patents, coupled with the improper use of that monopoly by the defendants.

Both are going to be destroyed by the decree. The lawfully-granted monopoly will be aggregated to the compulsory license, and the wrongful use of the patents will be interdicted by the restraining clause of the injunction.

Where does this concept of compulsory licensing stem from? It was never ordered in any antitrust case prior to the Hartford-Empire decision, but in a sense the Hartford-Empire decision goes very much beyond any-

thing that has ever been decreed in any antitrust case, because they did more than dissolve the wrongdoing. They actually destroyed a monopoly which was conferred
3897 by law by opening all the patents to the industry.

Well, it is perfectly apparent that compulsory licensing, which was used as the underlying principle in the decree, came from recommendations that had been before the Congress for many years. The Anti-Trust Division had recommended to the T. N. E. C., as did other agencies of the Government, that compulsory licensing of all patents be adopted by Congress, and that a restraint be put upon patentees in the restrictions that they might impose upon licenses, and those restrictions were in general put in the Hartford-Empire case, and they are not involved here.

The basis of compulsory licensing is that everyone is put on a parity in the industry. The legislative proposal would not differentiate between A and B. For example, if A goes to B and asks for B's patents, by the same token B is entitled to go to A and ask for A's patents, and the decree as proposed by the defendants would not be imposing any obligation on a new company in the field, because obviously not being a party to the cause, it is more or less put in the position where if they want our patents they must allow us their patents if they have any.

The COURT. Just one point on which I should like a little more light from you.

MR. HANDLER. Yes, sir.

The COURT. As to the stock ownership in the foreign field, wouldn't that be said to have been a wrong-
3898 ful acquisition in the same sense in which Justice Douglas speaks in the Crescent case, that it was part of the proof of the conspiracy? In other words, the stock acquisitions were part and parcel of the territorial allocation agreements, and probably were a necessary element in the establishment of the territorial arrangement. Now why can't it be said here, and whether it should be said is another matter, but why can't it be said that it is within the scheme of dissolution that you have defined?

MR. HANDLER. Your Honor is entirely correct when you state to the Government that a divestiture of stock in this case would not raise the problems of practical inconveniences that are suggested by the proposal for the divestiture of a physical plant. And, of course, it follows the orthodox pattern in the sense that there is judicial prece-

dent for ordering a divestiture of stock, but the initial acquisition and use of that stock must have been in violation of the antitrust laws.

Now our position is that the initial acquisition of this stock, and in many foreign companies the acquisitions of the stock were of wholly-owned subsidiaries, or a subsidiary having the controlling interest in a sales company, but in the case of where the plants are held by competitors or where the stock is held by the general public, we say there is not any question but that those stock acquisitions are entirely lawful.

3899 The COURT. I am concerned principally with those cases involving incidents of stock distribution being part of the treaty, and where the treaty included the scheme of exclusive territorial allocations and the principle of non-competition. Now why can't you say here or why shouldn't we say that the stock acquisition was a wrongful act in that sense?

Mr. HANDLER. Well, I would say that the wrong consisted of the cartel agreement, not the acquisition of the stock, and if you mean——

The COURT. Have you seen the agreement? It is all one agreement.

Mr. HANDLER. Yes.

The COURT. The stock is allocated. The structure is prescribed in one master agreement which refers to subsidiary agreements as implementing the major decision.

Mr. HANDLER. But that would not mean that every term and provision of the agreement was necessarily wrongful. The stock acquisition and distribution may have been part of the original plan, but the vice in it was the territorial restriction. If there had been no territorial restriction and if National Lead had collaborated with the three British companies in establishing BTP, our position is that there would have been no violation of law, but that is all there was.

Now in terms as to the efficacy of the decree, the
3900 divestiture will clearly show a very great and a serious financial loss to National Lead, and this argument is addressed entirely to your Honor's discretion.

The COURT. Yes.

Mr. HANDLER. The losses of National Lead have to be measured against the possible gains. We have gone into that in our brief, and we feel that if a balance is struck

it is perfectly apparent that the gains are hypothetical and negligible whereas the losses are actual and clear.

The COURT. What about the idea of the ancillary support of the decree? After all, if National Lead owns 40 per cent of the stock of the foreign companies, the chances of this foreign company ever actually being in competition with National Lead would be very slim, aren't they, assuming that they could be in competition with no tariffs, no patent problems, and assuming that you were in open competition?

Mr. HANDLER. That is not the situation of course.

The COURT. No, that is not the situation.

Mr. HANDLER. If it were contended that such were the situation, why, it might be different.

The COURT. So the argument is made that even if we create the most fruitful area for such competition, they would probably be operating at a minimum anyway and the social advantage would be very small.

Mr. WEBSTER. Without qualifying in any way what Mr. Handler has said, after all, those of us who have lived through the trial of the case and who have examined these agreements over and over again, perhaps in fairness to your Honor should talk about that.

3901

I don't think we can say at the end of this case that the stock acquisition in the foreign companies was not connected with what your Honor has found to be a violation of the Sherman Act. And the agreements, like the British agreement, the German agreement and the Canadian agreement, all involve the application of the famous paragraph 14 of the 1920 agreement to those other agreements. Indeed, the premise of the promotion in each instance was the existence of the 1920 agreement.

The COURT. That is right.

Mr. WEBSTER. And, in fact, the 1920 agreement, if your Honor strikes down the foreign agreements, will still rise to embarrass us abroad, because it was inextricably tied up with the obligations that were assumed by our foreign associates.

Furthermore, I think that to be perfectly candid with your Honor, and in line with what Mr. Handler said, it would be appropriate in the exercise of discretion not only to cancel those agreements to the extent that your Honor has jurisdiction over NL and Tinc, and to require NL and Tinc to dispose of the property which has been

acquired and used in connection with a decided violation of the antitrust laws.

3902 Now really what it comes down to is this: If your Honor believes that by reason of the striking down of the cartel as such by dissolution of the combination between DuPont and National Lead, by putting National Lead and Tinc under very severe injunctive provisions with a reservation of jurisdiction such as to permit further attention to this subject if there is occasion for it; with the power of the Court to punish for contempt—let us hope there will never be any contempt—but with the reserved power which is undoubtedly a sanction of great importance; that in the present very uncertain condition of international trading and the general policy of the United States to encourage American companies to engage in business abroad, that your Honor should tolerate a continuation of stock ownership which is not palpably unfavorable to the interests of the United States and which can if necessary be policed to prevent future violations.

Now to be sure there are practical problems which we can't blink here. We have been here altogether much too long to attempt to do that. I think that with the tariff and the freight situation, and the great demand in the British Empire for pigments, it is not very likely that BTP will come shooting over here with pigments and compete with the National Lead Company; and with the great pent-up demand for pigments in the United States and the growing consumption and use and

3903 preference for titanium pigments over other types of pigments, and with the freight rates and the British tariff features, I do not think that it is likely that we will go running over to the British Empire and engage in this line of commerce.

Now, furthermore, there is an argument of expediency, frankly so, which we should like to have your Honor take into account in exercising your discretion, and that is the British agreements were set up on a partnership basis. To be sure, too, they were set up on a basis which gave our British partners and our Canadian partners very substantial rights in the event that one party or the other should withdraw. Indeed, those restrictions are embodied in the articles of association of the foreign companies, and they would presumably like to continue to have our goodwill and perhaps our patents, and perhaps our know-

how. And I assume that it will be possible over a period of time to negotiate reasonable changes in the existing situation which would be subject to the Court's approval. And, therefore, what we really ask is that you permit us to continue to hold the stock in the British and Canadian companies.

The COURT. Do they have an option to buy that stock if you are offering it for sale?

Mr. WEBSTER. They have the right to buy the stock at book value.

The COURT. At book value?

3904 Mr. WEBSTER. At book value.

The COURT. Is that true of the Canadian as well as of the British?

Mr. WEBSTER. Yes, that is true. Now, of course, the book value refers only to BTP and CTP and the companies just got a start just before the war, and it now has a value vastly greater than the book value, and it would be a distinct sacrifice and indeed a destruction of the property.

The COURT. I suppose as to the Canadian situation, it can really be said that they have practically nothing up there.

Mr. WEBSTER. Well, we have no——

The COURT. Plants?

Mr. WEBSTER. Interests in a plant. On the other hand, we have an obligation under our present agreement with the Canadians to assist in financing a Canadian plant. There is an interesting possibility, and I do not mean to complicate these practical problems, but if your Honor were to require us to cancel the Canadian agreements, there is a situation that might arise in connection with duPont's interest through CIL and Canadian Titanium Pigment Company that might affect future licensing. It would not serve the interests of the United States to have the National Lead Company simply as a matter of antitrust enforcement restrained from doing any business outside of

3905 the United States or have any beneficial relations with foreign companies. That is just a thought and I have not meant to complicate the problem.

The COURT. No, I think that is a necessary thought. However, does anybody else want to add anything?

(No response.)

The COURT. Well, I think we have reached the point in the discussion where we shall have to get down to a

discussion of words and phrases. However, I was just wondering whether this is the most convenient way to do that, or would it be satisfactory if we did what we did with the findings? That is that I study your briefs, the cases, and the various suggestions which are made, and then have a draft prepared before the time we meet again.

Mr. WEBSTER. I think that would be an excellent suggestion.

The COURT. And while we are here I suppose I ought to state to you that there should be some reflection on my part in connection with the various statements which have been made here.

Mr. WEBSTER. I think your Honor's suggestion is excellent, and if your Honor on the basis of the discussion and the briefs outlines the basis on which he thinks a decree should be drawn, we will then be able to make progress very rapidly or perhaps more rapidly than we would if we were to sit down together immediately.

The COURT. All right. You are going back to
3906 Washington, Mr. Dixon?

Mr. DIXON. I am here, your Honor, as long as you want us to stay, but I merely want to say in passing, first, that we are naturally anxious if possible, subject to the time and convenience of the Court, to get the matter in final form at the earliest possible date, which I am sure is the like purpose of the defendants.

The Court: Well, my problem is that I have to dispose of this before the 12th or not dispose of it.

Mr. DIXON. Well, that is the answer then.

The COURT. So that I do not have very much time to reflect on it. However, I think the discussion has been very helpful; and there is no doubt in my mind that it is going to crystallize some of the problems.

(Discussion off the record as to adjournment date.)

The COURT. Tuesday, October 9, at 2.15. We will meet right here. I won't promise you that I will give you a draft in advance, as I may only be able to give it to you then. However, after all, we are dealing with a relatively short document.

Mr. DIXON. That is right.

The COURT. And I should not think that it would be too difficult.

Mr. DIXON. May I just again call your Honor's atten-
tion to the patents, and to ask your Honor to bear
3907 in mind that we have 32 of these that are vested with the Alien Property Custodian.

The COURT. Well, I am not going to concentrate on that problem. I am going to leave that to you to suggest the appropriate language when, as and if we decide what to do about that.

Mr. DIXON. Yes, sir.

The COURT. I do not know whether that vesting is final or tentative or whether it is subject to recovery or recoupment or sale. I mean, we do not have enough of a record here and you gentlemen will have to agree upon some method of dealing with it.

Mr. DIXON. All right, sir.

(Adjourned to October 9, 1945, at 2.15 p.m.)

(In addition to the foregoing, there were numerous conferences attended by the Court and counsel on the decree. With the consent of all concerned, these conferences were not recorded. In connection with consideration of the decree and the Government's requests, the District Judge stated that he refused to require National Lead or du Pont to divest themselves of all or part of their domestic titanium plants and business, not for want of power to require such divestiture, but as an act of discretion.)

[Endorsement on cover.] File No. 50833, 50834, 50835. Southern New York, D. C. U. S. Term No. 89. The United States of America, Appellant vs. National Lead Company, Titan Company, Inc., and E. I. du Pont de Nemours and Company, Inc. Term No. 90. Enter Bethuel M. Webster. National Lead Company and Titan Company, Inc., Appellants vs. The United States of America. Term No. 91. E. I. du Pont de Nemours and Company, Inc., Appellant vs. The United States of America. Filed April 18, 1946. Term Nos. 89 O.T. 1946, 90 O.T. 1946, 91 O.T. 1946.

U. S. Government Printing Office: 1946—714954

[fol. 1287] IN THE SUPREME COURT OF THE UNITED STATES

No. 89

STATEMENT OF POINTS TO BE RELIED UPON—Filed May 3, 1946

Now comes the appellant in the above entitled cause and for its statement of points upon which it intends to rely in its appeal to this Court adopts the points contained in its assignment of errors heretofore filed herein.

Dated this 30th day of April 1946.

(S.) J. Howard McGrath, Solicitor General.

Service of the foregoing statement of points to be relied upon and receipt of a copy thereof are hereby acknowledged this 1st day of May 1946.

(S.) Wm. Dwight Whitney, Counsel for E. I. duPont de Nemours and Company. Bethuel M. Webster, Counsel for National Lead Company and Titan Company, Inc.

[fol. 1288] SUPREME COURT OF THE UNITED STATES

No. 90

STATEMENT OF POINTS TO BE RELIED UPON, DESIGNATION OF PARTS OF THE RECORD NECESSARY FOR CONSIDERATION THEREOF—Filed May 3, 1946

The appellants National Lead Company and Titan Company, Inc., for their statement of the points on which they intend to rely in their appeal to this Court adopt the points contained in their assignment of errors heretofore filed herein.

Said appellants respectfully refer to the stipulation dated April 30, 1946 and filed in this Court on May 13, 1946 for the parts of the record necessary for the consideration of the foregoing points and therefore designated as parts of the record to be printed by the Clerk of the Supreme Court of the United States.

Bethuel M. Webster, Counsel for Appellants, National Lead Company and Titan Company, Inc.

[fol. 1289] Service of the Foregoing Statement of Points to be Relied upon, Designation of Parts of Record Necessary for Consideration thereof is acknowledged this 2nd day of May, 1946.

(S.) Wendell Berge, Attorney for Appellee, United States of America.

[fol. 1290] IN THE SUPREME COURT OF THE UNITED STATES

No. 91

STATEMENT OF POINTS—Filed May 3, 1946

Appellant, pursuant to the provisions of Paragraph 9 of Rule 13 of the Rules of the Supreme Court of the United States, states that the points upon which it intends to rely in said Court in this case are as follows:

1. Appellant hereby adopts its Assignment of Errors as and for its Statement of Points upon which it intends to rely in this case.

April 29, 1046.

(S.) Wm. Dwight Whitney, 15 Broad Street, New York, N. Y. Gerhard A. Gesell, Union Trust Building, Washington, D. C., Counsel for Appellant.

Acknowledgment of Service

Service of the foregoing Statement of Points is hereby acknowledged this 30th day of April, 1946.

(S.) J. Howard McGrath, Solicitor General of the United States, Counsel for Appellee.

[fol. 1291] IN THE SUPREME COURT OF THE UNITED STATES

No. 89. No. 90. No. 91

STIPULATION DESIGNATING PARTS OF THE RECORD TO BE PRINTED—Filed May 3, 1946

It is stipulated that the Clerk of this Court shall print all parts of the record heretofore filed except Exhibits 1, [fol. 1292] 2, 3, 4, 5, 24, 25, 26, 42, 43, 44, 450 through 468,

473, 474, the last two attachments of Exhibit 177 (labeled on their face as "Exhibit S" and "Exhibit T"), the last two attachments of Exhibit 600, 1229 NL Exhibits 8 through 22 and DP Exhibit 97.

April 30, 1946.

(S.) J. Howard McGrath, Solicitor General of the United States. Clifton P. Williamson, Bethuel M. Webster, Counsel for National Lead Company and Titan Company, Inc. Wm. Dwight Whitney, Gerhard A. Gesell, Counsel for E. I. du Pont de Nemours and Company.

[Vol. 1293] SUPREME COURT OF THE UNITED STATES, OCTOBER TERM, 1946

Nos. 89, 90, & 91

ORDER NOTING PROBABLE JURISDICTION—May 20, 1946

The statements of jurisdiction in these cases having been submitted and considered by the Court, probable jurisdiction is noted.

Mr. Justice Jackson took no part in the consideration or decision of this order.

Vol. I

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(Pages 1 to 1136)

Supreme Court of the United States

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT,

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

No. 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC., APPELLANTS,

vs.

THE UNITED STATES OF AMERICA

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY, INC., APPELLANT,

vs.

THE UNITED STATES OF AMERICA

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

FILED APRIL 18, 1946.

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT,

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NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

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D.P. 89	Annual Competitive Report, 1939 vs. 1938	Feb. 12 1940	4379
D.P. 90	Memo. from Krebs Pigments Dept. to Executive Committee.	Feb. 14, 1941	4382
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D.P. 92	Memo. from Pigments Department to Executive Committee.	Feb. 12, 1943	4389
D.P. 93	Memo. from Pigments Department to Executive Committee.	Feb. 10, 1944	4393
D.P. 94	Graph, DuPont Productive Capacity and Sales of Pure TiO_2—1932–1944.	Jan. 30, 1945	4397
D.P. 95	Graph, DuPont Productive Capacity and Sales of Ti-Bar and Ti-Cal—1935–1944.	Jan. 30, 1945	4398
D.P. 96	Contract of sale between Krebs Pigment & Color Corp. and Glidden Company.		4399

Exhibit A

AGREEMENT made and entered into this 30th day of July, in the year one thousand nine hundred and twenty by and between THE TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under and by virtue of the laws of the State of Maine, hereinafter referred to as the "PIGMENT COMPANY", and the TITAN CO. A/S, a corporation organized and existing under and by virtue of the laws of the Kingdom of Norway, hereinafter referred to as the "TITAN COMPANY",

WITNESSETH:

WHEREAS, the parties hereto now respectively own and will hereafter own, or have interests in, certain Letters Patent and in applications for Letters Patent of the United States of America or of countries foreign thereto, conferring patent monopolies in the "Licensed Field" as hereinafter defined; and

WHEREAS, each of the parties hereto desires respectively to obtain certain rights and interests under or with respect to the said Letters Patent and applications of the other party in certain countries as hereinafter provided;

NOW, THEREFORE, in consideration of the premises and of the sum of One Dollar, lawful money of the United States, by each of the parties to the other in hand paid, the receipt of which is hereby severally acknowledged, and of the mutual covenants, conditions and agreements hereinafter set forth on the part of the respective parties to be respectively observed and performed, the parties hereto do hereby agree to and with each other as follows:

Exhibit A

1. *Definitions:*

(a) "Licensed Field": By this designation as hereinafter employed is meant to be included all substances, materials, or compositions consisting of or containing above two per cent. (2%) of titanium, or a compound, or compounds, thereof, unless such substances, materials, or compositions contain by weight more than five per cent. (5%) of a metal other than titanium in its purely metallic (i.e. chemically uncombined) state, and also to be included all apparatus, methods, and processes useful in the obtainment or manufacture or use of said substances, materials, or compositions in so far as said apparatus, methods, and processes may be employed in the production of said substances, materials or compositions excepting as aforesaid.

(b) "North America": By this designation as hereinafter employed is meant the entire continent of that name including the United States, the Dominion of Canada, Newfoundland, Panama and all Central American States, and including also all islands which are at present considered as being geographically appurtenant to said continent, and also including the Phillipine and Hawaiian Islands.

(c) "South America": By this designation as hereinafter employed is similarly meant the entire continent of that name including all countries therein located to the south of Panama and also all islands which are at present considered as being geographically appurtenant to said continent.

(d) "Finished Article": By this designation as hereinafter employed is meant any artificially produced article, or composition within the "Licensed Field" which has been

manufactured by aid of any process, or apparatus, or both, so as to constitute a cohesive intermixture of titanic material with other material with which such titanic material was not previously intermixed, or associated, as for example, in paint, rubber, glass, etc.

II. The Pigment Company upon the terms and conditions, including the covenants and agreements, hereinafter specified, agrees to grant to the Titan Company, and the Titan Company accepts therefrom, a license exclusive of all others including said Pigment Company to manufacture, use and sell, or to manufacture or use or sell, but only in or for territories outside of "North America" and "South America", each and every invention, improvement, or subject matter in the "Licensed Field" which is claimed in, or covered by, existing or future Letters Patent granted in any country outside of "North America" and of "South America" and now or hereafter owned or controlled by the Pigment Company, but said license shall not permit the licensee to make any sale directly or indirectly in or for any territory within "North America". For greater certainty a list of the said patents and of pending applications for such patents referred to in this Article is hereto attached marked "Schedule A" and made a part hereof, but said list shall not be considered as excluding any Letters Patent or Applications for Letters Patent not included therein.

III. The Titan Company upon the terms and conditions, including the covenants and agreements, hereinafter specified, agrees to grant to the Pigment Company, and the Pigment Company accepts therefrom, a license exclusive of all others including said Titan Company, to manufac-

ture, use and sell, or to manufacture or use or sell, but only in or for territories within "North America", each and every invention, improvement, or subject matter in the "Licensed Field" which is claimed in, or covered by, existing or future Letters Patent granted in any country of "North America" as above defined and now or hereafter owned or controlled by the Titan Company, but said license shall not permit the licensee to make any sale directly or indirectly in or for any territory outside of "North America" or "South America". For greater certainty a list of the said patents and of pending applications for such patents referred to in this Article is hereto attached marked "Schedule B" and made a part hereof; but said list shall not be considered as excluding any Letters Patent or Applications for Letters Patent not included therein.

IV. Each of said Companies hereby (*i. e.* the Titan Company and the Pigment Company) respectively agrees to grant the other a non-exclusive license to use and sell, or to use or sell, each and every subject matter in the "Licensed Field" which is claimed in, or covered by, any existing or future Letters Patent of any country of "South America" and now or hereafter owned or controlled by it, but said license shall not permit the licensee to make any sale directly or indirectly in or for any territory outside of "South America". For greater certainty a list of the said patents and of pending applications for such patents referred to in this Article is hereto attached marked "Schedule C" and made a part hereof, but said list shall not be considered as excluding any Letters Patent or Applications for Letters Patent not included therein.

Exhibit A

V. Each party (Licensee) hereto shall, and hereby does, in consideration of the exclusive license to be to it granted as herein provided, covenant and agree with the other party (Licensor) duly and faithfully to observe and perform each and every of the respective obligations hereinafter in this Article V set forth, viz.:

(a) Either Company, whenever it files in any country or place, an Application for Letters Patent on an invention in the "Licensed Field" or whenever it receives a copy of such an application from a licensee or sublicensee, shall within six months from the date of the filing thereof or upon receiving such copy of an application send a copy thereof to the other Company, and file an Application on the same invention in each country or place included in the territory with respect to which exclusive licenses to the other Company are hereby granted or provided for, in which such application can be filed, and prosecute the same with care and diligence to patent.

(b) Either party hereto may relieve itself of the obligations assumed by it under subdivision "a" of this Article "V" by sending by registered mail to the other party hereto, within two months of the time of the filing by it in any country or place of an Application for Letters Patent on any invention in the "Licensed Field", or immediately upon receiving the same from a licensee or sublicensee, a copy of such application with all papers necessary to permit the filing of an application for Letters Patent on the invention covered thereby in each of the countries or places included within the territory with respect to which an exclusive license to the other party hereunder is hereby granted or provided for, and if possible under the International Con-

vention for the Protection of Industrial Property, and with papers vesting the ownership thereof, as distinguished from a license, in such other party.

(c) Each party hereto shall be charged with the duty of making all payments lawfully required to maintain and prolong the Letters Patent owned or controlled by it and with respect to which exclusive licenses are hereby granted or provided for.

(d) Either party hereto may relieve itself of its obligation to pay any part of the expense of obtaining, defending, maintaining, or prolonging any Letters Patent or Applications for Letters Patent, with respect to which an exclusive license in favor of said party is at the time in force, by delivering to the other party owning or controlling the same a fully and duly executed release of the exclusive license of such party thereunder, in which case the party so renouncing its right shall have a non-exclusive license with respect to the same.

(e) Either party hereto may relieve itself of its obligation to pay its share in the expense of maintaining or defending [redacted] Letters Patent owned or controlled by it and with respect to which an exclusive license in favor of the other party hereto is hereby granted or provided for by delivering to the other party (the exclusive license thereunder) a full, complete, and duly executed assignment of all the right, title, and interest of such party in and to the same.

(f) Either party hereto or any exclusive sublicensee of any of its rights under any patent hereunder shall be entitled at its own expense to bring suit to restrain and to recover damages, penalties, and profits for infringement of a patent in the "Licensed Field" in any territory with

respect to which an exclusive license or sublicense to such party is hereby granted or provided for, and to receive for its own benefit any sums recoverd by such suits, using if necessary, but without recourse, the name of the other party to this Agreement. The other party hereto owning or controlling any patent so sued on shall be notified of said suit immediately upon institution thereof and shall be entitled, if it shall so elect, to intervene at its own expense in such litigation. Any licensee under any such patent may likewise intervene at its own expense in any suit brought to annul the same.

(g) It is understood and agreed between the parties hereto that if either party hereto or a licensee or a sublicensee of either party hereto, shall, in the exercise of its rights in the "Licensed Field" within the territory within which it is licensed, produce, as a by-product, any substance containing titanium or a compound thereof and more than five per cent. (5%) of other metals in a metallic state, such party, licensee, or sublicensee shall have the right to reduce the titanium content of such by-product to less than one-half of one percent. (.5%) by futher treatment and shall have the right to sell and use the by-product so treated notwithstanding any patent or patents of any party hereto.

VI. Each of the said exclusive licenses herein provided for shall and shall therein be expressly stated to be given and accepted, and their continuance dependent, upon the following express conditions:

(a) That the licensee shall never directly or indirectly question, or contest, the validity of any patent under which it is licensed, nor use nor infringe the same except as li-

censed, nor directly nor indirectly connive with, nor afford any pecuniary or other assistance to any contestant or questioner of such validity.

(b) 1. The Titan Company shall, in consideration of the thereto exclusive license, pay to the Pigment Company royalty as and in the manner following, viz.:

A royalty for each metric ton of one thousand (1,000) Kilograms, produced by it or its licensees or sublicensees in any calendar year, of titanium dioxide (TiO_2), or its equivalent if other compounds of titanium are produced, as follows:

One hundred and sixty-four Norwegian Kroner and twelve oere (Kr. 164 12/100) for each ton over three thousand (3,000) tons up to and including five thousand (5,000) tons;

One hundred and twenty-three Norwegian Kroner and nine oere (Kr. 123 9/100) for each ton over five thousand (5,000) tons up to and including ten thousand (10,000) tons;

Eighty-two Norwegian Kroner and six oere (Kr. 82 6/100) for each ton over ten thousand (10,000) tons.

No royalties shall be payable on a production of three thousand (3,000) tons or less in any calendar year nor on that part of its production within such calendar year which is greater than twice the production of the Pigment Company and its licensees and sublicensees.

2. The Pigment Company shall, in consideration of the thereto exclusive license, pay to the Titan Company royalty as and in the manner following, viz.:

Exhibit A

A royalty for each metric ton of two thousand two hundred and four (2,204) pounds each, produced by it or its licensees or sublicensees in any calendar year, of titanium dioxid (TiO_2) or its equivalent if other compounds of titanium are produced, as follows:

Forty-four dollars ($44), United States currency, for each ton over three thousand (3,000) tons up to and including five thousand (5,000) tons;

Thirty-three dollars ($33), United States currency for each ton over five thousand (5,000) tons up to and including ten thousand (10,000) tons;

Twenty-two dollars ($22), United States currency, for each ton over ten thousand (10,000) tons.

No royalties shall be payable on a production of three thousand (3,000) tons or less in any calendar year, nor on that part of production within such calendar year which is greater than twice the production of the Titan Company and its licensees and sublicensees.

(N.B. It is understood and agreed that the intent of this section is that no royalty shall be calculated or be payable on or by reason of the reworking or change in form of any titanium compound on the production of which a royalty shall have already been paid under this agreement at the rate stated.)

For the purpose of proper accounting for the royalties herein provided, each party hereto shall keep proper books showing its production and the production reported to it by is licensees and sublicensees, if any, within the "Licensed Field" and shall on or before the last day of February of each year make returns under oath to the other party to whom royalties are payable on such production showing

the amount of such production during the calendar year last preceding and shall within one month from the time of making such return pay any sum which may be due by it for royalties accruing during such last preceding calendar year.

(c) 1. The Titan Company, shall, and hereby does constitute and appoint, and shall hereafter continuously retain, to the exclusion of all others, the Pigment Company as its sole agent, so long as said Pigment Company has an exclusive license hereunder, for introduction and sale in "North America" of all products of the Titan Company in the "Licensed Field", upon such orders of said agent therefor at current European market prices of the Titan Company as the latter shall elect to fill, the same to be sold only in "North America" by said agent at prices and upon terms and conditions to be fixed by said agent. The Titan Company shall not make in or for "North America" any sale or transfer of any of its said products except through its said exclusive agent and as aforesaid.

2. The Pigment Company shall, and hereby does, constitute and appoint, and shall hereafter continuously retain, to the exclusion of all others, the Titan Company as its sole agent, so long as said Titan Company has an exclusive license hereunder, for introduction and sale, outside of both "North America" and "South America", of all products of the Pigment Company in the "Licensed Field" upon such orders of said agent therefor at current American market prices of the Pigment Company as the latter shall elect to fill, the same to be sold only in territories outside of "North America" and "South America" by said agent at prices and upon terms and conditions to be fixed by said agent.

Exhibit A

The Pigment Company shall not make in or for any territory outside of "North America" and "South America" any sale or transfer of any of its said products except through its said exclusive agent and as aforesaid.

(N. B.) Inasmuch as it is the purpose of this Agreement to provide for the widest possible development of titanium products in the "Licensed Field", it is understood and agreed that notwithstanding the agencies created by this clause "(c)", importations into the territory of the agent may be made of "finished articles" in the manufacture of which titanium products produced by the principal or a licensee or sublicensee thereof have been used, as raw material, provided however that the same shall not constitute such an important part of such finished article that its sale within the agent's territory will substantially interfere with said agent's sales of its own said titanium products in its said territory; and each party (principal) agrees that it will, upon receiving notice from the other party (agent) that such importation into its territory of such "finished articles" does interfere with the agent's sales of its own products endeavor to prevent such importation; and each party agrees that it will not sue the other, or any purchaser from, or customer of, direct or indirect, of the other on account of the importation into, or sale and use in, its territory of any such "finished articles" until after six months from the time such notice shall have been given to the other.

(d) The future cost of paying taxes and annuities necessary for maintaining or prolonging any Letters Patent with respect to which exclusive licenses are hereby granted or provided for, the future cost of defending suits brought

to annul or cancel said Letters Patent or any of them, and the future cost of obtaining Letters Patent, as provided for in section "(a)" of Article "V" hereof, shall be equally divided between the Titan Company and the Pigment Company and the party making said payments shall be reimbursed by the other party for its share of said payments within sixty days after the receipt by said other party of a verified statement of account evidenced by proper vouchers.

(e) Each party hereto shall at all times, on request of the other, duly, and with all possible diligence, execute and deliver to said other party any and all additional papers and documents and do and perform all other acts requisite and proper to fully effectuate all provisions and obligations of this agreement, and particularly so as regards all licenses therein referred to, and also all patents and the maintenance and enforcement of the latter, and also the preparation, filing and prosecution of the applications for patents.

(f) In the event that either of the parties hereto at any time, or times, violates or neglects performance of any of the conditions hereinabove set forth in this Article "VI", the other party, grantor of its exclusive license, may by registered mail thereto duly addressed notify the delinquent party accordingly. Unless within six months after such mailing of said notice the delinquency has ceased, and satisfaction therefor been made, then in that case the exclusive license hereby granted to the delinquent party may, at the option of the aggrieved party at any time thereafter be terminated by notice to that effect sent by registered mail to the delinquent party by the aggrieved party. But no such termination of license to the delinquent party shall operate to relieve the aggrieved party from its own obli-

gations hereunder, nor terminate its own exclusive license or the sublicenses thereby granted.

VII. Each party hereto agrees that it will cooperate with the other party by imparting semi-annually to the other party full and accurate information in detail as to knowledge obtained by it since the last report in and applicable to the "Licensed Field", and will permit the other party by its duly accredited representatives, during business hours, to inspection of and study and inquiry in any of its plants, where work in the "Licensed Field" is being done, exclusive of its research laboratories, provided that neither party shall be obligated to accord such permission to any person who is not at the time bound in writing under his signature to assign all his inventions pursuant to the provisions of the following Article "VIII".

VIII. Each party hereto agrees that it will, so far as possible, require its officers, agents and employes to agree to assign to it throughout the world any and all inventions within the "Licensed Field" which may be made by them or any of them prior to the time herein fixed for the termination of the exclusive licenses and of any extension of such time.

IX. Each party hereto agrees that in acquiring rights to inventions within the "Licensed Field" it will, so far as possible, endeavor to provide that such rights shall extend to all countries or places within the territory with respect to which any license to the other party hereunder is hereby granted or provided for.

X. Exclusive licenses herein granted or provided for, unless terminated as herein provided, shall extend up to

and including the last day of December 1936, and thereafter for successive periods of ten years each. Said exclusive licenses and this agreement may be terminated by either party hereto by notifying the other party in writing of its desire so to do at least five years before the last day of December, 1936, or at least five years before the expiration of the ten year period then in force. Upon the termination of the exclusive licenses and this agreement in the manner herein provided, each party to this agreement shall then receive for itself and the holders of licenses theretofore or thereafter to be granted by it within its respective territory as aforesaid, a non-exclusive license in the "Licensed Field" under any and all inventions upon which the other party to this agreement shall on the date of such termination have or control Letters Patent or Applications for Letters Patent in the "Licensed Field" in any country or place within such territory, but all other obligations and liabilities hereunder assumed by, and all other benefits resulting herefrom to either party hereto, shall cease and determine upon such date of termination.

XI. Upon the termination of the period in which the exclusive licenses are in force, or upon the rescission of this agreement, the licenses then in force in "South America" shall cease and determine and no further licenses shall be granted therein. The Pigment Company shall have the right on July 1, 1939, if this agreement shall not have been previously terminated as herein provided, to take over "South America" as its exclusive territory on paying the Titan Company for the market the latter has there created.

XII. The interest of either party hereto may be assigned *in toto* but not otherwise and only in connection with

Exhibit A

the transfer of the entire business of such party to any person, firm, association or corporation which assumes the obligations of such party, and this agreement in all respects shall be obligatory, not only upon each of the parties hereto respectively, but also upon their respective assigns, successors and legal representatives.

XIII. It is understood and agreed that the obligations assumed by each of the parties hereto shall extend to any and all subsidiaries of either of such parties, the control of which is held by either party hereto, to the end that the terms of this agreement shall not be avoided by the existence or formation of affiliated or subsidiary companies.

XIV. Either party shall have the right so long as its exclusive license shall not have been terminated by forfeiture to grant sublicenses hereunder; provided that no party hereto shall grant any license under its own patents, or any sublicense hereunder, in the "Licensed Field" except for the production of titanium or titanium compounds or for the utilization of such compounds produced by one of the parties hereto or a licensee or a sublicensee of one of the parties.

(a) If the license or sublicense is for the production of titanium or titanium compounds on which royalties are to be paid by its Licensor under this contract or for the manufacture therefrom of any product definable by the term "Pigment", and as such utilizable in the composition of any commodity then and in that event each such license or sub-license shall be in writing and shall therein be expressly stated to be given and accepted, and its continuance dependent upon the following express conditions:

Exhibit A

1. To render to its Licensor on or before the last day of January and July of each year true and correct statements under oath as to its production in the "Licensed Field" upon which royalties are payable under this contract by its licensor during the six months preceding the month in which such return is made.

2. To grant to the party to this agreement other than its Licensor its grantable rights to its (the said Licensee's or sublicensees') inventions and under its patent in the "Licensed Field" identical in character, territorial scope and duration to those given by its Licensor to the other party hereto in Articles II or III, and IV hereof.

3. To agree whenever it files an application for a patent in any country on an invention in the "Licensed Field" to send to its Licensor within two months from the date of filing thereof a copy of such application with all papers necessary to permit the filing of an application for such invention in each of the countries or places included within the territory to which licenses are to be granted to the party hereto other than its Licensor, with papers vesting, so far as in its power lies, in such other party a license identical in character, territorial scope, and duration to those granted to such party by this agreement.

4. To assume upon itself the obligations of Article "VI", Section (a) hereof.

5. To appoint the party hereto other than its Licensor its sole agent in the territory of such party in accordance with the conditions set forth in Article "VI", Section (c) hereof.

Exhibit A

6. To agree to assume in respect to its Licensor the obligations assumed by its Licensor in respect to the other party hereto in Article "VII" hereof.

7. To assume upon itself the obligations set forth in Article "VIII" hereof.

8. That if the Licensee or sublicensee violates or neglects performance of any of the conditions above recited to be assumed by it, its Licensor may by registered mail, thereto duly addressed, notify the Licensee or Sublicensee accordingly; and that unless within six months after such mailing of such said notice the delinquency has ceased and satisfaction therefor been made, then and in that event the Licensor may, at its option, terminate the license or Sublicense by notice to that effect sent by registered mail to the Licensee or Sublicensee.

XV. Each of the parties hereto agrees that upon breach by any of its Licensees or Sublicensees of any of the conditions of the licenses or sublicenses recited in Article "XIV" hereof that it will take all proper and necessary steps to cancel the license or sublicense and shall thereafter employ all proper means to prevent such Licensee or Sublicensee from infringing the patents in the "Licensed Field" and that it will whenever it grants a license or sublicense in the "Licensed Field" or cancels the same promptly notify the other party hereto, giving him the name and address of the licensee or Sublicensee and information as to the character, scope and duration of the license or sublicense.

XVI. Every sublicensee hereunder of either party shall in the event of any termination of such party's exclusive license hereunder, have the right to obtain from the other

party hereto a license under the patents thereof to which said sublicensee's original license extends, and of the same character and upon the same conditions and covenants as of his said sublicense in so far as the same are set forth in this Agreement between the Titan Co. and the Pigment Company, and upon the additional condition and covenant to pay, in lieu of the royalty, if any, by its said sublicense provided to the said other party as royalty under said license Thirty-three Dollars ($33) of its equivalent, per metric ton of titanium dioxid (TiO_2) or its equivalent, produced by it; provided within six months after such termination the sublicensee delivers to such other party or its execution duplicate instruments of license, setting forth the conditions and covenants prescribed in this Article "XVI" to be contained in said license, and duly executed on its part by said sublicensee as licensee, with the exception that such other party hereto is therein set forth as the licensor instead of said sublicensee's original licensor and as entitled in lieu of the latter to performance of all said terms, conditions and covenants by said sublicensee. Said other party hereto shall within two months after receipt of said duplicate instruments of license execute them on its part, and deliver one thereof to the therein named licensee. In default of said sublicensee's obtainment of its new license from the other party hereto as above set forth all of the said sublicensee's rights under any and every patent of said other party shall absolutely terminate and cease contemporaneously with the termination of the exclusive license hereunder of the party hereto which granted to said sublicensee its orginal sublicense.

XVII. In addition to the several documents granting their said respective exclusive licenses with full recital

Exhibit A

therein of the above conditions and covenants enumerated and set forth in Article "VI" of this Agreement to be signed and acknowledged by both of the parties hereto, the parties shall for purposes of record in the Patent Offices of Bureaus of the respective countries execute and deliver to each other, as from time to time required, confirmatory abridgments of the contents of said licenses which shall contain a specific designation, by date, number, and country, of the Letters Patent under which an exclusive license is thereby granted, the titles of the grantor and licenses companies, and a general statement to the effect that "the said licenses are granted and accepted subject to all the conditions and covenants set forth in a certain Agreement of" stated date (meaning this Agreement) "between the parties".

IN WITNESS WHEREOF, the parties hereto have duly executed these presents in quintuplet the day and year first above written.

Titanium Pigment Company, Inc. Augusta Maine 1916

THE TITANIUM PIGMENT COMPANY, INC.

By WILLIAM F. MEREDITH,
President.

THE TITAN Co. A/S

By G. JEBSEN (Signed)
Attorney in fact.

Attest:

J. D. MEREDITH,
Secretary

THE TITAN Co. A/S

By G. JEBSEN,
Attorney in fact

Exhibit A-1

AGREEMENT made and entered into this 30th day of July in the year one thousand nine hundred and twenty by and between the NATIONAL LEAD COMPANY, a corporation organized and existing under and by virtue of the laws of the State of New Jersey, hereinafter referred to as the "LEAD COMPANY", THE TITANIUM ALLOY MANUFACTURING COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Maine, hereinafter referred to as the "ALLOY COMPANY", THE TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under and by virtue of the laws of the State of Maine, hereinafter referred to as the "PIGMENT COMPANY", and the TITAN CO. A/S, a corporation organized and existing under and by virtue of the laws of the Kingdom of Norway, hereinafter referred to as the "TITAN COMPANY",

WITNESSETH:

WHEREAS, the TITAN COMPANY has this day made and entered into a certain agreement in writing bearing even date herewith with the PIGMENT COMPANY wherein and whereby among other things the PIGMENT COMPANY and the TITAN COMPANY agree to grant to each other licenses under certain Letters Patent within the "Licensed Field" therein defined as follows:

> "Licensed Field": By this designation as hereinafter employed is meant to be included all substances, materials, or compositions consisting of or containing above two per cent. (2%) of titanium, or a compound, or compounds, thereof, unless such substances, materials, or compositions contain by weight more than five per cent. (5%) of a metal

other than titanium in its purely metallic (*i. e.* chemically uncombined) state, and also to be included all apparatus, methods, and processes useful in the obtainment or manufacture or use of said substances, materials, or compositions, in so far as said apparatus, methods, and processes may be employed in the production of said substances, materials, or compositions excepting as aforesaid.

NOW, THEREFORE, in consideration of the premises and of the sum of one dollar, lawful money of the United States, to each of them in hand paid by the PIGMENT COMPANY and the TITAN COMPANY, and other good and valuable considerations, the receipt of which is hereby acknowledged, the LEAD COMPANY and the ALLOY COMPANY each agrees for itself and its subsidiary corporations that, in so far as in its power lies, it will on its part fully respect the said agreement between the TITAN COMPANY and the PIGMENT COMPANY and that so long as any exclusive licenses remain in force under said agreement it will not against the TITAN COMPANY or the PIGMENT COMPANY or any successor in interest of either of them question or contest the validity of any of the Letters Patent covered by said agreement and will not infringe the same or afford any assistance to any one in questioning or contesting the validity thereof and will not do any other act in derogation of said agreement and will promptly communicate to the PIGMENT COMPANY the results of any experience gained or knowledge acquired by it within the "Licensed Field", and will promptly assign to the PIGMENT COMPANY throughout the world any and all Letters Patent, inventions and improvements within the "Licensed Field" which may be ac-

quired by it, and will, in so far as possible, require its officers, agents and employees to agree to assign to itself throughout the world any and all inventions within the "Licensed Field" which may be made by them or any of them.

IN WITNESS WHEREOF, the parties hereto have duly executed these presents the day and year first above written in quintuplet.

NATIONAL LEAD COMPANY

By NORRIS B. GREGG

Vice President

SEAL

Attest:

CHARLES DAVISON

Secretary

THE TITANIUM ALLOY MANUFACTURING COMPANY

By WILLIAM F. MEREDITH

President

SEAL

Attest:

J. D. MEREDITH

Secretary

Exhibit A-1

THE TITANIUM PIGMENT COMPANY, INC.

By WILLIAM F. MEREDITH

President

SEAL

Attest:

J. D. MEREDITH

Secretary

TITAN CO. A/S

By G. JEBSEN

Attorney-in-Fact

Exhibit A-2

THIS AGREEMENT made and entered into this 30th day of July in the year one thousand nine hundred and twenty by and between THE TITANIUM ALLOY MANUFACTURING COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Maine, hereinafter called the Alloy Company, and TITAN COMPANY A/S., a corporation organized and existing under and by virtue of the laws of the Kingdom of Norway, hereinafter called the Titan Company,

WITNESSETH

WHEREAS on even date herewith a certain agreement has been entered into by and between THE TITANIUM PIGMENT COMPANY INC., a corporation of the State of Maine, and hereinafter called the PIGMENT COMPANY, and the Titan Company covering inventions in titanium in the "Licensed Field" described in the said agreement and concerning certain United States and foreign Letters Patent covering the same; and

WHEREAS the Alloy Company is a stockholder of the Pigment Company and was a party to the negotiation of said agreement and the said agreement was made on the promise of the Alloy Company to execute this agreement;

NOW, THEREFORE in consideration of the promises and of the sum of one dollar paid to the Alloy Company by the Titan Company, the receipt of which is hereby acknowledged, the Alloy Company agrees with the Titan Company as follows:

I. The Alloy Company agrees that it will so far as possible in acquiring rights to inventions in the "Licensed Field" endeavor to provide that such rights shall extend

Exhibit A-2

to all countries or places within the territory with respect to which any license has been granted or provided for under said agreement of even date herewith.

II. The Alloy Company further agrees on its part to fully respect the said agreement of even date herewith and not to do any of the acts prohibited to the Pigment Company in said agreement, and to do all other acts and things which are on its part necessary and proper to enable the Titan Company to enjoy the rights and privileges in the matters and things covered by this agreement to the same effect as though particularly covered by the agreement of even date herewith.

IN WITNESS WHEREOF the parties hereto have caused their names to be signed and their seals affixed by their proper officers duly empowered thereto by their respective Boards of Directors this day of ~~July,~~ 1920.

THE TITANIUM ALLOY MANUFACTURING COMPANY

By WILLIAM F. MEREDITH (Sg.)
President

Attest:

J. D. MEREDITH (Sg.)
Secretary

THE TITAN CO. A/S.

By G. JEBSEN (Sg.)
Attorney in Fact

Exhibit A-2

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

On this 30th day of July, nineteen hundred and twenty before me the undersigned, a notary public duly commissioned and sworn and duly authorized to administer oaths and take acknowledgments of deeds, came William F. Meredith, President, and Joseph D. Meredith, Secretary, of the Titanium Alloy Manufacturing Company, who, by me being duly sworn, and each to me personally known, did each depose and say that they are respectively the said William F. Meredith who resides at Princeton, New Jersey, President, and the said Joseph D. Meredith, who resides at Greenwich, Connecticut, Secretary of the said The Titanium Alloy Manufacturing Company, the corporation described in and which executed the foregoing instrument; that they know the seal of said Company and that the seal affixed to the foregoing instrument is the corporate seal of the said Company, and was affixed by order of said company and they signed their respective names thereto, the said William F. Meredith as President, and the said Joseph D. Meredith as Secretary by the said order, and I having made known to them the contents of the foregoing instrument they severally acknowledged the execution thereof to be their free and voluntary act and deed and the free and voluntary act of said company for the purposes therein set forth. And I certify that they are personally known to me to be the persons they are above described to be and who executed this instrument.

S. E. STEVEN. (Sg.)
Notary Public, Rockland Co., N. Y.
Cert. filed in N. Y. Co. 412
Register's Certf. N. Y. Co. 2363
Comm'n Expires March 30, 1922.

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Exhibit A-2

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

On this 30th day of July in the year one thousand nine hundred and twenty before me personally came GUSTAV JEBSEN, to me personally known to be the individual described in, and who executed the foregoing instrument, and to me known to be the attorney in fact of the TITAN Co. A/S. the corporation described in, and which, by its said attorney in fact, executed the same, and acknowledged that he executed said instrument, as the act and deed of the said TITAN Co. A/S, by virtue of a written power of attorney dated the 16th day of March 1920, and exhibited to me.

S. E. STEVEN (Sg.)

Notary Public, Rockland Co., N. Y.
Certf. filed in N. Y. Co., 412
Register's Certf. N. Y. Co. 2363
Comm'n Expires March 30, 1922.

Exhibit A-2

THE TITANIUM ALLOY MANUFACTURING COMPANY

PROPOSED RESOLUTION OF DIRECTORS

The President submitted to the meeting a form of contract between the Titanium Alloy Manufacturing Company, and Titan Co. A/S., a corporation organized and existing under the laws of the Kingdom of Norway, relating to a form of contract of even date between the Titanium Development Company, Inc. and Titan Co. A/S.

On motion duly made and seconded, the following resolution was unanimously adopted:

RESOLVED, that the form of contract between this company and Titan Co. A/S., as presented to this meeting, be, and the same hereby is adopted and approved and ordered identified by the signature of the Secretary and filed with and as a part of the minutes of this meeting.

RESOLVED, further, that the proper officers of this company be and they hereby are authorized and instructed, in behalf of and in the name of the company, to execute said contract in the form presented to this Board and approved at this meeting to affix the corporate seal thereto, to acknowledge the same and to deliver the said contract so executed to said Titan, Co. A/S, upon receipt of a counterpart of said contract duly signed, acknowledged an executed by said Titan Co. A/S.

I, Joseph D. Meredith, Secretary of The Titanium Alloy Manufacturing Company, hereby certify that the foregoing is a true copy of a resolution this day passed by the Board of Directors of the said Company at a meeting duly called and held for the purpose.

Dated, New York, July 30th, 1920.

JOSEPH D. MEREDITH (Sg.)
Secretary

(SEAL.)

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Exhibit B

TRANSLATION

Fredrikstad, March 3d, 1927.

Société Industrielle du Titane
154 Boulevard Haussmann
Paris.

Sirs,

With reference to the Protocol of May 1st, 1925, of which you are aware, concerning the constitution of your organization, between

LA SOCIETE MINIERE & INDUSTRIELLE FRANCO-BRESILIENNE,

LA SOCIETE DES PRODUITS CHIMIQUES DE L'OUEST,

and our Company, on one hand,

and The Group directed by Mr. André VINCENT, on the other hand, we are reminding you briefly in this letter of the situation of our Company with respect to patents for the development of the titanium industry and the conditions which have surrounded the constitution of your Company, and we are confirming to you our approval of the granting of licenses, as specified below.

In order to simplify the reading of the different articles, we refer to your organization by the abbreviation "SOCIETE" and to ours by the abbreviation "TITAN".

TITAN has at its disposal acquired methods, patents, and experience relating to the manufacturing and exploitation of titanium products, especially pigments for paint. Furthermore, TITAN concluded, on July 30, 1920, with THE TITANIUM PIGMENT COMPANY, Inc., a corporation of the State of Maine, U. S. A., a contract designated hereafter as "The

Exhibit B

Agreement of 1920", of which one copy is attached to the present convention, and according to the terms of which TITAN is granted for France and a number of other countries, the use, under definite conditions, of patents, methods, and experience acquired by the TITANIUM PIGMENT COMPANY.

TITAN through its organization in FREDRIKSTAD, Norway, has itself improved said acquired methods, patents, and experience to the extent thus far indicated. However, TITAN wishes to develop this industry, in France as well as in other countries, through enterprises which would use the said acquired methods, patents and experience, while at the same time, collaborating with TITAN toward the progressive development of this industry.

The SOCIETE, whose aim is to develop in France, its colonies and other territorial possessions, an industry for the manufacture and exploitation of titanium and titanium compounds, on the basis of an agreement between TITAN, on one hand, and the SOCIETE MINIERE & INDUSTRIELLE FRANCO-BRÉSILIENNE and the SOCIETE DES PRODUITS CHIMIQUES DE L'OUEST, on the other, wishes to obtain exclusive right for France, its colonies and other possessions, to exploit said acquired patents, methods and experience, which TITAN has at its disposal for those countries, all of which would be in collaboration with TITAN for the progressive development of the said industry.

Definitions

a. License field
b. North America
c. South America
d. Finished article

Exhibit B

For the meaning of these expressions in the present convention, the definition given shall be that applied to each of these expressions in Article I of the Agreement of 1920.

e. France—By France is meant in the present convention, the territory of the French Republic, including colonies, dependencies, protectorates, and countries where France is mandatory agent, according to the peace treaty, with the exception, however, of what is geographically appertinent to the territories which are embraced within the aforesaid definitions, of "North America" and "South America".

f. TITAN's territory—by this is meant all countries not conforming to above definition of "France".

g. Allied companies—by this is meant all enterprises (other than the SOCIETE, TITAN, TITANIUM PIGMENT CO., and licensees for the latter's territories), who have acquired or who will acquire a license of the nature foreseen in Article XIV, paragraph A of the Agreement of 1920.

—II—

According to the conditions hereinafter specified, TITAN agrees to grant the SOCIÉTE, who accepts it, a license under all acquired patents, methods, and experience, which TITAN possesses and will possess during the period of the present convention within the "Licensed Field" for France.

The license covers the exclusive right to manufacture and exploit any invention, improvement of all that is within the "Licensed Field" for France, as well as the exclusive right in France to sell any product manufactured by means of these inventions and improvements, except:

a)—merchandise falling under the heading "finished article" for which the license is non-exclusive (see article III below).

b)—The right obtained from TITAN by PINCHIN JOHNSON & Co. LTD. of LONDON, to obtain supplies in France, for the manufacture by that Company or by concerns controlled by it, of titanium base articles, but this organization will be able to sell them only as manufactured articles.

On the other hand, the SOCIETE's customers in France —though not the SOCIETE itself—will have the right to sell without objection on the part of TITAN, all products described as "finished articles"—this also outside of France, as set forth in the provisions of the Agreement of 1920, relative to the sale by customers of "finished articles" from North and South America.

—III—

The SOCIETE agrees to grant to TITAN, who accepts it, upon the conditions hereinafter specified, a license for TITAN's territory, under patents, methods, and experience which the SOCIETE possesses or will possess during the period of the present convention within the "Licensed Field". The license includes the exclusive right of manufacture and of exploiting every invention and improvement relating to the "Licensed Field" for the territory of TITAN, as well as the exclusive right to sell within this territory all products produced by means of such inventions and improvements. However, for products coming under the definition of "finished article" the license is not exclusive, save for North America and possibly eventually South America where it is exclusive.

Exhibit B

On the other hand, customers of TITAN and its associated companies, but neither TITAN itself nor its associated companies, also will have the right to sell in France without objection on the part of the SOCIETE all products coming under the definition of "finished article". The Marine Company of TITAN will be considered as one of the customers of TITAN as to materials for maritime use.

Should TITAN so request, the grant of SOCIETE's exclusive license under a patent or patent application will be made directly to such associated companies as may be designated by TITAN, and such request may be made by TITAN for one or more countries, and for one or more or all patents and patent applications, within the territory of TITAN and of TITANIUM, except France.

—IV—

The SOCIETE undertakes, notwithstanding the provisions of Articles II and III above, not to sell, directly or indirectly, for or to be destined for TITAN's territory, any invention, improvement or anything relating to the "Licensed Field"; TITAN on its behalf undertakes not to sell directly or indirectly for or to be destined for France such inventions, improvements or anything relating to the "Licensed Field".

SOCIETE and TITAN mutually undertake to impose, within reasonable limits, upon their customers, the obligation set forth in the preceding paragraph.

In case TITAN should give its consent, in the event such situation should arise, and notwithstanding the provisions of Articles II and III above, to permit the SOCIETE to sell for or to be destined for the territory of TITAN, any product coming under the definition of "Licensed Field", such

sale should be made through TITAN as intermediary who is henceforth designated as the exclusive agent of the SOCIETE and will remain as such for so long as the SOCIETE will hold from TITAN, or TITAN holds from the SOCIETE, an exclusive license according to the present convention. For North America, and possibly South America, in the event that the TITANIUM PIGMENT COMPANY should take over this latter as its exclusive territory, according to the Agreement of 1920, Article X, the SOCIETE in that case will designate the TITANIUM PIGMENT COMPANY as its exclusive representative according to the Agreement of 1920, Article VI (c), it being understood that the SOCIETE will deal with this representation only through TITAN as intermediary in the same manner that its own sales require the consent of TITAN. For all other countries which are part of its territory, TITAN may require the SOCIETE to choose, in place of TITAN, as its exclusive agent an associated company holding an exclusive license from TITAN for the country under consideration.

The SOCIETE is required only to fill such orders from its agent as it will agree to fill, it being understood that the agent will determine the sales price and conditions for the resale made by it as intermediary.

Notwithstanding the provisions of Articles II and III above, in case the SOCIETE should consent to permit TITAN to sell for or to be destined for France any product coming under the definition of "Licensed Field", such sale shall be made through the SOCIETE as intermediary, which is henceforth designated as TITAN'S exclusive agent for France, and will remain so for so long as the SOCIETE will hold from TITAN or TITAN holds from SOCIETE, an exclusive license according to the present convention. TITAN

will be expected to fill only such orders of the agent as the seller will accept, it being understood that the SOCIETE itself will decide on sales prices and conditions for any resale made through it as intermediary according to agreements existing at any period, if there are any, between TITAN and the SOCIETE.

Although the above Articles II and III permit the customers of TITAN and SOCIETE freely to sell products definable under the term "finished article", the two companies will have to see to it that their respective customers do not compete with one or the other in their respective markets and if one of the companies becomes aware of such competition from a customer of the other company, the latter should take the necessary measures to prevent the customer from continuing such competition. It seems impossible precisely to envision the measures for the application of this principle, but periodic conferences will take place between the two parties for the purpose of examining market conditions and to discuss the measures to be taken.

—V—

Both contracting parties assume the following engagements.

a) Upon applying for a patent application for an invention within the "Licensed Field" to send a copy thereof to the other party within two (2) months from the date of filing and to file applications in each country constituting a part of the territory of the other party, and wherever this is done to do everything possible in the prosecution of the application until the issuance of the patent.

If TITAN or the SOCIETE receive similar papers from one of their sublicensees, TITAN and the SOCIETE will re-

ciprocally transmit them within one month from the date of reception accompanied by executed documents or annotations of transfer.

b) Both contracting parties may relieve themselves of the obligations set forth under (a) when remitting to the other party copy of the patent application within two (2) months from the date of filing or with one month after having received it from an associated company together with all necessary documents in order that such application may be filed in each country constituting a part of the territory of the other contracting party together with all papers, drawn if possible according to the International Convention for the Protection of Industrial Property, necessary to transfer the property to the other party. Upon request of TITAN, the SOCIETE will deliver transfer documents in the name of associated companies.

c) Each contracting party agrees in due time to make all legal payments necessary for the maintenance or renewal of patents owned by it or otherwise at its disposal, under which patents the other party or associated companies have an exclusive license, according to the present convention. As concerns North America and possibly eventually South America in the event the TITANIUM PIGMENT COMPANY should take over the latter as its exclusive territory under the provisions of the Agreement of 1920, Article XI, TITAN will have the right to make such payment in the name of the SOCIETE and to be reimbursed by the latter after each such payment is made, and the SOCIETE is under the obligation to inform TITAN in due time of any expirations in order to enable TITAN to make payments without difficulty in the regular way within the required time of any payments becoming due.

d) Each contracting party may avoid paying any part of the cost of obtaining, prosecuting, maintaining, or renewing any patent or patent application under which it holds an exclusive license by submitting to the other party wh has disposed of the exclusive license, as owner, or otherwise, a formal concession renouncing its exclusive license conforming to the law of exclusive licenses, in which case the first party will receive a non-exclusive license.

In the situation where the party who owns the patent or who has the disposition of it is an associated company of TITAN, the concession relinquishing the exclusive license is to be submitted to TITAN and not to the owner of the patent.

e) Each contracting party may relieve itself of the obligation to contribute its share of the cost of maintenance or of the defense of any patent which it owns or which it has at its disposal and under which the other party, or a company, or companies, allied to it have obtained, or will have the right to obtain, an exclusive license by transmitting to the other party a transfer document in good and due form of all of the rights relative thereto of which the party making the transfer has in its possession.

f) TITAN shall have the right to decide upon, and in its own name to carry on at its own expense, all actions or legal measures which TITAN may deem necessary or desirable in order to protect against attack any patent under which an exclusive license has been granted, or duly obtained according the present convention. If TITAN does not desire to carry on any such judicial action in its own name but if the SOCIETE requests this, TITAN will be obligated to proceed upon the condition that the SOCIETE furnish TITAN a sufficient guarantee for the expenses and responsibilities which TITAN may encounter by reason of such action or judiciary measure

undertaken in its name. TITAN shall advise SOCIETE of any such action or measure, and the SOCIETE shall then have the right to participate therein on its account.

g) Similarly, the SOCIETE will have the right to decide upon, and in its own name, to proceed with, at its own expense, any action or judicial measure with the object of protecting any patent under which an exclusive license has been granted, or duly obtained according to the present convention. If so, all expenses relative thereto will be the responsibility of the SOCIETE. If the SOCIETE does not desire to undertake such action, or measure, in its own name, but TITAN requests it, the SOCIETE will have to comply with this request, upon the condition that TITAN furnish the SOCIETE sufficient guarantee for all expenses and responsibilities which the SOCIETE may encounter by reason of such action or judicial measure undertaken in its name. The SOCIETE shall advise TITAN of any such action or judicial measure and TITAN will then have the right to participate therein on its own account.

h) It is understood between the two contracting parties that in case either party should undertake, in the course of the exploitation within their respective territories of its rights within the "Licensed Field", to manufacture as secondary products, titanium compositions or titanium compounds having more than 5% of other metals in the metallic state, the producer will have the right to reduce the content of titanium to less than 0.5% by means of a second treatment and to sell or to improve said secondary products, notwithstanding the patents at the disposal of either party, or of an associated company.

Exhibit B

—VI—

Every exclusive license foreseen by the present agreement will be granted and accepted upon the following special conditions which likewise regulate the maintenance of all licenses and mention of these conditions will have to be inserted in each license agreement:

a) That the licensee shall never contest or oppose any patent under which it has a license nor use it otherwise than as a licensee, nor attack it, nor lend aid or assist financially or otherwise any one opposing any such patent or contesting its fundamental value or validity.

b) That the SOCIETE undertakes the engagement to pay to TITAN, net, free of any tax a royalty of 148.09 Norwegian Crowns per metric ton of TiO_2 produced by the SOCIETE or by any producer obtaining from the SOCIETE a license within the calendar year, or its equivalent in weight of TiO_2 in the event other titanium compositions are produced.

In connection with the exercise of this right of royalty, TITAN shall have the right to verify or to have verified by such representative as it may designate, the production of the factories of the SOCIETE and of every licensee within the territory of the SOCIETE.

c) That the licensee must discharge its obligations according to Article IV, paragraphs (a) and (c) above concerning sales and the designation of an agent.

d) That all charges pertaining to the payment of taxes and of annuities for the maintenance and renewal of a patent under which an exclusive license is granted or expected to be granted according to the present convention,

as well as all future charges pertaining to obtaining a patent as foreseen under (a) of Article V shall be divided equally between the parties and that the party who shall make the payment in advance will be reimbursed by the other party for its share within 60 days after the receipt of a certified account of its expenses.

e) That each party will make at all times, upon request made by the other party, with all diligence to execute and deliver to the latter party all papers or documents, and attend to all necessary accounts, with the view fully to carry out the arrangements and obligations of the present agreement and more specially of anything which pertains to licenses and patents and their maintenance as well as the preparation and filing of patent applications and the attention these require.

f) In case of failure or neglect by one of the parties to the provisions of the present article, the other party shall have the right to point this out to said party by registered letter. If such neglect or omission has not been rectified and repaired within six months from the date such notice was sent, the injured party may whenever it chooses declare the exclusive license null and void by registered letter addressed to the other party. Such declaration of nullity will not relieve the other party of its obligations nor suspend the exclusive licenses of the injured party.

g) That the SOCIETE as a retro-licensee shall undertake toward the TITANIUM PIGMENT COMPANY all of the obligations contained in article XIV, paragraph (a) of the Agreement of 1920 and this even in the event that these obligations for the SOCIETE do not coincide with the other provisions of the present convention.

Exhibit B

—VII—

Each party agrees to cooperate with the other in furnishing a complete semi-annual, exact and detailed report concerning experience acquired and information obtained since the last report, applicable or relating to the "Licensed Field" and will permit the other party to proceed, through its authorized representative with inspections, studies or researches in all of its factories working within the "Licensed Field" except testing laboratories; however, it will not be obligated to accord this privilege to any one who has not undertaken by his signature to assign all his inventions in conformity to Article VIII.

—VIII—

Each contracting party undertakes to impose within reasonable limits upon its managers, associates, representatives and employees the obligation to assign for all countries, their inventions within the "Licensed Field" which may have been made by them or by one of them prior to the date set for the expiration of the exclusive license or any prolongation of the same.

—IX—

Each of the parties undertakes to endeavor, when acquiring patent rights within the "Licensed Field", within reasonable limits to make the other party a beneficiary also thereunder.

—X—

The exclusive licenses constituting the object of the present convention will remain in force until December 31, 1941 inclusive, and shall continue thereafter for 10 year periods unless terminated as herein provided.

of TITAN and of the SOCIETE shall stand as they are established in the present convention.

In the event that the Agreement of July 30, 1920 between TITAN and the TITANIUM PIGMENT COMPANY and the exclusive licenses granted under said contract should terminate before the present convention, the SOCIETE shall be entitled after the termination of the Agreement of July 30, 1920 only to non-exclusive licenses under patents and patent applications under which it was at the time of the termination of said contract the recipient of an exclusive license as well as that which flows from the said contract, and, if TITAN expresses the desire, the SOCIETE shall be obligated to withdraw the exclusive license it may have granted to TITANIUM PIGMENT COMPANY and in their place to give a non-exclusive license, conforming to the terms of Article X of the said agreement and to transfer to TITAN the exclusive right of license, save the restriction resulting from the license granted to TITANIUM PIGMENT COMPANY.

The renunciation of the Agreement of July 30, 1920 between TITAN and TITANIUM PIGMENT COMPANY will not in any way affect the rights and obligations of TITAN and the SOCIETE with respect to the reciprocal exclusive enjoyment of their patents until the end of December, 1941, and all 10 year extensions of the present convention.

—XI—

If TITANIUM PIGMENT COMPANY exercises its option accorded it under the Agreement of July 30, 1920 to appropriate South America as its exclusive territory, the SOCIETE will have to undertake for this territory the same relationship toward TITANIUM PIGMENT COMPANY which applies for that which concerns North America.

Exhibit B

The exclusive licenses of the present convention may be renounced by either party upon written notice addressed to the other party at least six years before the 31st of December, 1941, or before the expiration of any subsequent ten year period.

In the event that the exclusive licenses and the present convention shall become terminated in this manner, each of the parties and all recipients of licenses in its territory, those possessing a license at the time of the termination of the convention, as well as those who subsequently will acquire a license from one of the parties within its territory, or of any part of its territory, according to the preceding definitions, will become possessed of a non-exclusive license within the "Licensed Field" with respect to all inventions, which, at the termination of the convention the other party should own or have at its disposal under patents or patent applications within the "Licensed Field" in any country or locality included within said territory, it being understood that all other conditions, obligations and rights under the present convention will be terminated upon the expiration of the above mentioned period.

If one or more associated companies renounce their agreements with TITAN the latter in its turn will have the right to renounce the licenses which TITAN or alternately the SOCIETE may hold from the associated company which renounced its contract.

The SOCIÈTE and the renouncing company will then have the right and the obligation to consent to and mutually to accept a non-exclusive license, unless transfer of said license is made by TITAN to the party, according to what has been agreed above between TITAN and the SOCIETE, but as for the remainder, the mutual rights and obligations

Exhibit B

—XII—

Each contracting party has the right to assign but only in its entirety, its interests in the present convention together with the transfer of its entire business, persons, buildings or companies assuming the obligations of the party in question and the present convention shall apply in all respects not only to both parties but also to their respective successors and legal representatives.

—XIII—

It is understood that the obligations undertaken by both parties under the present convention shall extend and shall apply to all subsidiaries and branches which either party shall control so that the provisions of the present agreement cannot be avoided by the existence or the creation of subsidiaries or branches.

—XIV—

For all territories outside of France, the SOCIETE shall not have the right to grant any licenses under any patent at its disposal as owner or otherwise, or under which it is the recipient of an exclusive license, according to the present convention, which licenses (or alternatively, sublicenses) do not make of the licensee (or alternatively, retro-licensee) an associated company within the terms of Article I, paragraph (g) of the present convention. The SOCIETE will always be obligated when granting such a license (or alternatively a sub-license) to impose upon the licensee (or alternatively, retro-licensee) all obligations assumed by the SOCIETE itself under the present convention as to selling and the designation of agents outside of France.

Exhibit B

As to licenses (or alternatively, sub-licenses) which would make of the licensee (or alternatively, retro-licensee) an associated company within the terms of Article I, paragraph (g) of the present convention, the SOCIETE shall not have the right to grant it for France or any part of France without the formal and previous explicit consent of TITAN, and TITAN engages never to permit its consent to depend on conditions tending to assure economic advantages to TITAN other than or superior to those to which it is entitled under the present convention.

—XV—

TITAN gives gratuitously to the SOCIETE the use of the mark "KRONOS" which the SOCIETE shall use.

However, the SOCIETE will only have the right to use it for qualities equal or superior to the mark "STANDARD" which TITAN currently produces.

If an inferior quality should be sold, this can only be done under another mark adopted by the SOCIETE.

We beg you to give your accord to the preceding and receive our best regards.

p.p. TITAN Co. A/S

(signed) G. JEBSEN

Exhibit C

1. I. G. and Titan Co. A/S—agreement to agree.
2. Same parties—form new company—Titangesellschaft.
3. License whereby I. G. gave patent to Titangesell.
4. License between Titan Co. A/S and Titangesell.
5. Agreement between Gesell. and I.G.—for rent, gas. etc.
6. Between Gesell. and I.G. I. G. takes supply of titanium product from Gesell.
7. Between Gesell. and I. G. Sales thru I. G.
8. Gesell. and Titan Co. A/S. A/S supplies Gesell. with ore.

A.

AGREEMENT BETWEEN THE TITAN CO. AND THE J. G.

The Titan Co. A. S. in Fredrikstad, Norway, (hereinafter referred to as "Titan Co.") and the J. G. Farbenindustrie Aktingesellschaft, Frankfurt a.M. (hereinafter referred to as "J.G.") have arranged to cooperate together in the field of the manufacturing and the sale of titanium and titanium compounds. By titanium compounds are understood such substances, materials and compositions which contain 2% or more of the element titanium in a chemically or physically combined state. For the common work the following principles have been agreed:

No. 1

According to the agreement (B) annexed hereto the parties formed a company with limited liability under the name "T-tangesellschaft m.b.H." (hereinafter referred to as "Titangesellschaft").

Exhibit C

It is agreed that always an even number and not less than four managers have to be appointed for the Titangesellschaft and that the Titan Co. and the J. G. has to nominate each the half part of these.

It is intended that the factory which is to be installed by the Titangesellschaft shall produce at first a quantity of 2500 tons of TiO_2 per annum.

In order to obtain a uniform taking care of the interests of both parties a committee is formed, which has to point out the principal lines of management to the managers of the Titangesellschaft. The committee consists of two persons, namely Dr. Jebsen and Dr. Kuhne. A substitute will be named for each of them viz. by the Titan-Co. for Dr. Jebsen and by the J. G. for Dr. Kuhne.

No. 2

Both parties assume the obligation to have the titanium compounds for sale in the following countries exclusively manufactured by the Titangesellschaft and to cover their total requirement of titanium compounds in Germany, Russia, Austria, Hungary, Tschecko-Slovakia, Switzerland, Roumania, Serbia, Croatia-Slavanoa, Bulgaria, Greece, Turkey, Japan, China and Spain exclusively from the Titangesellschaft.

No. 3

According to an agreement (C) annexed hereto made between the J. G. and the Titangesellschaft, the J. G. brought into the Titangesellschaft all their processes in the field of the production of titanium compounds which it has at

present and may have in the future by granting an exclusive license under the respective patents for all countries.

No. 4

According to an agreement (D) annexed hereto and made between the Titan Co. and the Titangesellschaft, the Titan Co. brought into the Titangesellschaft all their processes in the field of production of titanium compounds, which it has at present and may have in the future by granting an exclusive license under the patents for the business territory of the Titangesellschaft. The Titan Co. assumes the obligation to communicate and to disclose to the Titangesellschaft for its manufacturing all experiences and facilities in the field of manufacturing, which it has at its disposal at present.

No. 5

According to a further agreement (E) annexed hereto and made between the J. G. and the Titangesellschaft the J. G. rented a factory-building with ground situated in Wiesdorf-Leverkusen and to be placed at disposal immediately, and assumed the obligation to put at the disposal of the Titangesellschaft steam, gas, water and electricity for its factory and the transportation facilities for its operations.

No. 6

According to a further agreement (F) annexed hereto and made between the J. G. and the Titangesellschaft the Titangesellschaft assumed the obligation to cover its entire requirements of products exclusively from the J. G. and the J. G. assumed the obligation to supply such products to the Titangesellschaft.

Exhibit C

No. 7

According to a further agreement (G) annexed hereto and made between the J. G. and the Titangesellschaft the latter appointed the J. G. its exclusive selling agent for its total production in the business field of the Titangesellschaft excepting the products which are to be supplied to the Titan Co. according to the Par. 9 hereunder.

No. 8

According to a further agreement (H) annexed hereto and made between the Titan Co. and Titangesellschaft the Titan Co. assumed the obligation to supply one to the Titangesellschaft and the Titangesellschaft assumed the obligation to cover its requirements of ore from the Titan Co.

No. 9

According to a further agreement (J) annexed hereto and made between the Titan Co. and the Titangesellschaft the Titangesellschaft assumed the obligation to supply to the Titan Co. on its request its products at the prices fixed in this agreement.

No. 10

The processes which are brought into the Titangesellschaft by the J. G. and those processes which are invented by the Titangesellschaft are to be put gratuitously at the disposal of the Titan Co. respectively its sublicensees by the Titangesellschaft for being exploited in the territory which not belongs to the Titangesellschaft.

Exhibit C

No. 11

The J. G. is obliged, in the interest of the Titan Co. respectively of its sub-licensees, to refrain from every interest in the field of the production and the sale of titanium compounds outside the Titangesellschaft.

No. 12

The J. G. is further obliged, in case it invents a process or is in possession of a process or has at its disposal a process which includes the use and application of titanium compounds by granting licenses under the patent of such a process to impose the obligation on the licensee to cover his requirement of titanium compounds exclusively from the Titan Co. or its licensees or sub-licensees for the country in question respectively from the Titangesellschaft.

No. 13

The obligations assumed by the J. G. according to Par. 11 and 12 cease when the partnership-contract (B) made as per Par. 1 hereunder is changed regarding the interest of the parties in such a manner that a partner transfers all his interest according to Par. 3 of the partnership contract. However, a transfer of the Titan Co.'s interest which is made in exercising its right granted to it in Par. 5 of the partnership-contract is not to be considered such a changement.

No. 14

The Titan Co. is entitled to substitute for itself in this agreement and in the agreements which the Titangesellschaft mentioned hereunder in Par. 4 and 9 (D and J) or

Exhibit C-1

in several of them another company or other companies in which the Titan Co. or the National Lead Co., together or one of them are engaged with 100%. In such a case the new company entering into the contract has to take upon itself the liability for the former partner besides the latter in regard to the respective agreements.

Exhibit C-1

B.

PARTNERSHIP-CONTRACT

Between the Titan Co. A. S. in Fredrikstad, Norway, (hereinafter referred to as "Titan Co.") and the J. G. Farbenindustrie Aktiengesellschaft in Frankfurt a. M. (hereinafter referred to as "J. G.") the following partnership-contract is made:

No. 1

The Titan Co. and the J. G. form a company with limited liability under the name "Titangesellschaft mit beschrankter Haftung." This company has her domicile in Leverkusen.

No. 2

The object of the enterprise is the production and the sale of titanium compounds in the following countries: Germany, Russia, Austria, Hungary, Tschecko-Slovakia, Switzerland, Roumania, Serbia-Croatia-Slovonia, Bulgaria, Greece, Turkey, Japan, China, Spain.

No. 3

The initial capital for the company is RM 500,000.

To this capital each party has to contribute RM 250,000. The parties have to pay at least 25% of this initial contribution before the company will be notified for registration.

No. 4

The business year is the calendar year.

The first business year commences with the registration of the company and ends December 31, 1927.

No. 5

The consent of either party is necessary for disposing of the other party's interest in the business, or of a part of its interest. But it is understood that the Titan Co. has the right to transfer at every time its interest to the National Lead Co. or to any other company in which the Titan Co. or the National Lead Co., together or one of them, are engaged with 100%.

No. 6

The nomination and dismission of the managers is to be made at a meeting of the partners so far as the managers are not already nominated through this contract.

The partners' meeting has the right to nominate several managers. If several managers are nominated, the company is to be represented by at least two managers or by one manager and one proxy or by two proxies. As temporary manager is nominated Direktor Dr. Kuhne, chemist in Wiesdorf-Leverkusen.

No. 7

The partners' meeting is to be called by the managers by registered mail by a week notice at least.

Exhibit C-1

No. 8

In the partners' meeting each RM 1000,—give the right of one vote.

No. 9

The company cannot be dissolved earlier than December 31, 1957. The dissolution takes place, if a partner asks for by registered mail by six months notice. If the termination has not happened on December 31, 1957, it is only allowed on the December 31, 1967, and so further only on the end of a period of ten years.

However, the company can be dissolved already before December 31, 1957, if five consecutive years have brought losses and therefore a partner asks for it by registered mail by six months notice on the end of a calendar year.

In both cases above mentioned such termination has only force if the terminating partner has offered to the other partner at least six months before the termination by registered mail, to transfer to him his interests in the business on payment of a consideration according to the value to be computed on the basis of the company's position at this time without any consideration of a good will, of the patents, and similar, and if the other partner has not accepted this offer by registered mail within five months from the receipt of the offer. In the case that the parties will not agree about the value of the interests to be computed as above mentioned the value is to be fixed by an expert, who is to be nominated by the president of the Chamber of Commerce in Hamburg. The decision of this expert shall bind both parties and shall be definite.

Exhibit C-1

No. 10

In the case of the company's dissolution the liquidators are not allowed to sell or transfer the company's patents and licenses otherwise than together with its marks and in one lot.

No. 11

All notifications of the company are to be published exclusively in the "Deutscher Reichsanzeiger."

Declaration regarding B.

Between the J. G. Farbenindustrie Aktiengesellschaft in Frankfurt a.M. and the Titan Co. A.S. in Fredrikstad (Norway) is agreed that Dr. Kuhne has been nominated as single manager of the Titangesellschaft only therefore because the registration of this company should not be delayed by getting the signatures of the gentlemen who are provided as managers besides Dr. Kuhne.

It is agreed that Mr. Evans McCarty, Dr. Jebsen and Dr. Brüggemann shall be nominated additional managers of the Titangesellschaft in a partners meeting which will be called immediately after the registration of this company.

It is further agreed that Dr. Raspe and another gentleman who will be proposed by the Titan Co. shall be empowered to sign per procuration of the Titangesellschaft.

Exhibit C-2

C.

Between the J. G. Farbenindustrie Aktiegesellschaft in Frankfurt a.M. (hereinafter referred to as "J.G.") and the Titangesellschaft m.b.H. in Leverkusen near Koln a.Rh.

Exhibit C-2

(hereinafter referred to as "Titangesellschaft") the following agreement is made:

No. 1

The Titangesellschaft made today a contract with the Titan Co. A.S. in Fredrikstad (Norway), by which both companies assumed the obligation to grant themselves mutually licensed in the field of the manufacture of titanium compounds on conditions more fully described in the said contract. Referring to this contract the J.G. assumes the obligation to grant to the Titangesellschaft exclusive licenses with the right of granting sub-licenses under all patents, methods and experiences in the "Licensed Field" as named hereinafter.

By the "Licensed Field" is meant all methods and processes in the field of the manufacture of titanium compounds containing two percent or more of the element titanium as well as the titanium compounds themselves. By titanium compounds are understood substances, materials and compositions in which the element titanium is contained in a chemically or physically combined state. For instance, the composition pigments of the character of the titanox belong to them. Simple mixtures do not come under this definition.

No. 2

By filing an Application for Letters Patent on an invention in the "Licensed Field" the J. G. shall within four months from the date of the filing thereof send a copy thereof to the Titangesellschaft. The Titangesellschaft shall inform the J. G. as soon as possible, but not later than within four months from the receipt of the copy of the application for

Letters Patent in which other countries it wishes Applications to be filed on the invention. Then the I. G. shall file the Applications in the countries named by the Titangesellschaft and prosecute the same with care and diligence to patent. Independently of the decision of the Titangesellschaft the I. G. is entitled to file Applications also before the receipt of the Titangesellschaft's answer.

—3—

The I. G. shall be charged with the duty of making in due time all payments lawfully required to maintain and prolong the Letters Patent in the "Licensed Field" as far as the Titangesellschaft does not resign an exclusive license.

—4—

All expenses of obtaining, maintaining or defending any Letters Patent which the I. G. will have in the future are to be paid by the Titangesellschaft. But the Titangesellschaft is relieved of the payment of the expenses for such Patents regarding to which the exclusive license ceased by resignation or otherwise. In this case the Titangesellschaft has only a right to a non exclusive license under the respective Patents.

—5—

The I. G. assumes the obligation to require as far as possible its officers, agents and employees to agree to assign to it through-out the world any and all invention within the "Licensed Field" which may be made by them prior to the time herein fixed for the termination of the exclusive licenses and of any extension of such time.

Exhibit C-2

—6—

The exclusive licenses of the Titangesellschaft shall last as long as the I. G. is interested as partner in the Titangesellschaft according to the partnership contract between the I. G. and the Tita Co. At the termination of such interest the Titangesellschaft received a non exclusive license on all inventions, Patents and Patent Applications which the I. G. owns on the date of the termination for the Titangesellschaft itself as well as for all licensees and sublicensees who have received or later receive a license from the Titangesellschaft.

—7—

The Titangesellschaft and each possessor who has an exclusive sublicense under any patent thereunder have the right to take on its own expenses any step under the law regarding the defence of such a patent and to bring suit to restrain and to recover damages, penalties and profits for infringements of such a patent and to receive for its own benefit any sums recovered by such suits, using; if necessary, the name of the I. G. as owner of the patent, but without recourse. The party bringing such a suit has to give sufficient securities to the I. G. for all expenses and liability which may exist by the steps.

The I. G. shall be notified of said suit immediately upon institution thereof and shall be entitled to intervene at its own expense in such litigation.

—8—

The Titangesellschaft assumes the obligation never directly nor indirectly to question or contest the validity of

any patent under which it is licensed by the I. G., nor to use, nor to infringe the same except as licensed nor to afford any pecuniary or other assistance to any contestant or questioner of such validity.

The I. G. assumes the same obligation in regard to patents of the Titangesellschaft and the companies cooperating with it in the "Licensed Field".

—9—

In the case the I. G. should invent or own or have at its disposal any process which involves the use or application of a titanium compound, it is obliged by granting any license under such process, to impose on the licensee the obligation to cover his requirements of titanium compounds exclusively from the Titangesellschaft respectively its licensees or sublicensees.

—10—

The I. G. assumes the obligation, that in so far as in its power lies, its concerned companies will fully respect this agreement especially the 1, 2, 5, 8 and 9 as if they had made it themselves, and will do nothing against the interest of the Titangesellschaft and the companies cooperating with it in the "Licensed Field".

Exhibit C-3

D

License Agreement between the Titan Co. and the Titangesellschaft.

Between the Titan Co. in Frederikstad, Norway (hereinto referred to as "Titan Co."), and the Titangesellschaft m.b.H. in Leverkusen near Köln a.Rh. (hereinto referred

Exhibit G-3

as to "Titangesellschaft") is the following agreement made regarding the exploitation of the processes for the production of titanium compounds which are at disposal of both parties at present or in the future.

1. DEFINITIONS.

a. *"Licensed Field".*

By this designation as hereinafter employed is meant all methods and processes in the field of the manufacture of titanium compounds containing two per cent (2%) or more of the element titanium as well as the titanium compounds themselves.

By titanium compounds are understood substances materials and compositions in which the element titanium is contained in a chemically or physically combined state. For instance the composition pigments of the character of the titanox belong to them. Simple mixtures do not come under this definition.

b. *"North America".*

By this designation as hereinafter employed is meant the entire continent of that name including the United States, the Dominion of Canada, Newfoundland, Panama and all Central American States, and including also all islands, which are at present considered as being geographically appurtenant to said continent and also including the Philippine and Hawaiian Islands.

c. *"South America".*

By the designation as hereinafter employed is similarly meant the entire continent of that name including all coun-

tries therein located to the south of Panama and also all islands which are at present considered as being geographically appurtenant to said continent.

d. *"Finished Articles"*.

By this designation as hereinafter employed is meant any artificially produced article, or composition, within the "Licensed Field" which has been manufactured by aid of any process, or apparatus, or both, so as to constitute a cohesive intermixture of titanic material with other material with which such titanic material was not previously intermixed, or associated, as for example in paint, rubber, glass, etc.

e. *"Territory of Titangesellschaft"*.

By this designation as hereinafter employed is meant Germany, Russia, Austria, Hungary, Tschecko-Slovakia, Switzerland, Roumania, Serbia-Croatia-Slavonia, Bulgaria, Greece, Turkey, Japan, China and Spain.

f. *"Territory of Titan Co."*

By this designation hereinafter employed is meant all countries which are not mentioned under the territory of Titangesellschaft.

g. *"Allied Companies"*.

By this designation hereinafter employed is meant all enterprises (except Titangesellschaft, Titan Co., Titanium Pigment Co. and licensees for the territory of the Titanium Pigment Co.) which have received or receive a license of the character foreseen in Art. XIV (a) of the Agreement of 1920.

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Exhibit C-3

h. *"Agreement of 1920"*

By this designation hereinafter employed is meant the Agreement of the July 30, 1920 made between the Titanium Pigment Co. Inc. and the Titan Co. So far as it is referred hereinafter to the clauses of that agreement, those clauses are to be considered as part of this present agreement.

II.

The Titan Co. assumes the obligation to grant to the Titangesellschaft for the territory of the Titangesellschaft on the conditions hereinafter specified a license on the patents, methods and experiences in the licensed field which the Titan Co. now and in the future has at disposal as owner or licensee.

The license includes the exclusive right to the exploitation of all inventions, improvements, and all which belongs to the licensed field.

The Titan Co. assumes the obligation when it grants a license in the territory of the Titangesellschaft on a process which involves the use or application of a titanium compound, to impose on the licensee the obligation to cover his requirements of titanium compounds exclusively from the Titangesellschaft, respectively its sub-licensees.

The customers of the Titangesellschaft but not the Titangesellschaft itself, shall have the right without opposition by the Titan Co. to sell also outside of the territory of the Titangesellschaft materials and products which are characterized under the designation of "Finished Articles"; however, always with the limitation which follows of the conditions of the agreement of 1920 regarding the export of "Finished Articles" to North and South America.

Exhibit C-3

The exclusive licenses shall on the request of the Titangesellschaft be made directly to the allied companies and this request can be made for one or several countries or for one or several patents or patent applications.

III.

The Titangesellschaft assumes the obligation to grant to the (Titangesellschaft) for the territory of the Titan Co. on the conditions hereinafter specified a license on the patents, methods and experiences in the licensed field which the Titangesellschaft now and in the future has at disposal.

The license includes the exclusive right to the exploitation of all inventions, improvements, and all which belongs to the licensed field.

The Titangesellschaft assumes the obligation when it grants a license in the territory of the Titan Co. on a process which involves the use or application of a titanium compound, to impose on the licensee the obligation to cover his requirements of titanium compounds exclusively from the Titan Co. respectively its sub-licensees. The customers of the Titan Co. but not the Titan Co. itself, shall have the right, without opposition by the Titangesellschaft to sell also outside of the territory of the Titan Co. materials and products which are characterized under the designation of "Finished Articles"; however, always with the limitation which follows of the conditions of the Agreement of 1920 regarding the export of "Finished Articles" to North and South America.

The maritime organization of the Titan Co. which deals nearly exclusively in supplying to Skandinavian ships, shall be considered customer of the Titan Co. The Titan Co. will let know the Titagensellschaft from time to time its selling

organs active in its maritime business in the territory of the Titangesellschaft for examining the seize of the business and sales made in the territory of the Titangesellschaft.

The exclusive licenses shall on the request of the Titan Co. be made direct to the allied companies and this request can be made for one or several countries or for one or several patents or patent applications.

IV.

The Titan Co. and the Titangesellschaft assume, mutually, the obligation, with the exception of the cases foreseen in Art. II and III, not direct or indirect to sell to the territory of the other party anything in the "Licensed Field".

The Titan Co. and the Titangesellschaft assume, mutually, the obligation so far as possible to impose this obligation also on their customers. In the case the Titan Co. permits to the Titangesellschaft to sell in or for the territory of the Titan Co. any products in the "Licensed Field", the Titangesellschaft is obliged to make this sale through the Titan Co. The Titan Co. is from now appointed exclusive agent of the Titangesellschaft for the territory of the Titan Co. and remains as such as long as the Titangesellschaft has the right to an exclusive license from the Titan Co.

For North America and eventually South America, in the case the Titanium Pigment Co. acquires the latter as exclusive territory according to Art. XI of the agreement of 1920, the Titangesellschaft shall in any case appoint the Titanium Pigment Co. as exclusive agent in accordance with the Art. VI c of the Agreement of 1920. The Titangesellschaft shall, however, only negotiate with this agent through the Titan Co. and eventual sales shall be dependent on the consent of the Titan Co.

Exhibit C-3.

The Titangesellschaft shall on request of the Titan Co. appoint as exclusive agent an allied company which received an exclusive license of the Titan Co. for its respective territory.

The Titangesellschaft is obliged only to effect such sales orders of the agent as it approves. The agent can fix his own prices and conditions for the resale.

In the case the Titangesellschaft permits to the Titan Co. to sell in or for the territory of the Titangesellschaft any products in the "Licensed Field" the Titan Co. is obliged to make this sale through the Titangesellschaft. The Titangesellschaft is from now appointed exclusive agent of the Titan Co. for the territory of the Titagesellschaft and remains as such as long as the Titan Co. has the right to an exclusive license from the Titangesellschaft

The Titan Co. shall on request of the Titangesellschaft appoint as exclusive agent an allied company which received an exclusive license of the Titangesellschaft for its respective territory.

The Titan Co. is obliged only to effect such sales orders of the agent as it approves. The agent can fix his own prices and conditions for the resale.

Though it is permitted to the customers of the Titangesellschaft by the Art. II and III hereof, to sell materials and products which are characterized under the designation of "Finished Articles", however, both parties shall watch carefully that their customers do not make competition to the one or other company in its respective territory in a manner unwelcome for the other party.

If a company ascertains such a competition of a customer of the other company, the latter shall take the necessary measures, to prevent the customer from continuing the competition.

Exhibit C-3

It seems impossible to fix the particulars of the measures which are necessary for performing this principle. But from time to time the parties will discuss together the conditions of the market and the measures to be taken.

V.

Both parties hereto assume mutually the following obligations:

a. Either party, whenever it files an Application for Letters Patent on an invention in the "Licensed Field", shall within six months from the date of the filing thereof send a copy thereof to the other party and file an Application on the same invention in each country or place which belongs to the other party's territory and prosecute the same with care and diligence to patent.

In the case the Titan Co. or the Titangesellschaft received documents regarding such an application or patent from any of its licensees or sublicensees they shall respectively send these to each other with one month from the date of the receipt, together with the necessary transfer documents.

b. Either party hereto may relieve itself of the obligations assumed by it under subdivision "a" of this Article "V" by sending by registered mail to the other party hereto within two months of the time of the filing by it in any country or place of an Application for Letters Patent on any invention in the "Licensed Field", or within one month from receiving the same from an allied company, a copy of such application with all papers necessary to permit the filing of an application for Letters Patent on the invention covered thereby in each of the countries and places included

within the territory with respect to which an exclusive license to the other party hereunder is hereby granted or provided for, and if possible under the International Convention for the protection of Industrial Property, and with the necessary papers for vesting the ownership thereof, as distinguished from a license in such other party.

c. Each party hereto shall be charged with the duty of making all payments lawfully required to maintain and prolong the Letters Patent owned or controlled by it and with respect to which exclusive licenses are hereby granted or provided for.

Regarding patents of the Titangesellschaft in North America, and eventually South America in the case the Titanium Pigment Co acquires the latter as its exclusive territory according to the Agreement of 1920 Art. XI, the Titan Co. has in any case the right to make the payments in the name of the Titangesellschaft, and to debit the latter for each payment. The Titangesellschaft shall in good time inform the Titan Co. of the terms of the payments, in order to enable the latter to make payments in regular manner without difficulties.

[RE-TRANSLATION (In Pencil)

d. Either party may free itself of its responsibilities for bearing a part of the expenses for obtaining, defending and maintaining or prolonging a patent or a patent application for which it has an exclusive license by informing the other party, who is the owner of the patent or who can dispose of it, of its invention by means of a formal withdrawal of its exclusive license, in which case it will no longer have an exclusive license over the patent.

Exhibit C-3

In case the one who owns or disposes of the patent or the patent application is a company connected with Titan Co. then the withdrawal will have to be directed to Titan Co. and not to the owner.]

d. Either party hereto may relieve itself of its obligation to pay any of the expenses of obtaining, defending, maintaining, or prolonging any Letters Patent or Application for Letters Patent, with respect to which an exclusive license in favor of said party is at any time in force, by delivering to the other party (who is the owner of the patent or who possess disposal rights thereof) a full, complete, and duly executed release of the exclusive license of such party thereunder, in which case the party so renouncing its right shall have a non-exclusive license with respect to the same. In the case the owner or controller of a patent or patent application is an allied company, the release shall be sent to the Titan Co., and not to the owner.

e. Either party hereto may relieve itself of its obligation to pay its share in the expense of maintaining or defending any Letters Patent owned or controlled by it and with respect to which an exclusive license in favor of the other party hereto is hereby granted or provided for by delivering to the other party (the exclusive licensee thereunder) a full, complete, and duly executed assignment of all the right, title, and interest of such party in and to the same.

f. Each party hereto or each possessor who has an exclusive license or exclusive sublicense under any patent thereunder shall have the right to take at its own expenses any step under the law regarding the defence of any patent under which he has granted an exclusive license and to bring suit to restrain and to recover damages, penalties,

and profits for infringements of such a patent, and to receive for its own benefit any sums recovered by such suits, using, if necessary the name of the other party of this agreement, but without recourse and on the condition of giving sufficient security to the owner for all expense and liability, what may exist by the steps. The other party hereto owning or controlling any patent so sued on shall be notified of said suit immediately upon institution thereof and shall be entitled, if it shall so elect, to intervene at its own expense in such litigation.

VI.

The exclusive licenses herein provided for shall be granted and accepted and their continuance dependent on the following conditions to be stated in every license agreement:

a. That the licensee shall never directly nor indirectly question, or contest, the validity of any patent under which it is licensed, nor use nor infringe the same except as licensed, nor directly nor indirectly connive with, nor afford any pecuniary or other assistance to any contestant or questioner of such validity.

b. The Titangesellschaft assumes the obligation to pay to the Titan Co. a royalty on the basis of Norwegian Gold Kroner 25 per ton (1000 kg) TiO_2 for the products produced which come under the present agreement.

The royalty obligation ceases at the end of 1936.

The Titangesellschaft shall within the end of January and July of each year send to the Titan Co. a statement of the production during the last six months on which it has to pay a royalty. On the request of the Titan Co. the state-

ment of the production is to be controlled by a trustee who is convenient to the Titangesellschaft. In the case no agreement can be reached with regard to the person of the trustee, the Chamber of Commerce in Hamburg shall appoint the same.

c. The licensee assumes the obligations of Art. IV.

d. The future cost of paying taxes and annuities necessary for maintaining or prolonging any Letters Patent with respect to which exclusive licenses are hereby granted or provided for, the future cost of defending suits brought to annul or cancel said Letters Patent or any of them, and the future cost of obta' ng Letters Patent, as provided for in section "a" of Art. "V" hereof, shall be equally divided between the Titan Company and the Titangesellschaft and the party making said payments shall be reimbursed by the other party for its share of said payments within sixty days after the receipt of said other party of a verified statement of account evidenced by proper vouchers.

e. Each party hereto shall at all times, on request of the other, duly and with all possible diligence, execute and deliver to said other party any and all additional papers and documents and do and perform all other acts requisite and proper to fully effectuate all provisions and obligations of this agreement, and particularly so as regards all licenses therein referred to, and also all patents and the maintenance and enforcement of the latter, and also the preparation, filing and prosecutions of the applications for patents.

f. In the event that either of the parties hereto at any time or times, violates or neglects performance of any of the conditions hereinabove set forth in this article "VI", the other party, grantor of its exclusive license, may by registered

mail thereto duly addressed notify the delinquent party accordingly. Unless within six months after such mailing of said notice the delinquency has ceased, and satisfaction therefore been made, then in that case the exclusive license hereby granted to the delinquent party may, at the option of the aggrieved party at any time thereafter be terminated by notice to that effect sent by registered mail to the delinquent party by the aggrieved party. But no such termination of license to the delinquent party shall operate to relieve the aggrieved party from its own obligations hereunder, nor terminate its own exclusive license or the sublicenses thereby granted.

g. The Titangesellschaft as receiver of the sublicense from the Titanium Pigment Co. assumes all obligations of Art. XIV a, but without the subsections (1) and (3) of the Agreement of 1920, and this also in the cases where these obligations do not coincide with the conditions of the present agreement.

VII.

Each party hereto agrees that it will cooperate with the other party full and accurate information in details as to knowledge obtained by it since the last report in and applicable to the "Licensed Field" and will permit the other party by its duly accredited representatives, during business hours, to inspection of and study and inquiry in any of its plants, where work in the "Licensed Field" is being done, exclusive of its research laboratories; provided that neither party shall be obliged to accord such permission to any person who is not at the time bound in writing under the signature to assign all his inventions pursuant to the provisions of the following Article VIII.

Exhibit C-3

VIII.

Each party hereto agrees that it will, so far as possible, require its officers, agents and employeed to agree to assign to it throughout the world any and all inventions within the "Licensed Field" which may be made by them or any of them prior to the time herein fixed for the termination of the exclusive licenses and of any extension of such time.

IX.

Each party hereto agrees that in acquiring rights to inventions within the "Licensed Field" it will, so far as possible endeavor to provide that such rights shall extend to all countries or places within the territory with respect to which any license to the other party hereunder is hereby granted or provided for.

X.

The exclusive licenses which are hereby granted or foreseen shall last as long as the Titan Co. or its successor as partner is interested in the Titangesellschaft according to the partnership-contract between the Titan Co. and the I. G. Farbenindustrie Aktiengesellschaft as per annex hereto. At the termination of such interest the parties hereto shall mutually receive a non-exclusive license on all inventions, patents and patent applications which the other party owns or has at its disposal in consequence of licenses on the date of the termination for itself as well as for all licensees and sublicensees who have received or later receive a license from the party within the territory of the respective party.

All other obligations and liabilities as well as benefits resulting from this agreement shall cease.

Exhibit C-3

In the case an agreement between the Titan Co. and one of the allied companies terminates, the Titan Co. has the right to terminate the licenses which the Titan Co. or respectively the Titangesellschaft have received from this company. The Titangesellschaft and the allied company in question have the right and the obligation, mutually, to grant non-exclusive licenses in the case these licenses are not executed by the Titan Co. in accordance with the arrangements agreed upon above between the Titan Co. and the Titangesellschaft. Mutual rights and obligations remain otherwise as agreed in this agreement.

In the case that the agreement of 1920 and exclusive licenses according to that agreement should terminate before the termination of this, the Titangesellschaft has only the right to non-exclusive licenses, as a result of the Agreement of 1920, and the Titangesellschaft obliges itself in the case the Titan Co. so requests to terminate the exclusive lises granted to the Titanium Pigment Co. by the Titangesellschaft and substitute them with non-exclusive licenses in accordance with Art. X of the mentioned agreement, and to transfer to the Titan Co. the right to an exclusive license outside of the license to the Titanium Pigment Co.

The termination of the Agreement of 1920 shall be of no influence on the mutual rights and obligations of the Titan Co. and the Titangesellschaft regarding the exclusive exploitations of their patents and inventions until the termination of the present agreement.

XI.

In the case the Titanium Pigment Co. makes use of the option in the Agreement of 1920 regarding the acqui-

sition of South America as exclusive territory, the Titangesellschaft assumes the obligation for the territory to enter into the same relation with the Titanium Pigment Co. as for North America.

XII.

The interest of either party hereto may be assigned in toto but not otherwise and only in connection with the transfer of the entire business of such party to any person, firm, association, or corporation which assumes the obligations of such party, and this agreement in all respects shall be obligatory, not only upon each of the parties hereto respectively, but also upon their respective assigns, successors and legal representatives.

XIII.

It is understood and agreed that the obligations assumed by each of the parties hereto shall extend to any and all subsidiaries of either of such parties, the control of which is held by either party hereto, to the end that the terms of this agreement shall not be avoided by the existence of formation of affiliated or subsidiary companies.

XIV.

For all countries outside its territory the Titangesellschaft cannot grant a license under a patent which it disposes as owner and otherwise; or under which it has an exclusive license hereunder, without making the licensee or sublicensee to an allied company in the sense of the definition in Art. 1 g. The Titangesellschaft is obliged by the grant of such a license to impose on the licensee the obligation which the Titangesellschaft has assumed hereunder.

Exhibit C-3

XV.

The Titan Co. leaves to the Titangesellschaft the use of the mark "Kronos". The Titangesellschaft assumes the obligation to use this mark, but only for qualities which are equal to or better than the mark "Standard" used now by the Titan Co. If it would become necessary that the Titangesellschaft sells an inferior quality, this sale is to be effected with another new mark to be adopted by the Titangesellschaft.

XVI.

The Titan Co. is entitled to substitute for itself in this agreement another company in which the Titan Co. or the National Lead Co. together or one of them, are engaged with 100%. In this case the company substituted instead of the Titan Co. has to take upon itself besides the Titan Co. the obligations of the latter according to this agreement.

Exhibit C-3

Protocol regarding the license agreements between the I.G. and the Titangesellschaft (C) and between the Titan Co. and the Titangesellschaft (D)

Par. 8 of the license agreement made today between the I. G. Farbenindustrie Aktiengesellschaft and the Titangesellschaft m.b.H. and Art. VI a of the license agreement made today between the Titan Co. A.S. and the Titangesellschaft m.b.H. say that each party shall never directly nor indirectly question or contest the validity of any patent of the other party, nor use nor infringe the same except as licensed, nor directly nor indirectly connive with, nor afford any pecuniary or other assistance to any contestant or questioner of such validity.

All three companies named herebefore agree that it is desirable that all what is said in these clauses about patents shall also apply to patents applications.

They further agree that the Titan Co. will take steps to the Titan Pigment Co. and the Societe Industrielle de Titane for bringing out the consent of these companies to an including the patents applications into their obligations.

As soon as all concerned companies consent, the extension of the obligations to patents applications shall be confirmed expressly as supplement of the agreements.

Exhibit C-4

E

Agreement between the Titangesellschaft and the I. G. regarding the renting, gas, etc., and transports.

Between the Titangesellschaft m.b.H. in Leverkusen near Köln a. Rh. (hereinafter referred to as "Titangesellschaft") and the I. G. Farbenindustries Aktiengesellschaft in Frankfurt a.M. (hereinafter referred to as "I.G.") the following agreement is made:

—1—

The I. G. rents—and only for the purpose of the production of titanium compounds—to the Titangesellschaft a factory building situated in Wiesdorf—Leverkusen and to be placed at disposal immediately with a corresponding ground which is more fully described in the annex.

The annual rent amounts to 6% of the existing building's value fixed to RM 375.000,—and 6% of the value of all alteration and all increasing of the building. On the Titangesellschaft's request the I. G. has to make alterations and wings on the ground rented.

All taxes and charges which concern the building and the ground are to be paid by the Titangesellschaft. The I. G. assumes the upkeep and repairs of the exterior of the building, whereas the upkeep of the interior of the building has to be assumed by the Titangesellschaft. The insurance premium on the building have to be carried by the Titangesellschaft.

—2—

The I. G. assumes the obligation to put at the disposal of the Titangesellschaft in the factory building leased from

the I. G. according to the #1 steam, gas, water and electricity in quantities required from the Titangesellschaft for its factory at self-cost at the place of delivery. In the case of differences regarding the self-cost, the Titangesellschaft or a partner of it is entitled to have the vouchers controlled by a trustee, who is convenient to the I. G. In the case no agreement can be reached with regard to the person of the trustee, the Chamber of Commerce in Hamburg shall appoint the same.

—3—

The I. G. assumes the obligation to put at disposal of the Titangesellschaft at reasonable prices the transportation facilities within the scope of their usual transport operations in their work Leverkusen, which are necessary for the operations of the Titangesellschaft in the leased building.

—4—

This contract valids for the during of the I. G.'s interest in the Titangesellschaft. When the I. G. transfers all its shares to the Titan Co. or to a third person, the contract ceases two years after the transfer.

Amended by agreement dated May 18, 1928—original and translation attached to Mr. McCarty's letter to M. D. C. of June 15, 1928 this file. M. D. C.

Exhibit C-5

F.

AGREEMENT BETWEEN THE TITANGESELLSCHAFT AND THE I. G. REGARDING THE SUPPLY OF PRODUCTS

Between the Titangesellschaft m.b.H. in Leverkusen near Köln a Rh. (hereinafter referred to as "Titangesellschaft".) and the I. G. Farbenindustrie Aktiengesellschaft in Frankfurt A.M. (hereinafter referred to as "I. G.") the following agreement is made:

—1—

The Titangesellschaft assumes the obligation to cover exclusively from the I. G. its entire requirements of products produced and at disposal resp. purchased by the I. G. at self-cost and 10% respectively at standing-in prices, with the right of the most-favored. The I. G. assumes the obligation to cover the Titangesellschaft's requirement of products manufactured by it on these conditions.

—2—

In case the self-cost and 10% respectively the standing-in price during three consecutive months is higher than proved offers from the competition, or if the I. G. is not able to cover the requirements of the Titangesellschaft the latter is entitled to cover its requirements of manufactured products otherwise.

—3—

The self-cost is to be computed according to a schedule agreed between both parties and annexed to this contract. In the case of differences regarding the self-cost or stand-

ing-in price the Titangesellschaft or a partner of it is entitled to have the vouchers controlled by a trustee, who is convenient to the I. G. In the case no agreement can be reached with regard to the person of the trustee, the Chamber of Commerce in Hamburg shall appoint the same on application of both parties.

The Titangesellschaft has to observe silence about the invoiced standing-in price.

—4—

This contract valids for the during of the I. G.'s interest in the Titangesellschaft. When the I. G. transfers all its shares to the Titan Co. or to a third person, the contract ceases two years after the transfer.

Exhibit C-6

G.

AGREEMENT BETWEEN THE TITANGESELLSCHAFT AND THE I. G. REGARDING THE AGENCY

Between the Titangesellschaft m.b.H. in Leverkusen near Köhn a Rh. (hereinafter referred to as "Titangesellschaft") and the I. G. Farbenindustrie Aktiengesellschaft in Frankfurt a.M. (hereinafter referred to as "I. G.") the following arrangement is made:

1.

The Titangesellschaft appoints the I. G. its exclusive selling agent for its total production for the following countries: Germany, Russia, Austria, Hungaria, Tschecko-Slovakia, Switzerland, Roumania, Serbia-Croatia-Slavonia, Bulgaria, Greece, Turkey, Japan, China, Spain. The prices are to be fixed by the Titangesellschaft. The proceeds from the sales through the agency of the products of the Titangesellschaft are to be handed over to the Titangesellschaft after deduction of a commission of at first 5%.

2.

The sale is to be effected through the sales organization of the I.G. without the consent of the Titiangesellschaft the I. G. is not entitled to transfer the exclusive sale for any country or territory to anybody who deals for his own account.

3.

The sale of the products of the Titangesellschaft has to be made exclusively with the use of its brands and marks.

Exhibit C-6

4.

All papers resulting from the sale of the products of the Titangesellschaft, especially all registers of clients, correspondence etc. remain respectively become the property of the Titangesellschaft and are to be delivered to it at the termination of the sales activity of the I. G. for the Titangesellschaft.

5.

In the case the I. G. neglects grossly the sale of the products of the Titangesellschaft, the latter is entitled to withdraw the exclusive agency and to carry on the sale either itself either by other agents.

6.

Besides the validity of this agreement expires only and then automatically either if the Titangesellschaft will be liquidated or if the one partner transfers all his shares of the Titangesellschaft, excepted this transfer is made by the Titan Co. on the authority of its right granted in Par. 5 of the partnership-contract made between the Titan Co. and the I. G.

7.

It is known to the I. G. that according to Art. III of the license agreement made between the Titangesellschaft and the Titan Co. the maritime organization of the Titan Co. which deals nearly exclusively in supplying to Skandinavian ships, shall be considered customer of the Titan Co.; and that the Titan Co. will let know the Titangesellschaft from time to time its selling agents active in its maritime business in the countries named in Par. 1 hereunder and the sales effected by them, for examining the seize of the business and sales made in these countries.

Exhibit C-7

H.

AGREEMENT BETWEEN THE TITANGESELLSCHAFT AND THE TITAN CO. REGARDING THE SUPPLY OF ORE.

Between the Titangesellschaft m.b.H. in Leverkusen near Köln a Rh. (hereinafter referred to as "Titangesellschaft") and the Titan Co. A. S. in Frederikstad, Norway, (hereinafter referred to as "Titan Co.") the following agreement is made:

1.

The Titan Co. is obliged to supply to the Titangesellschaft on its request for the requirement of its manufacturing ore in a quantity and at a price favorable to the Titangesellschaft. The approximate requirement of the Titangesellschaft has to be given to the Titan Co. in time, latest until November 1 for the following calendar year. The quantity requested has to be taken in consideration according to the actual orders by a fair division without any regard to the price.

2.

The Titan Co. supplies to the Titangesellschaft at the following price: An original cost excluding any amortization as to the annexed schedule is computed which the Titangesellschaft or a partner of it is entitled to control by a trustee who is convenient to the Titan Co. In the case no agreement can be reached with regard to the person of the trustee, the Chamber of Commerce in Hamburg shall appoint the same.

Exhibit C-7

To the original price it is added an extra of Norwegian Gold Kroner:

Kr.14—for the ton (1000 kg) 40% good at a total production of the Titan Co. until 12,500 tons the year

Kr13—for the ton (1000 kg) 40% good at a total production of the Titan Co. until 15,000 tons the year

Kr.12—for the ton (1000 kg) 40% goods at a total production of the Titan Co. until 17,500 tons the year

Kr.11—for the ton (1000 kg.) 40% good at a total production of the Titan Co. until 20,000 tons the year

Kr.10—for the ton (1000 kg) 40% good at a total production of the Titan Co. over 20,000 tons the year.

If the good contains more or less of TiO2 than 40% reckoned on dry good, the extra is to be risen or reduced for 7½% for the present Ti02. The Titan Co. guarantees a highest price of Gold Kronor 40, 50 for the ton 40% good f.o.b. Raegefjord, Norway + 1 Gold Krone for the percent TiO2 more or less contents. The Titan Co. reserves for itself the right to supply the goods damp with a percentage of water not exceeding 8%.

3.

The Titangesellschaft is obliged to cover its requirement in preference from the Titan Co. In the case the Titangesellschaft gets proved orders for supply from another side at lower price and the Titan Co. does not reduce its price proportionately, the Titangesellschaft is entitled to buy from another side.

Exhibit C-7

4.

The validity of this contract expires only and then automatically if the Titangesellschaft will be liquidated.

In the case the Titan Co. transfers all its shares to the I. G. Farbenindustrie Aktiengesellschaft or to a third person, the contract ceases two years after the transfer, excepted this transfer is made by the Titan Co. on the authority of its right granted in #5 of the partnership-contract made between the Titan Co. and the I. G. Farbenindustrie Aktiengesellschaft.

Exhibit C-8

J.

Agreement between the Titangesellschaft and the Titan Co. regarding the supply of products.

Between the Titangesellschaft m. b. H. in Leverkusen near Köln a Rh. (hereinafter referred to as "Titangesellschaft" and the Titan Co. A. S. in Frederikstad, Norway, (hereinafter referred to as "Titan Co.") the following agreement is made:

1.

It is contemplated that the Titan Co. will reduce or close its production for a time, if it can buy the products of the Titangesellschaft from the latter cheaper than it can produce itself. If the Titan Co. wishes to buy from the Titangesellschaft at the original cost, the latter is obliged to supply the quantities fixed from year to year, but latest three months before the beginning of the respective year.

2.

The original cost is to be computed according to a schedule agreed between both parties as annexed to this contract. In the case of differences regarding the original cost the Titan Co. is entitled to have the vouchers controlled by a trustee who is convenient to the Titangesellschaft. In the case no agreement can be reached with regard to the person of the trustee, the Chamber of Commerce in Hamburg shall appoint the same.

The Titan Co. is entitled to take 50% of the capacity of the Titangesellschaft's work at the original cost. For the quantities taken by the Titan Co. exceeding 50% of this capacity, an additional of 10% of the original cost is made.

Exhibit C-8

3.

In the case the Titan Co. gives notice of its requirement in due course, the Titangesellschaft is willing and obliged to increase its capacity of fabrication in an adequate way.

4.

The validity of this agreement expires only and then automatically if the Titan Co. transfers all its shares of the Titangesellschaft to the I. G. Farbenindustrie Aktiengesellschaft or to a third person, excepted this transfer is made on the authority of the Titan Co.'s right granted in #5 of the partnership-contract made between the Titan Co. and the I. G. Farbenindustrie Aktiegesellschaft.

5.

The Titan Co. is entitled to substitute for itself in this agreement another company in which the Titan Co. or the National Lead Co., together or one of them, are engaged with 100%. In such a case the new company entering into the contract has to take upon itself besides the Titan Co. the obligation of the latter according to this agreement.

Exhibit C-9

Translated from German.

Between the Titan Company Inc. and its associated Titanium companies the practice has developed to exchange licences in patent cases covering subject matters which are beyond the licensing obligation determined by contracts between the companies, but which are of interest for the production, use and sale of products within the Licenced Field, as for instance:

Recovery of materials used in the titanium industry (e. g. sulphuric acid), utilization of by-products (e. g. copperas), production of extenders, apparatus and the use of titanium pigments and compounds as well as of by-products and extenders.

It is agreed between the contract firms that when a firm offers such a licence outside its contractual obligation, it means—unless reservations are made—that the inventor company (respectively the company granting the licence), as far as it within its power and not contrary to legal regulations, is willing to give to the other companies, on current agreement conditions, the rights to the use of the invention for the purposes of the production, use and sale of products within the Licensed Field under any patents outside its territory.

It is foreseen that in cases where the receiving company (licencee) is not interested in an exclusive licence for the purposes mentioned above, it will be reserved a non-exclusive licence for these purposes.

This provision shall apply both to offers of licences made in the past and to those to be made in the future.

Exhibit C-9

This arrangement is only to be applied to associated companies which in general act or will act reciprocally.

The expression "associated companies" as used above is meant to cover any company which has or will acquire a licence of the character described in Article XIV, paragr. a) of the agreement of 1920, and further the firm E. I. Du Pont de Nemours & Co., Wilmington, Delaware, U. S. A.

TITAN COMPANY INC. TITANGESELLSCHAFT m.b.H.

(sign.) Brüggemann , p.p. F. Raspe

Vice President

Exhibit C-9

Swischen der Titan Company Inc. und deren verbündeten Titan-Gesellschaft hat sich die Gopflegenheit herausgebildet, Lizorzen in Patenangelenheiten betr. Erfindungen auszutauschen, die uber die vertraglich swischen den Firmen festgelgte Lizenzierungspflicht hinausgehen, die aber fur die Herstellung, den Gebrauch und Verkauf von Produkten innerhalb des Lizenzgobiotes von Interesse sind, z.B.:

Wiedergowinnung von Materialien, die in der Titanindustrie Anwezdung finden (z.B. Schwefelsäure), Verwertung von Nebenprodukten (z.B.Nisonsulfat), Merstellung von Pigment-Trägern, Apparaten und Verwendung von Titanpigmenten und Verbindungen, sowie Nebenprodukton und Pigment-Trägern.

Zwischen den Vertragsfirmen wird vereinbart, dass, wenn eine Firma ausserhalb ihrer Vertragspflicht ein selches Lizenzangebot macht, dies bedoutet—wenn keine Verbehalte gemacht werden—, dass die Erfinder-Gesellschaft (bzw. der Lizenzgeber), soweit es in ihrer macht steht und gesetzliche Bestimmungen nicht entergenstehen, bereit ist, den anderen Geselleschaften, unter den bestehenden vertraglichen Bodingungen, die Rechte zur Verwertung der Erfindung zwercke Herstellung, Bebrauch und Verkauf von Produkten innerhalb des Lizenzgebietes für alle Patente ausserhalf ihres Territoriums zu erteilon.

Es wird vergesehen, dass in den Fällen, wo der Lizonznehmer kein Interesse an einer oxyklusiven Lizonz für obige Zwecke hat, eine nicht exklusive Lizonz für genannte Zwecke für die betreffende Gesellschaft erteilt wird.

Dises Bestimmung soll sich sowohl auf die Lizenzangebote bezichen, die bereits in der Vergangenheit gemacht

worden sind, wie auch auf diejenigen, die noch in der Zukunft gemacht worden.

Diese Asbprache soll zur für diejonigen berbündeten Gesellschaften gelten, die im allgemeinen Gegenseitigkeit ausüben oder in Zukunft ausüben werden.

Der Ausdruck "verbündete Gesellschaften", wie oben benutzt, umfasst alle Gesellschaften, welche eine Lizenz von dem Charakter der in Prf. 14, Abschnitt a des Vertrages von 1920 bezeichnoten Art haben oder erwerben, und former die Firma E. I. Du Pont de Nemours & Co., Wilmington, Delaware, U. S. A.

TITANGESELLSCHAFT m.b.H.

(gez.) BRUGGEMANN. p.p F. RÄSPE.

TITAN COMPANY, INC.

Vice-President

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Exhibit D

AGREEMENT

between The Titan Company Inc. of Delaware, U. S. A. hereinafter referred to as Incorporated, and Titan Co. A/S. of Fredriksstad, Norway, hereinafter referred to as A/S.

A/S. is in possession of certain patent rights and methods as well as of various rights according to special contracts concerning the production and sale of Titan products, viz.:

1. Contract of July 30, 1920 between A/S. and the Titanium Pigment Company Inc. together with contracts of even date with National Lead Company and Titanium Alloy Manufacturing Company, and additional Agreement of March 15th 1928 between the A/S. and the aforesaid three companies.

2. License Agreement of October 18th 1922 transferred to and accepted by Societe Industrielle du Titane with change according to letter of May 9th 1928 from Titan Co. A/S. to Societe Industrielle du Titane and accepted by the last one.

3. a. Contract of October 3rd/20th 1927 with the I. G. Farbeinidustrie Aktiengesellschaft, designated as Contract A.

   b. Contract of October 3rd/20th 1927 with Titangesellschaft m. b. H., designated as Contract D., together with protocol of the same date concerning the said Contract D. and additional Agreement of the same date between I. G. Farbenindustrie Aktiengesellschaft and A/S. concerning alterations of Paragraph 5 a. and b. of the said Contract D. executed through

Exhibit D

letters between I. G. Farbenindustrie Aktiengesellschaft and A/S. of May 8th and June 9th 1928.

c. Contract of October 3rd/20th 1927 with Titangesellschaft m. b. H., designated as Contract J.

Incorporated is beforehand fully acquainted with these contracts as well as with the contract of October 3rd/20th 1927 concerning Titangesellschaft m. b. H. and designated as B. C. E. F. G. and H.

In addition to the patent rights and methods which have been dealt with and covered by the above under 1. to 3. specified contracts, A/S. is in possession of other letters patent and of applications for letters patent conferring patent monopolies in the "Licensed Field" as defined in the above-mentioned agreement with Titanium Pigment Company Inc. of July 30th 1920.

A/S. transfers to Incorporated against payment as stipulated below all its patents and patent rights and the contracts specified under 1. to 3. above to the effect that A/S. is hereby replaced by Incorporated as a party to these contracts as if the name of Incorporated had been inserted in the contracts instead of the name of A/S.

The transfer of the contracts is subject to the consent of the different parties thereto—other than A/S.—and A/S. obliges itself to use its "bona officia" in order to obtain such consent.

Incorporated shall pay to A/S. a royalty of Twenty-five Norwegian gold crowns for each metric ton of One Thousand kilogrammes (1000 Kg.) produced by Incorporated or its licensees or sub-licensees in Europe in any calendar year of titanium dioxid (TiO_2), or its equivalent if other com-

Exhibit D

pounds of titanium are produced. This royalty to be paid within one month after the expiration of the calendar year.

Incorporated assumes—for itself and for all its licensees and sub-licensees on whose production this royalty is applicable—an obligation to keep exact records concerning the contents of TiO_2 in all products for sale as well as records concerning the produced quantities of each of such products.

For the purpose of control, A/S. shall have the right to examine by a Chartered Accountant the original books containing the said records as well as documents which may possibly serve as a control of the books or records. If the parties do not agree upon the nomination of such a Chartered Accountant, this one shall be nominated by "Oslo Börs og Handelskomite".

As regards the royalties from the licenses or sub-licensees of Incorporated, A/S. is willing to accept the system which Incorporated has established for the control of its own rights. A/S. is entitled to claim certified copies of the results of such control.

Any dispute concerning the quantities on which royalties has to be paid is to be decided by "Den Tekniske Voldgiftsret i Oslo".

The obligation to pay such royalties expires at the end of the year 1936, the production of this year being the last one on which to pay royalties.

Incorporated shall further pay to A/S. an amount of One Million Six Hundred Thousand Norwegian Crowns (N.Kr. 1,600,000.00) plus interest at four per cent. (4%) per annum from January 1st 1929. A/S. is willing to accept the payment to be liquidated in a corresponding part of its indebtedness to National Lead Company.

According to agreement between A/S. and Det Norske Aktieselskab for Elektrokemisk Industri of November

Exhibit D

23rd 1916, amended by additional agreement of June 10th 1927, A/S. is under obligation to pay to Det Norske Aktieselskab for Elektrokemisk Industri Twenty per cent. (20%) of its net profit from sale of Non-European patents or licenses. It is hereby agreed that if A/S. through this obligation shall have to pay to Det Norske Aktieselskab for Elektrokemisk Industri an amount of more than One Hundred Thousand Norwegian Crowns (N.Kr. 100,000.00), Incorporated shall indemnify A/S. for such exceeding amount.

The economical benefit and obligations derivated or to be derivated from the rights and obligations transferred by the present agreement are to be settled between the the parties as if the transfer had taken place on January 1st 1929.

Fredriksstad, Norway,
March 23rd, 1929.

TITAN Co. A/S

Exhibit E-1

THIS AGREEMENT, entered into as of the first day of January, 1936 by and between TITANIUM PIGMENT COMPANY, INC., a corporation organized under the laws of the State of Maine (hereinafter called "Titanium"), KREBS PIGMENT & COLOR CORPORATION, a corporation organized under the laws of the State of Delaware (hereinafter called "Krebs"), and E. I. du PONT de NEMOURS & COMPANY, a corporation organized under the laws of the State of Delaware (hereinafter called "du Pont"),

WITNESSETH:

WHEREAS Titanium and Krebs entered into an agreement dated January 31, 1933, providing for the granting to each other of licenses under their respective inventions within the "Licensed Field" as therein defined; and

WHEREAS the manufacturing and research assets and business of Krebs were transferred to du Pont as of December 31, 1935, and du Pont intends to conduct through a separate department, known as its Krebs Pigments Department, the manfacturing and research activities which heretofore have been carried on by Krebs; and

WHEREAS the parties desire that the rights and obligations of Krebs under the aforesaid contract be assigned to and assumed by du Pont without changing the scope or practical operation of said agreement;

NOW, THEREFORE, in consideration of the premises and of the covenants contained herein, the rights and obligations of Krebs under the aforesaid contract of January 1, 1933 and under all licenses heretofore granted by or to Krebs pursuant to said contract are hereby assigned to

and assumed by du Pont, with the consent of Titanium; provided, however, that the "Licensed Field", as defined in said contract, and the rights and privileges granted under said contract and licenses, shall not be deemed to include or apply to any methods, processes, apparatus or products of du Pont other than those which relate primarily to or come within the scope of the activities regularly conducted by its Krebs Pigments Department.

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed by their officers thereunto duly authorized and their corporate seals to be hereto affixed, as of the day and year first above written.

TITANIUM PIGMENT COMPANY, INC.

By LOUIS ROOSEVELT

President

[CORPORATE SEAL]

Attest:

M. Dow
Secretary

KREBS PIGMENT & COLOR CORPORATION

By Z. PHELPS

Vice Pres.

[CORPORATE SEAL]

Attest:

C. H. LYMAN
Secretary

Exhibit E-1

E. I. du Pont de Nemours & Company
By J. Thompson Brown
Vice President

[CORPORATE SEAL]

Attest:

M. D Fisher
Ass't Secretary

Form Approved
Legal Department

H. C. Haskell
Asst. Director

Exhibit E-2

THIS AGREEMENT, entered into as of the 31st day of October, 1936, by and between E. I. DU PONT DE NEMOURS AND COMPANY, a corporation organized under the laws of the State of Delaware (hereinafter called "DU PONT"), TITANIUM PIGMENT COMPANY, INC., a corporation organized under the laws of the State of Maine (hereinafter called "TITANIUM"), and NATIONAL LEAD COMPANY, a corporation organized under the laws of the State of New Jersey (hereinafter called "NATIONAL"),

WITNESSETH:

WHEREAS, TITANIUM and KREBS PIGMENT & COLOR CORPORATION, (hereinafter called "KREBS"), entered into an agreement dated January 1, 1933, providing for the granting to each of licenses under their respective inventions within the "Licensed Field" as therein defined; and

WHEREAS, DU PONT is the successor in interest of the said KREBS and by virtue of an agreement between TITANIUM, KREBS and DU PONT, dated January 1, 1936, has assumed the rights and obligations of KREBS under said agreement of January 1, 1933; and

WHEREAS the manufacturing and research assets and business of TITANIUM were transferred to NATIONAL as of October 31, 1936, and NATIONAL intends to conduct through a separate division, known as its Titanium Division, the manufacturing and research activities which heretofore have been carried on by TITANIUM; and

WHEREAS, the parties desire that the rights and obligations of TITANIUM under the aforesaid contract be assigned

Exhibit E-2

to and assumed by NATIONAL without changing the scope or practical operation of said agreement;

NOW, THEREFORE, in consideration of the premises and of the covenants contained herein, the rights and obligations of TITANIUM under the aforesaid contract of January 1, 1933 and under all licenses heretofore granted by or to TITANIUM pursuant to said contract are hereby assigned to and assumed by NATIONAL, with the consent of DU PONT; provided, however, that the "Licensed Field", as defined in said contract, and the rights and privileges granted under said contract and licenses, shall not be deemed to include or apply to any methods, processes, apparatus or products of NATIONAL other than those which relate primarily to or come within the scope of the activities regularly conducted by its Titanium Division.

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed by their officers thereunto duly authorized and their corporate seals to be hereto affixed, as of the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY

By C. H. RUPPERT
General Manager
Krebs Pigments Dept.

[CORPORATE SEAL]

ATTEST:

E. A. HOWARD
Assistant Secretary

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Exhibit E-2

TITANIUM PIGMENT COMPANY, INC.

By A. GARESCHÉ

Vice Pres.

[CORPORATE SEAL]

ATTEST:

M. Dow
Secretary

NATIONAL LEAD COMPANY

By FLETCHER MOCHARD

President.

[CORPORATE SEAL]

ATTEST:

N. O. BATES
Secy.

Form Approved
Legal Department

H. C. HASKELL
Asst. Director

Exhibit B-1.

TRANSLATED FROM THE FRENCH

23 rue Ballu.

July 12, 1927.

Titan Co. A/S
Fredrikstad, Norway.

Sirs,

We are in receipt of your letter of March 3, 1927, in which you kindly confirm to us the conditions of the grant of licenses.

We thank you for this and we are glad to give you our approval.

Yours very truly,

SOCIETE INDUSTRIELLE DU TITANE

An Administrator — (Sign.) Paul Gilbert

An Administrator — (Sign.) S. J. Henrikssen.

Exhibit B-3

TITAN COMPANY, INC.
7 West 10th Street
Wilmington, Delaware, U. S. A.

Paris, March 22nd 1939.

SJH/MH

Ch. F. Kaegebehn Esq.,
National Lead Co.
New York.

Dear Mr. Kaegebehn,

License Agreement Ste Industrielle du Titane.

In reply to your letter of March 10th, the situation as regards Societe Industrielle du Titane is, in a few words, that already in 1922 Titan Co.A/S made an arrangement with the French Company Societe Miniere Franco-Bresilienne regarding the sale of titanium in France, and it was foreseen to constitute a French Company with which Titan Co.A/S should enter into a license agreement according to a draft dated October 18th 1922.

As Société Industrielle du Titane was constituted in 1925 but the license agreement only executed by exchange of letters in 1927 (letter from Titan Co.A/S of March 3rd approved by Ste Industrielle du Titane with letter of July 12.1927), the draft agreement of 1922 had in the meantime and also later been referred to as the license agreement between Titan Co.A/S and Ste Industrielle du Titane.

Exhibit B-3

This practice has been discontinued later and we now refer to Titan Co.A/S's letter of March 3rd 1927.

You also mention the "protocol of May 1st 1925." In case you have no copy of this protocol, I may mention that it represents the agreement between the parties which finally, in 1925, organized Societe Industrielle du Titane, confirming the anticipated license agreement.

The letter of May 9. 1928 which you mention is a letter from Titan Co.A/S to Societe Industrielle du Titane which was approved by the latter company. It represents Societe Industrielle du Titane's approval of the license agreement with Titangesellschaft.

For your files and those of Mr. Cole I take pleasure in enclosing two copies each of the letter from Titan Co.A/S of March 3. 1927 and of Ste Titane's reply of July 12th as well as of the letter of May 9th 1928.

Yours very truly,

S. J. HENRIKSSEN

Encl.

Exhibit B-4

February 17th, 1939

SJH/AK

Societe Industrielle du Titane
26, Rue de la Pepiniere
Paris

Dear Sirs,

Re the extension of the exchange of patent licenses between Titan Company Inc. and it's associated titanium companies.

Referring to conference, we beg to confirm the following:

It has been the practice to exchange licenses in patent cases covering subject matters which are partly or wholly outside the Licensed Field as defined in the respective License Agreements, but which are of interest for the production, use and sale of products within the Licensed Field, as for instance: recovery of materials used in the titanium industry (e.g. surphuric acid), utilization of by-products (e.g. copperas), production of extenders, apparatus and the use of titanium pigments and compounds as well as of by-products and extenders.

It is agreed that when such patent applications or patents are offered by one associated company to the other associated companies, it means—unless reservations are

made—that the inventor company (respectively the company granting the license) as far as it is within its power is willing to give, on current agreement conditions, to the other companies rights to the use of the invention for the purposes of the production, use and sale of products within the Licensed Field under any patents outside its territory.

It is specifically understood that in cases where the receiving company (licensee) is not interested in an exclusive license for the purposes mentioned above, it will be reserved a non-exclusive license for these purposes.

This agreement is only to be applied to associated companies which in general act or will act reciprocally.

The expression "associated companies" as used above is meant to cover any company which has or will acquire a license of the character described in Article XIV, paragra.) of the agreement of 1920, and further the firm E. I. Du Pont de Nemours & Co., Wilmington, Delaware, U.S.A.

For the sake of order we should be obliged if you would kindly confirm your agreement to the above and remain,

Yours very truly,

TITAN COMPANY INC.

(signed) Dr. G. Jebsen
Vice President

Exhibit B-4

SJH/AK 10 Mars 39

Titan Company Inc.
Wilmington
Delaware
Etats-Unis

Messieurs:

Conc. l'extension de l'echange des licenses de Brevets entre la Titan Company Inc. et ses societes associees.

Nous vous remercions de votre lettre du 17 Febrier dernier et sommes heureux de vous donner notre accord.

Veuillez agreer, Messieurs, nos salutations distinguees.

SOCIETE INDUSTRIELLE DU TITANE

un administrateur — un administrateur

(sign.) C. Gilbert — (sign.) S. J. Henrikssen

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Exhibit D-1

COPY

No 256

GJ/HS

Paris, August 9th 1929

Dr. G. Jebsen

26 Rue de La Pépiniére, Paris 8e

Evans McCarty Esq.
c/o R. W. Greeff & Co Ltd.
Thames House
Queen Street Place
London E.C.4.

Dear Mr. McCarthy,

RE: *The transfers to Titan Co. Inc. of the rights and obligations of the Titan Co. A/S derived from the agreements of 3/20 October 1927 with the I.G.*

In the Memo of 17th July concerning three letters from the I.G. and one from T.G. m;b.H regarding the various transfers to T.Co.Inc. the paragraph 3 and 4 concerning the conditions for the transfer of the above mentioned rights a slip has occurred, as the condition mentioned under 1 and 2, that the Titan Co A/S also in the future remains responsible besides the Titan Co Inc. for all obligations, also pertains to these transfers.

This condition has also been provided for in the agreement of 1927, although there is a difference, as the agreement of 1927 can be interpreted in such a way "that the responsibility of T.Co.A/S only can be made effective after it is proved that the substitute (T.Co.Inc.) has not fulfilled its obligation, whereas the letters of June 15th requests that the Titan Co A/S shall remain responsible besides the T.Co.Inc".

Mr. Vogt has in a latter pointed out the difference in the interpretation of the agreement of 1927 as he sees it. He finds it reasonable though, that we accept the condition as expressed in the letters. Mr. Vogt will send me an English translation of his letter, which will be forwarded to you.

Dr. Brüggemann has pointed out to me, that the intention has always been the one expressed by the condition in the letter, and I think he is right.

I remember the permission in paragraph XIV Contract A. was only given after considerable argument.

I am sorry that the Memo is not complete, and further that the same slip has also occurred in the translations made at this office of the two letters of June 15th to Titan Co A/S from the I.G. and the T.G. m.b.H. In these two letters the words "besides you" should come after "The Titan Co. Inc. New-York".

The English translation as made by Mr. Mathias of Art. XIV, Agreement A. 1927 is:

"The Titan Co is entitled to substitute for itself in this "agreement and in the agreements with the Titangesell-"schaft mentioned hereunder in Par.4. and 9. (D. and J.) "or in several of them another company or other companies "in which the Titan Co or the National Lead Co together "or one of them, are engaged with 100%. In such a case

Exhibit D-1

"the new company entering into the contract has to take "upon itself the liability for the former partner besides the "latter in regard to the respective agreements"."

Yours very truly,

P.S.—Enclosed follows the corrected translation of the 2 letters of June 15th to Titan Co A/S from the I.G. and the T.G. m.b.H.

Encl.

Exhibit D-1

Translated from German

TITANGESELLSCHAFT M.B.H.

Leverkusen, June 15th 1929.

Titan Co A/S
Fredriksstad.

We hereby beg to declare, that we agree that the Titan Co Inc. of New-York, besides you, enters into all the rights and obligations which your Company has entered into according to the agreements of 3/20th October 1927 between you and ourselves.

The assumption for this agreement is that the National Lead Company of New-York participates and will continue to participate with at least 86% in the Titan Co. Inc., and that a reduction of this proportion of participation to the extent of 86%, can only be made after beforehand having obtained our express consent.

We ask you to please acknowledge receipt of this letter and at the same time expressly confirm to us your agreement to the above.

TITAN-Gesellschaft m.b.H.

(sign.) Kühne (sign.) Brüggemann

Exhibit D-1

Translated from German

I.G. Farbenindustrie Aktiengesellschaft

Leverkusen, June 15th 1929.

Titan Co A/S.
Fredriksstad.

Referring to the agreements of the 3rd/20th October 1927 entered into between you and us, regarding the production and the sale of Titanium and Titanium Compounds, we hereby declare that we agree, that the Titan Co. Inc. of New-York, besides you, enters into all the rights and obligations which your company has according to the agreements of the 3rd/20th October 1927 entered into between you and our firm, respectively the Titangesellschaft m.b.H.

The assumption for this agreement is that the National Lead Co of New-York participates and will continue to participate, with at least 86% in the Titan Co. Inc., and that a reduction of this proportion of participation to the extent of 86% can only be made after beforehand having obtained our express consent.

We ask you to expressly confirm to us by letter your agreement to the above, particularly the continuation of your liabilities according to the above mentioned agreements of the 3rd/20th October 1927.

I. G. Farbenindustrie Aktiengesellschaft

(sign.) Kühne Brüggemann

Exhibit E-3

AGREEMENT

This agreement, made and entered into this 1st day of January 1941, by and between NATIONAL LEAD COMPANY (hereinafter called NATIONAL), a corporation organized and existing under and by virtue of the laws of the State of New Jersey, and having a principal office and place of business in New York, New York, and E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter called DU PONT) a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having a principal office and place of business in Wilmington, Delaware;

WITNESSETH,

WHEREAS, on January 1, 1933, THE TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under the laws of the State of Maine, and KREBS PIGMENT AND COLOR CORPORATION, a corporation organized and existing under the laws of the State of Delaware, entered into an agreement providing for the granting to each other of certain licenses under their respective inventions and within the "Licensed Field" defined in said agreement; and

WHEREAS, under an instrument dated January 1, 1936, by and between DU PONT, said TITANIUM PIGMENT COMPANY, INC., and said KREBS PIGMENT AND COLOR COPORATION, DU PONT became assigned of and assumed all of the rights and obligations of the KREBS PIGMENT AND COLOR CORPORATION under said January 1, 1933 agreement with-

Exhibit E-3

out changing in any wise the scope or effect of said agreement, as more specifically provided for in said instrument;

WHEREAS, under an instrument dated October 31, 1936, by and between NATIONAL, said TITANIUM PIGMENT COMPANY, INC., and DU PONT, NATIONAL became assigned of and assumed all of the rights and obligations of THE TITANIUM PIGMENT COMPANY, INC. under said January 1, 1933 agreement without changing in any wise the scope or effect of said agreement, as more specifically provided for in said instrument;

WHEREAS, NATIONAL and DU PONT, as the respective assignees under said agreement dated January 1, 1933 between THE TITANIUM PIGMENT COMPANY, INC. and KREBS PIGMENT AND COLOR CORPORATION, desire to amend the same;

NOW, THEREFORE, in consideration of the premises and the mutual promises, covenants and undertakings hereinafter set forth, it is hereby mutually agreed between NATIONAL and DU PONT that said January 1, 1933 agreement shall be and the same is hereby amended as follows, to-wit:

1. That Article I of said agreement be canceled and in lieu thereof the following article be substituted:

ARTICLE I

"The term 'Licensed Field', wherever herein employed shall be deemed to include (1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds containing two per cent. (2%) or more of the

element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adapted for other uses, and also inorganic extenders to be used in conjunction with such titanium compounds; and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses; and also inorganic extenders to be used in conjunction with such titanium compounds; provided, however, titanated lithopone shall not be deemed as included within said Licensed Field."

2. That the first paragraph of Article II of said agreement be canceled and that the following be substituted therefor:

"NATIONAL and DU PONT, during the term of this agreement, grant to each other, within the limits of said Licensed Field and as to which NATIONAL or DU PONT is or shall be free to grant such rights, an irrevocable and non-exclusive right and license, throughout the United States of America, its territories, colonies and possessions, present and future:

(a) under all original or reissue Letters Patent of the United States, now or hereafter owned or controlled by either party;

(b) under all applications for Letters Patent of the United States now or hereafter owned or controlled by either party and which have been pending for a period of at least six months from date of filing by either party; and

(c) under all pending applications for Letters Patent of the United States purchased or acquired by NATIONAL or DU PONT from third parties, after the lapse of a period of

six months' time from their date of filing; provided, however, that in event any such application shall be pending for more than six months or shall issue to patent prior to expiration of said six months' period, the license herein provided for under any such application and/or patent shall be deemed to exist as of the date of such purchase or acquisition or the date of issue of said patent."

"It is understood and agreed that the rights vested in the parties hereto shall include the right to sell the products resulting from the use of any licensed process, method and apparatus of manufacture described in the licensed patents and/or applications, throughout the United States of America, its territories, colonies and possessions, present and future, Mexico, Central America, the West Indies, and South America."

3. That Article III of said agreement be canceled and in lieu thereof the following Article be substituted:

ARTICLE III

"Each party hereto agrees not later than six months from the date of filing of any application for Letters Patent of the United States which either party may file, purchase or acquire for any invention within the Licensed Field to make full disclosure to the other of the specifications and claims under any such application. It is understood and agreed that the disclosures contemplated by this Article shall be made only by and to officials specifically designated in writing for that purpose by the respective parties hereto."

4. That Article V of said agreement be canceled and in lieu thereof the following Article be substituted:

Exhibit E-3

ARTICLE V

"Each party hereto agrees during the term of this agreement to use its best efforts (but without any obligation to incur out-of-pocket expense) to assist the other to acquire, on terms as favorable as possible to the other, an irrevocable and non-exclusive right and license to manufacture, use and sell, within the limits of the Licensed Field and licensed territory, under any United States original or reissue Letters Patent, or under any application for United States Letters Patent or reissue which has been pending for a period of not less than six (6) months from its filing date, owned by or otherwise at the disposal of other companies, firms or individuals, domestic or foreign, under which such party hereto itself is licensed.

"DU PONT further agrees that not later than six months after the filing date of any licensed application for Letters Patent of the United States it will offer to any foreign associate of NATIONAL that may be designated by NATIONAL, before offering to any other person, firm or corporation, the opportunity to acquire, upon mutually satisfactory terms and conditions, an irrevocable and non-exclusive license, within the limits of the Licensed Field aforesaid, under any application or patent relating to the Licensed Field filed or issued in any country of Continental Europe or in Great Britain, which now is or hereafter and during the term of this agreement may be owned by or otherwise at the disposal of DU PONT."

5/ It is understood and agreed between the parties hereto that except as specifically modified hereinabove, each and all of the other provisions of said agreement of Janu-

ary 1, 1933 shall remain in full force and effect and that the amendment and cancellation herein provided for shall not in any manner operate to terminate, restrict or impair the licenses heretofore acquired by either party from the other under said January 1, 1933 agreement; that the licenses provided for in Article II of said agreement of January 1, 1933, as hereinabove amended, and excepting for the specific inclusion of inorganic extenders within the Licensed Field, shall not be construed as extending to or including any patent or application therefor which would not have been licensed by virtue of said January 1, 1933 agreement; that, further, the rights and obligations assumed by DU PONT herein shall not exceed those assumed by it under the above-mentioned January 1, 1936 assignment from Krebs to DU PONT; that the "Licensed Field", as herein defined, and the rights and privileges granted in pursuance hereof and said agreement of January 1, 1933 shall be subject to all conditions of the aforesaid assignment and shall not be deemed to include or apply to any methods, processes, apparatus, uses or products of DU PONT other than those which relate primarily to or come within the scope of the activities now regularly conducted by its Krebs Pigments Department; likewise, said Licensed Field and the rights and privileges granted in pursuance hereof and said agreement of January 1, 1933 shall be subject to all conditions of the aforesaid assignment and shall not be deemed to include or apply to any methods, processes, apparatus, uses or products of NATIONAL other than those which relate primarily to or come within the scope of the activities now regularly conducted by its Titanium Division.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed, in duplicate, by their respec-

tive proper officers, duly authorized, and their respective corporate seals to be hereunto affixed as of the day and year first above written.

NATIONAL LEAD COMPANY,

Approved
As to form
C.F.K.

By FLETCHER W. ROCKWELL
President

ATTEST:

H. O. BATES, Secy.

L.R.G.

E. I. DU PONT DE NEMOURS AND COMPANY,

By C. H. RUPPRECHT
Gen.Mgr.-Krebs Pigments Dept.

ATTEST:

H. C. Haskell

E. A. HOWARD
Assistant Secretary

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Exhibit F

THIS AGREEMENT made the 16th day of February 1933 BETWEEN IMPERIAL CHEMICAL INDUSTRIES LIMITED (hereinafter called "I.C.I.") of the first part IMPERIAL SMELTING CORPORATION LIMITED (hereinafter called "I.S.C.") of the second part GOODLASS WALL AND LEAD INDUSTRIES LIMITED (hereinafter called "G.W.") of the third part and TITAN COMPANY INCORPORATED a Company incorporated under the laws of the State of Delaware U.S.A. having an office at 111 Broadway New York City U.S.A. (hereinafter called "Titanine") of the fourth part.

WHEREAS:—

(1) The parties hereto have agreed to co-operate in the manufacture and sale of titanium and titanium compounds (which expression whenever used in this Agreement means substances materials and compositions in which the element titanium is contained in a chemically or physically combined state to the extent of more than Two per cent. but excluding simple mixtures).

(2) Titanine possesses patent rights and processes for the production of titanium compounds and particularly for the production of various qualities of titanium white or

titanium dioxide which products are manufactured on an important scale in accordance with such patent rights and processes in factories at Leverkusen in Germany and at St. Louis U.S.A.

(3) These patent rights were acquired by Titaninc from Titan Company A/S of Norway which originally started this industry in Norway and in 1920 made an agreement with the Titanium Pigment Company Inc. U.S.A. (which carries on a similar industry in U.S.A.) with a view to close co-operation between those two Companies for the development of the industry.

(4) Titaninc has also made agreements with I.G. Farbenindustrie and with Titangesellschaft m.b.H. with a view to co-operation and the exchange of technical and chemical experience for the development of the titanium industry.

(5) I.S.C. has caused an English Company to be formed under the name of British Titan Products Limited with a nominal capital of £25,000. This Company is a private Company and so far only six shares of £1 each in the share capital of the Company have been taken up. This Company is hereinafter called "British Titan."

NOW THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED by and between the parties hereto as follows:—

1. BRITISH TITAN shall have the sole right of manufacture and sale of titanium and titanium compounds throughout the British Empire as at present constituted (including British Protectorates and Mandated Territories but excluding Canada Newfoundland British Honduras Demerara the Falkland Islands the West Indies and islands

geographically appurtenant to the Continent of North America) and Egypt and all parties hereto will satisfy all their requirements for titanium compounds for manufacture therefrom and/or for sale in the British Empire as above defined by purchasing them from British Titan and will use all endeavours and take all measures in their power to ensure that their respective subsidiary and associated companies will satisfy their requirements in like manner. PROVIDED nevertheless that British Titan shall be able and willing at all times to supply such titanium compounds at competitive prices and of the qualities required.

2. TITANINC and British Titan shall forthwith enter into a License Agreement substantially in the form of the Draft Agreement set forth in the First Schedule hereto with such modifications therein if any as may be approved by all the parties to this Agreement and I.C.I. I.S.C. and G.W. shall each of them forthwith enter into a License Agreement with British Titan substantially in the form of the Draft set forth in the Second Schedule hereto with such modifications therein if any as may be approved by all the parties to this Agreement.

3. TITANINC shall forthwith enter into Agreements with British Titan for the transfer to British Titan of the existing business and goodwill of Titaninc in titanium products in the British Empire including British Protectorates and Mandated Territories (except Canada Newfoundland British Honduras Demerara the Falkland Islands and the West Indies and islands geographically appurtenant to the Continent of North America) and Egypt substantially in the form of the Draft Agreements set forth in the Third and

Fourth Schedules hereto with such modifications therein if any as may be approved by all the parties to this Agreement.

4. THE share capital of British Titan shall forthwith be reorganized as follows that is to say:

(*a*) The share capital shall be increased to £150,000 consisting of 25,000 "A" shares of £1 each which shall be issued for cash and 125,000 "B" shares of £1 each which shall be issued credited as fully paid up to Titaninc as consideration for the transfer by Titaninc to British Titan of the existing British business and goodwill of Titaninc in titanium products and the carrying out by Titaninc of the obligations imposed on it by the Agreement contained in the Third Schedule hereto.

The "A" shares shall carry the following rights:—

(1) The right to repayment of capital and arrears of dividend on a winding-up in priority to the "B" shares and to receive the whole of the surplus assets remaining after payment of the liabilities and payment in full of the capital and arrears of dividends of the "A" and "B" shares.

(2) The right to a first cumulative preferential dividend of 7 per cent. and also to the balance of the distributable profits after payment of a dividend on the "B" shares.

(3) The voting right of one vote per share.

The "B" shares shall carry the following rights:—

(1) The right to repayment of capital and arrears of dividend on a winding-up after the repayment of the capital and arrears of dividend of the "A" shares.

(2) The right to a fixed cumulative preferential dividend of 6 per cent. ranking after the fixed cumulative preferential dividend on the "A" shares.

(3) The right of one vote per share which however is only to be exercisable in relation to alterations of the rights of the "B" Shareholders or the winding up of the Company or the selling or approving of the sale of the business of the Company or in the event of the dividend on the "B" shares being in arrear on any date after the 31st day of December 1935.

5. THE "A" shares of British Titan shall be subscribed in cash at par in the following proportions:—

Titaninc	£12,250 or 49 per cent.
I.C.I.	£4,250 or 17 per cent.
I.S.C.	£4,250 or 17 per cent.
G.W.	£4,250 or 17 per cent.

and any further new share capital required shall be subscribed by the parties hereto in the like proportions by subscribing for further "A" shares in cash at par.

6. EXCEPT in so far as is otherwise herein provided during the continuance of this Agreement no party hereto shall transfer or part with the possession of any of its shares in British Titan except with the written consent of all the other parties to this Agreement and the transferee shall agree to be bound by all the obligations hereof so far as they are binding on the transferor PROVIDED that (1) on any holder of "A" shares transferring or parting with the possession of the whole of his "A" shares the provisions of Clause 11 hereof shall bind such holder for a period of five

years after the date of such transfer but so that nothing in the said Clause 11 shall restrict Titaninc or any of its allies or affiliated companies outside the British Empire (as herein defined) and Egypt (2) Titaninc shall be entitled to transfer or have allotted to R. W. Greeff & Co. Ltd. not more than 1,250 of its "A" shares and any other "A" shares which on a further issue of capital Titaninc would be entitled to subscribe in respect of any shares allotted or transferred to R. W. Greeff & Co. Ltd. in pursuance of this clause on such terms as it may think fit and for the purpose of the next succeeding clause of this Agreement such shares shall be deemed to be part of Titaninc's participation (3) that R. W. Greeff & Co. Ltd. shall be entitled at all times to re-transfer to Titaninc any of the said "A" shares so allotted or transferred to them free from the restriction contained in proviso (1), (4) that any party hereto shall be entitled to have any of its shares in British Titan allotted to or to transfer any of its said shares to any subsidiary Company in which it owns the whole of the share capital and any shares so held by any such subsidiary Company may be transferred to its parent company being a party hereto or to another subsidiary Company in which that party owns the whole of the share capital. Provided that the holding of any of such shares by any such subsidiary Company shall in no way relieve any party hereto from any of its obligations hereunder and Provided Also that if any such subsidiary Company shall cease to be wholly owned by its parent Company being a party hereto that party will procure the shares concerned to be transferred either to itself or to another subsidiary Company in which it owns the whole of the share capital and (5) that any party hereto shall be entitled to transfer to a nominee or nominees for

the purpose only of qualifying such nominee or nominees as a Director or Directors of British Titan such shares in British Titan as shall be necessary for that purpose.

The Articles of Association of British Titan shall provide that on any sale of "A" shares the same shall first be offered to the other holders of "A" shares and that if acceptances are received in respect of more shares than are offered the shares offered shall be transferred to the other holders proportionately to their respective holdings.

7. THE Board of British Titan shall consist of not more than six Directors of whom Titaninc shall be entitled to nominate and from time to time to remove and replace three and I.C.I. I.S.C. and G.W. shall each be entitled to nominate and from time to time to remove and replace one. In the event of a variation in the proportions of the "A" shares held by the various parties to this Agreement an adjustment shall be made in the proportional representation to which the parties are entitled on the Board of British Titan.

8. THE Chairman of the Board of British Titan shall be such one of the Directors nominated by I.C.I. I.S.C. and G.W. as may be agreed between the parties hereto and shall have a casting vote.

9. THE question of the erection of a factory in England by British Titan is to be left for the decision of the Board after full examination of the circumstances.

10. THE requisite alterations in the Articles of Association of British Titan shall be forthwith made to give effect to the provisions of this Agreement.

11. DURING the continuance of this Agreement I.C.I. I.S.C. and G.W. agree that they will not nor will any of

them deal in or manufacture titanium compounds, (as defined in Scheduled Agreement No. 1) except through or at the request of British Titan and these parties undertake to use all endeavours and take all measures in their power to ensure that their respective Subsidiary and Associated Companies shall observe the like restrictions. Provided nevertheless that this provision shall not apply to the manufacture and/or sale of Titanium tetrachloride by I.C.I. or any of its subsidiary or associated companies.

12. UNTIL British Titan has commenced to manufacture titanium compounds and for two years thereafter Titaninc will arrange for the supply of titanium compounds manufactured by Titangesellschaft Leverkusen Germany and Titaninc and British Titan will forthwith enter into an Agreement substantially in the form of the Draft Agreement set forth in the Fifth Schedule hereto with such modifications therein if any as may be agreed to by all the parties hereto.

13. SUBJECT to the provisions elsewhere contained in this Agreement and to the continued existence during that time of British Titan this Agreement shall remain in force for thirty years from the date hereof. If at or at any time after the expiration of that period any party shall wish to retire from the provisions of this Agreement it shall be entitled to do so provided it has previously given twelve months' notice in writing to that effect to the other parties hereto. Any party so retiring shall offer to the remaining parties the right to purchase the whole of the "A" shares in British Titan then held by the retiring party at a price to be determined by mutual agreement and corresponding to the book value of the shares without taking into account any

values of patents trade marks or goodwill and in default of agreement the price shall be settled by arbitration in accordance with the provisions of the Arbitration Act 1889. Should the remaining parties be unwilling to purchase the whole of the "A" shares so offered to them by the retiring party the retiring party shall have the right to require British Titan to be voluntarily wound up and in that event each of the remaining parties shall use their voting power in British Titan to put that company into voluntary liquidation.

14. SHOULD the Agreement of 1920 referred to in the third recital to this Agreement cease or determine prior to the expiration of thirty years from the date of this Agreement each party to this Agreement shall have the right to retire from the provisions of this Agreement by giving to the other parties notice in writing to that effect within six calendar months of the date when notice of the cessation or determination of the said Agreement of 1920 is received by British Titan. Such retiring party or parties shall have similar obligations to those contained in the last preceding Clause of this Agreement to offer to the remaining parties the right to purchase the "A" shares in British Titan of such retiring party or parties and to require that Company to be wound up should the remaining parties be unwilling to purchase the whole of the "A" shares so offered to them. Save as expressly provided by this clause or by the preceding clause no party hereto shall without the consent of all the other parties hereto use its voting power in British Titan to put that Company into voluntary liquidation.

15. ON any party exercising his option under Clauses 13 or 14 hereof the provisions of Clause 11 hereof shall

bind him for a period of five years after the date when he ceases to be a shareholder unless British Titan is wound up in pursuance of either of the said Clauses 13 or 14 but as regards Titaninc nothing in the said Clause 11 shall restrict it or any of its subsiidary or associated Companies outside the British Empire (as herein defined) and Egypt.

IN WITNESS whereof the parties hereto have entered into these presents.

THE SCHEDULES.

FIRST SCHEDULE—AGREEMENT to be made between Titaninc and British Titan for exclusive licence for British Empire.

SECOND SCHEDULE—AGREEMENT to be made between I.C.I. I.S.C. and G.W. respectively and British Titan for exclusive licence for the world (with modifications applicable to I.C.I.)

THIRD SCHDULE—AGREEMENT between Titaninc and British Titan forming title to "B" shares in British Titan to be allotted to Titaninc for the consideration therein mentioned.

FOURTH SCHEDULE—AGREEMENT between Titaninc and British Titan for transfer of British Business and sale of Stocks (with Agency Agreement with R. W. Greeff & Co. Ltd. scheduled).

FIFTH SCHEDULE—AGREEMENT between Titaninc and British Titan for supply of Titanium products from Leverkusen.

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Exhibit F-1

SCHEDULED AGREEMENT NO. 1.

AN AGREEMENT made the 10th day of March 1933 Between TITAN COMPANY INCORPORATED a Company incorporated under the Laws of the State of Delaware U.S.A. and having an office at 111 Broadway New York U.S.A. (hereinafter referred to as "Titaninc" which expression includes its successors and permitted assigns) of the one part and BRITISH TITAN PRODUCTS COMPANY LIMITED a Company incorporated under the Laws of England and having its registered office at 95 Gresham Street London (hereinafter referred to as "British Titan" which expression includes its successors and permitted assigns) of the other part.

WHEREBY IT IS AGREED AND DECLARED as follows:—

ARTICLE I.

In this Agreement the under-mentioned expressions shall have the meanings set opposite to them respectivly as follows:—

(*a*) "Licensed Field" means and includes all methods and processes in the field of the manufacture of Titanium compounds containing two percent. or more of the element Titanium and also includes the Titanium compounds themselves.

By Titanium compounds is meant substances materials and compositions in which the element Titanium is contained in a chemically or physically combined state.

For instance composition pigments of the character of titanox belong to them. Simple mixtures do not come under this definition.

There are excluded from the Licensed Field substances materials or compositions which contain by weight more than 5 per cent. of a metal other than Titanium in its purely metallic (*i.e.* chemically uncombined) state.

(*b*) "North America" includes the entire continent of that name including U.S.A. Dominion of Canada Newfoundland Panama and all Central American States and also all islands which were on the 30th July 1920 considered as being geographically appurtenant to the continent of North America and also the Philippine and Hawaiian Islands.

(*c*) "South America" similarly includes the entire continent of that name including all countries therein located to the South of Panama and also all islands which were on the 30th July 1920 considered as being geographically appurtenant to the said continent.

(*d*) "Finished Articles" means any artificially manufactured article or mixture which has been produced by the aid of any Titanium Compound within the Licensed Field in such a manner that the product constitutes a cohesive inter-mixture of such Titanium compound with other materials as for instance paint rubber glass etc.

(*e*) "Territory of British Titan" includes the whole of the British Empire as at present constituted including British Protectorates and Mandated Territories (except the Dominion of Canada Newfoundland British

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Honduras Demerara Falkland Islands and the West Indies and islands geographically appurtenant to the continent of North America) and Egypt.

(*f*) "Territory of Titaninc" includes all countries outside the Territory of British Titan.

(*g*) "Allied Companies" means all companies firms and commercial or industrial enterprises (other than British Titan Titaninc the Titanium Pigment Co. and licensees for the Territory of the Titanium Pigment Co.) which have received or shall receive a license of the nature referred to in Article XIV (*a*) of the Agreement of 1920 or in Article XIV hereof.

(*h*) "Agreement of 1920" means the Agreement dated 30th July 1920 between the Titanium Pigment Co. Inc. and the Titan Co. A/S since transferred to Titaninc.

ARTICLE II.

Titaninc grants and agrees to grant to British Titan for the territory of British Titan an exclusive licence in respect of all or any patents processes and subject matter within the scope of the Licensed Field of which Titaninc now is or may hereafter become the beneficial owner or in respect of which Titaninc now is or may hereafter become entitled to grant for such territory an exclusive licence and a non-exclusive licence in respect of all or any patents processes and subject matter within the scope of the Licensed Field as to which Titaninc now is or may hereafter become entitled to grant or may be entitled to obtain the right to grant for such territory a non-exclusive licence solely for the purpose

of the production of titanium compounds within the Licensed Field with full rights throughout the territory of British Titan to manufacture and/or use and/or sell titanium compounds so produced and with the right to grant sub-licences wherever Titaninc has or is entitled to obtain power to confer such right subject always to the conditions contained in this Agreement.

If Titaninc shall grant a licence in the Territory of British Titan in respect of any process involving the use or application of a Titanium compound such licence shall so far as may be lawful require that such compound shall only be purchased from British Titan or its sub-licensees unless in any particular case Titaninc satisfies British Titan that such a stipulation is impracticable.

No objection shall be made to customers of British Titan or of its exclusive licensees or sub-licensees selling Finished Articles in the Territory of Titaninc but so that any such sales to North America shall be kept within the limits imposed by the Note to Article VI (*c*) of the Agreement of 1920 but no such sales shall be made by British Titan itself.

Exclusive licences shall on the written request of British Titan be granted direct to Allied Companies in respect of the whole or any part of British Titan's Territory or in respect of all or any one or more of the patents or patent applications.

ARTICLE III.

British Titan grants and agrees to grant to Titaninc for the territory of Titaninc an exclusive licence in respect of all or any patents processes and subject matter within the

scope of the Licensed Field of which British Titan now is or may hereafter become the beneficial owner or in respect of which British Titan is or may hereafter become entitled to grant for such territory an exclusive licence and a non-exclusive licence in respect of all or any patents processes and subject matter within the scope of the Licensed Field as to which British Titan now is or may hereafter become entitled to grant or is entitled to obtain the right to grant for such territory a non-exclusive licence solely for the purpose of the production of titanium compounds within the Licensed Field with full rights throughout the territory of Titaninc to manufacture and/or use and/or sell titanium compounds so produced and with the right to grant sub-licences wherever British Titan has or is entitled to obtain power to confer such right subject always to the conditions contained in this Agreement.

If British Titan shall grant a licence in the Territory of Titaninc in respect of any process involving the use or application of a Titanium compound such licence shall so far as may be lawful require that such compound shall only be purchased from Titaninc or its sub-licensees unless in any particular case British Titan satisfies Titaninc that such a stipulation is impracticable.

No objection shall be made to customers of Titaninc or its exclusive licensees or sub-licensees selling Finished Articles in the Territory of British Titan but no such sales shall be made by Titaninc itself. Provided however (i) any sales within the Territory of British Titan by customers of the Titanium Pigment Company in North America are to be kept within the limits imposed by the Note to Article VI (*c*) of the Agreement of 1920 and (ii) the Maritime Organisation of the Titan Company A/S (which deals

almost exclusively in supplying Scandinavian ships) shall be entitled to make any sales of paste and paint for ships in the Territory of British Titan. Titaninc shall upon request inform British Titan as to sales made in the Territory of British Titan by the said Maritime Organisation and will provide any further information that may be necessary to enable British Titan to form an opinion as to the size of the business and sales and if the business and sales to ships other than Scandinavian ships should become sufficiently important as to interfere substantially with British Titan's sales of its own Titanium products within its territory Titaninc agrees on being satisfied of such interference to take all reasonable steps to bring about the limitation of such business and sales to dimensions which will cause no such interference.

Exclusive licences shall on the written request of Titaninc be granted direct to Allied Companies in respect of the whole or any part of Titaninc's Territory or in respect of all or any one or more of the patents or patent applications.

Article IV

Except to the extent provided for in the preceding Articles II and III hereof or as may be otherwise specifically agreed between the parties hereto neither of the parties hereto shall without the consent of the other sell or knowingly permit to be sold within the Territory of the other party any of the products within the scope of the Licensed Field and to this end each of the parties hereto shall take all reasonable steps to ensure that this obligation shall be observed by their respective customers.

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If either party should at any time permit the other party to sell within or for importation into the territory of the first party any products within the scope of the Licensed Field the following provisions shall have effect:—

(1) The party to whom such permission is granted (herein called "the Principal Party") shall make such sale or procure such sale to be made through the agency of the party granting such permission (herein referred to as "the Agent Party").

(2) Each party irrevocably appoints the other party its exclusive agent for the sale of the said products in the territory of such other party.

(3) Such appointment shall continue so long as the Principal Party has the right to an exclusive licence from the Agent Party.

(4) In the case of North America British Titan shall appoint the Titanium Pigment Co. its exclusive agent in accordance with the provisions of Article VI (*c*) of the Agreement of 1920 but British Titan shall only deal with its agent through Titaninc and all sales to be made by such agent shall depend on the consent of Titaninc.

(5) The Principal Party on the written request of the Agent Party shall appoint as exclusive agent an Allied Company which has received an exclusive licence for any part of its territory to which such licence relates.

(6) The Agent Party may fix its own prices and conditions for the re-sale of any such products but the Principal Party shall not be obliged to effect sales against any orders of which it does not approve.

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(7) Each party undertakes to endeavor to prevent its customers from competing with the other in that other's territory to its detriment in the sale of Finished Articles permitted under Articles II and III respectively. The measures to be taken for this purpose are to be discussed and agreed on from time to time.

ARTICLE V.

The parties hereto mutually agree with each other to observe and perform the following obligations viz:—

(a) 1. Either party whenever it files an application for Letters Patent on an invention in the Licensed Field, shall within two months from the date of filing send a copy thereof to the other party with information as to the countries or places included in the territory of the other party in which such applicant party will file an application on such invention. The other party shall thereafter as soon as possible but not later than four months from the receipt of the copy of the said application for patent cause the applicant party to be informed by suitable notice which country or countries included in its territory such other party its licensees and/or sub-licensees request applications for patent on the said invention to be filed therein. The applicant party must then file an application for patent on the invention in each of the countries so designated to it and prosecute the same with care and diligence to patent.

2. The applicant party has the right to file applications for patent in its own name in the territory of the other party before receiving any information from the

other party as to the filing of such applications for patent as hereinbefore provided.

3. If either party hereto shall receive information as to the application by any other person firm or company for Letters Patent in the Licensed Field in respect of which it shall be entitled to an exclusive licence or to grant an exclusive licence it shall forthwith pass on such information to the other party as if it had itself applied for such Letters Patent under the foregoing clauses.

(*b*) Either party hereto may relieve itself of the obligations assumed by it under sub-clause (*a*) 1 hereof with respect to any or all of the countries designated by the other party by sending by registered mail to the other party within two months of the time of its receipt of said notice of designation from the other party a copy of the said application for patent on the invention with all papers necessary to permit the filing of an application in the country or countries within the territory with respect to which an exclusive licence has been therein granted or is contemplated by this Agreement to the other party and so far as possible under the provisions of the International Convention for the protection of Industrial Property and with the necessary papers for vesting the ownership thereof as distinguished from a licence in such other party.

(*c*) Each party hereto shall make all payments lawfully required to maintain and prolong the Letters Patent owned or controlled by it and with respect to which exclusive licences are hereby granted or provided for

such payments to be ultimately divided as provided in Article VI (*d*) hereof.

With respect to patents of British Titan in North America Titaninc shall be entitled to make the payments in the name of British Titan and to debit them for each payment. British Titan shall within reasonable time before any such payment becomes due inform Titaninc of the due date thereof to enable such payments to be made in a regular manner and without difficulty.

(*d*) Either party hereto may relieve itself of its obligation to pay any part of the expenses of obtaining defending maintaining or prolonging any Letters Patent or Application for Letters Patent with respect to which an exclusive licence in favour of such party is at the time in force by delivering to the other party owning or controlling the same a full and duly executed Release of the exclusive licence of such party thereunder in which case the party so renouncing its right shall have a non-exclusive licence in respect of the same.

Where the owner or controller of a patent or patent application is as regards Titaninc an Allied Company the Release shall be sent to Titaninc and not to such owner or controller.

(*e*) Either party hereto may relieve itself of its obligation to pay its share of the expenses of maintaining and defending any Letters Patent owned or controlled by it and with respect to which an exclusive licence in favour of the other party is hereby granted or provided for by delivering to the other party (the exclusive licencee thereunder) a full complete and duly executed assignment of all the right title and interest of such party in and to the same.

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(*f*) Either party hereto or any exclusive licensee or sub-licensee under any Patent hereunder shall be entitled at its own expense (but subject to the provisions of Article VI (*d*) in the case of the defence of any action brought to annul or cancel any Letters Patent) to institute and/or defend any action regarding any patent in the Licensed Field in any territory with respect to which an exclusive licence or sub-licence to such party is hereby granted or provided for and in particular to restrain or to recover damages penalties or profits for infringement and to receive for its own benefit any sums recovered by such action using where necessary but under indemnity the name of the owner of the patent. The party taking such steps must before so doing provide satisfactory security to the owner of the patent for such indemnity. Notice shall be given by the party taking such steps to the owner or controller of the patent in question who may if it shall so elect enter at its own expense into such litigation and any damages recovered shall in such case be divided between the parties in such manner as they shall agree to be fair and equitable.

ARTICLE VI.

The exclusive licences herein provided for shall be expressly stated or shall be deemed to be given and accepted and their continuance dependent upon the following conditions:—

(*a*) That the licensee shall neither directly nor indirectly question or contest the validity of any patent under which it is licensed or use or infringe the same beyond the limits of the licence nor directly or indirectly

connive with or afford any pecuniary or other assistance to a contestant or questioner of such validity.

(*b*) British Titan shall pay to Titaninc a royalty of 25 Norwegian Kroner for every metric ton of 1,000 Kg. of titanium dioxide (TiO_2) or its equivalent (if other compounds of titanium are produced) produced by it or its licensees or sub-licensees in any calendar year up to and including the year 1936. Such royalty shall be paid twice yearly as soon as practicable before the 31st January and 31st July in every year and shall be accompanied by a statement showing the production during the six months ended 31st December or 30th June as the case may be on which such royalty is payable. Titaninc shall have the right to have the statement checked by some accountant or other person acceptable to British Titan or in the event of disagreement to be appointed by the President for the time being of the Institute of Chartered Accountants in London. After the cesser of the said royalty British Titan shall continue to submit to Titaninc half-yearly statements of production.

(*c*) The Licensee shall faithfully perform and observe the obligations of Article IV hereof so far as they are applicable to the Licensee.

(*d*) The future cost of paying taxes fees and other periodical sums necessary for maintaining or prolonging any Letters Patent with respect to which exclusive licences are hereby granted or provided for the future cost of defending suits brought to annul or cancel said Letters Patent or any of them and the future cost of obtaining Letters Patent as provided for in section (*a*)

of Article V hereof shall be equally divided between Titanine and British Titan and the party making such payments shall be reimbursed by the other party for its share of the said payments within sixty days after the receipt by the other party of a verified statement of account evidenced by appropriate vouchers.

(*e*) Each party hereto shall at all times on request of the other duly and with all possible diligence execute and deliver to such other party all additional papers and documents and do and perform all other acts requisite and proper to fully effectuate all the provisions and obligations of this Agreement and particularly as regards all licences herein referred to and also all patents and the maintenance and enforcement of the same and the preparation filing and prosecution of applications for patents.

(*f*) In the event of either of the parties hereto at any time violating or failing to perform any of the conditions contained in this Article VI the other party may by notice in writing duly despatched by registered post notify the delinquent party accordingly. Unless within six months after such despatch the delinquency has ceased and satisfaction has been made the exclusive licence hereby granted to the delinquent party may at the option of the aggrieved party at any time thereafter be determined by notice sent by registered post to the delinquent party by the aggrieved party but no such termination of licence shall operate to relieve the aggrieved party from its own obligations under this Agreement nor terminate the exclusive licence or sub-licences granted to it hereunder.

(*g*) British Titan as received of the sub-licences from the Titanium Pigment Company assumes all the

obligations of Article XIV (*a*) of the Agreement of 1920 (except sub-section 1 which is to be substituted by a clause similar in all respects to Clause VI (*b*) hereof so far as refers to statements of production and sub-section 3 which is to substituted by clauses similar in all respects to Clauses V (*a*) and (*b*) hereof) and as regards such sub-licences where such obligations differ from those hereunder the obligations under the said Article XIV (*a*) (with the above exceptions) shall prevail.

ARTICLE VII.

EACH party hereto agrees that it will co-operate with the other party by imparting semi-annually to the other party full and accurate information in detail as to knowledge obtained by it since the last report in and applicable to the Licensed Field and will permit the other party by its duly accredited representatives during business hours to inspect study and enquire into any of its plants where work in the Licensed Field is being done exclusive of its research laboratories provided that neither party shall be obliged to accord such permission to any person who is not at the time bound in writing under his signature to assign all his inventions pursuant to the provisions of the following Article VIII.

ARTICLE VIII.

EACH party hereto agrees that it will so far as possible require its officers agents and employees to agree to assign to it throughout the world any and all inventions within the Licensed Field which may be made by them or any of

them prior to the time herein fixed for the termination of the exclusive licences and of any extension of such time.

ARTICLE IX.

EACH party hereto agrees that in acquiring rights to inventions within the Licensed Field it will so far as possible endeavour to provide that such rights shall extend to all countries or places within the territory with respect to which any licence to the other party hereunder is hereby granted or provided for.

ARTICLE X.

(*a*) THE exclusive licences hereby granted or provided for shall remain in force for the longest period for which the respective parties have power to grant such licences provided however that such licences shall terminate if and when Titaninc or its successors and/or its subsidiary Companies shall cease to own in total at least 25 per cent. of the issued "A" shares of British Titan. Should such ownership cease each of the parties hereto shall receive a non-exclusive licence (for itself as well as for all licensees and sub-licensees who have received or may receive a license for use within the parties' respective territories) for the longest term which it is then possible to grant for their respective territories for all inventions patents and patent applications within the Licensed Field which the other party at the date of termination owns or in respect of which it is then entitled to grant or is entitled to obtain the right to grant such licence. All other rights obligations and liabilities under this Agreement shall cease.

(*b*) IF any agreement between one of the parties hereto and one of the Allied Companies should terminate such party has the right to determine the licences which the

parties hereto or either of them have received from such Allied Company. In case such licences are not executed by the party hereto which was party to the Agreement with the Allied Company the other party hereto and the Allied Company in question shall have the right and the obligation mutually to grant non-exclusive licences in manner provided in paragraph (*a*) above. Mutual rights and obligations remain otherwise as agreed in this Agreement.

(*c*) SHOULD the Agreement of 1920 and exclusive licences received or granted under that Agreement terminate before the termination of this present Agreement British Titan has the right only to non-exclusive licences so far as they result from the Agreement of 1920 and British Titan shall if Titaninc so requires determine the exclusive licences granted to the Titanium Pigment Company by British Titan and substitute them by non-exclusive licences in accordance with Article X of the 1920 Agreement and to give to Titaninc the right to a licence which shall be exclusive except for the licence to the Titanium Pigment Company and any sub-licences granted by it.

THE termination of the Agreement of 1920 shall not affect the mutual rights and obligations of Titaninc and British Titan regarding the exclusive exploitation of their patents and inventions until the termination of the present Agreement.

ARTICLE XI.

THE option contained in Clause XI of the Agreement of 1920 having lapsed South America is open to both Titaninc and the Titanium Pigment Company under the terms of the 1920 Agreement.

ARTICLE XII.

THE interest of either party hereto may be assigned *in toto* but not otherwise and only in connection with the transfer of the entire business of such party to any person firm association or corporation which assumes the obligations of such party and this Agreement in all respects shall be obligatory not only upon each of the parties hereto respectively but also upon their respective assigns successors and legal representatives.

ARTICLE XIII.

IT is understood and agreed that the obligations assumed by each of the parties hereto shall extend to any and all subsidiaries of either of such parties the control of which is held by either party hereto to the end that the terms of this Agreement shall not be avoided by the existence or formation of affiliated or subsidiary companies.

ARTICLE XIV.

EITHER party hereto shall have the right so long as its exclusive licences hereunder shall be in force and shall not have been terminated by forfeiture to grant sub-licences hereunder but neither party hereto shall grant any licence under its own patents or any sub-licence hereunder in the Licensed Field except for the production of Titanium compounds or for the utilization of such compounds produced by one of the parties hereto or a licensee or a sub-licensee of one of the parties. If any such licence or sub-licence is for the production of Titanium compounds or for the manufacture therefrom of any product definable by the term "Pigment" and as such utilizable in the composition of any commodity then every such licence or sub-licence shall be in

writing and shall on the face thereof be expressly stated to be given and accepted and its continuance to be dependent upon the following express conditions which shall be binding on the Licensee or sub-Licensee as the case may be.

(*a*) To render to its Licensor on or before the last day of January and July of each year true and correct statements in writing as to its production in the Licensed Field during the six months preceding the month in which such return is made. The Licensor shall have the right to have such statements verified either by oath or by some accountant appointed by the Licensor as the Licensee shall prefer.

(*b*) To assume towards its Licensor in respect of its (the Licensee's or sub-Licensee's) inventions and patents in the Licensed Field the same obligations as are assumed by the Licensor under Articles II and III of this Agreement.

(*c*) To assume towards its Licensor the same obligations regarding its patents and inventions as are assumed by the parties hereto towards each other under Articles V (*a*) and (*b*) of this Agreement.

(*d*) To assume upon itself the obligations of Article VI (*a*) hereof.

(*e*) To appoint as its sole agent in the territory of such party in accordance with the conditions set forth in Article IV hereof its Licensor or some nominee of its Licensor.

(*f*) To agree to assume in respect of its Licensor the obligations assumed by its Licensor in respect to the other party hereto in Article VII hereof and also to

assume similar obligations to those assumed by its Licensor under Article VIII hereof.

(*g*) That if the Licensee or sub-Licensee violates or neglects performance of any of the conditions above recited to be assumed by it the Licensor may by registered mail thereto duly addressed notify the Licensee or sub-Licensee accordingly and that unless within six months after such mailing of such said notice the delinquency has ceased and satisfaction therefor been made then and in that event the Licensor may at its option terminate the licence or sub-licence by notice to that effect sent by registered mail to the Licensee or sub-Licensee.

Each of the parties hereto agrees that it will whenever it grants a licence or sub-licence in the Licensed Field or cancels the same or is notified of any breach thereof promptly notify the other party hereto giving him the name and address of the Licensee or sub-Licensee and information as to the character scope and duration of the licence or sub-licence.

Article XV.

It is intended that the mark "Kronos" for use in the territory of British Titan shall be assigned to it. British Titan will use this mark only for qualities which are equal to or better than the quality "Standard" now used by Titaninc.

Article XVI.

Where any patent is registered in the name of Titan Company A/S Titaninc will procure that any licence there-

of to be granted hereunder to British Titan shall be executed by the Titan Company A/S or alternatively shall cause the patent to be registered in its name before any licence thereof is executed.

ARTICLE XVII.

ALL notices to Titaninc may be sent by registered post addressed to it at its said principal office in New York City. All notices to British Titan may be sent by registered post addressed to it at its registered office. Either party may at any time or from time to time by notice in writing substitute a new address in lieu of this address above set forth.

ARTICLE XVIII.

THIS Agreement shall be construed according to the Law of England.

IN WITNESS whereof the parties hereto have duly executed these presents the day and year first above written.

Exhibit F-2

SCHEDULED AGREEMENT NO. 2.

AN AGREEMENT made the 10 day of March 1933 BETWEEN

whose Registered Office is situate at

(hereinafter called "the Grantor") of the one part and BRITISH TITAN PRODUCTS COMPANY, LIMITED a Company (incorporated under the Companies Act 1929 whose Registered Office is situate at 95 Gresham Street London England (hereinafter called "British Titan") of the other part.

WHEREBY IT IS AGREED by and between the parties hereto as follows:—

1. THE Grantor grants and agrees to grant to British Titan an exclusive licence in respect of all and any patents processes and subject matter within the scope of the Licensed Field as hereinafter defined of which the Grantor now is or may hereafter become the beneficial owner or in respect of which the Grantor now is or may hereafter become entitled to grant an exclusive licence and a non-exclusive licence in respect of all and any patents processes and subject matter within the scope of the Licensed Field as to which the Grantor now is or may hereafter become entitled to grant or may be entitled to obtain the right to grant a non-exclusive licence solely for the purpose of the production of Titanium compounds within the Licensed Field with full rights to manufacture and/or use and/or sell Titanium compounds so produced and with the right to grant sublicences wherever the Grantor has or is entitled to obtain

power to confer such right subject always to the conditions contained in this Agreement.

The term "Licensed Field" herein means all methods and processes in the field of the manufacture of Titanium compounds containing Two per cent. (2%) or more of the element Titanium as well as the Titanium compounds themselves and "Titanium Compounds" means substances materials and compositions in which the element Titanium is contained in a chemically or physically combined state. For instance the composition pigments of the character of titanox belong to them. Simple mixtures do not come under this definition.

There are excluded from the Licensed Field substances materials or compositions which contain by weight more than 5 per cent. of a metal other than Titanium in its purely metallic (*i.e.* chemically uncombined) state.

2. WHENEVER the Grantor files an application for Letters Patent on an invention in the Licensed Field the Grantor shall within two months from the date of filing send a copy thereof to British Titan. British Titan shall thereafter as soon as possible but not later than four months from the receipt of the copy of the said application inform the Grantor in which country or countries British Titan desires applications for patents on the said invention to be filed. The Grantor shall then file the requisite application in that country or those countries and prosecute the same with care and diligence until the requisite patents are obtained and the Grantor may also if it thinks fit file such an application without waiting for the reply of British Titan. As regards any such invention for which British Titan shall not desire an exclusive licence or any country or countries in which it shall not desire such exclusive licence the Grantor shall be entitled to take out a patent or patents for its own benefit.

Exhibit F-2

3. THE Grantor shall be charged with the duty of making all payments lawfully required to maintain and prolong any Letters Patent in the Licensed Field belonging to or controlled by the Grantor but only so long as British Titan continues to hold an exclusive licence in respect thereof provided that the Grantor shall before ceasing to make any such payments give notice to British Titan that it intends so to do and if British Titan desires to keep such Letters Patent alive it may make such payments itself and the Grantor shall at the expense and cost of British Titan execute and do such documents acts and things as may be necessary or requisite for that purpose.

4. THE expenses involved in obtaining maintaining or defending any Letters Patent in the Licensed Field belonging to or controlled by the Grantor and paid by the Grantor under the two last preceding clauses shall be reimbursed to the Grantor by British Titan so long as British Titan desires to retain an exclsive licence under such patent. British Titan is relieved of this obligation when the exclusive licence is renounced by it or otherwise terminates in which case British Titan shall be entitled to a non-exclusive licence.

5. THE Grantor agrees that it will so far as possible require its officers agents and employees to agree to assign to it throughout the world any and all inventions within the Licensed Field which may be made by them or any of them prior to the time hereby fixed for the termination of the exclusive licence hereby granted.

6. THE exclusive licence hereby granted shall last as long as the Grantor or any of its subsidiary Companies continues to own shares in British Titan. Should such owner-

ship cease so that neither the Grantor nor any of its subsidiary Companies own shares in British Titan then British Titan shall be entitled at once to receive (for itself and for all licensees and sub-licensees who have received or may subsequently receive a licence from British Titan) a non-exclusive licence in respect of all or any of the said patents and processes of which the Grantor is then the beneficial owner or in respect of which the Grantor is then entitled to grant a non-exclusive licence.

7. BRITISH TITAN and any exclusive sub-licensee of any of its rights in respect of the said patents and processes shall be entitled at its own expense to bring suit to restrain and to recover damages and penalties and profits for infringement of a patent in the Licensed Field and to receive for its own benefit any sums recovered by any such suit using if necessary but under indemnity the name of the Grantor. The Grantor shall be notified of any such suit immediately upon its institution and shall be entitled if it shall so elect to intervene at its own expense in any such litigation. The party instituting any such suit shall first give a satisfactory security to the Grantor against any expense or liability on the part of the Grantor resulting from such proceedings.

8. (*a*) BRITISH TITAN shall never directly or indirectly question or contest the validity of any patent under which it is licensed in pursuance of this Deed nor use nor infringe the same except as licensed nor directly nor indirectly connive with or afford any pecuniary or other assistance to any contestant or questioner of such validity.

(*b*) The Grantor shall never directly or indirectly question or contest the validity of any patent of British Titan or of the companies co-operating with British Titan in any

part of the world in the Licensed Field nor infringe the same nor directly nor indirectly connive with or afford any pecuniary or other assistance to any contestant or questioner of such validity.

9. THE Grantor undertakes to use all endeavours and take all measures in its power to ensure that its allied and affiliated companies shall respect this Agreement as if they were parties to it and that they shall do nothing contrary to the interests in the Licensed Field of British Titan or its sub-licensees.

IN WITNESS whereof the parties hereto have duly executed these presents the day and year first above written.

NOTE.—The foregoing Agreement will be signed by I.C.I. but with the following modifications namely:—

(a) The licences to be granted will be given in respect of all patents, processes and subject matter relating to the manufacture of Titanium oxide or Titanium pigments of which I.C.I. may hereafter become possessed and be free to dispose of. The terms "Titanium oxide" and "Titanium pigments" mean those in which the element Titanium is contained in a chemically or physically combined state; for instance the composition pigments of the character of Titanox belong to them. Simple mixtures do not come under this definition.

(*b*) Except as mentioned below there will be no reference to the Licensed Field and references to patents or inventions covered by the Agreement shall be substituted for references to the Licensed Field.

(*c*) In Clauses 8 (*b*) and 9 reference to the Licensed Field will be retained and shall refer to the Licensed Field as defined in the foregoing Agreement.

Exhibit F-3

SCHEDULED AGREEMENT NO. 3.

AN AGREEMENT dated the 10th day of March 1933 Between TITAN COMPANY INCORPORATED a Company incorporated under the Laws of the State of Delaware U. S. A. and having an office at 111 Broadway New York City U. S. A. (hereinafter referred to as "Titaninc") of the one part and BRITISH TITAN PRODUCTS COMPANY LIMITED having its Registered Office at 95 Gresham Street London England (hereinafter referred to as "British Titan") of the other part.

WHEREAS the share capital of British Titan is £150,000 divided into 25,000 "A" shares of £1 each carrying a fixed cumulative preferential dividend of 7 per cent. per annum and the balance of the distributable profits after payment of the dividend on the "B" shares hereinafter mentioned and the right in a winding up to repayment of the capital paid up thereon and arrears of cumulative dividend in priority to the repayment of capital and arrears of cumulative dividend on the "B" shares and also to the whole of the surplus assets; and 125,000 "B" shares of £1 each carrying the right to a fixed cumulative preferential dividend of 6 per cent. per annum ranking after the fixed cumulative dividend on the "A" shares and the right in a winding up to payment off of capital and arrears of cumulative dividend after repayment of the capital and arrears of cumulative dividend on the "A" shares.

Exhibit F-3

NOW IT IS HEREBY AGREED AND DECLARED as follows:—

1. TITANINC shall transfer to British Titan the existing business and goodwill in Titanium products in the British Empire in accordance with a Draft Agreement already prepared and signed for identification by the parties thereto.

2. TITANINC also agrees to give and make available to British Titan all technical knowledge and experience at its disposal in the manufacture of Titanium products or relating to the marketing thereof in the British Empire.

3. IN consideration of the foregoing British Titan agrees to allot to Titaninc 125,000 "B" shares of £1 each of British Titan credited as fully-paid and numbered to inclusive.

IN WITNESS whereof the parties hereto have duly executed these presents the day and year first above written.

Exhibit F-4

SCHEDULED AGREEMENT NO 4

AN AGREEMENT made the 10th day of March — 1933 Between TITAN COMPANY INCORPORATED a Company incorporated under the Laws of the State of Delaware U.S.A. and having an office at 111 Broadway New York City U.S.A. (hereinafter referred to as "Titaninc") of the one part and BRITISH TITAN PRODUCTS COMPANY LIMITED having its registered office at 95 Gresham Street London England (hereinafter referred to as "British Titan") of the other part.

WHEREAS:—

1. Under an Agreement dated the 19th day of July 1929 and made between Titan Co. A/S of Fredriksstad Norway of the one part and R. W. Greeff & Co. Ltd. of Thames House Queen Street Place London (hereinafter called Greeffs) of the other part Greeffs agreed to promote the sales of Titanium products in the United Kingdom and elsewhere as therein mentioned and to maintain a commercial and technical organisation the cost of which was to be borne by the said Titan Co. A/S and Greeffs became sole vendors of the said products in the said territory.

2. The interests of the said Titan Co. A/S in the said Agreement has become vested in Titaninc but the business is still being carried on in the name of the said Titan Co. A/S.

Exhibit F-4

3. The course of business between Titaninc and Greeffs under the said Agreement has been for Titaninc to charge as the price of the said products sold to Greeffs a sum equivalent to certain fixed percentages below the price at which such goods are re-sold by Greeffs such re-selling price being fixed from time to time by Titaninc.

4. There are certain stocks of Titanium products in the United Kingdom which belong to Greeffs but which are at the disposal of Titaninc.

5. Titaninc has agreed to transfer to British Titan the whole of its interest and business in connection with Titanium products in the British Empire including British Protectorates and Mandated Territories (excluding Canada Newfoundland British Honduras Demerara the Falkland Islands and the West Indies) and Egypt.

6. It is the intention that the said stocks of Titanium products in the United Kingdom shall be transferred to British Titan and that Greeffs shall act as agents of British Titan.

7. Titaninc is the owner of certain Trade Marks registered in the name of the Titan Co. A/S. and mentioned in the First Schedule hereto which are used in connection with the business.

NOW IT IS HEREBY AGREED by and between the parties hereto as follows:—

1. THE said stocks of Titanium products now in the the United Kingdom shall be sold by Titaninc to British Titan at a price representing the cost for 1932 charged by

the manufacturers to Titaninc plus all extra charges already paid in respect of the said stocks including freight insurance import duty landing and storage charges.

2. AN inventory shall be made of the said stocks which are now lying in warehouses in the name of Greeffs on some convenient date to be agreed between the parties as the date for completion and the said inventory together with warrants or receipts for the stocks will be handed over to British Titan against payment of the purchase price together with an acknowledgment by Greeffs that they hold such stocks as are not covered by warrants or receipts in the name of British Titan for account of British Titan. All current contracts for sale shall be taken over by British Titan who shall indemnify Greeffs against any future liability thereunder.

3. TITANINC shall procure the transfer from Titan Co. A/S to British Titan of the registered Trade Marks mentioned in the First Schedule hereto together with the business and goodwill of the business carried on by Titan Co. A/S for account of Titaninc relating to the sale of goods of the class in respect of which the said Trade Mark is registered together with any other Trade Marks belonging to it and relating to the said business agreed to be transferred to British Titan.

4. TITANINC will procure that Greeffs shall enter into an Agreement with British Titan in the form contained in the Second Schedule hereto with such modifications if any as may be agreed between the parties hereto and that the existing Agreement of 19th July 1929 shall be cancelled

Exhibit F-4

such agreement and cancellation to operate from the date of completion.

5. TITANINC shall also take such steps as may be necessary to vest in British Titan the benefit of its business and stock in other parts of the British Empire (as above defined) and Egypt not covered by the foregoing clauses, payment being made for any stocks transferred in similar manner to that provided in clause 1 hereof.

IN WITNESS whereof the parties hereto have duly executed these presents the day and year first above written.

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Exhibit F-4

FIRST SCHEDULE ABOVE REFERRED TO.
LIST OF TRADE MARKS

Country.	Trade Mark.	Number.	Class of Goods.
England	"KRONOS"	381514	Class No. 1—Chemical substances containing Titanium products and mineral pigments, all being goods included in Class 1.
England	"KRONOS"	402878	Class No. 4.—Raw or party prepared vegetable, animal or mineral substances used in manufactures not included in other classes.
England	"KRONOS"	402879	Class No. 17—Manufactures from mineral and other substances for building and decoration.
England	"TITAN DEVICE"	388646.	Class No. 1—Chemical substances containing Titanium products and mineral pigments all being goods included in Class 1.
Irish Free State	"KRONOS"	2241.	Dyes, Colours, Paints, Varnishes and Stains.
Irish Free State	"TITAN DEVICE"	2240	Dyes, Colours, Paints, Varnishes and Stains.
Australia	"KRONOS"	25451	Class No. 1—Chemical substances used in manufactures, photography or philosophical research and anti-corrosives.
Australia	"KRONOS"	28376	Class No. 4—Raw or partly prepared vegetable, animal and mineral substances used in manufactures not included in other classes.
Australia	"KRONDS"	28377	Class No. 17—Manufactures from mineral and other substances for building and decoration.

Exhibit F-4

FIRST SCHEDULE—*continued*

Country.	Trade Mark.	Number.	Class of Goods.
Australia	"TITAN DEVICE"	25452	Class No. 1—Chemical substances used in manufactures, photography or philosophical research and anti-corrosives.
British India	"KRONOS"	21/1920	Chemical substances containing Titanium products and mineral pigments, all being goods included in Class No. 1.
British India	"KRONOS"	1567/1920	Manufactures from mineral and other substances for building or decoration.
British India	"KRONOS"	1568/1920	Raw or partly prepared vegetable, animal and mineral substances, for use in manufactures.
British India	"TITAN DEVICE"	501/1920	Chemical substances used in manufactures, photography and philosophical research and anti-corrosives and more particularly chemical substances containing Titanium products and pigments.
Egypt	"KRONOS"	Cairo 595/45° Alexandria 111 Mansourah 206/45°	Chemical substances used in manufactures, photography or philosophical research, and anti-corrosives, particularly chemical substances containing Titanium products and mineral pigments; partly prepared vegetable, animal and mineral substances used in manufactures. Articles manufactured from mineral and other substances for building and decoration.
Egypt	"TITAN DEVICE"	Cairo 609/45° Alexandria 112 Mansourah 205/45°	As for "Kronos."

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Exhibit F-4

FIRST SCHEDULE—*continued*

Country.	Trade Mark.	Number.	Class of Goods.
New Zealand	"KRONOS"	15644	Class 1—Chemical substances used in manufactures, photography and philosophical research and anti-corrosives.
New Zealand	"KRONOS"	17003	Class 4—Raw or partly prepared vegetable, animal and mineral substances used in manufactures not included in other classes.
New Zealand	"KRONOS"	17004	Class 17—Manufactures from mineral and other substances for building and decoration.
New Zealand	"TITAN DEVICE"	15645 (with inscription "Titan Co. A/S Norway" only)	Class 1—Chemical substances used in manufactures, photography and philosophical research and anti-corrosives.
South Africa	"KRONOS"	663/1919	Class 1.
South Africa	"KRONOS"	903/1920	Class 4.
South Africa	"KRONOS"	904/1920	Class 17.
South Africa	"TITAN DEVICE"	662/1919 (with inscription "Titan Co. A/S Norway" only)	Class 1.

Exhibit F-5

THE SECOND SCHEDULE ABOVE REFERRED TO.

AN AGREEMENT made this 10th day of March 1933 Between BRITISH TITAN PRODUCTS COMPANY LIMITED of 95 Gresham Street E.C.2 (hereinafter called "the Manufacturers" of the one part and R. W. GREEFF & COMPANY LIMITED of Thames House Queen Street Place London E.C.4 (hereinafter called "the Agents") of the other part WHEREBY IT IS AGREED as follows:—

1. THE Agents agree to use their best efforts to promote the sale in the United Kingdom Ireland Australia New Zealand and Malta (hereinafter called "the Agents' territory") of the Titanium Pigments for which the Manufacturers hold or shall hold exclusive licenses (hereinafter called "Titan products") and will during the currency of this Agreement maintain a suitable commercial and technical organisation—the cost of the technical organisation covering for the present and until mutually agreed otherwise Mr. Noel Heaton and one assistant the laboratory at 81 Queen Victoria Street London E.C. and all expenses attendant thereon to be reimbursed to the Agents by the Manufacturers according to a budget to be agreed upon in advance.

2. IN consideration of the Manufacturers reimbursing the Agents for the cost of laboratory operations and the salaries of the staff employed by them for the technical work on Titanium matters (until further notice Mr. Noel Heaton

and his assistant) in accordance with a yearly budget to be agreed upon between the Agents and the Manufacturers the work done by these gentlemen shall be the property of the Manufacturers and at their disposal also any inventions and patent rights which may be arrived at. No patents to be applied for without the Manufacturers' consent and the staff to agree to assist in the application for and obtaining of these patents to the extent that this is considered desirable or necessary by the Manufacturers. The members of the staff to undertake the obligation also to transfer to the Manufacturers any inventions or patent rights in the field of the work done during their engagement as well as in Titanium matters in gene[illegible] period of at least two years after the e[illegible] of their engagement. Should the Agents find it impossible to obtain this condition they will confer with the Manufacturers before entering into agreements with the staff. Members of the staff also undertake that for a period of 12 months after the determination of their services with the Agents they will not accept a situation with any firm directly competing with the Agents in Titan products.

3. The Agents shall not sell Titan products for export outside the Agents' territory, nor shall the Agents enter into any contract providing for the delivery of more than fifty tons of Titan products to any one customer at any one time without imposing the above-mentioned restrictions on any such customer and reserving the right to cancel all future deliveries on the breach of the said restrictions by any such customer and upon being called upon by Manufacturers will exercise such right of cancellation. Nothing contaned in this clause shall prevent the export to any part of the world by the customers of Titan products in a *bona fide*

manufactured form except that Titan products in any form shall not be exported by the customer to the American Continent north of the Panama Canal and islands adjacent thereto.

4. DURING the period of this Agreement subject as hereinafter mentioned the Manufacturers will not without the consent of the Agents knowingly sell Titan products to any other person firm or company carrying on business in the Agents' territory or for shipment to any point in the Agents' territory and the Agents will not buy or sell or act as Agents for any of the Titan products from other sources than the Manufacturers.

5. COMMISSION allowed to the Agents by the Manufacturers on the net invoice prices shall be five per cent. (5%) for the first One hundred thousand pounds sterling (£100,000) turnover in each year four per cent. (4%) for the second One hundred thousand pounds sterling (£100,000) turnover in each year and thereafter three per cent. (3%). The Agents shall sell the goods at such prices as are fixed from time to time by the Manufacturers.

6. THE Manufacturers will afford the Agents all the technical information in their power and will reply promptly to enquiries which will arise on technical points and on the relative values of Titan products as compared with others to enable the Agents to effectively deal with enquiries of their customers.

7. THE Agents will keep the Manufacturers advised respecting progress made in the use of Titan products the situation of the market in pigments and in general respecting points of interest arising in the Agents' territory af-

fecting business in Titan products and the Agents will give to the manufacturers all facilities to follow the work of the Agents with regard to the sale and its development with respect to the commercial as well as the technical matters.

8. THE Manufacturers will provide a reasonable supply of free samples.

9. THE Agents will sell the goods under the brand or brands of the Manufacturers and for their account and risk.

10. THE Agents shall arrange to make good to the Manufacturers any loss arising from insolvency of customers and will within 6 months pay to the Manufacturers the full amount of invoices for all products sold by the Agents and duly delivered to customers and accepted by them and in respect to which there is no dispute or claim. The Agents shall not be responsible for the balances of any contracts entered into by customers and not delivered for any reason whatsoever. The Agents will take all reasonable steps to obtain prompt payment of accounts due and will hand up to the Manufacturers on the Thursday of each week all amounts collected during the preceding week less the amount of any commission which may be due to them.

11. THE Manufacturers will add the name of the Agents as the sole source of supply of Titan products to all advertisements of Titan products for the Agents' territory.

12. THE Agents shall be entitled to purchase a limited quantity of Titan products at Two Pounds (£2) per ton additional margin of profit for them for the execution of

smaller orders *i.e.*, those which are taken in deliveries of less than one ton. The maximum quantity purchasable under these conditions is fixed until further notice at one hundred tons during twelve months.

13. ANY dispute arising under this Agreement shall be submitted to Arbitration in London each party to appoint an Arbitrator and the two so appointed to appoint a third the decision of any two to be binding and the same shall be a submission in accordance with the provisions of the Arbitration Act 1889.

14. THIS Agreement shall operate from the date hereof until July first One thousand nine hundred and thirty-four.

Exhibit F-6

SCHEDULED AGREEMENT NO. 5.

AN AGREEMENT made the 10th day of March 1933 Between TITAN COMPANY INCORPORATED a Company incorporated under the Laws of the State of Delaware U. S. A. and having an office at 111 Broadway New York City U. S. A. (hereinafter referred to as "Titaninc") of the one part and BRITISH TITAN PRODUCTS COMPANY LIMITED having its Registered Office at 95 Gresham Street London England (hereinafter referred as "British Titan") of the other part.

WHEREAS by an Agreement made in the year 1927 between Titangesellschaft m.b.H. Leverkusen near Cologne Germany of the one part and Titan Co. A/S of Fredrikstad Norway of the other part Titangesellschaft granted to Titan Co. A/S the right to buy from Titangesellschaft at cost price to be settled as therein mentioned a quantity of its products to be fixed from year to year at the latest three months before the beginning of each calendar year up to the total quantity of 50 per cent. of the capacity of the factory at Leverkusen and such Agreement also provided that if deliveries should amount to more than 50 per cent. of the capacity of the said plant the price charged would be 10 per cent. above cost price and further that provided the Titan Co. A/S stated its requirements in due time Titangesellschaft would increase its manufacturing capacity adequately for the purpose.

The interest of Titan Co. A/S in the said Agreement has been transferred to and is now vested in Titaninc.

Exhibit F-6

NOW IT IS HEREBY AGREED:—

1. TITANINC undertakes until such time as British Titan shall have commenced to manufacture Titanium compounds and for two years thereafter to supply to British Titan Titanium products manufactured by Titangesellschaft in such quantities as British Titan may require from year to year (the amount required being notified to Titaninc not less than 16 weeks before the beginning of each calendar year commencing with the year 1934) to be obtained from the factory at Leverkusen at cost price to Titaninc under the said Agreement and subject to the conditions hereof.

2. IF Titangessellschaft's deliveries to Titaninc (including the requirements of British Titan) should exceed 50 per cent. of the capacity of the plant the full 10 per cent. charged to Titaninc is to be borne by British Titan to the extent that British Titan takes deliveries and so that in no case shall British Titan be charged more than Titangesellschaft's cost price plus 10 per cent.

3. IF the total requirement of Titangesellschaft and Titaninc (including British Titan's requirements) should exceed the capacity of the Leverkusen plant the deliveries to British Titan are to be reduced to the quantities Titaninc under the said Agreement has available from the existing plant at Leverkusen after satisfying its other markets.

4. IF British Titan's requirements are such that an extension of the said plant is necessary and if British Titan desires to postpone the erection of a factory in Great Britain Titaninc undertakes to co-operate with Titangesellschaft to extend the said plant at Leverkusen provided that since such extention will involve a new investment of capital

such extension will only be made on the condition that British Titan enters into an agreement on such terms as Titanine may determine to take such products manufactured by Titangeselischaft's Leverkusen factory for an agreed period and of an agreed minimum amount sufficient to ensure a reasonable return and amortisation on the capital so invested.

IN WITNESS whereof the parties hereto have duly executed these presents the day and year first above written.

TITAN COMPANY INC.

By

E. J. CORNISH, *Pres.*

[SEAL.]

THE COMMON SEAL OF GOODLASS WALL AND LEAD INDUSTRIES LTD. [SEAL.]

JOHN MANN, *Director.*

J. L. MCCONNELL, *Secretary.*

THE COMMON SEAL OF IMPERIAL CHEMICAL INDUSTRIES LTD. was hereto affixed in the presence of— [SEAL.]

J. ROGERS, *Director.*

J. E. JAMES, *Secretary.*

THE COMMON SEAL OF IMPERIAL SMELTING CORPORATION LIMITED was hereunto affixed in the presence of— [SEAL.]

CECIL L. BUDD, *Director.*

F. A. CREW, *Secretary.*

Exhibit F-7

24/10/38

GJ/GK

AGREEMENT

Re the Extension of the Exchange of Patent Licences between Titan Company Inc. and its Associated Titanium Companies

It has been the practice to exchange licences in patent cases covering subject matters which are partly or wholly outside the Licenced Field as defined in the respective Licence Agreements, but which are of interest for the production, use and sale of products within the Licensed Field, as for instance: recovery of materials used in the titanium industry (e.g. sulphuric acid), utilization of by-products (e.g. copperas), production of extenders, apparatus and the use of titanium pigments and compounds as well as of by-products and extenders.

It is agreed that when such patent applications or patents are offered by one associated company to the other associated companies, it means—unless reservations are made—that the inventor company (respectively the company granting the licence) as far as it is within its power is willing to give, on current agreement conditions, to the other companies, rights to the use of the invention for the purposes of the production, use and sale of products within the Licensed Field under any patents outside its territory.

Exhibit F-7

It is specifically understood that in cases where the receiving company (licencée) is not interested in an exclusive licence for the purposes mentioned above, it will be reserved a non-exclusive licence for these purposes.

This agreement is only to be applied to associated companies which in general act or will act reciprocally.

Agreed on behalf of

TITAN COMPANY INC.

(sign.) G. Jebsen
Vice-President

February 17th 1939

Agreed on behalf of
BRITISH TITAN PRODUCTS CO. LTD.

(sign.) C. J. Stop ord
General Manager
17/2/39

The expression "associated companies" as used above is meant to cover any company which is or will be licenced subject to conditions as contained in Article XIV of the licence agreement of 1933 between Titan Company Inc. and British Titan Products Co. Ltd., and further E. I. Dupont de Nemours & Co., Wilmington, Delaware, U.S.A.

(sign.) GJ (sign.) CJS

Exhibit F-8

BRITISH TITAN PRODUCTS COMPANY LIMITED
BILLINGHAM, STOCKTON-ON-TEES
CO. DURHAM

In Reply Please Quote: CJS/SL/2601

13th September 1941

and Mr. Rockwell

Dr. G. Jebsen, " " Garesche
Titan Company Inc., Please initial recd. 9/29/41
111, Broadway opened by English
New York, N.Y. replied 10/10/41

Dear Mr. Jebsen,

B.T.P./N.T.P. QUOTA

I mentioned to you some while ago that we were negotiating a quota arrangement with N.T.P. and I enclose herewith a copy of the formal letter which has been exchanged between our respective companies, which I think gives full details of the arrangement.

If there are any points on which you would like further information, please let me know.

The sale of titanium pigments now comes under the control of a Government department and is subject to a rationing scheme which limits both home sales and export.

Yours sincerely

s/ C.J. Stopford
SR.

Encl.

Exhibit F-8

British Titan Products Co., Ltd.
Billingham.

BTM/MKB/2535

11th September 1941

National Titanium Pigments Ltd,
Kingsway,
Luton, Beds.

Dear Sirs,

QUOTA

We formally confirm our acceptance of a quota arrangement with you on the terms and conditions set out below.

Scope

The arrangements will include all deliveries of manufactured Titanium Oxide and Titanium Pigments containing more than 2% of titanium oxide, but will not include deliveries of ilmenite or other natural products.

Quota

Of the total deliveries of Titanium Oxide including the Titanium Oxide equivalent of other grades of pigment effected by British Titan Products Co., Ltd, and National Titanium Pigments Ltd, the former company shall be entitled to deliver seventy-nine point nine percent (79.9%) and the latter company twenty point one percent (20.1%).

Period Covered

The quota arrangement shall come into force on and from May 1st, 1941, and shall continue for two years or

until the cessation of hostilities between Great Britain and Germany, whichever is the shorter period, after which time it may be terminated by either party giving six months' notice in writing to the other.

Definition of Deliveries

The amount delivered shall be the quantity despatched to customers during the period covered. Deliveries shall include any material despatched to associated companies with the sole exception of any deliveries made to agents abroad to be held as consignment stocks. In this case only actual deliveries from these stocks shall be taken as the amount delivered. Deliveries shall include any deliveries of Titanium Pigments made by associated companies on behalf of or with the consent of either party to territory within the British Empire excluding the continent of North America.

The quota is based on the TiO_2 content of pigment delivered and for this purpose the TiO_2 content of commercially pure oxide shall be calculated as though it were 100% and the TiO_2 content reduced grades shall be calculated as though it were the round figure, i.e., 70%, 50% or 25%, minor variations in the TiO_2 content being ignored.

Period and Method of Adjustment

Each party shall on the 15th day of each month or as soon as possible after that date during the period covered by the quota send to the other a statement of home and export deliveries made during the preceding month in the case of deliveries made in this country. In the case of deliveries from consignment stocks held abroad, the figures will be

exchanged three months in arrears, e.g., deliveries from overseas consignment stocks made in February will be included in the total deliveries for May.

As soon as possible after November 30th 1941, and each succeeding six monthly period an independent accountant (to be selected by mutual agreement) will determine the deliveries made by each party during the period and submit a statement of both parties' deliveries to each party. The deliveries to be included in the period shall be all material despatched during the period except in the case of deliveries made from consignment stocks abroad which shall be taken out for a period 3 months in arrears e.g., the deliveries from consignment stocks to be included in the first period shall be those made between February 1st and July 31st inclusive.

Compensation

In the event of the accountants' statement showing an over-delivery by one party, that party shall purchase from the other party a quantity of Titanium Pigments necessary to adjust the quota to the agreed percentage and will pay for the material so purchased at the 100 ton price ruling at the end of the period covered by the adjustment less 5%, provided always that if the other party has, during the period covered, purchased pigments from the over-delivered party under a scheme known as the Mutual Aid Scheme at a lower price, this lower price shall apply to an equal quantity of material purchased under the quota-adjustment arrangement. Any deliveries to one party from the other under this clause may be spread over a period of six months if so desired.

Exhibit F-8

Selling Price

Prices shall be mutually controlled and no alterations made except by mutual consent. Any sale of off-grade material at a reduced price may not be made without the sanction of the other party who shall decide if such a sale is to be excluded from the quota arrangement.

Third Party Competition

In the event of a third-party competition arising any quota or compensation made to the third party with mutual consent shall be borne by the parties to this agreement in the proportion of their respective quotas.

Expenses

Any expenses incurred by reason of the employment of the independent account shall be borne by the parties to this agreement in the proportion of their respective quotas.

Arbitration

The decision of the independent account shall be final as regards figures, otherwise any complaints or disputes between the parties arising out of this agreement shall be referred to arbitration. The Arbitrator shall be the Chairman of the London Chamber of Commerce for the time being or some person nominated by him; such Arbitrator's decision on all questions shall be final and shall be enforceable as an award under the Arbitration Act, 1889, or any statutory modifications thereto or re-enactments for the time being in force.

Yours truly,

For BRITISH TITAN PRODUCTS COMPANY LIMITED.

Sgd. B.T. MINTER
Secretary.

Exhibit G

Titangesellschaft m.b.H. *Translated from German.*

Leverkusen a Rh., November 23, 1933.

Verein für chemischt und
metallurgische Produktion

Aussig / Elbe

We beg to confirm herewith the arrangement agreed upon during our recent conferences, i.e., that you and we in future will handle the sales—in the territories mentioned in article 1—of the Titanium Oxide and Titanium White produced by you and ourselves, along common lines. We grant each other the right to use our product-patents (Anwendungspatente) in the field of Titanium White, for us and and our respective customers, and will support each other in protecting these patent rights. You have assumed the obligation to acquire from us the Titanium Oxide and Titanium White you require for the territories covered by the agreement, in so far as these requirements exceed your production capacity at the time of the conclusion of this agreement and provided this does not interfere with the stipulations of article II of this letter. We have assumed the obligation to supply these goods at a preferential price.

In so far as the contents of this letter concern the I.G. Farbenindustrie Akt.Ges., Frankfurt/Main 20, this Company will confirm its agreement directly in writing.

As far as the details of our cooperation are concerned, we have agreed upon the following:

Exhibit G

ARTICLE 1.

Field of the agreement—technically and as to territory.

The field covered by this agreement comprises:

a) technically: All materials or substances containing Titanium, with a minium content of 2% of the element Titanium, which can be used as pigments, whether chemically combined or mechanically mixed or physically combined (as for instance mixed crystals), whether used as pigments or for other purposes. The same applies also to mixtures of these materials.

b) territory: Germany with Danzig and Saar-District
Czechoslovakia
Poland
German Austria
Hungary
Jugoslavia
Roumania
Russia.

Both our firms will do their utmost in order to prevent the products covered by this agreement to be imported by third parties into the territories of the agreement.

We will indicate to each other by special letters the products of our manufacture—at present on the market—which fall under this agreement, besides Titanium Oxide.

ARTICLE 2.

Sales rights (Quotas):

The total deliveries of both our firms, calculated as TiO_2, are to be divided according to the following quotas:

Exhibit G

Up to a total annual delivery of 2.800 tons TiO_2 content
Your quota will be 25% our quota ~~will be~~ 75%

From 2801 to 7.000 tons total deliveries, your quota will increase from 25% to 28% and our quota will proportionally decrease from 75% to 72%. From 7.000 tons p.a. upwards the quotas will remain the same, viz:

28% for you
72% " us.

Consequently, your quota for an annual quantity between 2800 and 7000 tons p.a. would develop as follows:

For	2.800	tons	total	annual	delivery 25 %
	3.000	"	"	"	" 25.14%
	3.200	"	"	"	" 25.29%
	3.400	"	"	"	" 25.43%
	3.600	"	"	"	" 25.57%
	3.800	"	"	"	" 25.71%
	4.000	"	"	"	" 25.85%
	4.200	"	"	"	" 26.00%
	4.400	"	"	"	" 26.14%
	4.600	"	"	"	" 26.29%
	4.800	"	"	"	" 26.43%
	5.000	"	"	"	" 26.57%
	5.200	"	"	"	" 26.71%
	5.400	"	"	"	" 26.85%
	5.600	"	"	"	" 27.00%
	5.800	"	"	"	" 27.14%
	6.000	"	"	"	" 27.29%
	6.200	"	"	"	" 27.43%
	6.400	"	"	"	" 27.57%
	6.600	"	"	"	" 27.71%
	6.800	"	"	"	" 27.85%
	7.000	"	"	"	" 28.00%

Exhibit G

For a quantity between these figures the quota is to be calculated in a similar way.

ARTICLE 3.

Sales activities.

The sale of the products covered by the agreement will take place on the basis of extensive mutual information and support, either by the firms themselves or by their representatives.

I.G. Farbenindustrie Akt.Ges., *Frankfurt/Main 20*, Grüneburgplatz, will act as our sales organisation.

In order to establish as close a sales cooperation as possible, the representatives of both parties will meet at fixed intervals, forming a working committee in order to discuss all outstanding questions.

The names of the firms whom we are supplying with products, resp. for which you or we wish customer protection, will be communicated in the Working Committee.

ARTICLE 4.

Fixation of sales prices and terms for the products covered by the agreement.

This shall take place in principle by mutual consent; however you will have the prepondering influence for Czechoslovakia and we for Germany with Danzig and the Saar-District. In the remaining territories the prices shall be fixed in such a way as to avoid any loss being incurred by the seller; but on the other hand, the sales should not be impaired by too high prices.

In cases where it appears appropriate, the prices of both firms need not always be identical. As long as competition

with other white pigments necessitates a flexibility in prices, your company and ours should be allowed the greatest possible mobility in the quotation of prices—however the consent of the other party is an absolute condition therefor.

ARTICLE 5.

Adjustment of quantities.

On the 22nd day of each month you will inform I.G. and I.G. will inform you of the quantities delivered in the preceding month in the territories of the agreement, with specification of each quality separately, and calculated as TiO2. The I.G. will submit to you, within 30 days from the end of each quarter, a preliminary statement of the quantities in order to determine excess—or short sales. The final statement will be made by I.G. 45 days after the end of each calendar year, for the first time on February 15, 1934, covering the remainder of 1933. (An approximate financial adjustment, in accordance with article 11, shall however be made already after the expiration of the first 6 months of each year). The resulting short sales are to be adjusted, if not otherwise stipulated under article 11 of this letter, in such a way that the party, having sold in excess, has to order from the other party the excess quantity of TiO2 delivered, within 30 days after the date of the settlement. For this adjustment delivery, the party having sold in excess will have to pay the sales proceeds, if not otherwise stipulated in article 11.

The settlement as to quantities will be made exclusively on the basis of the TiO2 content of the products covered by the agreement; however, within the limits of their quotas, both firms have claim to a percentage of the deliv-

eries of Titanium Oxide and mixed products, corresponding to the percentage each product constitutes of the total deliveries of our firms for the year in question.

For the adjustment of short deliveries, as far as mixed products are concerned, the repartition of the short quantities over the different qualities shall be in proportion to the quantities of each quality which the party, having delivered in excess, delivered during the period in question. However, in order to simplify matters when making the repartition, only the sales proportion of those mixed products will be taken into account the delivery of which in the respective year exceeded 100 t. TiO_2 content as far as we are concerned, and 25% as far as you are concerned.

If, for instance, the deliveries of Titanium Oxide in the form of mixed pigments, made by one of the parties, are 200 t. short, and the party having delivered in excess, for instance, we, has during the same period, supplied 60% of the mixed products in the form of Standard A, 30% in the form of Extra T and 10% in the form of Standard T, the repartition of these 200 tons will at the time of the settlement have to be made according to the same percentage proportion, *i.e.*, 120 t. TiO_2 in the form of Standard A, 60 t. in the form of Extra T and 20 t. in the form of Standard T.

Short deliveries of your firm, resulting from the difference between your actual deliveries and your capacity of 700 t. TiO_2 are compensated only on the basis of Titanium Dioxide, so that the above stipulations regarding the claim to a percentage of the deliveries of Pure Titanium Oxide and Titanium White shall only apply to a short delivery of your firm, exceeding this.

Exhibit G

In case the orders given in due time by the party having delivered in excess have not been filled within 30 days by the other party, the adjustment in merchandise is considered as having taken place; however, in this case, the party whose deliveries were below the allowed quota, is entitled to a financial compensation. The amount of this compensation for short deliveries—to be found out by taking the difference between the purchase prices (Uebernahnpreise) fixed according to article 11 and the sales proceeds figured out according to the last paragraph of article 5.

Mutual deliveries between our firms are not to be included in the settlement.

Quantities for own use of both our firms and of the I. G., as well as of those firms in which our three companies are interested for at least 50% each, directly or indirectly, or with whom an agreement has been concluded, which, according to terms and duration, is equivalent to a merger, are not included in the settlement, provided, however, that such quantities are not used for the manufacture of products to be resold as pigments for paint.

The parties have to advise each other, at the end of each year, as to the names of the firms to which deliveries are being made according to the preceding paragraph under self consumption right.

With regard to sales proceeds as mentioned in this agreement, it is determined that these will be figured out as follows:

The gross sales price less possible freight expenses (postage, freight-reimbursements), trade taxes (as turnover tax, compensation tax and similar), custom duties and custom expenses, as well as commission actually paid to agents. The sales proceeds are based on goods in original packing; addi-

tional expenses in connection with smaller packing are to be taken into account accordingly.

ARTICLE 6.

Price adjustments.

No price adjustments are to take place. On the contrary, each party is entitled to the proceeds obtained.

If exchange fluctuations or variations should essentially disturb the relation between service rendered and consideration, existing at the time of the conclusion of the agreement, then it shall be endeavored through loyal negotiations to make an equitable adjustment.

ARTICLE 7.

Responsibility for deliveries.

The responsibility for the quality of the goods rests with the manufacturer; the responsibility in connection with the delcredere is with the party which made the sale. Deliveries for which the seller obtains no payment or only part payment, on account of the customer's insolvability, will be eliminated from the settlement, either entirely or for the part unpaid. In this case, the situation at the termination of the bankruptcy or compromise proceedings, is determinative.

Lost shipments, covered by insurance, are to be included in the settlement.

ARTICLE 8.

Control by a trustee.

Once a year a trustee will examine the books of both parties in order to ascertain that the stipulations of this

agreement have been complied with. He will each time inform the other party and the I.G., if the stipulations of the agreement have been complied with by the firm in question —particularly if the reports mentioned under article 5 have actually been sent, or if and to what extent the firm in question has not fulfilled its contractual obligations. Otherwise, the trustee has to observe silence. Towards third parties the trustee's obligation as to secrecy is unlimited.

The Working Committee will issue more detailed instructions regarding the trustee's duties and the way in which he shall attend to his work.

Judge Frech, Dusseldorf, will be appointed trustee, it being understood that he may be represented by an assistant, educated in law, in case he should be prevented from attending to this work, or when it is only a question of examining books and papers.

ARTICLE 9.

Competition clause and secrecy.

During the continuance of this agreement and with regard to the territory covered by the same, the parties and the I.G. are not allowed to participate directly or indirectly in other factories which manufacture or intend to manufacture in the territory covered by the agreement, or deliver or intend to deliver to the said territory the products mentioned under article 2, or to aid such factories in any way in their installation or operations, by technical or commercial advice or preferential deliveries, grant of licenses or similar. Both parties and the I.G. will bind their employees to the same obligations, in so far as there is question thereof in connection with the character of their engagement contracts and so far as it is permitted by law.

Exhibit G

It will not be considered a violation of the obligations under article 1, if one of the parties or I.G. take an interest in another enterprise which, besides other products, also manufactures products falling under this agreement, provided this interest is prompted by these other products. In such case, however, the party in question is obliged to subject the new manufacture of convention products to the stipulations of the present agreement and include this manufacture in his quota.

You oblige yourselves and we oblige ourselves, as far as possible to keep this agreement secret as far as third parties are concerned.

ARTICLE 10.

Patents.

During the life of the patents, we grant each other, for us and our respective customers, the right to gratuitously use our product-patents (Anwendungspatente), for the field of the agreement, technically and as to territory, as well as patent applications published during the continuance of the agreement.

We will support each other in protecting these patent rights against outsiders.

We further undertake the obligation, during the continuance of the agreement and in the territory covered by this agreement, to refrain from filing oppositions to grant of each other's patent applications, including those dealing with manufacturing processes.

Besides the understanding, reached for the time being, with regard to product-patents, the parties contemplate arriving at an understanding regarding the entire patent field and exchange of experience. Should this contemplated understanding be arrived at during the continuance of this

agreement, the date of expiration of the agreement is automatically postponed to the end of 1939.

ARTICLE 11.

Our deliveries to you.

You will purchase from us the Ti02 you require, inasmuch as these requirements exceed your present production capacity of 700 tons p.a., and we are obliged to supply these quantities to you, as long as these deliveries, in addition to our other delivery obligations, do not call for an extension of the production by the erection of new factory buildings. Should this occur, you are entitled to extend your plants in the territory of the agreement, with the exception of Germany incl. Danzig, and the Saardistrict. You undertake the obligation to sell the goods supplied by us, exclusively for consumption in the territory of the agreement.

We shall supply to you the products covered by the agreement at the following prices f.o.b. Leverkusen factory, incl. original packing:

Titanium Dioxide	RM. 66.—	per 100 Kg
Titanium White Extra T	" 46.90	
" " Standard T	" 29.04	
" " Standard A	" 32.91	
" " Standard A Paste	" 39.34	

It is assumed that, prior to ordering any goods from us, you will have utilised your own capacity of 700 t. Ti02, as regards both production and sales. If you purchase Ti02 from us, without having fully utilised your capacity, we shall grant you on the above mentioned price for Ti02 an additional 10% reduction on those quantities which you would have been able to produce yourself if you had produced to the extent of your capacity of 700 t. Ti02.

Exhibit G

The above purchase prices (Uebernahmepreise) are dependent on two factors:

1. Variations in our sales proceeds.
2. Variations in our production costs.

They are to change as follows:

a) as regards proceeds:

Will be taken as a basis:

1) The average proceeds from German sales (Durschnittsverkaufserlös) for Titanium Oxide during the first quarter of 1933, amounting to Rm. 118.— per 100 Kg.

2) The average proceeds in the territories covered by this agreement during the first quarter of 1933

for Extra T	RM.	80.45	per 100 Kg.
Standard T	"	40.04	
Standard A	"	43.97	
Standard A Paste		50.30	

both incl. packing fob Leverkusen factory.

With each increase or reduction of one of these sales proceeds by Mk. I.—the purchase price is increased or reduced by

RM.—.243 per 100 Kg.

A similar calculation is made for changes amounting to fractions of Mk. I.—

b) As regards our production costs:

is taken as a basis our selfcost price for the first quarter 1933, incl. packing, of which we have notified you. With each increase or reduction of this selfcost price by Mk. I.—the purchase price is increase or reduced by

RM.—.737 per 100 Kg.

A similar calculation is made for changes amounting to fractions of MK. I.—

We will advise the trustee of our production price for the first 6 months of 1933 with a detailed specification of the factors on which it is based. At the time of the annual settlement, we will inform you of the changes, and you will be entitled to have the calculation of these changes controlled by the trustee.

Should the purchase price drop below our production costs under the influence of the factors foreseen, we are entitled to decline deliveries at these prices. In this case you would be entitled to increase your capacity accordingly; however, we undertake the obligation to supply the goods to you, up to the time when you can avail yourselves of the increased capacity, at the purchase prices prevailing up to the month before the purchase prices ("Uebernahmepreise") dropped below the production costs. It is evident that during this period the purchase prices in question are again liable to variations—upwards or downwards—but downwards not beyond the limit of the production costs.

Force majeure cases, such as impossibility to make deliveries or shipments, due to acts of nature, strike or lockout, war or acts of God, relieve the parties from their delivery or purchase obligations for the period involved.

However, in such a case, both parties, in their mutual interest, will do their utmost to eliminate any prejudices resulting from such difficulties and to remove the obstacle itself as soon as possible.

ARTICLE 12.

Transfer of contract rights to third parties.

Should one of us, during the continuance of this agreement, sell, lease or otherwise cede his plants for the manufacture of the products covered by the agreement, to a third party, he is obliged to impose upon his successor the obligations resulting from this agreement. A transfer of the quota or parts thereof to third parties is only admissable with the approval of the other party to this agreement.

ARTICLE 13.

Disputes/Court of Arbitration.

The trustee will arbitrate any disputes or differences of opinion, which may arise regarding whether the agreement is in force, regarding interpretation or execution of the present agreement.

Each party is entitled to appeal to a Court of Arbitration with regard to the decision of the trustee, within two weeks after this decision has been notified. Each party will appoint an arbitrator to this Court of Arbitration. In case no agreement can be arrived at by the two arbitrators, they will elect an umpire. If the two arbitrators cannot agree on the choice of an umpire, the latter will be appointed by the President of the International Chamber of Commerce, upon request of one of the two parties. The President of

the International Chamber of Commerce will also appoint the arbitrator for the party which has failed to nominate one within two weeks after the other party has requested it to do so. The umpire must be qualified to act as a judge. The procedure to be adopted by the Court of Arbitration is decided by the Court itself. The arbitrator's decisions are definite, excluding due course of law.

ARTICLE 14.

Duration and notice.

The present agreement is effective as from July 1st, 1933, and may be terminated on 6 months notice, for the first time on December 31, 1936, or, in case article 10 paragraph 4 should come into effect, on December 31, 1939. If no notice has been given 6 months before expiration, the agreement is prolonged for another two years. Notice will be considered as having been given in due time, if it is mailed not later than June 30 of the year in question.

Should a new competition arise during the continuance of this agreement in the territory covered by the same, both our companies will together endeavor to make the outsider's activities ineffective. Should these endeavours be unsuccessful and should the activities of the new competitor lead to a considerable change in the situation of the market, each party would be entitled to denounce the agreement immediately, as long as an understanding as provided for in article 10, paragr. 4, has not been reached. The agreement then expires 3 months after notice has been given.

After resiliation of the agreement, each party can, not sooner than two months before this expiration, undertake sales on any conditions, to be actually effected after the

agreement has expired. Deliveries against sales contracts made before the expiration of this agreement, are to be included in the settlement only if such deliveries have been made before the expiration of the agreement.

The final settlement will be governed ("gelten sinngemäiss") by the provisions of article 5.

ARTICLE 15.

If, during the continuance of the agreement, unfair hardships should result from this agreement, these hardships are to be adjusted in a friendly spirit, if necessary by altering some of the provisions of the agreement. If such a settlement cannot be reached, it will be effected by the Court of Arbitration upon appeal of one of the parties to this agreement.

If new laws or regulations should, permanently or temporarily, fully or partly, handicap the execution of this agreement, new negotiations will take place, in order to adapt the agreement in a friendly spirit to the new situation

TITANGESELLSCHAFT m. b. H.

(signed) Kühne (signed) Brüggemann

Exhibit G

Translated from German

Titangesellschaft m.b.H.

Leverkusen a.Rh., 23rd November 1933

Verein für Chemische und
Metallurgische Produktion
Aussig / Elbe

Referring to article 1 of our letter of to-day regarding our Titanium White Agreement, we beg to inform you that we are at present selling the following products covered by the agreement:

98% Titanium Dioxide	called:	"KRONOS" — Titanium Dioxide	
50% Titanium Dioxide and 50% Blanc-Fixe	called:	"KRONOS" — Titanium White Extra T	
25% Titanium Dioxide and 75% Blanc-Fixe	called	"KRONOS" — Titanium White Standard T	
75% Standard T and 25% Zinc White	called	"KRONOS" — Titanium White Standard A	
15% Titanium Dioxide and 85% Blanc-Fixe	called	"KRONOS" — Titanium White Standard T Sekunda spezia	
50% Titanium Dioxide and 50% Calcium Sulphate	called	"KRONOS" — Titanium White C 50	
30% Titanium Dioxide and 70% Calcium Sulphate	called:	"KRONOS" — Titanium White C 30	
15% Titanium Dioxide and 85% Calcium Sulphate	called:	"KRONOS" — Titanium White C 15	
84% Standard A and 16% Linseedoil	called	"KRONOS" — Titanium White Standard A in Paste	

Paste (Oelweiss) produced from sweepings.

As soon as we bring on the market other qualities or withdraw a quality hitherto sold, we will advise you again. We should be obliged if you, in turn, would inform us about the products sold by you at the present time and keep us advised in each case as to possible changes in the list in question.

Yours very truly,

TITANGESELLSCHAFT m.b.H.

(sign.) Kühne (sign.) Brüggemann

Exhibit G

Translated from German.

Verein für chemische und
metallurgische Produktion

Aussig a/Elbe, December 2, 1933.

Titangesellschaft m.b.H.

LEVERKUSEN

Re: Titanium White Agreement.

We have received via Frankfurt the confirmation of our agreement regarding Titanium Dioxide and Titanium White, and beg to enclose our reply, signed by us.

For the sake of clearness, we only wish to state that, as agreed with Mr. Borgwardt in Prague, in view of the fact that no goods from Leverkusen are actually ordered and resold by us, only the stipulations of article 11 are in force for the settlement of our short deliveries, by payment of the difference between the purchase prices ("Uebernahmepreise") fixed in the above article and the sales proceeds determined according to the stipulations of said article.

We may ask you now also to convoke the trustee, and remain

Yours very truly,

Via I.G. Farbenindustrie A.G.
Frankfurt a/M.

Exhibit G

Translated from German.

Verein für chemische und
metallurgische Produktion

Aussig a/Elbe, December 2, 1933.
Titangesellschaft m.b.H.
Leverkusen—I.G. Werk,

Re Titanium White

Leverkusen a/Rh

Referring to article 1 of our Titanium White agreement, we beg to inform you that we are at present selling the following products covered by the agreement:

98%	Titanium Dioxide	called: Bohemia-Titanium White "Goldsiegel"
65%	Titanium Dioxide	called: Bohemia-Titanium White
35%	Water	"Goldsiegel" in Paste
60%	Titanium Dioxide	called: Bohemia-Titanium White
40%	Blanc Fixe	"Silbersiegel"
36%	Titanium Dioxide	called: Bohemia-Titanium White
54%	Blanc Fixe	"Weisssiegel"
10%	Zinc Oxide	
25%	Titanium Dioxide	called: Bohemia-Titanium White
40%	Bariumcarbonate	"Weissiegel extra".
20%	Blanc Fixe	
15%	Zinc Oxide	

As soon as we bring on the market other qualities or withdraw a quality hitherto sold, we will advise you again. We note that you will act in the same manner towards us.

yours very truly,

Via I. G. Farbenindustrie Akt. Ges.
Frankfurt a/M.

Exhibit G-1

Translated from French
Contrat à Quatre

AGREEMENT

BETWEEN

FABRIQUES DE PRODUITS CHIMIQUES DE THANN ET DE MULHOUSE, SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES, SOCIETE INDUSTRIELLE DU TITANE, TITAN COMPANY INC.

1935.

Exhibit G-1

Between Titan Company Inc. and Société Industrielle du Titane agreements exist concerning a technical and commercial cooperation regarding the products of the present contract, according to which the industrial and commercial activities are reserved:

a) *Société Industrielle du Titane* with exclusive rights for the following countries:

France including colonies, dependencies, protectorates and mandated territories (excluding those of the Continent of America located to the north of the Panama Canal and all islands geographically appurtenant to the said continent). For the Saar, Société Industrielle du Titane has certain rights in conjunction with those of Titangesellschaft.

b) *Titan Company Inc.* with exclusive rights for the rest of the world.

Titan Company Inc. has agreements with:

Titan Co. A/S which has exclusive rights of manufacture and sale for the following countries: Norway, Sweden, Denmark (with Iceland, Greenland and the Faroe Islands), Finland, Esthonia, Latvia and Lithuania, and non-exclusive rights of sale of its maritime pastes and paints in all countries.

Titanium Pigment Co. Inc. which has exclusive rights of manufacture and sale for: the Continent of America north of the Panama Canal and all islands geographically appurtenant to the said continent, Hawai and the Philippine Islands.

Further, Titanium Pigment Co. Inc. has the right to manufacture and sell in South America.

Exhibit G-1

Titangesellschaft m.b.H. which has exclusive rights of manufacture and sale for: Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Yugoslavia, Bulgaria, Greece, Turkey, Japan, China, Spain, Poland, Portugal, Dantzig, South America (excluding Guiana) with reservation for South America as specified above. For the Saar Titangesellschaft has certain rights in conjunction with those of Société Industrielle du Titane.

British Titan Products Company Limited which has exclusive rights of manufacture and sale for: the British Empire as at present constituted, including protectorates and mandated territories (except the British countries of the Continent of America located to the north of the Panama Canal and all islands geographically appurtenant to the said continent, Demerara, the Falkland Islands and the West Indies), Egypt and Irak.

Between Société de Produits Chimiques des Terres Rares and Fabriques de Produits Chimiques de Thann et de Mulhouse agreements exist concerning a technical and commercial cooperation regarding the products of the present contract, according to which the industrial and commercial activities are reserved:

a) *Fabriques de Produits Chimiques de Thann et de Mulhouse* with exclusive rights of manufacture and sale for France including colonies, dependencies, protectorates and mandated territories and Saar. They have non-exclusive rights of sale for all countries in

which Société de Produits Chimiques des Terres Rares has not transferred its rights to other companies.

b) *Société de Produits Chimiques des Terres Rares* which has exclusive rights for all countries with the exception of the rights specified under a) and the rights resulting from the agreements made with:

Società Anonima Titanium which has exclusive rights of manufacture and sale for Italy with colonies, dependencies, protectorates and mandated territories, and non-exclusive rights of sale for the following countries: Belgium, Holland, Switzerland, British Empire, Spain, Portugal and South America. These non-exclusive rights can be resiliated with 3 months notice.

Krebs Pigment & Colour Corporation which has acquired the American (U. S. A.) patents of the Blumenfeld group.

Verein für chemische und metallurgische Produktion which has exclusive rights of manufacture and sale in Czechoslovakia, Austria, Hungary, Yugoslavia and Rumania. Subject to certain obligations, it has exclusive rights of manufacture and sale in Germany, Dantzig, the Memel District and Denmark. It has with Société des Terres Rares exclusive rights of manufacture and sale in Poland and U. R. S. S.

In order to ensure sales on common lines, the parties hereto, viz:

Titan Company Inc., 7 West 10th Street, Wilmington, Delaware, U. S. A. (hereinafter called Titaninc,) and

Exhibit G-1

Société Industrielle du Titane, 26 Rue de la Pépinière, Paris, France (hereinafter called Sté Titane) of the one part and Société de Produits Chimiques des Terres Rares, 67 Rue de Prony, Paris, France (hereinafter called Terres Rares), and Fabriques de Produits Chimiques de Thann & de Mulhouse, Thann, Haut Rhin, France. (hereinafter called Thann) of the other part have entered into the present agreement.

ARTICLE 1.

Products and countries covered by the agreement:

a) *Products covered by the agreement:* as products covered by the agreement are considered all materials or substances containing Titanium having undergone a chemical treatment and with a minimum content of 2% of the element Titanium, and which can be used as pigments—whether chemically combined or mechanically mixed or physically combined (as for instance mixed crystals), without it being necessary to consider whether they are actually used as pigments or for other purposes. The same principle applies to mixtures of these substances.

The parties will indicate to each other in writing those of their products which come under the category above defined.

b) *Countries covered by the agreement:* As countries covered by the agreement are considered:

France including colonies, dependencies, protectorates and mandated territories (excluding those of the Continent of America located to the North of the Panama Canal and all islands geographically appurtenant to the said continent), Monaco, as well as Saar, subject to the result of the plebiscite foreseen—hereinafter called "France".

Belgium and Luxemburg including colonies, dependencies, protectorates and mandated territories, hereinafter called "Belgium".

Holland including colonies, dependencies, protectorates and mandated territories—hereinafter called "Holland".

Various countries, viz: Esthonia, Latvia, Lithuania, (excluding Memel), Abyssinia, Liberia, Arabia, Afghanistan, Persia, Siam,—hereinafter called "Various countries".

ARTICLE 2.

Rights of delivery.

The total deliveries of the parties hereto to customers in each territory, calculated as TiO2, shall be divided according to the following quotas:

Exhibit G-1

France	Terres Rares and Thann	Titanine and Sté Titane
Quantities up to 1000 tonnes annually	55%	45%
" between 1000 and 2000 t. "	45%	55%
" above 2000 t. "	50%	50%

(Saar District:

If the plebiscite foreseen for 1935 decides that Saar in future shall be German, it will no more be among the countries covered by the agreement. In the meantime the deliveries which will be made there by Terres Rares, Thann and Sté Titane to customers shall be comprised in the deliveries in "France", Titangesellschaft is not considered as a customer. With regard to the deliveries of Titangesellschaft in the Saar District, a settlement between the latter and Terres Rares-Thann is to take place.)

Belgium		
Any quantity	30%	70%
Holland		
Any quantity	30%	70%
Various countries		
Any quantity	30%	70%

Exhibit G-1

ARTICLE 3.

Repartition of the quantities to be purchased from Società Anonima Titanium.

The parties to the present contract have bound themselves by contract dated 5/10/17/1935 to take annually, under certain conditions, from S.A. Titanium 75 tonnes TiO2 (plus possibly 12½ tonnes). For the repartition of these 75 tonnes (plus possibly 12½ tonnes) between the parties to the present agreement, the quotas specified in article 2 of the present agreement are also to be applied, i.e.:

June

for 56 tonnes (plus possibly 9 tonnes) the quotas specified above for France;

for 19 tonnes (plus possibly 3.5 tonnes) the quotas specified for the other territories.

The parties hereto undertake to forward to each other a copy of the orders sent S.A. Titanium.

The parties hereto have jointly bound themselves towards S.A. Titanium to take these 75 tonnes (plus possibly 12,5 tonnes). If, for some reason or other, one of the parties has to take a delivery which was incumbent on another party, the quota of the latter shall be reduced to the profit of the former in due proportion.

If the quantities to be purchased from S.A. Titanium fall below 75 tonnes (plus possibly 12,5 tonnes), the reduction resulting therefrom shall be divided between the parties proportionally to their respective obligations for each country.

Exhibit G-1

ARTICLE 4.

Sales.

The sales shall take place on the basis of an interchange of commercial information and mutual support, either by the firms themselves or by their representatives.

In order to ensure as close a cooperation as possible concerning the sales, the representatives of the parties will meet at fixed intervals, thus forming one or several working committees which will have to discuss current matters.

The names of the firms for which one of the parties shall wish to remain sole supplier, will be communicated during the sessions of this Committee.

ARTICLE 5.

Fixation of sales prices and terms of delivery and payment.

The sales prices and terms of delivery and payment shall be fixed by mutual consent in all the countries covered by the agreement, taking into account the prices of the competitive pigments and the intention to develop the consumption as much as possible.

However, should Terres Rares-Thann object to a change in prices proposed by Titanine for Belgium and Holland, the latter would be entitled to denounce the entire agreement.

In cases where it will appear expedient in the interest of all concerned, the prices and terms of the parties need not necessarily always be identical and this by mutual consent.

Exhibit G-1

ARTICLE 6.

Compensation for quantities delivered below or above the quotas.

On the 25th of each month at the latest, each party shall inform the other of the quantities delivered by it to customers during the preceding month in each territory, with specification of the different qualities as well as calculation of the respective TiO2 content. Deliveries between the parties shall not be included.

Titanine shall submit, within 40 days from the end of each quarter, a preliminary statement of the quantities delivered, in order to determine excess—or short deliveries and enable the excess deliverer to order from the short deliverer the quantity delivered in excess. The final annual statement shall be established by the comptroller (see art. 9) soonest possible, but not later than the following 15th of May, and communicated to the parties.

The Committee foreseen in art. 4 shall see to it that the deliveries correspond well to the quotas of each party so that the final adjustments only involve small quantities.

If nevertheless one of the parties at the end of a year should have delivered a quantity exceeding its quota by more than 10%, the excess deliverer, besides his contractual obligation to make a compensation in merchandise or in cash, shall have to pay for the quantity exceeding the 10% a penalty of 20% of the average gross sales price taken as a basis for this compensation. The penalty in question would not have to be paid if the excess delivery was caused by insufficient production at Leverkusen or at Thann. The provisions of this paragraph only apply to the market "France".

Exhibit G-1

Short deliveries in each territory shall be compensated as follows: The party whose deliveries exceed its quota (the excess deliverer) will have to order from the other party (the short deliverer) the quantity of Ti02 delivered in excess, either in Dioxide or in other current qualities of the latter. These orders will in principle have to be sent in one month at the latest after the quarterly statement is issued and for a quantity, calculated as Ti02, equal to the excess delivery during the quarter expired. The necessary orders have to be sent in on the 15th of June at the latest for the adjustment of the deliveries for the year expired.

For these compensation deliveries, the excess deliverer shall have to pay, for each territory, the average sales price for the period in question, obtained by the short deliverer in the respective territory and reduced to fob the short deliverer's production place for each quality ordered. The short deliverer shall not be obliged to execute this order and if delivery has not taken place within 30 days from the date of the order, the settlement in merchandise will be foreclosed. In this case the short deliverer shall be entitled, for the quantity of Ti02 contained in the different qualities ordered but not delivered, to a compensation in cash, equal to the average profit obtained by the excess deliverer on the Ti02 contained in all his deliveries to customers during the period and in each respective territory.

The parties will have to inform each other quarterly of their average sales prices. These prices will be definitely established by the comptroller at least once a year and communicated to the parties soonest possible but not later than the 15th of May for the year expired.

Any settlement in merchandise or cash will have to be made separately for each territory.

The details regarding compensation in merchandise or cash are stated in Annex A.

ARTICLE 7.

Adjustment of the sales proceeds.

No adjustment as regards the sales proceeds will be made. Each party is entitled to the proceeds from its sales.

ARTICLE 8.

Responsibility for deliveries.

Each party remains responsible for the quality of its goods within commercial limits, even after re-sale by another party.

ARTICLE 9.

Control.

Whenever requested by one of the parties, but at least twice a year, the books of the parties shall be examined by a comptroller—a person or company agreed upon by the parties—, in order to verify if the stipulations of the agreement have been complied with. The comptroller will each time inform each party whether the conditions of the present agreement have been complied with, whether the information referred to in article 6 has regularly and accurately been imparted and, if one or several parties have not fulfilled the contractual obligations, to what extent. The comptroller and his possible substitute shall be bound to secrecy and, towards third parties, to absolute secrecy.

The Working Committee shall issue more detailed instructions regarding the comptroller's duties and the way in which he shall attend to his work.

The parties hereto undertake the mutual obligation to place at the disposal of the comptroller all documents necessary for the execution of the present agreement, and to permit the Comptroller at all times access to their books and vouchers, as far as they concern questions affecting the execution of the agreement.

ARTICLE 10.

Competition and secrecy clause.

Except in the cases foreseen in article 13 hereafter, the parties will be prohibited during the continuance of the present agreement, from participating directly or indirectly in competitive enterprises producing or delivering or preparing to produce or to deliver in the countries covered by the agreement, except to one of the parties, the products covered by the agreement, or to assist them in any way whatever as regards their installation or operations by technical or commercial advices or preferential deliveries, grant of licenses, assignment of patents, etc. The same obligations are incumbent on the persons employed by the parties, within the limits of their engagement contracts and the limits of the laws.

It will not be considered a violation of the obligation under paragraph 1, to take an interest in an enterprise manufacturing other products besides those coming under this agreement, provided the object of this interest are these other products.

In such a case, the party in question will have to subject the deliveries of products covered by the agreement, made by this enterprise in the countries covered by the agreement, to the stipulations of the present agreement, by adding them to its own deliveries.

Exhibit G-1

The parties bind themselves not to supply intermediary products to third parties likely to utilise them for the manufacture of products covered by the agreement. Although free in principle, the parties also undertake not to supply products covered by the agreement to third parties likely to utilise them for re-sale in the form of titanated lithopone, without having discussed the question beforehand.

The parties shall do their utmost to prevent that the products covered by the agreement and having been sold by them, be imported by third parties into the countries covered by this agreement. However, if the parties ascertain any illicit importations of their goods into a country covered by the agreement, the Working Committee will have to take the necessary steps to settle the question.

The parties hereto undertake to keep this agreement secret towards third parties as far as possible.

ARTICLE 11.

Patents concerning the use of the products of the agreement.

During the life of the patents concerning the use of the products of the agreement, the parties acknowledge mutually, for themselves and their respective customers, the right to use these patents gratuitously as far as the countries of the agreement are concerned, as well as patent applications published during the continuance of the agreement.

In case a license in respect of patents concerning the use of the products of the agreement is granted to a customer, the parties shall as far as possible bind him to use for the application of the license and for its duration solely the products of the parties, leaving him however free choice

to procure them from any of the parties authorized to sell in the country in question.

Each party further undertakes, during the continuance of the agreement and in the countries covered by the agreement, to refrain from rising opposition against patent applications filed by another party, concerning the use of the products of the agreement.

ARTICLE 12.

Production.

No factory shall be erected in the countries of the agreement outside France, without the mutual consent of the parties hereto, which remain free to manufacture in France any quantity they consider advisable.

ARTICLE 13.

Succession or transfer of rights to third parties.

The present agreement shall bind not only the companies who are signatory thereto, but also their successors, assigns or anybody having rights under the agreement, who shall have to assume all the obligations resulting therefrom.

As far as France is concerned, the grant of an exclusive license comprising all the products of the agreement will not constitute a violation of the obligation of paragr. 1 of article 10, and each party may sell, lease or transfer to a third party all its factories for the manufacture of the products of the agreement or all its patents for the manufacture of the products of the agreement, together with its entire quota.

In all other cases an assignment by a party of the quota or part thereof to third parties will be subject to the consent of the other parties.

In the cases foreseen above each party signatory to the present agreement will remain responsible towards the other parties until it has been expressly released by them.

ARTICLE 14.

Disputes, Arbitration.

In case of disputes or differences of opinion with regard to this agreement, the parties hereto will endeavour to settle the difficulties in a friendly spirit.

If unsuccessful, the difficulties shall be settled according to the conditions of conciliation and arbitration of the International Chamber of Commerce, by one or several arbitrators appointed according to the rules of the said Chamber of Commerce.

The arbitrator's decision shall be definite and without appeal.

ARTICLE 15.

Duration.

The present agreement enters into force on the day of its signature. Except in the cases foreseen in the articles 16 and 17, it can only be denounced as per December 31, 1938 with 6 months notice, i.e. given on June 30th 1938. If no notice has been given, the agreement continues to run for periods of 2 years if it is not denounced 6 months before the expiration of each period. Notice will be considered as having been given in due time if it has been dispatched by registered mail to all the parties, not later than June 30 of the year in question.

The quota system foreseen by the present agreement shall be applied with retroactive effect as from May 1st 1934.

Exhibit G-1

Once the agreement is denounced, but not earlier than 2 months before its expiration, each party can make sales on any conditions for the period following the expiration of the agreement.

Deliveries against sales contracts in force at the definite termination of the agreement are to be included in the settlement only if such deliveries have been made prior to the date of this termination.

ARTICLE 16.

Anticipated resiliation.

The present agreement may be resiliated at an earlier date than foreseen, in case of events beyond the control of the parties, of such a nature as to prevent its fulfilment or which would make it prejudicial to one of the parties.

As events of such a nature are considered for instance:

1) A profound change of the sales possibilities, resulting from governmental measures or from a new competition.

2) Any governmental or legislative measures contrary to the present contract or making it partly or wholly illegal

If the reasons for an anticipated resiliation should present themselves only in part of the countries covered by the agreement outside France, Belgium and Holland, the maintenance of the contract might be exacted for the countries not affected by the event in question.

The anticipated and full resiliation of the present agreement shall also take place if Titaninc denounces it according to its right foreseen in article 5.

In case of anticipated resiliation, the present agreement may be denounced as per the end of a month with 3 months notice.

Once the agreement is denounced, but not earlier than 2 months before its termination, each party can make sales on any conditions for the period following the termination of the agreement.

ARTICLE 17.

Relation to other agreements.

The present agreement is closely connected with the agreement made in order to ensure sales on common lines, on June 5/10/17/ 1935 between:

Società Anonima Titanium
Société de Produits Chimiques des Terres Rares
Fabriques de Produits Chimiques de Thann et de Mulhouse
Titan Company Inc.
Societé Industrielle du Titane
Titangesellschaft m.b.H.

Should the latter agreement be denounced, the present agreement may also be denounced with 3 months notice and as per the end of a month, on the condition however that the notice be given within 60 days from the date of mailing the notice of the other above mentioned agreement to the parties.

Exhibit G-1

ANNEX "A" TO THE CONTRACT OF JUNE 5/17/1935 BETWEEN TITANINC, SOCIETE TITANE, TERRES RARES, THANN.

Settlement of the compensation in merchandise or in cash according to article 6.

The compensation in merchandise or in cash shall be made separately for each territory.

Quantities: The following will be the procedure for determining whether one of the parties has exceeded the quotas specified in article 2:

	Terres Rares and Thann	Titaninc and Sté Titane
France: including colonies, dependencies, protectorates and mandated territories (excluding those of the Continent of America located to the North of the Panama Canal and all islands geographically appurtenant to the said continent) and Monaco.		
(Saar District: If the plebiscite foreseen for 1935 decides that Saar in future shall be German, it will no more be among the countries covered by the agreement. In the meantime the deliveries which will be made thereby Terres Rares, Thann and Sté Titane to customers shall be comprised in the deliveries in		

Exhibit G-1

	Terres Rares and Thann	Titanine and Sté Titane
"France". Titangesellschaft is not considered as a customer. With regard to the deliveries of Titangesellschaft in the Saar-District a settlement between the latter and Terres Rares-Thann is to take place).		
Quantities up to 1000 tonnes annually	55%	45%
" between 1000 and 2000 t. "	45%	55%
" above 2000 t. "	50%	50%
Belgium and Luxemburg including colonies, dependencies, protectorates and mandated territories	30%	70%
Holland including colonies, dependencies, protectorates and mandated territories	30%	70%
Various countries comprising: Esthonia, Latvia, Lithuania (excluding Memel), Abyssinia, Liberia, Arabia, Afghanistan, Persia, Siam.	30%	70%

Only the total TiO2 content of the different qualities delivered and invoiced to customers shall be taken into account.

For standard products, i.e. for products of which the chemical composition and pigmentary quality remain regularly fixed within the limits tolerated in the trade, the parties will admit, for all calculations provided for in the pres-

Exhibit G-1

ent agreement, the TiO2 content officially stated unless an important deviation is proved.

No deduction will be made for unpaid goods or for goods dispatched to a customer and lost in transit.

Deliveries between the parties will not be included.

Compensation in merchandise.

Short deliveries shall be compensated as follows:

The party whose deliveries exceed its quota (the excess deliverer) shall order from the other party (the short deliverer) the quantity of Ti02 delivered in excess, either in Dioxide or in other current qualities of the short deliverer and of which he has delivered during the last 12 months at least 25 tonnes calculated as Ti02. These orders shall in principle be sent in at the latest one month after the quarterly statement is issued and for a quantity, calculated as Ti02, equal to the excess delivery during the quarter expired.

On the 15th of June at the latest the necessary orders shall be sent in for the adjustment of the deliveries for the year expired.

Unless otherwise agreed, the goods ordered shall be dispatched to the territory for which they serve as compensation, in order to be distributed and sold there by the excess deliverer.

The goods shall be delivered free frontier or maritime port, duty paid, expenses and duty to be paid by the short deliverer for account of the excess deliverer and reimbursable against invoice.

Exhibit G-1

Price for compensation deliveries.

The excess deliverer shall pay for each quality ordered the average sales price for the period in question, obtained by the short deliverer and reduced to fob the short deliverer's production place, expenses and taxes to be paid in connection with the sales, to be deducted. The short deliverer will thus obtain the same profit which he would have realised if he himself had delivered these same quantities to customers.

The average net sales price of the short deliverer for each quality for the period in question, reduced to fob his production place, is calculated as follows: from the net invoice amount are deducted expenses and taxes, such as:

a) Transport and insurance expenses from the short deliverer's production place to the customer.
b) Sales taxes.
c) Rebates.
d) Sales commission (fixed arbitrarily at 5% of the invoice amount).
e) Storage expenses.
f) Extra expenses for small packings (below 200 Kg.)
g) Duty, custom expenses, consular fees.
h) Import tax.

Unpaid goods shall be included in the calculation of average prices at invoice price. Goods dispatched to customer and lost or damaged on the way, shall be included at the price insured.

Terms of payment for compensation deliveries.

Net within 30 days from date of invoice.

Exhibit G-1

Responsibility for and quality of deliveries.

The goods delivered are to be of a quality equal to that of the samples accepted by the excess deliverer and in accordance with the current qualities sold by the short deliverer.

Each party remains responsible for the quality of its goods within commercial limits, even after re-sale by the other party.

Compensation in cash.

If total or partial delivery has not taken place within 30 days from the date of the order, the short deliverer is entitled to a compensation in cash for the quantity of TiO2 contained in the different qualities ordered but not delivered, equal to the average profit obtained by the excess deliverer on the TiO2 contained in all his deliveries to customers in the period and territory in question, excepting the quantities originating from S.A. Titanium, Milan, according to contract of June 5/10/17/1935.

The average profit shall be established by deducting from the average sales price, reduced to fob production place of the goods delivered, a price equal to the purchase price fixed according to the delivery contract of June 5/17/35 between the parties to the present agreement.

The purchase price to be used for deliveries from Thann shall be calculated according to formulas A) or B), this being each time in the choice of Titaninc—Sté Titane.

Any product sold by one of the parties and manufactured from one or several pigments included in the present agreement, shall be calculated according to its content of pigments used and at the average profit obtained for this or these pigments.

Exhibit G-1

Penalty for excess deliveries in France.

Should one of the parties, at the end of a year, have delivered a quantity exceeding its quota by more than 10%, the excess deliverer, besides his contractual obligation to make a compensation in merchandise or in cash, shall have to pay for the quantity exceeding the 10% a penalty of 20% of the average gross sales price taken as a basis for this compensation. The penalty in question will not have to be paid if the excess delivery was caused by insufficient production at Leverkusen or at Thann. The provisions of this paragraph only apply to the market "France".

If from the stipulations in the present annex prejudicial situations should arise for one or the other party the question shall be dealt with by the parties in a friendly spirit and settled if necessary by the modification of the stipulations in this annex.

AGREEMENT AND ANNEX SIGNED:

Leverkusen, June 17th, 1935

On behalf of:	Titanine:	Société Titane:
	G. Jebsen	G. Jebsen

Milano, June 5th, 1935.

On behalf of:	Terres Rares:	Thann & Mulhouse:
	J. Blumenfeld	J. Ourisson.

Exhibit G-2

Translated from French.
Contral de Livraisons

AGREEMENT

Concerning the Mutual Deliveries

BETWEEN

Fabriques de Produits Chimiques de Thann et de Mulhouse, Societe de Produits Chimiques des Terres Rares, Societe Industrielle du Titane, Titan Company Inc.

1935.

Exhibit G-2

Between Titan Company Inc. (hereinafter called Titaninc) and Société Industrielle du Titane (hereinafter called Sté Titane) of the one part, and Société de Produits chimiques des Terres Rares (hereinafter called Terres Rares) and Fabriques de Produits Chimiques de Thann & de Mulhouse (hereinafter called Thann) of the other part, an agreement has been entered into on June 5/17/1935 concerning certain Titan Products.

Subject to the conditions stated below and for the duration of the said agreement, the following is agreed upon:

Titaninc which has an agreement with Titangesellschaft m.b.H., concerning supply of products from the latter's factory in Leverkusen, undertakes to supply to Terres Rares-Thann, directly or through Sté Titan, for the countries covered by the above mentioned agreement, goods originating from this factory up to the quantities it has available at Leverkusen, after its own sales, incl. those to the companies cooperating with Titaninc and those of Titangesellschaft m.b.H., have been satisfied, and at prices and conditions fixed as specified hereafter.

Terres Rares-Thann undertake to supply to Titaninc and Sté Titane for the same countries, up to the quantities they have available after satisfying their own sales, at prices and conditions fixed as specified hereafter.

Purchase prices ex Leverkusen (Deliveries of Titaninc).

The purchase prices for goods delivered ex Leverkusen shall be fixed as follows:

Exhibit G-2

		Basic price per 1000 Kg. f.o.b. factory at Leverkusen		
		France	*Belguim*	*Holland*
For Titanium Oxide	R.M.	663.04	665.68	652.73
" Extra T (or equivalent products)	"	456.09	464.17	449.30
" Stand. T (or equivalent products)	"	304.—	291.69	292.03

in 200/250 Kg. casks.

For the "Various countries" shall be applied the same purchase prices as for Belguim.

These purchase prices shall be dependent on two factors:

1) The modification of the average net sales price of Titanine and Sté Titane in the respective territories.

2) The modification of the cost price of the factory at Leverkusen.

They shall be altered as follows:

a) From the point of view of the average net sales price: As a basis have been adopted the average net sales prices during the first quarter of 1934 for each quality in France, Belgium and Holland respectively, reduced to f.o.b. Leverkusen, viz:

	RM. per 1000 Kg. incl. Packings
FRANCE:	
Ti02	1.028.76
Extra T	659.79
Standard T	409.35
BELGIUM:	
Ti02	1.037.09
Extra T	685.37
Standard T	370.52

Exhibit G-2

HOLLAND:

TiO2	996.16
Extra T	638.46
Standard T	371.60

For any increase or reduction of one of these average net sales prices by RM. I.—the respective purchase price in the country in question shall be increased or reduced by:

RM. 0.317 per 1000 Kg.

For modifications affecting fractions of RM. I.—the increase or reduction shall be established proportionally.

The average net sales price shall be calculated as follows:

From the net invoice amount are deducted expenses and taxes, such as:

a) Transport and insurance expenses from the Leverkusen factory to the customer.

b) Sales taxes.

c) Rebates.

d) Sales commission, fixed arbitrarily at 5% of the invoice amount.

e) Storage expenses.

f) Extra expenses for small quantities (below 200 Kg.)

g) Duty, custom expenses, consular fees, etc.

h) Import tax.

Unpaid goods shall be included at invoice price. Goods dispatched to customer and lost or damaged on the way shall be included at the price insured.

Deliveries between the parties shall not be included in the calculation.

Exhibit G-2

The price thus obtained for a quality in one of the countries in question, converted into RM. at the closing selling rate of exchange in London on the last working day of the quarter represents the average net sales price for this quality in the country in question.

b) From the point of view of cost prices:

For any increase or reduction of the cost price by RM. I.—the respective purchase price shall be increased or reduced by

RM. 0.683 per 1000 Kg.

For modifications affecting fractions of RM. I.—the increase or reduction shall be established proportionally.

If the purchase prices, calculated as above, drop below the cost prices of the Leverkusen factory, Titaninc shall be entitled to refuse delivery at these prices.

Purchase prices ex Thann. (Deliveries of Terres Rares—Thann.)

The purchase prices for goods delivered ex Thann shall be fixed as follows, and this each time in the choice of Titaninc, (respectively Sté Titane):

A. To the purchase price ex Leverkusen, calculated as specified above for deliveries of Titaninc, shall be added an amount corresponding to the transport expenses to the French frontier and to the French duty and customs expenses.

B. As for the price ex Leverkusen, shall be established the cost price of Thann and the average net sales price of Terres Rares-Thann in the respective territories.

Exhibit G-2

		Basic price per 1000 Kg. fob factory at Thann.		
		France	Belguim	Holland
For Titanium Oxide	Fr.Frs.	5384.29	4998.61	5017.69
" White Label 55%	" "	3851.45	3.592.37	—
" Green Label 20%	" "	2641.60	—	—

in 200/250 Kg. casks.

For the "various countries" shall be applied the same purchase prices as for Belguim.

These purchase prices shall be dependent on two factors:

1) The modification of the average net sales price of Terres Rares-Thann in the respective territories.
2) The modification of the cost prices of the Thann factory.

They shall be altered as follows:

a) From the point of view of the average net sales price:

As a basis have been adopted the average net sales prices during the first quarter of 1934 for each quality, in France, Belgium and Holland respectively, reduced to fob Thann, viz:

	French Francs per 1000 Kg. incl. packings
FRANCE:	
TiO2	7.202.24
White Label	4.471.—
Green Label	3.155.90
BELGIUM:	
TiO2	5.985.59
White Label	3.653.70
Green Label	no sales

Exhibit G-2

HOLLAND:

Ti02	6.045.80
White Label	no sales
Green Label	"

For any increase or reduction of one of these average net sales prices by French Frs. I.—the respective purchase price in the country in question shall be increased or reduced by

French Frs. 0.317 per 1000 Kg.

For modifications affecting fractions of French Fr. I.— the increase or reduction shall be established proportionally.

The average net sales price shall be calculated as follows:

From the net invoice amount are deducted expenses and taxes such as:

a) Transport and insurance expenses from the Thann factory to the customer.

b) Sales taxes.

c) Rebates.

d) Sales commission, fixed arbitrarily at 5% of the invoice amount.

e) Storage expenses.

f) Extra expenses for small quantities (below 200 Kg.)

g) Duty, custom expenses, consular fees, etc.

h) Import tax.

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Exhibit G-2

Unpaid goods shall be included at invoice price. Goods dispatched to customer and lost or damaged on the way shall be included at the price insured.

Deliveries between the parties shall not be included in the calculation.

The price thus obtained for a quality in one of the countries in question, converted into French Francs at the closing selling rate of exchange in London on the last working day of the quarter represents the average net sales price for this quality in the country in question.

b) From the point of view of cost prices:

For any increase or reduction of the cost price by French Fr. 1.—the respective purchase price shall be increased or reduced by

French Frs. 0.683 per 1000 Kg.

For modifications affecting fractions of French Fr. 1.—the increase or reduction shall be established proportionally.

If the purchase prices, calculated as above, drop below the cost prices of the Thann factory, Terres Rares-Thann shall be entitled to refuse delivery at these prices.

Calculation of the purchase prices.

Titanine shall give the comptroller forseen in the agreement of June 5/17/1935 above mentioned, a full description of the elements entering into the calculations of cost prices.

At the request of Terres Rares-Thann, Titanine shall establish every three months—soonest possible—the purchase prices to be applied for each quality for the following period, and shall communicate them to Terres Rares-

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Exhibit G-2

Thann. If important fluctuations of the cost prices, the sales prices or the rates of exchange have taken place, but these fluctuations have not found their right expression in the purchase prices established as indicated above, these factors will have to be taken into account when fixing the purchase prices.

Terres Rares-Thann shall be entitled to have the calculations verified by a comptroller agreed upon by the parties at the expiration of each year, and also in case important modifications of the cost price should seriously influence the purchase prices.

Similarly, Terres Rares-Thann shall give the comptroller a full description of the elements entering into the cacula-tions of their cost prices.

For deliveries ex Thann, Terres Rares-Thann shall establish every three months, at the request of Titaninc-Sté Titane, the purchase prices to be applied for each quality, and shall communicate them to Titaninc-Sté Titane. If important fluctuations of the cost prices, the sales prices or the rates of exchange have taken place, but these fluctuations have not found their right expression in the purchase prices established as indicated above, these factors will have to be taken into account when fixing the purchase prices.

Titanic-Sté Titane shall be entitled to have the calculations verified by a comptroller agreed upon by the parties at the expiration of each year, and also in case important modifications of the cost price should seriously influence the purchase prices.

Payment.

The deliveries will be invoiced at the last purchase price established, and the payment, including transport expenses

up to place of destination, shall take place on receipt of the invoice. The seller is entitled to choose the currency in which the payment is to be made, and is bound to advise the buyer thereof in due time, upon request, in order to enable him to cover himself.

Unless otherwise agreed, the amount to be paid in the currency chosen shall be calculated on the basis of the closing selling rate of exchange in London, the day before the order is sent in.

Orders.

The monthly orders shall be sent in 6 weeks in advance and shall be in due and regular proportion to the development of the sales. In case a substantial decrease in the orders or in the possibilities of delivery can be foreseen, the parties shall inform one another soonest possible.

Samples.

The goods shall be in accordance with the accepted samples.

Reexportation.

The goods delivered shall not be reexported from the country for which they have been ordered and delivered and the buyer will have to impose on his customers the obligation not to export or sell these goods for export.

The buyer shall not enter into any sales contracts with his customers as far as these goods are concerned, without reserving himself the right to cancel the quantities remaining to be delivered under the said contracts, in case of violation of the above obligation.

However it is agreed that the above obligations shall not prevent or limit the export of Titan products in a bona fide manufactured form, as long as the products covered by the agreement do not constitute a proportion of the manufactured products, sufficiently important to substantially interfere with the sales of the parties and those of the companies cooperating with them. The parties will particularly see to it that any reexportation to America, north of the Panama Canal, be avoided.

Disputes, arbitration.

In case of disputes or differences of opinion with regard to this agreement, the parties hereto will endeavor to settle the difficulties in a friendly spirit.

If unsuccessful, the difficulties shall be settled according to the conditions of conciliation and arbitration of the International Chamber of Commerce, by one or several arbitrators appointed according to the rules of the said Chamber of Commerce.

The arbitrator's decision shall be definite and without appeal.

Force Majeure.

Any force majeure cases, as for instance: impossibility to make deliveries and shipments, due to strike, lock-out, fire, war or acts of God, relieve the parties from the delivery obligation for the period involved. However, in such a case, the parties shall, in the interest of all concerned, do their utmost to eliminate the prejudices resulting from these difficulties and to remove soonest possible the obstacle itself.

If, after an order has been accepted, a force majeure case prevents the deljvery, the order is to be considered as cancelled.

Exhibit G-2

Discretion.

The parties hereto undertake to keep this agreement secret towards third parties as far as possible.

If from the stipulations in the present agreement prejudicial situations should arise for one or the other party, the question shall be dealt with by the parties in a friendly spirit and settled if necessary by the modification of the stipulations in this agreement.

CONTRACT SIGNED:

Leverkusen, June 17th, 1935.

On Behalf of: SOCIETE TITANE: TITANINC.:

G. Jebsen G. Jebsen

Milano, June 5th 1935.

On Behalf of: TERRES RARES: THANN & MULHOUSE:

J. Blumenfeld J. Ourisson

Exhibit G-3

Translated from French
Contral à Six

AGREEMENT

BETWEEN

FABRIQUES DE PRODUITS CHIMIQUES DE THANN ET DE MULHOUSE,

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES,
SOCIETA ANONIMA TITANIUM,
SOCIETE INDUSTRIELLE DU TITANE,
TITANGESELLSCHAFT m.b.H.
TITAN COMPANY INC.

WITH

SUPPLEMENT

1935

Exhibit G-3

Titan Company Inc. has made agreements with Titangesellschaft m.b.H. and with Société Industrielle du Titane concerning a technical and comercial cooperation regarding the products of the present contract, according to which the industrial and commercial activities are reserved:

a) *Titangesellschaft m.b.H.* with exclusive rights for the following countries:

Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Yugoslavia, Bulgaria, Greece, Turkey, Japan, China, Spain, Poland, Portugal, Dantzig, South America (excluding Guiana) with reservation for South America as specified below.

For the Saar Titangesellschaft has certain rights in conjunction with those of Société Industrielle du Titane. Titan Company Inc. has further an agreement with Titangesellschaft concerning supply of products from the latter's factory in Leverkusen.

b) *Société Industrielle du Titane* with exclusive rights for the following countries:

France including colonies, dependencies, protectorates and mandated territories (excluding those of the Continent of America located to the north of the Panama Canal and all islands geographically appurtenant to the said continent). For the Saar Société Industrielle du Titane has certain rights in conjunction with those of Titangesellschaft.

c) *Titan Company Inc.* with exclusive rights for the rest of the world.

Titan Company Inc. has made agreements with:

Exhibit G-3

Titan Co A/S which has exclusive rights of manufacture and sale for the following countries:

Norway, Sweden, Denmark (with Iceland, Greenland and the Faroe Islands), Finland, Esthonia, Latvia, and Lithuania

and non-exclusive rights of sale of its maritime pastes and paints in all countries.

Titanium Pigment Co., Inc. which has exclusive rights of manufacture and sale for:

the Continent of America north of the Panama Canal and all islands geographically appurtenant to the said continent, Hawai and the Philippine Islands. Further, Titanium Pigment Co. Inc. has the right to manufacture and sell in South America.

British Titan Products Company Limited which has exclusive rights of manufacture and sale for:

the British Empire as at present constituted, including protectorates and mandated territories (except the British countries of the Continent of America located to the north of the Panama Canal and all islands geographically appurtenant to the said continent, Demerara, the Falkland Islands and the West Indies), Egypt and Irak.

Société de Produits Chimiques des Terres Rares has made agreements with Fabriques de Produits Chimiques de Thann et de Mulhouse and Società Anonima Titanium,

concerning a technical and commercial cooperation regarding the products of the present contract, according to which the industrial and commercial activities are reserved:

a) *Fabriques de Produits Chimiques de Thann et de Mulhouse* with exclusive rights of manufacture and sale for France including colonies, dependencies, protectorates and mandated territories and Saar. They have non-exclusive rights of sale for all countries in which Société de Produits Chimiques des Terres Rares has not transferred its rights to other companies.

b) *Società Anonima Titanium* with exclusive rights of manufacture and sale for Italy with colonies, dependencies, protectorates and mandated territories, and non-exclusive rights of sale for: Belgium, Holland, Switzerland, British Empire, Spain, Portugal and South America. These non-exclusive rights can be resiliated with 3 months' notice.

c) *Société de Produits Chimiques des Terres Rares*, which has exclusive rights for all countries, with the exception of the rights specified under a) and b) and the rights resulting from the agreements made with:

Krebs Pigment & Colour Corporation, which has acquired the American (U. S. A.) patents of the Blumenfeld group.

Verein für chemische und metallurgische Produktion which has exclusive rights of manufacture and sale in Czechoslovakia, Austria, Hungary, Yugoslavia, and Rumania. Subject to cer-

tain obligations, it has exclusive rights of manufacture and sale in Germany, Dantzig, the Memel District and Denmark. It has with Société des Terres Rares exclusive rights of manufacture and sale in Poland and U. R. S. S.

In order to ensure sales on common lines, the parties hereto, viz:

Società Anonima Titanium (Fabrica di Bovisa), Milan, Italy (hereinafter called Bovisa).

Société de Produits Chimiques des Terres Rares, 67 Rue de Prony, Paris, France (hereinafter called Terres Rares).

Fabriques de Produits Chimiques de Thann et de Mulhouse, Thann, Haut Rhin, France (hereinafter called Thann).

Titan Company Inc., 7 West 10th Street, Wilmington, Delaware, U. S. A. (hereinafter called Titaninc).

Société Industrielle du Titane, 26 Rue de la Pépinière, Paris, France (hereinafter called Sté Titane)

Titangesellschaft m.b.H., I.G., Werk, Leverkusen a/Rhein, Germany (hereinafter called Titangesellschaft)

have entered into the present agreement.

Article 1.

Products and countries covered by the agreement.

a) *Products covered by the agreement*: As products covered by the agreement are considered all materials or substances containing Titanium having undergone a chemical treatment and with a minimum

content of 2% of the element Titanium and which can be used as pigments—whether chemically combined or mechanically mixed or physically combined (as for instance mixed crystals,) without it being necessary to consider whether they are actually used as pigments or for other purposes. The same principle applies to mixtures of these substances. The parties will indicate to each other in writing those of their products which come under the category above defined.

b) *Countries covered by the agreement*: As countries covered by the agreement are considered all countries of the world, except the British Empire, Egypt, Irak, the Continent of America north of the Panama Canal and all islands geographically appurtenant to the said continent, Hawai and the Philippine Islands.

ARTICLE 2.

Reserved Territories.

The parties recognize mutually exclusive rights of sale and delivery of the products covered by the present agreement, for:

Titangesellschaft and
Verein für chemische und metallurgische Produktion
(hereinafter called "Aussig"):

Germany, Dantzig, Czechoslovakia, Poland, Austria, Hungary, Yugoslavia, Rumania, Russia—hereinafter called "Aussig countries".

Exhibit G-3

Titangesellschaft, Terres Rares and *Thann*:

Spain, Portugal, Japan, including their colonies, dependencies, protectorates and mandated territories, Switzerland, Bulgaria, Greece, Turkey, China and the part of the Continent of America located to the south of the Panama Canal, excluding Guiana—hereinafter called "Non-Aussig countries", with reservation as to Bovisa's rights according to article 4 and the rights of Titanium Pigment Co. Inc. to manufacture and sell in South America. In case Titanium Pigment Co. Inc. should erect a factory in one of the countries of South America, the parties (Titangesellschaft, Terres Rares, Thann) would be entitled to recover their freedom as far as South America is concerned.

Terres Rares, Thann and Sté Titane:

France including colonies, dependencies, protectorates and mandated territories (excluding those of the Continent of America located to the north of the Panama Canal and all islands geographically appurtenant to the said continent), Monaco, as well as Saar, subject to the result of the plebiscite foreseen —hereinafter called "France", but with reseration as to Bovisa's rights according to article 4 and Titangesellschaft's right to sell in Saar.

Terres Rares, Thann and *Titaning*:

a) Belgium and Luxemburg including colonies, dependencies, protectorates and mandated territories—hereinafter called "Belgium";

b) Holland including colonies, dependencies, protectorates and mandated territories—hereinafter called "Holland";

c) Estonia, Latvia, Lithuania (excluding Memel), Abyssinia, Liberia, Arabia, Afghanistan, Persia, Siam—hereinafter called "Various Countries"

a) and b) with reservation as to the rights of Bovisa according to article 4.

Bovisa:

Italy including colonies, dependencies, protectorates and mandated territories—hereinafter called "Italy".

Titaninc:

Norway, Sweden, Finland.

Titaninc, Aussig:

Denmark (including Iceland, Greenland and the Faroe Islands) and the Memel District.

The parties hereto renounce from selling and delivering products covered by the agreement in favour of the parties which have the exclusive rights specified in the present article, for the countries reserved these parties.

The parties will do their utmost to prevent that the products covered by the agreement and having been sold by them be imported by third parties into the countries which they have given up. However, should this happen, the quotas of the parties will be reduced by the same quantity.

If the goods have been exported into a country in which the supplier has no quota, the quantity is to be deducted

from his quota in a country in which he has delivery rights or, in the choice of the wronged party, a compensation in merchandise shall be made according to the principle laid down in Annex A.

ARTICLE 3.

Rights of delivery for the Non-Aussig countries

The total deliveries of Terres Rares-Thann and Titangesellschaft in the Non-Aussig countries, calculated as TiO2, shall be divided according to the following quotas:

Terres Rares-Thann	30%
Titangesellschaft	70%

The calculation will be made by Titangesellschaft according to the procedure described in Annex A to the present agreement.

By "delivery" is meant "delivered and invoiced to customers".

ARTICLE 4.

Bovisa's export right.

Bovisa has the right to deliver for France, Belgium and Holland an annual quantity of 75 tonnes Ti02. This quantity shall not be delivered direct to the customers but purchased by Terres Rares, Thann, Titaninc and Sté Titane.

If, for a year, the total deliveries of these companies in France, Belgium and Holland, calculated as Ti02, exceed by 10% or more the deliveries of 1933, the quantity to be purchased from Bovisa shall be increased by 12.5 tonnes Ti02 content.

These deliveries shall be made on the conditions stipulated in Annex B to this agreement.

Exhibit G-3

Further, Bovisa has the right to deliver in the Non-Aussig countries products covered by this agreement, up to an annual quantity of 175 tonnes Ti02 content. This quantity will be divided as follows:

117 t. on the quota of Terres Rares-Thann
58 " " " " " " Titangesellschaft.

If, for a year, the quota of Terres Rares-Thann in the Non-Aussig countries is below 117 tonnes, Terres Rares-Thann shall take upon themselves the deficit up to a quantity of 25 tonnes. If the deficit is above 25 t. the part of the deficit exceeding 25 t. will be borne by Bovisa.

The quantity of 58 t. to be taken by Titangesellschaft shall not be reduced under any circumstances, except in the case provided for in article 5.

If, for a year, the total deliveries in the Non-Aussig countries, calculated as Ti02, exceed by 10% or more the deliveries in 1933, Bovisa's right of delivery for the Non-Aussig countries will be increased by 12.5 t. Ti02 content, to be divided as follows:

Terres Rares-Thann	3.75 t.
Titangesellschaft	8.75 t.

By "delivery" is meant "delivered and invoiced to customers".

ARTICLE 5.

Restriction of Bovisa's export rights.

Bovisa binds itself, for itself as well as for the enterprises which may possibly cooperate with is (see article 7 and 9), to increase its production capacity, including that

of the enterprises which may possibly cooperate with it, only to the extent and at the time justified by the requirements of the Italian market.

If, in a year, the market of Bovisa in Italy, including colonies, dependencies, protectorates and mandated territories, adding the quantities granted by article 4, increases so as to absorb more than 1500 t. TiO_2, the export rights of Bovisa shall be reduced by this excess quantity. This reduction will be applied proportionally to the respective obligations stipulated in article 4.

Consequently, if in a year, Bovisa's deliveries in Italy with colonies, dependencies, protectorates and mandated territories, reach 1500 tonnes of TiO_2, Bovisa's export rights shall cease to exist for the year in question.

Article 6.

Sales prices in the Non-Aussig countries.

As long as the parties themselves sell their products in the Non-Aussig countries, each of them will be free to fix the prices. However, in order that the prices may be brought as far as possible to the same level, the parties will regularly exchange their opinion on the subject. Each party is obliged to give all desirable information regarding its prices.

If the sales are made jointly, the sales prices and terms will be fixed by the party in charge of the sales.

For the sale of pure TiO_2 by those of the parties who fix their sales prices and conditions by mutual consent, an adjustment of the sales proceeds shall take place as described in Annex A to the present agreement.

As far as the other qualities are concerned, no adjustment of this kind will take place; the deliverer will thus remain in full possession of the amount received. However, it is assumed that the supplier of such a quality will obtain about the same profit, proportionate to the Ti02 content, as for the sale of pure Ti02. If this assumption does not materialise and if the deliverer's sales prices and conditions have been fixed in agreement with the other parties, the parties will have to agree on an indemnity in favour of the deliverer, in order to compensate the difference.

Article 7.

Competition and secrecy clause.

Except in the cases foreseen in article 9 hereafter, the parties shall be prohibited, during the continuance of the present agreement, from participating directly or indirectly in competitive enterprises producing or delivering or preparing to produce or to deliver in the countries covered by the agreement, except to one of the parties, the products covered by the agreement, or to assist them in any way whatever, as regards their installation or operations, by technical or commercial advices or preferential deliveries, grant of licenses, assignment of patents, etc. The same obligations are incumbent on the persons employed by the parties, within the limits of their engagement contracts and the limits of the laws.

It will not be considered a violation of the obligation under paragraph 1, to take an interest in an enterprise manufacturing other products besides those coming under this agreement, provided the object of this interest are these other products.

In such a case the party in question shall have to subject the deliveries of products covered by the agreement, made by this enterprise in the countries covered by the agreement, to the stipulations of the present agreement, by adding them to its own deliveries.

The parties bind themselves not to supply intermediary products to third parties likely to utilise them for the manufacture of products covered by the agreement.

The parties hereto undertake to keep this agreement secret towards third parties as far as possible.

Article 8.

Patents concerning the use of the products of the agreement.

During the life of the patents concerning the use of the products of the agreement, the parties acknowledge mutually, for themselves and their respective customers, the right to use these patents gratuitously as far as the countries of the agreement are concerned, as well as patent applications published during the continuance of the agreement.

In case a license in respect of patents concerning the use of the products of the agreement is granted to a customer, the parties shall as far as possible bind him to use for the application of the license and for its duration solely the products of the parties, leaving him, however, free choice to procure them from any of the parties authorized to sell in the country in question.

Each party further undertakes, during the continuance of the agreement and in the countries covered by the agreement, to refrain from rising opposition against patent applications filed by another party, concerning the use of the products of the agreement.

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ARTICLE 9.

Succession or transfer of rights to third parties.

The present agreement shall bind not only the companies who are signatories thereto, but also their successors, assigns or anybody having rights under the agreement, who shall have to assume all the obligations resulting therefrom.

The grant of an exclusive license comprising all the products of the agreement, for one or several countries of the agreement, shall not constitute a violation of the obligation of paragr. 1 of art. 7 and each party may sell, lease or transfer to a third party all its factories for the manufacture of the products of the agreement or all its patents for the manufacture of the products of the agreement, together with its entire quota.

In all other cases, an assignment by a party of the quota or part thereof to third parties shall be subject to the consent of the other parties.

In the cases foreseen above each party signatory to the present agreement shall remain responsible towards the other parties until it has been expressly released by them.

ARTICLE 10.

Disputes, Arbitration.

In case of disputes or differences of opinion with regard to this agreement, the parties hereto will endeavour to settle the difficulties in a friendly spirit.

If unsuccessful, the difficulties shall be settled according to the conditions of conciliation and arbitration of the International Chamber of Commerce, by one or several arbitrators appointed according to the rules of the said Chamber of Commerce.

The arbitrator's decision shall be definite and without appeal.

ARTICLE 11.

Duration.

The present agreement enters into force on the day of its signature. Except in the cases foreseen in the articles 12 and 13, it can only be denounced as per December 31, 1938 with 6 months notice, i. e. given on June 30, 1938. If no notice has been given, the agreement continues to run for periods of 2 years if it is not denounced 6 months before the expiration of each period. Notice will be considered as having been given in due time if it has been dispatched by registered mail to all the parties, not later than June 30 of the year in question.

The quota system foreseen by the present agreement is to be applied with retroactive effect as from May 1st 1934.

Once the agreement is denounced but not earlier than 2 months before its expiration, each party can make sales on any conditions for the period following the expiration of the agreement.

Deliveries against sales contracts in force at the definite termination of the agreement are to be included in the settlement only if such deliveries have been made prior to the date of this termination.

ARTICLE 12.

Anticipated resiliation.

The present agreement may be resiliated at an earlier date than foreseen in case of events beyond the control of the parties, of such a nature as to prevent its fulfilment or which would make it prejudicial to one of the parties.

As events of such a nature are considered for instance:

1) A profound change of the sales possibilities, resulting from governmental measures or from a new competition.

2) Any governmental or legislative measure contrary to the present contract or making it partly or wholly illegal.

If the reasons for an anticipated resiliation should present themselves only in one of the secondary countries of the agreement, the maintenance of the agreement might be exacted for the countries not affected by the event in question.

In case of anticipated resiliation, the present agreement may be denounced as per the end of a month with 3 months' notice.

Once the agreement is denounced but not earlier than 2 months before its termination, each party can make sales on any conditions for the period following the termination of the agreement.

ARTICLE 13.

Relation to other agreements.

The present agreement is closely connected with the agreement made in order to ensure sales on common lines, on June 5/17/1935 between: Titaninc, Sté Titane, Terres Rares and Thann. The latter agreement contains the following resiliation clauses:

a) in article 15:

It (the agreement) "can only be denounced as per December 31, 1938 with 6 months notice,

Exhibit G-3

i.e. given on June 30, 1938. If no notice has been given the agreement continues to run for periods of 2 years if it is not denounced 6 months before the expiration of each period. Notice will be considered as having been given in due time if it has been dispatched by registered mail to all the parties, not later than June 30 of the year in question."

b) In article 16:

"The present agreement may be resiliated at an earlier date than foreseen in case of events beyond the control of the parties, of such a nature as to prevent its fulfilment or which would make it prejudicial to one of the parties.

As events of such a nature are considered for instance:

1) A profound change of the sales possibilities resulting from governmental measures or from a new competition.

2) Any governmental or legislative measure contrary to the present contract or making it partly or wholly illegal.

If the reasons for an anticipated resiliation should present themselves only in part of the countries covered by the agreement outside France, Belgium and Holland, the maintenance of the agreement might be exacted for the countries not affected by the event in question.

The anticipated and full resiliation of the present agreement shall also take place if Tita-

nine denounces it according to its right foreseen in article 5.

In case of anticipated resiliation, the present agreement may be denounced as per the end of a month with 3 months' notice".

c) In article 5:

". . . should Terres Rares-Thann object to a change in prices proposed by Titanine for Belgium and Holland, the latter would be entitled to denounce the entire agreement".

Should the agreement between Titanine, Sté Titane, Terres Rares and Thann be denounced according to one of these clauses, the present agreement may also be denounced with 5 months' notice and as per the end of the month, on the condition, however, that this notice be given within 60 days from the date of mailing the notice of the other above mentioned agreement to the parties.

The party which denounces the present agreement or the agreement of June 5/17/1935 above mentioned, will inform each of the other parties to these two agreements, without delay, by registered letter.

Exhibit G-3

ANNEX "A"

ANNEX TO THE CONTRACT OF JUNE 5/10/17/1935

ARTICLE 3.

I. *Settlement of the compensations in merchandise for the "Non-Aussig" countries.*

1. *Preliminary statements of quantities.*

The parties will send each other every month by circular letter a preliminary statement of the quantities of TiO2 delivered by them in the "Non-Aussig" countries.

Bovisa will advise the parties as soon as its deliveries in Italy, its colonies, dependencies, protectorates and mandated territories shall reach a rate of 1225 tonnes per annum; as long as these deliveries will be between 1225 and 1500 tonnes per annum Bovisa will furnish the information necessary to determine the reductions of its exports foreseen in article 5.

These statements will be made out according to the following schedule:

..... Kg. TiO2 in Titanium Dioxide
..... " " " " Pigments

Total..... Kg. TiO2

These statements will be transmitted to the other parties not later than the 15th of the month following the month of delivery.

2. *Final statements of quantities.*

A statement of the quantities actually delivered will be established by each of the parties every three months, ac-

cording to the above schedule, and transmitted to the other parties within 30 days from the end of the respective quarter.

3. *Preliminary comparative statements of quantities.*

These statements will be established by Titangesellschaft every three months in order to ascertain the differences between the deliveries of each party and its quota. These preliminary statements will enable the parties, in the course of the year, to adapt as far as possible their sales to their quotas, in order to avoid considerable differences at the end of the year.

4. *Final statements of quantities.*

The parties will communicate to each other by circular letter, within 42 days from the end of each year, the quantities delivered by them during the year in question and their TiO2 content, according to the above schedule.

On the basis of this information, Titangesellschaft will establish a statement giving the differences between the deliveries of each party and its quota for the year in question.

5. *Compensation in merchandise.*

The party which has exceeded its quota will have to purchase from the party which has not reached its quota a quantity equal to the excess quantity, at the average price stated below (paragr. II 1))—less 5% sales commission—fob export port or free frontier of the export country. The deliveries will have to be of good saleable merchandise, if not otherwise stipulated: 97 to 98% TiO2, and according to sample accepted by the buyer. If the quality of this merchandise does not permit to sell it at the normal price, the

possible reduction in price shall be borne by the manufacturer who remains responsible for the quality of his merchandise, even after re-sale by the other parties.

The quantities resulting from the adjustment of the year 1934 shall be divided equally over the four following years. The compensation for the following years shall be made for each of these years within the six months following the year in question. Deliveries which, in spite of request made in due time, are not made within the period provided for, may be cancelled by the buyer without his being obliged to grant an extra delay for delivery.

The payment of the goods is to be made within 30 days from the date of invoice.

It shall not be necessary that the compensation in merchandise be effected by deliveries from one factory to another, it can be carried through by transfer of orders from the buyer to the seller. If, in spite of the offer from the seller, the buyer has not taken delivery of the compensation merchandise before the end of the first 6 months of the year, the seller shall be authorized to invoice the quantity in question and to place it at the disposal of the party which ought to have taken delivery thereof. Payment within 30 days of the date of the invoice.

The party which has not reached its quota may give up its rights to compensation.

II. *Adjustment of the sales proceeds.*

1. *Statement of accounts.*

The adjustment of the sales proceeds shall only apply to the deliveries of pure TiO_2, the other pigments are only to be included in the statements of quantities. When issuing the annual statement of deliveries, the parties shall at the

same time state the net proceeds (fob export port or free frontier of the export country), obtained by them for the quantities of TiO_2 delivered in the preceding year.

In order to determine these net proceeds, expenses and taxes such as the following shall be deducted from the amount of the invoice:

a) Transport and insurance expenses from fob export port or free frontier of the export country to the customer including intermediary storage.

b) Sales taxes (such as the turnover tax).

c) Rebates.

d) Extra expenses for small packings (below 200 Kg.).

e) Duty, custom expenses, consular fees, etc.

f) Import tax.

On the basis of these net proceeds Titangesellschaft will calculate the average price which is due the parties participating in the adjustment and which will permit the calculation of the amount each of them has obtained too much or too little.

2. *Payment*

The balances are to be paid within 10 days from the date the statement of account was established.

If from the stipulations in the present annex prejudicial situations should arise for one or the other party, the question shall be dealt with by the parties in a friendly spirit and settled, if necessary, by the modification of the stipulations in this annex.

Exhibit G-3

ANNEX "B"

ANNEX TO THE CONTRACT OF JUNE 5/10/17/35 ARTICLE 4.

Purchase price for the 75 tonnes from Bovisa.

The purchase price for the 75 tonnes of Ti02 and for the possible additional 12.5 t. shall be based on the net average sales price of the buyer for Ti02 in the territories in question, viz:

"France" for delivery of 56 t. plus possibly 9 t.
"Belgium" " " " 10 " "
"Holland" " " " 9 " "

However, the buyers are free to direct the goods purchased by them to any destination in their market, without this affecting the fixation of the purchase price.

In order to fix the net average sales price, should be deducted from the total amounts of the invoices for pure Ti02 the expenses which Bovisa would have had to carry in case of direct sale by them to the customers, such as:

a) Transport and insurance expenses from f.o.b. Genoa to the buyer's warehouse (Clichy, resp. Thann, Antwerp and Rotterdam).

b) Sales taxes such as turnover tax.

c) Rebates.

d) Sales commission (fixed arbitrarily at 5% of the invoice amount).

e) Extra expenses for small packings (below 200 Kg.).

Exhibit G-3

f) Duty, custom expenses, consular fees, etc.

g) Import tax.

h) 3% publicity expenses.

Quality.

If the quality of Bovisa's merchandise is different from that of Titangesellschaft or Thann, and therefore commands another price in the market, the difference shall be either to the credit or to the debit of Bovisa which remains responsible for the quality of its merchandise even after re-sale by the other parties.

Time of delivery.

The quantities shall as far as possible be ordered, half during the first 6 months, half during the second 6 months of the year, unless there is reason to believe that deliveries shall cease as a result of the development of the Italian market (see article 5).

Terms of payment.

The payment shall take place within 30 days from the date of invoice, provisionally at the minimum official sales price, less expenses enumerated above. The final settlement shall take place as soon as the final price for the year has been fixed.

If from the stipulations in the present annex prejudicial situations should arise for one or the other party, the question shall be dealt with by the parties in a friendly spirit

and settled, if necessary, by the modification of the stipulations in this annex.

AGREEMENT AND ANNEXES SIGNED:

Leverkusen, June 17th, 1935.

On behalf of: Titangesellschaft: Titanine: Société Titane:

Kuhne, G. Jebsen, G. Jebsen,

Bruggemann,

Milano, June 10th, 1935.

On behalf of: Bovisa:

Castellani and unknown signature.

Milano, June 5th, 1935.

On behalf of: Terres Rares: Thann:

J. Blumenfeld J. Ourisson.

Exhibit G-3

Translated from French

SUPPLEMENT

To the Contract of June 5.10.17.1935 Between "Thann", "Terres Rares", "Bovisa", "Societe Titane", "Titangesellschaft" and "Titaninc".

In Partial derogation from articles 4 and 5 of the said contract, it is agreed that the quantities which Bovisa reserved itself the right to export shall not be reduced below 120 tons.

When Bovisa's exports will have dropped to these 120 tons, the exports will be divided as follows:

16 t.5 are to be bought by Terres Rares—Thann on the conditions stipulated for "France" at a price foreseen in the annex B.

20 t. are to be bought by Titaninc and Sté Titane on the conditions stipulated for "France" at a price foreseen in the annex B.

56 t.5 are to be disposed of in the "Non Aussig" countries to be deducted from the quota of Terres Rares—Thann.

27 t. are to be disposed of in the "Non Aussig" countries to be deducted from the quota of Titangesellschaft.

Exhibit G-3

Signed: *London, October 26th, 1935*

Titaninc: Société Titane:

G. Jebsen G.Jebsen

Leverkusen, October 24th, 1935

Titangesellschaft:

Kuhne, Bruggemann,

Milano, October 22nd, 1935

Terres Rares: Thann:

J. Blumenfeld J. Ourisson

Milano, October 21st, 1935

Bovisa:

Castellani and unknown signature.

Exhibit H

AGREEMENT made and entered into this 6th day of May ~~April~~ in the year one thousand nine hundred and thirty-five by and between TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under and by virtue of the laws of the State of Maine with a place of business in the City and State of New York (hereinafter referred to as TITANIUM), and AMERICAN ZIRCONIUM CORPORATION, a corporation organized and existing under and by virtue of the laws of the State of Maryland with a principal place of business in the City of Baltimore, Maryland, (hereinafter referred to as ZIRCONIUM)

WITNESSETH

WHEREAS Titanium is the owner of all right, title and interest in and to letters patent of the United States, and in and to the respective inventions thereof, listed and enumerated as follows:

Barton No. 1,251,170 of December 25, 1917;
Rossi No. 1,272,855 of July 16, 1918;
Barton No. 1,283,455 of November 5, 1918;
Barton No. 1,286,916 of December 10, 1918;
Barton No. 1,288,473 of December 24, 1918;
Barton No. 1,313,874 of August 26, 1919;
Barton No. 1,317,854 of October 7, 1919;
Barton No. 1,322,518 of November 25, 1919;
Barton No. 1,326,319 of December 30, 1919;
Wrigley No. 1,338,473 of April 27, 1920;
Barton No. 1,348,843 of August 10, 1920;

Barton No. 1,362,917 of December 21, 1920;
Barton No. 1,365,882 of January 18, 1921;
Buckman No. 1,396,924 of November 15, 1921;
Buckman No. 1,402,256 of January 3, 1922;
Barton No. 1,409,648 of March 14, 1922;
Buckman No. 1,410,056 of March 21, 1922;
Buckman No. 1,411,839 of April 4, 1922;
Buckman No. 1,429,841 of September 19, 1922;
Doremus No. 1,501,587 of July 15, 1924;
Barton No. 1,680,316 of August 14, 1928;
Barton No. 1,695,270 of December 18, 1928;
Ryan No. 1,697,929 of January 8, 1929;
Doerinckel No. 1,738,765 of December 10, 1929;
Schnetka No. 1,758,472 of May 13, 1930;
Farup No. 1,773,727 of August 26, 1930;
Ryan No. 1,820,987 of September 1, 1931;
Ryan No. 1,820,988 of September 1, 1931;
Farup No. 1,831,852 of November 17, 1931;
Sabin No. 1,847,539 of March 1, 1932;
Leuchs No. 1,853,626 of April 12, 1932;
Washburn No. 1,889,027 of November 29, 1932;
Washburn No. 1,906,729 of May 2, 1933;
Washburn No. 1,906,730 of May 2, 1933;
Ryan No. 1,916,236 of July 4, 1933;
Ryan No. 1,929,521 of October 10, 1933;
Cauwenberg No. 1,957,528 of May 8, 1934;
Cauwenberg No. 1,969,061 of August 7, 1934; and

WHEREAS, Titanium is the sole and exclusive licensee, with the right to grant sublicenses upon certain conditions hereinafter expressed and made a part hereof, of letters patent of the United States, and of the respective inventions thereof, listed and enumerated as follows:

Exhibit H

Goldschmidt No. 1,276,644 of August 20, 1918;
Fladmark No. 1,288,863 of December 24, 1918;
Jaeger No. 1,317,164 of September 30, 1919;
Jaeger No. 1,317,165 of September 30, 1919;
Farup No. 1,325,561 of December 23, 1919;
Jebsen No. 1,333,819 of March 16, 1920;
Olsen No. 1,333,849 of March 16, 1920;
Farup No. 1,341,307 of May 25, 1920;
Farup No. 1,343,441 of June 15, 1920;
Goldschmidt No. 1,343,446 of June 15, 1920;
Goldschmidt No. 1,343,447 of June 15, 1920;
Nielsen No. 1,343,468 of June 15, 1920;
Nielsen No. 1,343,469 of June 15, 1920;
Goldschmidt No. 1,348,129 of July 27, 1920;
Farup No. 1,360,737 of November 30, 1920;
Jebsen No. 1,361,866 of December 14, 1920;
Jebsen No. 1,361,867 of December 14, 1920;
Farup No. 1,368,392 of February 15, 1921;
Goldschmidt No. 1,389,191 of August 30, 1921;
Washburn No. 1,412,027 of April 4, 1922;
Goldschmidt No. 1,436,164 of November 21, 1922;
Farup No. 1,539,996 of June 2, 1925;
Weise No. 1,813,649 of July 7, 1931;
Raspe No. 1,849,153 of March 15, 1932;
Raspe No. 1,850,154 of March 22, 1932;
Mittasch No. 1,850,286 of March 22, 1932;
Farup No. 1,852,510 of April 5, 1932;
Brode No. 1,891,911 of December 27, 1932;
Farup No. 1,919,425 of July 25, 1933;
Teichmann No. 1,934,778 of November 14, 1933;
Teichmann No. 1,941,285 of December 26, 1933; and

Exhibit H

WHEREAS, Zirconium is desirous of obtaining a license under said Letters Patent and each of them; and

WHEREAS, Zirconium is the owner of all right, title and interest in and to Letters Patent of the United States, and in and to the respective inventions thereof, listed and enumerated as follows:

Lubowsky No. 1,640,952 of August 30, 1927;
Lubowsky No. 1,793,501 of February 24, 1931;
Lubowsky No. 1,843,427 of February 2, 1932;
Lubowsky No. 1,888,993 of November 29, 1932;
Rhodes No. 1,922,328 of August 15, 1933;
Rhodes No. 1,931,682 of August 24, 1933;
Richter No. 1,932,087 of October 24, 1933;
Richter No. 1,947,226 of February 13, 1934; and

WHEREAS, Titanium is desirous of obtaining a license under said Letters Patent and each of them;

NOW THEREFORE, in consideration of the premises and of the sum of one dollar lawful money of the United States and other good and valuable consideration by each of the said parties to the other in hand paid, the receipt of which is hereby severally acknowledged, and of the mutual covenants, conditions and agreements hereinafter set forth on the part of the respective parties to be respectively observed and performed, the parties hereto do hereby agree to and with each other as follows:

1. DEFINITIONS. (a) The designation "Licensed Field" wherever herein employed, means and includes (1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds containing in chem-

ical, mechanical or physical combination two per cent (2%) or more of the element titanium, and mixtures of such compounds, which can be used as pigments, whether or not adapted for other uses; and (2) all such titanium compounds and mixtures thereof which can be used as pigments, whether or not adapted for other uses.

(b) The designation "Finished Article" wherever herein employed means any artificially produced article or composition within the "Licensed Field" which has been manufactured by aid of any process or apparatus or both so as to constitute a cohesive intermixture of titanic material with other material with which such titanic material was not previously intermixed or associated as, for example, in paint, rubber, glass and titanated lithophone.

II. Titanium hereby gives and grants to Zirconium and Zirconium hereby accepts from Titanium, upon the terms and conditions hereinafter specified, a non-exclusive right and license to make, use and/or sell, throughout the United States of America, its territories and dependencies, but not elsewhere, to the same extent that Titanium itself is free to make, use and/or sell the same, each and every invention, improvement or subject matter in the "Licensed Field" claimed in or covered by the Letters Patent hereinabove enumerated and in or by any and all other Letters Patent now or hereafter owned by or otherwise at the disposal of Titanium and with respect to which Titanium is or shall be privileged to grant sublicenses, provided always, however, that the license so granted shall not permit Zirconium to sell or export for sale, directly or indirectly, outside of the United States of America, its territories and dependencies, except to the extent hereinafter provided with respect to "Finished Articles", any products within the "Licensed Field" manufactured in

whole or in part under and in accordance with the Letters Patent herein licensed or any of them.

III. Zirconium hereby gives and grants to Titanium and Titanium hereby accepts from Zirconium, upon the terms and conditions hereinafter specified, a non-exclusive right and license to make, use and/or sell throughout the United States of America, its territories and dependencies, to the same extent that Zirconium itself is free to make, use and/or sell the same, each and every invention, improvement or subject matter in the "Licensed Field" claimed in or covered by the Letters Patent hereinabove enumerated and in or by any and all other Letters Patent now or hereafter owned by or otherwise at the disposal of Zirconium and in respect to which Zirconium shall be privileged to grant sub-licenses.

IV. As Titanium is under obligation to other licensors to render periodic reports of its production and that of its sublicensees within the "Licensed Field", Zirconium shall keep accurate account of all its own production within that field and on or before the 31st day of January and July of each year shall render to Titanium, verified under the oath of one of its officers, true statements of all its production within the "Licensed Field" during the six months ended December 31st or June 30th next preceding, as the case may be; and Titanium shall have the right, upon request, to have any such statement audited by an independent certified public accountant or other person acceptable to Zirconium.

V. Each party hereby acknowledges the validity of the several Letters Patent hereinabove enumerated and the ownership or control thereof by the other party, and agrees

that it will never directly or indirectly question or contest the validity of any of said Letters Patent, nor of any other Letters Patent hereafter licensed hereunder, nor use nor infringe the inventions thereof except as herein licensed, nor directly or indirectly connive with, nor afford any pecuniary or other assistance to, any contestant or questioner of the validity thereof or any infringer thereof, this covenant to remain in force for the full term of each and all of said Letters Patent irrespective of any earlier termination of this agreement in accordance with the provisions hereof.

VI. Each party hereto agrees, to the extent that its prior obligations to other licensors do not prevent, to cooperate with the other by imparting semi-annually to such other party full and accurate information in detail as to knowledge obtained by it in and applicable to the "Licensed Field" since its last report hereunder, and to permit such other party to adopt, apply and use the same; *provided*, however, that neither party shall be obligated hereunder to impart or otherwise disclose to the other party, or to permit the other party to adopt, apply or use, any knowledge, information, method, process or apparatus acquired by it from any third party under or pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof.

VII. Each party hereto agrees that it will so far as possible require its officers, agents and employees to agree to assign to it throughout the world any and all inventions within the "Licensed Field" which may be made by them or any of them prior to the end of the last expiring term of the Letters Patent hereinabove enumerated.

VIII. Zirconium agrees to grant to Titanium and/or any licensee or sublicensee of Titanium specified by Titanium an exclusive right and license, exclusive of all others including Zirconium, throughout all countries of the world other than the United States of America, its territories and dependencies, to manufacture, use and/or sell each and every invention, improvement or subject matter within the "Licensed Field", whether or not patented or patentable, now owned or controlled by Zirconium or hereafter and during the term of this agreement made, discovered or acquired by it or otherwise at its disposal. Zirconium further agrees, whenever it or any person licensed by it other than Titanium files an application for a United States Letters Patent on an invention in the "Licensed Field", to send to Titanium within two months from the date of such filing a copy of such application and, upon request of Titanium in writing and within two months of the receipt of such request by Zirconium, all papers necessary to permit the filing of an application for patent on such invention in any country of the world outside of the United States of America, its territories and dependencies, and, so far as in its power lies, papers vesting in Titanium or any licensee or sublicensee of Titanium specified by Titanium an exclusive license in and for any such country to manufacture under and in accordance with said invention and/or to use and/or sell the product thereof throughout the full term of any patent granted therefor.

IX. Zirconium shall and hereby does constitute and appoint and shall hereafter continuously retain Titanium or any licensee or sublicensee of Titanium specified from time to time by Titanium, to the exclusion of all others, as

the sole agent of Zirconium throughout the term of this agreement for the introduction and sale outside of the United States of America, its territories and dependencies, of all products of Zirconium within the "Licensed Field", upon such orders of said agent therefor at current market prices of Zirconium as the latter shall elect to fill, the same to be sold by said agent only in territories outside of the United States of America, its territories and dependencies, at prices and upon terms and conditions to be fixed by said agent; and Zirconium shall not make any sale or transfer of any of its said products in or for any territory outside of the United States of America, its territories and dependencies, except through its said exclusive agent and as aforesaid; provided, however, that notwithstanding the agency or agencies created by this Article, Zirconium may export into the territory of any such agent "Finished Articles" as hereinbefore defined in the manufacture of which titanium products produced by Zirconium or by one of its licensees or sublicensees have been used as raw material and of which such titanium products shall not constitute such an important part that the sale thereof within the territory of such agent will substantially interfere with such agent's sales of its own titanium products in its territory; provided further, that upon the receipt by Zirconium of notice from any such agent that such importation of such "Finished Articles" into the territory of such agent does in fact interfere with such agent's sales of its own products, Zirconium shall endeavor to prevent any further such importation, and Titanium agrees, for itself and its licensees and sublicensees, that it will not sue Zirconium or any purchaser from or customer, direct or indirect, of Zirconium on account of the exportation or sale and use of any such "Finished

Articles" outside of the United States of America, its territories and dependencies, until after the expiration of six months from the time such notice as aforesaid shall have been given to Zirconium.

X. In the event of any violation or failure of performance on the part of either party hereto of any of the terms and conditions of this agreement to be performed or assumed by it the other party may by notice in writing mailed to the delinquent party at its last known post office address notify the delinquent party of such delinquency, and unless such delinquency has ceased and satisfaction therefor been made within six months after the mailing of such notice the other party may at its option terminate the license or licenses granted such delinquent party hereunder by notice in writing to that effect mailed to the delinquent party at its last known post office address. Such termination of any license or licenses as in this Article hereof provided shall not release the delinquent party from any obligation or liability to the other party hereunder which may have accrued at the date of such termination, nor terminate any license or licenses granted by the delinquent party hereunder.

XI. It is mutually understood and agreed that any omission on the part of either party on any one or more occasions to assert or exercise any of its rights hereunder shall not be deemed or construed to constitute a continuing waiver of such right nor preclude or limit the other party from or in the assertion or exercise of the same on any subsequent occasion.

Exhibit H

XII. Except as hereinbefore otherwise provided with respect to the grant of licenses by Zirconium for countries outside the United States of America, its territories and dependencies, this agreement and the licenses hereby granted are personal to the respective parties and neither party shall have any right or power to assign this agreement or the license or licenses hereby granted, or to grant sublicenses thereunder in whole or in part, except to a successor to the entire business and good will of such party and then only with the consent in writing of the other party first had and obtained.

XIII. Unless sooner terminated as herein provided this agreement and the licenses hereby granted shall continue and remain in force until August 7, 1951, and shall then terminate; provided, however, that each and every license then in effect hereunder with respect to Letters Patent extending beyond August 7, 1951, shall continue and remain in force throughout the full term of said respective Letters Patent.

XIV. This agreement and all the terms and conditions thereof and all questions arising thereunder shall be construed and decided according to the law of the State of New York.

IN WITNESS WHEREOF the parties hereto have caused these presents to be duly executed by their respective officers thereunto duly authorized, and their respective cor-

porate seals to be hereunto affixed and duly attested; the day and year first above written.

TITANIUM PIGMENT COMPANY, INC.

by

R. M. ROOSEVELT
President

[CORPORATE SEAL]

Attest:
J. D. MEREDITH
Secretary

AMERICAN ZIRCONIUM CORPORATION

by

ADRIAN D. JOYCE
President

[CORPORATE SEAL]

Attest:
HUBERT E. ROGERS
Secretary

Exhibit H-1

AGREEMENT made this sixth day of May, 1935, by and between Titanium Pigment Company, Inc., (hereinafter called "Titanium"), a corporation of the State of Maine, and American Zirconium Corporation, (hereinafter called "Zirconium"), a corporation of the State of Maryland, and The Glidden Company, (hereinafter called "Glidden"), a corporation of the State of Ohio, and Metal & Thermit Corporation, (hereinafter called "Thermit"), a corporation of the State of New Jersey.

WITNESSETH:

WHEREAS, in and by an agreement in writing between Titanium and Zirconium, executed simultaneously herewith and bearing even date herewith, (hereinafter referred to as "License Agreement") among other things Titanium granted to Zirconium a license under or with respect to the letters patent of the United States therein described, upon the terms and conditions set forth in said "License Agreement" and

WHEREAS, said "License Agreement" is entered into among other things upon the faith of this agreement by Titanium and Zirconium, and

WHEREAS, Glidden and Thermit together own and control a majority of the shares of the capital stock of Zirconium having voting rights;

NOW, THEREFORE, in consideration of the premises and of the sum of One Dollar, lawful money of the United States, by each of the parties to the other in hand paid,

and of other good and valuable consideration, the receipt of which is hereby acknowledged, the parties hereto do hereby agree to and with each other as follows:

FIRST: In lieu of royalties and other payments for the license granted to Zirconium by Titanium in and by said "License Agreement", and in consideration thereof, Zirconium hereby agrees to issue and deliver to Titanium one thousand one hundred and twelve (1,112) shares of the common stock of Zirconium full paid and non-assessable, presently to be authorized for such purpose. The certificate or certificates from time to time issued representing said shares shall bear the following endorsement "The shares represented by this certificate are subject to agreement dated the 6th day of May, 1935, between the Titanium Pigment Company, Inc., American Zirconium Corporation, The Glidden Company and the Metal & Thermit Corporation."

SECOND: Zirconium agrees that it will not issue or authorize the issuance of any shares of the common stock of Zirconium in excess of eleven thousand one hundred and twelve (11,112) shares or any shares of the preferred stock in excess of six thousand (6,000) shares of which four thousand two hundred thirty-two (4,232) shares are now issued and outstanding without offering such additional shares to all common stockholders pro rata.

THIRD: Titanium agrees that during the period of the "License Agreement" it will not sell or otherwise dispose of the above One Thousand One-hundred and Twelve (1,112) shares of the Common Stock of Zirconium without first offering such stock proposed to be sold or other-

wise disposed of at the same price as Titanium is offered by a responsible bona fide bidder, to Glidden and Thermit, one-half thereof to each and if either of them do not purchase such shares so offered within thirty (30) days thereafter then offering the entire amount thereof to the other party; and Glidden and/or Thermit shall have the right within thirty (30) days after receiving such offer to purchase such stock so offered at the price and upon the same terms as are offered; if within the thirty (30) days Glidden and/or Thermit fail to purchase such stock Titanium shall be free to dispose of the same, and thereafter such stock shall not be subject to the provisions of this paragraph.

FOURTH: Glidden and Thermit severally agree that during the period of the "License Agreement", they will not sell or otherwise dispose of their shares of the common stock of Zirconium, except to each other, without first offering such stock proposed to be sold or otherwise disposed of, at the same price as they are offered by a responsible bona fide bidder to Titanium and Titanium shall have the right within thirty (30) days after receiving such offer to purchase such stock so offered at the price and upon the same terms as are offered; if within the thirty (30) days Titanium fails to purchase such stock Glidden and/or Thermit shall be free to dispose of the same and thereafter such stock shall not be subject to the provisions of this paragraph.

FIFTH: Titanium further agrees that if it shall elect to cancel the "License Agreement" as provided for in paragraph X of such Agreement, it will return to Zirconium along with said notice of termination the One Thousand

Exhibit H-1

One-Hundred and Twelve (1,112) shares of the Common Stock of Zirconium above mentioned and that any notice of termination that may be given unless accompanied by the shares as hereinabove provided shall be wholly void and ineffective.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be duly executed by their respective officers thereunto duly authorized, and their respective corporate seals to be hereunto affixed and duly attested, the day and year first above written.

TITANIUM PIGMENT COMPANY, INC.,

By R. M. ROOSEVELT

President.

Attest:

J. D. MEREDITH

Secretary

(SEAL)

AMERICAN ZIRCONIUM CORPORATION,

By ADRIAN D. JOYCE

President.

Attest:

HUBERT E. ROGERS

Secretary.

(SEAL)

Exhibit H-1

THE GLIDDEN COMPANY

By ADRIAN D. JOYCE

President.

Attest:

CLIFTON M. KOLB,

Secretary

(SEAL)

METAL & THERMIT CORPORATION,

By J. H. HIRSCHLAND

President.

Attest:

HUBERT E. ROGERS

Secretary

(SEAL).

Exhibit H-2

AGREEMENT made this 6th day of May, 1935, by and between NATIONAL LEAD COMPANY (hereinafter called NATIONAL), a corporation of the State of New Jersey, and TITANIUM PIGMENT COMPANY, INC., (hereinafter called TITANIUM), a corporation of the State of Maine, of the one part, and THE GLIDDEN COMPANY (hereinafter called GLIDDEN), a corporation of the State of Ohio, METAL & THERMIT CORPORATION (hereinafter called THERMIT), a corporation of the State of New Jersey, and AMERICAN ZIRCONIUM CORPORATION (hereinafter called ZIRCONIUM), a corporation of the State of Maryland, of the other part

WITNESSETH

WHEREAS, Titanium and Zirconium are executing simultaneously herewith a certain agreement in writing bearing even date herewith (hereinafter referred to as the License Agreement), wherein and whereby each grants to the other among other things certain licenses under or with respect to Letters Patent of the United States therein described within the "Licensed Field" therein defined, upon the terms and conditions set forth in said License Agreement; and

WHEREAS, said License Agreement is executed by the parties thereto among other things in consideration and upon the faith of the execution of this agreement by the parties hereto and

WHEREAS National owns and controls all of the capital stock of Titanium; and Glidden and Thermit together own and control a majority of the shares of the capital stock of Zirconium having voting rights;

Exhibit H-2

NOW THEREFORE, in consideration of the premises and of the sum of One Dollar lawful money of the United States by each of the parties hereto to the other in hand paid, and of other good and valuable considerations, the receipt of which is hereby severally acknowledged, the parties hereto do hereby covenant and agree to and with each other as follows:

FIRST. National hereby guarantees, promises and agrees to and with Glidden, Thermit and Zirconium and each of them that Titanium will well and faithfully perform and fulfill everything in the above mentioned License Agreement on its part and behalf to be performed and fulfilled, and does hereby further agree, for itself and its subsidiary corporations, that insofar as in its power lies it will on its part fully respect the above mentioned License Agreement between Titanium and Zirconium and that so long as said License Agreement remains in force it will not against either of the parties thereto or against any licensee or successor in interest of either of them question or contest the validity of or infringe any of the Letters Patent covered by said License Agreement, nor afford any assistance to any one in questioning or contesting the validity thereof or infringing the same, and will not do any other act in derogation of said License Agreement; and further will promptly communicate to Titanium the results of any experience gained or knowledge acquired by it within the "Licensed Field" as defined in said License Agreement, and will promptly assign to Titanium for the United States of America, its territories and dependencies, any and all Letters Patent, inventions and improvements within the "Licensed Field" which may be acquired by it, and will insofar as possible require its officers, agents and employees to agree to assign to itself for the United States of Amer-

ica, its territories and dependencies, any and all inventions within the "Licensed Field" which may be made by them or any of them.

SECOND. Glidden and Thermit hereby severally guarantee, promise and agree to and with National and Titanium and each of them that Zirconium will well and faithfully perform and fulfill everything in the above mentioned License Agreement on its part and behalf to be performed and fulfilled; and do hereby further severally agree, each for itself and its subsidiary corporations, that insofar as in their power lies they will on their part fully respect the above mentioned License Agreement between Titanium and Zirconium, and that so long as said License Agreement remains in force they will not against either of the parties thereto or against any licensee or successor in interest of either of them question or contest the validity of or infringe any of the Letters Patent covered by said License Agreement, nor afford any assistance to any one in questioning or contesting the validity thereof or in infringing the same, and will not do any other act in derogation of said License Agreement; and further will promptly communicate to Zirconium the results of any experience gained or knowledge acquired by them within the "Licensed Field" as defined in said License Agreement, and will promptly assign to Zirconium throughout the world any and all Letters Patent, inventions and improvements within the "Licensed Field" which may be acquired by them and will insofar as possible require their respective officers, agents and employees to agree to assign to themselves throughout the world any and all inventions within the "Licensed Field" which may be made by their said respective officers, agents and employees or any of them.

Exhibit H-2

THIRD. National shall not be liable upon its guarantee above set forth unless notice in writing of the failure on the part of Titanium to well and faithfully perform and fulfill said above mentioned license agreement for which it is to be held liable shall have been given to it within thirty days after knowledge of such default upon the part of Zirconium; and neither Glidden nor Thermit shall be held liable upon their several guarantees unless notice in writing of the failure on the part of Zirconium to well and faithfully perform and fulfill said above mentioned license agreement for which they are to be held liable shall have been given to them within thirty days after knowledge of such default upon the part of Titanium.

FOURTH. Glidden and Thermit severally agree that they will each pay to Titanium an amount equal to five per cent (5%) of all sums expended by Zirconium in defending any suit or suits for patent infringement brought by any licensee of Titanium against Zirconium within two years from the date of this agreement.

IN WITNESS WHEREOF the parties hereto have caused these presents to be duly executed by their respective officers thereunto duly authorized and their respective corporate seals to be hereunto affixed and duly attested, the day and year first above written.

NATIONAL LEAD COMPANY

By

W. C. BESCHORMAN

Vice President

[CORPORATE SEAL]

Attest:

M. D COLE

Secretary

Exhibit H-2

TITANIUM PIGMENT COMPANY, INC.

By

R. M. ROOSEVELT

[CORPORATE SEAL] *President*

Attest:

J. D. MEREDITH

Secretary

THE GLIDDEN COMPANY

By

ADRIAN D. JOYCE

[CORPORATE SEAL] *President*

Attest:

CLIFTON M. KOLB

Secretary

METAL & THERMIT CORPORATION

By

J. H. HIRSCHLAND

[CORPORATE SEAL] *President*

Attest:

HUBERT E. ROGERS

Secretary

AMERICAN ZIRCONIUM CORPORATION

By

ADRIAN D. JOYCE

[CORPORATE SEAL] *President*

Attest:

HUBERT E. ROGERS

Secretary

Exhibit I

THIS AGREEMENT, made as of the first day of January, 1935, by and between KREBS PIGMENT & COLOR CORPORATION, a corporation organized under the laws of the State of Delaware (hereinafter referred to as "Krebs"), and AMERICAN ZIRCONIUM CORPORATION, a corporation organized under the laws of the State of Maryland (hereinafter referred to as "American"),

WITNESSETH:

WHEREAS, Krebs is engaged in the manufacture and sale of titanium dioxide (TiO_2) and related products, and is the owner of certain Letters Patent issued by the United States covering processes for the manufacture of titanium dioxide, all of which Letters Patent are described in Schedule "A", attached hereto and made a part hereof; and

WHEREAS American is engaged in the manufacture and sale of titanium dioxide and related products, and desires to obtain a license under the aforesaid Letters Patent of Krebs;

NOW, THEREFORE, in consideration of the premises and of the covenants contained herein, the parties hereto have agreed as follows:

Exhibit I

I.

(a) Krebs hereby grants to American a non-exclusive license to make titanium dioxide in the quantities specified in paragraph (b) of this Article, and to use and sell titanium dioxide so produced, throughout the United States of America and the territories and dependencies thereof, under the Letters Patent described in Schedule "A" hereof and any reissues or divisions thereof.

(b) The total quantity of titanium dioxide (including the titanium dioxide content of all compounds, mixtures and other products) made wholly or partly under the license granted herein, shall not exceed in any calendar year during the continuance of this agreement the quantity specified for such year in the following table:

Year	*Quantity*
1935	3,000 tons
1936	3,000 "
1937	3,000 "
1938	6,000 "
1939	6,000 "
1940	6,000 "
1941	6,000 "
1942	6,000 "
1943	6,000 "
Each subsequent year	9,000 "

II.

(a) American shall pay to Krebs a royalty at the rate per pound specified in paragraph (b) of this Article, on the total quantity of all titanium dioxide produced by Amer-

ican during each calendar year throughout the period of this agreement, including the titanium dioxide content of all compounds, mixtures and other products.

(b) The amount of royalty payable by American as aforesaid on each and every pound of titanium dioxide produced by it shall be equal to two per cent. (2%) of the selling price per pound of titanium dioxide as contained in Krebs' published carload selling price to the general trade, in effect at the close of each quarterly period for which royalties are payable hereunder; provided, however, that the royalty so payable by American shall be not less than one-fourth of one cent (¼¢) per pound.

(c) Royalties on titanium dioxide produced by American during each calendar quarterly period shall be paid to Krebs, at its office in Wilmington, Delaware, within thirty (30) days after the end of such quarter; provided, however, that payment of royalties on titanium dioxide produced by American during the first six months of the current year shall be made concurrently with the payment for the third quarterly period of said year.

(d) American shall maintain suitable records showing the quantities of titanium dioxide produced by it during the period of this agreement, and the representatives of Krebs shall have the right to inspect such records at any time or times during business hours.

III.

If at any time during the life of this agreement Krebs should grant a license under any or all of the patents enumerated in Schedule "A" hereof, and should charge therefor a royalty lower in rate than the royalty terms herein set

forth, the royalty imposed hereunder shall be reduced to correspond to such lower rate so long as the latter is payable by any other licensee of Krebs. The provisions of this Article shall not be deemed to apply to the granting of any license by Krebs primarily for a consideration other than the payment of cash royalty by the licensee.

IV.

American admits the validity of each of the Letters Patent listed in Schedule "A" hereof, and agrees that it will not directly or indirectly infringe or contest the validity or scope of any of the claims thereof, or aid or encourage others in so doing. The termination of this license for any cause, prior to its normal expiration, shall not affect the provisions of this Article or release or discharge American from the admission and estoppel herein set forth.

V.

American agrees that it will affix to the containers of all products made and sold by it under this license, such notices or markings as may be required by Krebs to designate the Letters Patent under which such products shall have been produced.

VI.

This agreement shall remain in full force and effect until the expiration of all the Letters Patent listed in Schedule "A" hereof; provided, however, that if American shall fail to perform any of the provisions to be performed by it hereunder, and shall fail to remedy such default within thirty (30) days after notice from Krebs specifying such default, Krebs may terminate this agreement at any time by so notifying American in writing; and provided further,

that American may terminate this agreement at any time after the expiration of ten (10) years from the date hereof, if the products then made by it and the methods of producing the same do not infringe the claims of any of the unexpired Letters Patent licensed hereunder, and if it makes available to Krebs all information evidential of such non-infringement. The termination or expiration of this agreement for any cause shall be without prejudice to the rights and remedies of Krebs for any royalties then accrued or earned hereunder, or for any antecedent breach hereof.

VII.

The rights and obligations under this agreement shall inure to and be binding upon Krebs, its successors and assigns but shall not be assigned or transferred by American without the written consent of Krebs.

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed by their officers thereunto duly authorized and their corporate seals to be hereunto affixed, as of the day and year first above written.

KREBS PIGMENT & COLOR CORPORATION

By (s) Z. Phelps
Vice-President

Attest:
(Seal) (s) C. H. LIPMAN
Secretary

AMERICAN ZIRCONIUM CORPORATION

By (s) Adrian D. Joyce
President

Attest:
(Seal) (s) Clifton M. Kolb
Asst. Secretary

Exhibit I

STATE OF DELAWARE
COUNTY OF NEW CASTLE } ss.:

On this 19 day of August, 1935, before me, a Notary Public in and for the State and County aforesaid, personally came Z. Phelps, to me known, who being by me duly sworn did depose and say that he is Vice President of Krebs Pigment & Color Corporation, the corporation described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

(s) H. L. Harris (Seal)
Notary Public

STATE OF OHIO
COUNTY OF CUYAHOGA } ss.:

On this 10 day of August, 1935, before me, a Notary Public in and for the State and County aforesaid, personally came Adrian D. Joyce, to me known, who being by me duly sworn did depose and say that he is President of American Zirconium Corporation, the corporation described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

(s) Charlotte M. Hieber (Seal)
Notary Public

Exhibit I

SCHEDULE "A"

Patent Number	Dated	Inventor	Entitled
1,357,690	11/2/20	Oscar T. Coffelt	"Processes for the recovery of Titanium from its ores."
1,489,183	4/1/24	Ch. Weizmann & J. Blumenfeld	"Production of Titanic Acid."
1,504,669	8/12/24	J. Blumenfeld	"Titanium Compound."
1,504,670	8/12/24	J. Blumenfeld	"Titanium Compound."
1,504,671	8/12/24	J. Blumenfeld	"Filtration of Solutions."
Re-17,429-(Orig. Patent (1,504,672-	(Re-issued (9-10-29 8/12/24	J. Blumenfeld	"Preparation of Titanium Hydroxide."
Re-17,430-(Orig. Patent (1,504,672	(Re-issued (9/10/29 8/12/24	J. Blumenfeld	"Preparation of Titanium Hydroxide."
Re-16,956-(Orig. Patent (1,504,673	(Re-issued (5/8/28 8/12/24	J. Blumenfeld	"Titanium Pigment."
1,633,621	6/28/27	J. Blumenfeld	"Filtration of Solutions, etc."
1,639,423	8/16/27	J. Blumenfeld	"Preparation of Pigments and Paints."
1,649,496	11/15/27	N. Specht	"Process for the manufacture of Titanic Oxide."
1,655,940	1/10/28	J. d'Ans & F. Sommer	"Process of preparing Titanic Oxide from Titanic Ores."
1,707,248	4/2/29	J. Blumenfeld	"Process for the manufacture of Titanium Oxide."
1,707,257	4/2/29	Ch. de Rohden	"Production of Titanium Tetrachloride."
1,750,287	3/11/30	N. Specht	"Process of producing Permanent Paints."
Re-18,790-(Orig. Patent (1,758,528-	(Re-issued (4/4/33 5/13/30	W. Mecklenburg	"Production of Titanium Dioxide."
1,766,592	6/24/30	J. Blumenfeld	"Production of Composite Pigments containing Titanium Dioxide."
Re-18,854-(Orig. Patent (1,795,467-	(Re-issued (5/30/33 3/10/31	J. Blumenfeld	"Production of Titanium Dioxide."
1,797,760	3/24/31	C. de Rohden	"Production of Titanium Compositions."

Exhibit I

Patent Number	Dated	Inventor	Entitled
1,827,691	10/13/31	N. Specht	"Process of Treating Ores of Titanium containing Chromium and Recovering the Sulfuric Acid."
1,832,666	11/17/31	N. Specht	"Process for the manufacture of a brown pigment containing titanium from sludge of titanium."
1,845,633	2/16/32	N. Specht.	"Process for the Purification of Impure Dioxide of Titanium containing in particular Chromium."
1,846,188	2/23/32	C. de Rohden	"The production of Titanium Pigments."
1,851,487	3/29/32	J. Blumenfeld	"Preparation of Titanium Hydroxide."
1,853,626	4/12/32	Karl Leuchs	"Process of manufacturing Titanium Oxide suitable for use as a Pigment."
1,864,504	6/21/32	W. J. O'Brien	"Composite Pigment."
1,885,187	11/1/32	C. de Rohden	"Production of Titanium Pigments."
1,885,921	11/1/32	G. Kubin	"Processes for Reducing the Oil Absorption of Titanium Dioxide Pigment."
1,885,934	11/1/32	M. Mayer	"The Art of Producing Oxides of the Fourth Group Metals."
1,892,693	1/3/33	J. Blumenfeld & M. Mayer	"Preparation of Titanium Pigments."
1,899,572	2/28/33	P. Kubelka	"Methods of Dissolving Titanium Tetrachloride in Aqueous Solvents."
1,899,573	2/28/33	P. Kubelka	"Process of Preparing Clear Solutions of Titanium Chloride."
1,899,574	2/28/33	P. Kubelka	"Process of Preparing Concentrated Clear Solutions of Titanium Chloride."
1,922,816	8/15/33	R. M. McKinney	"The Preparation of Stabilized Titanous Salt Solutions."
1,931,380	10/17/33	H. Haber and P. Kubelka	"Production of Titanium Dioxide from Titanium Tetrachloride."
1,931,381	10/17/33	H. Haber and P. Kubelka	"Production of Titanium Dioxide from Titanium Tetrachloride."
1,937,037	11/28/33	M. L. Hanahan	"Processes of making Titanium Oxide of Fine Texture."

Exhibit I-1

COPY

Assignment of Contract

AGREEMENT Made this 31st day of December, 1935, between KREBS PIGMENT & COLOR CORPORATION, a Delaware corporation (hereinafter called the "Assignor") and E. I. du PONT de NEMOURS AND COMPANY, a Delaware corporation (hereinafter called the "Assignee"):

The Assignor, for value received, hereby sells, assigns and transfers to the Assignee all the right, title and interest of the Assignor in, to or under the Agreement dated January 1, 1935 between AMERICAN ZIRCONIUM CORPORATION and the Assignor relating to non-exclusive license to American Zirconium Corporation under a list of patents covering the manufacture of titanium oxide.

The Assignee, in consideration of the premises, accepts the assignment aforesaid and hereby assumes and agrees to perform and discharge, to the complete exoneration of the Assignor, all the obligations on the part of the Assignor to be kept and performed under the provisions of said Agreement.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the day and year first above written.

KREBS PIGMENT & COLOR CORPORATION
(Assignor)

By: (s) Z. Phelps
Vice President

Attest:
(s) C. H. Lyman
Secretary

Exhibit I-1

E. I. du Pont de Nemours and Company
(Assignee)

By: (s) F. G. Tallman
Vice President

Attest:
(s) W. F. Raskob
Secretary

Exhibit J

Translated from German.
German Text attached.

POOL — AGREEMENT

between

Ste de Produits Chimiques des Terres Rares
Titan Company Inc.,
I. G. Farbenindustrie,
regarding the formation of a
Japanese Company.

Initialed Jan. 18th 1936,
by Dr. Jebsen
Mr. Blumenfeld
Mr. Borgwardt
Mr. Mayer-Wegelin.

Exhibit J

Translated from German.

by S. Glenshussen

The firms:

1. *Société de Produits Chimiques des Terres Rares, 67, rue de Prony, Paris.*

("Terres Rares").

2. *Titan Company Inc., 7 West 10th Street, Wilmington, Delaware, U. S. A.*

("Titaninc").

3. *I. G. Farbenindustrie Aktiengesellschaft, Frankfurt a.M.*

("I. G.").

hereinafter called "the parties to the agreement",—the latter through the Titangesellschaft m.b. H., Leverkusen,—have formed, with other titanium white manufacturers, an international convention, according to which the japanese market (incl. Manchuria) is reserved the three above mentioned firms. In this market Terres Rares participates with 30% and Titaninc and I. G. together (i. e. through Titangesellschaft m.b.H., Leverkusen) with 70%.

Terres Rares and Titaninc intend to erect, with the Japanese firm *Kokusan Kogyo, Kabushiki Kaisha, Kobe*, a titanium white factory in Japan by special agreements, in such a manner that the japanese firm participation with 50% and Terres Rares and Titaninc together with the remaining 50%. 20% of the capital to be taken over by Terres Rares and Titaninc shall be paid in cash, and 80% shall be covered by patents, licenses and experience. The

subdivision between Terres Rares and Titaninc will take place in the proportion of 30 for Terres Rares to 70 for Titaninc; for half of its share Titaninc shall grant an option to the I. G.

In order to ensure a unified action between the three parties to the agreement, towards the Japanese, the following "Pool-Agreement", also binding for possible legal successors, is made:

1.

Terres Rares and Titaninc jointly authorise the *Doitsu Senryo Gomei Kaisha, Kobe/Japan,* hereinafter called "Doitsu" to conclude in its own name but acting as trustee of Terres Rares and Titaninc, an agreement with Kokusan Kogyo for the formation of a company, in accordance with the principles of the attached draft B., and to subscribe and take over the participation-shares intended for Terres Rares and Titaninc.

The necessary funds will be placed at the disposal of Doitsu by Terres Rares and Titaninc in the proportion 30 : 70.

2.

By signing this agreement, Doitsu accepts to subscribe and take over the shares as a trustee, and binds itself to exercise its rights as shareholder in the new Japanese factory, only upon joint instructions from the parties to the agreement, which will be transmitted to it through the I. G.

The I. G. assumes the responsibility towards the other parties to the agreement for Doitsu's actions.

Exhibit J

3.

Titaninc grants the I. G. the following option: The I. G. is entitled, within 15 years from the beginning of the present agreement, regardless whether or not this agreement will continue to exist during this period, to purchase half of the shares in the new Japanese factory, acquired by Titaninc (through the intermediary of the Doitsu acting as a trustee), against payment of half of the cash dollar amount used for the purchase of all the shares by Titaninc —(resp. Doitsu as trustee of Titaninc). To this amount is to be added 5% interest, calculated according to banking practice, from the day of disbursement, as well as possible taxes, administrative expenses and similar paid in connection with the shares. From this amount are to be deducted dividends received in the meantime on the shares covered by the option. On dividends are equally 5% interest to be calculated in the same way according to banking practice.

Titaninc is obliged, in case the I. G. makes use of the above option, to transfer, against payment as above mentioned, half of its shares to the I. G. or to such party as determined and controlled by I. G., in such a manner that Titaninc instructs the Doitsu to administer in the future as a trustee, on behalf of the I. G., the above mentioned half of the shares purchased and administered as trustee for Titaninc. If the I. G. makes use of this option, it subjects itself, or, as the case may be, the third party as determined by it, to the stipulations of this pool agreement, i.e. also the shares of the I. G. (35% of the half of the capital of the new Japanese factory held by the three parties) will be administered by the Doitsu acting as a trustee, according to the present agreement.

Exhibit J

4.

The parties to the agreement form, with their shares or parts in the Japanese titanium white factory to be erected, a syndicate, the shares or parts of which shall vote and operate in the same way at the General Meetings of the Japanese company to be formed, as well as in all other respects as regards decisions concerning the operations of the company.

Any declarations to be issued by the syndicate and the parties to the agreement, to the Japanese party and the Japanese factory, are to be made exclusively through the I. G., which will forward them through the Doitsu.

5.

The shares or parts are to be deposited by Doitsu with a first class banking firm in Tokyo, Japan, which, if necessary, will take care of the registration for the General Meeting in accordance with the prevailing rules.

If necessary and especially upon invitation of one of the parties to the agreement, the parties shall meet for discussion regarding the united attitude to be taken at the General Meeting of the Japanese firm, provided such a discussion can not take place in writing. The resolutions unanimously arrived at during such a conference are binding for all the parties to the agreement.

6.

All the parties bind themselves (without prejudice to the rights of preemption in art. 7), if the case may be, to sell their shares in the Japanese factory, including possible additional shares resulting from increase in the capital, only in one lot and not separately, and further only when the purchaser binds himself to take over the shares of the

other parties, at their request simultaneously and on the same terms.

In all cases of sales of shares, the purchaser must be placed under the obligation to enter the agreement with all rights and obligations of his predecessor.

7.

If Titaninc intends to sell its share in the Japanese factory, the I. G. will have a preemption right on this share. The same applies in favour of Titaninc in case I. G. should have intentions to sell. If, in the first case the I. G. and/or in the second case Titaninc decline to make use of the right of preemption, this will become the privilege of Terres Rares.

If Terres Rares intend to sell their share in the Japanese factory, each of the two other parties shall have a right of preemption on one half of this share, or—if only one of them wishes to make use of his preemption right—on the whole share. Titaninc and I. G. can also exercise the right of preemption jointly.

The party who wishes to sell its share has to state this without delay by registered letter, subject to a penalty amounting to 50% of the nominal value of its share but at least U. S. A. $30,000.—, as soon as it gets in touch with an interested party, or with some intermediaries regarding the sale; this advice should be sent

a) in case Titaninc intends to sell its share to the I. G.;

b) in case the I. G. intends to sell its share to Titaninc;

c) in case Terres Rares intend to sell their share to Titaninc and I. G.

Re a) and b): Should Titaninc and/or I. G. decline to make use of the preemption right, Terres Rares shall be advised accordingly.

A further advice is to be sent by registered letter, similarly without delay, and subject to the same penalty, as soon as the one of the parties who intends to sell his share has claimed a determined amount for his share or has changed a claim previously made. A claim expressed in equivalents other than money is equal to a claim expressed in money. A similar advice is to be sent as soon as one of the parties receives from an outsider an offer regarding his share, and if the said party does not decline the offer within a delay of 6 weeks.

The preemption right of the remaining party or parties is to be exercised within a delay of 3 months from the advice foreseen in the foregoing paragraph regarding a complete and firm binding offer and which has been received by the respective party by registered letter. The preemption right implies that the party entitled to make use of the said right (should Terres Rares intend to sell, each party entitled to make use of the preemption right for ½ or both jointly) can purchase the share of the selling party—and the latter is obliged to transfer his share—at the same terms and conditions as those that were offered in a binding form by a third party.

It is not considered to be a sale or intention to sell in the above sense, if changes of ownership take place within the syndicate or by transfer to a concern-company without impairing the present contract, or through succession. By concern-company is to be understood a company in which the selling party participates with at least 50% or with which he has concluded an agreement involving a com-

munity of interests, which, according to contents and duration, is equivalent to an economic merger.

8.

As long as the option belonging to the I. G. is not made use of, Titaninc can only sell its shares if the purchaser assumes the option-obligation stipulated in article 4 as regards Titaninc.

9.

The present pool agreement is effective as long as any one of the parties to the agreement or any one of their legal successors possesses shares in the Japanese titanium white factory, either directly or indirectly.

Should the Japanese company to be formed, be dissolved, then the present pool agreement shall also be terminated on the day of the dissolution, it being understood that its provisions be applied during the liquidation stage of the Japanese company in the spirit of the contract.

10.

All disputes arising in connection with the present contract or regarding whether it is in force, shall be settled under the rules of conciliation and arbitration of the International Chamber of Commerce, by one or more arbitrators appointed in accordance with these rules.

Exhibit J-1

Draft 17/1/36.

To be re-written and adapted in Japan in accordance with Japanese law and custom.

Contract to be in English

B.

AGREEMENT REGARDING THE FORMATION OF A JAPANESE COMPANY NAMED "TITAN KOGYO K. K."

between

Messrs. KOKUSAN KOGYO Kabushiki Kaisha, at TOKYO hereinafter referred to as "KOKUSAN KOGYO"

and

Messrs. DOITSU SENRYO GOMEI KAISHA, at KOBE/TOKYO, Japan—hereinafter referred to as "DOITSU"

DOITSU act under power of attorney in this agreement for:

TITAN COMPANY INC., 7 West 10th Street, Wilmington, Delaware, U. S. A.

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT, Frankfurt a. M.

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES, 67, rue de Prony, *Paris*.

1.

KOKUSAN KOGYO and DOITSU agree to form a company with the name of: TITAN KOGYO K. K. at TOKYO, hereinafter referred to as "TITAN KOGYO"

Exhibit J-1

2.

The purpose of the company is to be the production and sale of Chemical Products in general and Titanium Pigments in particular in the territories of Japan and its colonies, leased and mandated territories as at present constituted, as well as Manchoukuo as per the map attached to the Japan Manchoukuo Year Book 1935. (Photocopy of this map is attached to this contract.)

3.

The company shall be formed with a share capital of Yen 1.500.000.—consisting of 30.000 shares of Yen 50 each, half of which to be issued respectively to KOKUSAN KOGYO and DOITSU as follows:

15.000 shares shall be issued for cash to KOKUSAN KOGYO

3.000 shares shall be issued for cash to DOITSU

12.000 shares shall be issued credited as fully paid up to DOITSU as consideration for the transfer of the existing Japanese business and goodwill as well as the transfer of patents and processes.

At the start only two thirds or one million Yen of the capital are to be paid up of which 500.000.—Yen in cash by KOKUSAN KOGYO and 100.000.—Yen in cash by DOITSU. The remaining one third of the capital will be paid up when required that is 250.000.—Yen in cash by KOKUSAN KOGYO and 50.000.—Yen in cash by DOITSU.

Exhibit J-1

4.

KOKUSAN KOGYO shall not transfer or part with the possession of any of their shares or holdings, except with the written consent of DOITSU and the transferee shall agree to be bound by all the obligations hereof so far as they are binding on KOKUSAN KOGYO.

The firms represented by DOITSU as trustees are restricted by agreements between them as regards the transfer or sale of their shares or holdings in TITAN KOGYO.

5.

The business year shall be the calendar year.

The first business year commences on the date the company is registered in accordance with the Japanese laws and terminates on the 31st of December of the following year.

6.

The Board of TITAN KOGYO shall consist of an even number of Directors, half of which to be nominated by KOKUSAN KOGYO and the other half by DOITSU.

The Manager or Managers of the company shall be appointed and dismissed by the Board.

The company shall be legally represented by .....
..... (to be completed according to Japanese laws and custom).

7.

As regards General Meetings the following shall be provided:

a) Each share of Yen 50.—shall have a voting right of one vote.

b) A general Meeting shall be held in every year at such time and place as may be determined by the directors.

c) General Meetings are to be called by the Board of Directors with three weeks notice at the least, and must be called upon request of KOKUSAN KOGYO or DOITSU.

d) No business shall be transacted at any General Meeting unless a quorum is present when the Meeting proceeds to business. A quorum is present when 75% of the shares are represented. Resolutions can only be passed by a majority of 75% of the shares represented.

e) If a resolution cannot be passed because the conditions under d) are not fulfilled a second General Meeting shall be called, with at least four months notice. Such second Meeting can pass resolutions on the same subjects as the first Meeting by a simple majority of the shares represented.

8.

Subject to the provisions specified below, TITAN KOGYO cannot be dissolved until after the 31st of December of the year nineteen hundred and sixty.

A General Meeting to pass the necessary resolutions for dissolving the company shall be held forthwith after December 31st 1960, if notice has been given by registered mail, by one of the parties to the other party, at least twelve months before that date, to the effect that such dissolution is desired. If such notice has not been given, it can be given to be effective next time not before December 31st 1970 and so on only at the end of a ten years period.

The company may however be dissolved before the 31st December 1960, if the returns of the company show a loss

during each one of five consecutive business years after the manufacturing plants have been put into operation, and if one of the parties gives 6 months notice by registered mail on that account. Such notice to be given within 24 months after the returns of the 5th year have been established.

In both cases mentioned above the notice given is only valid if the party giving notice has offered twelve months before by registered mail to the other party, the right to purchase all its shares and holdings at a price to be determined by mutual agreement and corresponding to the book value of the shares without taking into account any values of patents, trade marks or goodwill, and if the other party has not accepted such offer by registered mail within seven months from the date of receiving same.

In default of agreement the price shall be settled by an Expert to be nominated by the International Chamber of Commerce. The decision of the Expert shall be final and the expenses incurred shall be charged to each party with 50%.

Should the other party refuse to purchase the shares and holdings so offered and the party making the offer consequently have the right to require TITAN KOGYO to be voluntarily wonned up, then the refusing party shall use its voting power in TITAN KOGYO to put that company into voluntary liquidation.

9.

It shall be provided that if the company be dissolved, all patents, licenses, processes and secrets of manufacture in the hands of the company must be sold in toto but not otherwise and only together with its trade marks.

10.

All notifications on behalf of the company will be made exclusively in the.....

Exhibit J-2

Translated from German.

German Text attached.

GUARANTY CONTRACT

between

DOFASU, TITANINC, I.G., TITÄNGESELLSCHAFT
TERRES RARES and THANN

with

attached drafts
C., D., E., F.
1936.

Initialed, January 18th 1936, by:

Mr. Jebsen
Mr. Blumenfeld
Mr. Borgwardt
Mr. Mayer-Wegelin.

Exhibit J-2

Translated from German.

GUARANTY CONTRACT

between

DOITSU SENRYO GOMEI KAISHA, KOBE/JAPAN,
hereinafter referred to as "DOITSU"

TITAN COMPANY INC., 7 West 10th Street, WILMINGTON, DELAWARE, U.S.A.,
hereinafter referred to as "TITANINC".

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT, FRANKFURT a/M.,
hereinafter referred to as "I.G.".

TITANGESELLSCHAFT m.b.H., I.G. WERK-LEVERKUSEN a.Rh.,
hereinafter referred to as "TITANGESELLSCHAFT"

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES, 67 RUE de Prony, PARIS,
hereinafter referred to as "TERRES RARES", and

FABRIQUES DE PRODUITS CHIMIQUES DE THANN ET DE MULHOUSE, THANN/ Haut Rhin,
hereinafter referred to as "THANN".

Terres Rares, Titaninc and I. G. have on..... entered into a "Pool-Agreement" regarding joint participation in a Titanium factory to be erected in Japan together with the Kokusan Kogyo Kabushiki Kaisha, Tokyo. In this Pool-Agreement Doitsu is, as trustee of the parties to

the contract, authorised to conclude an agreement with Kokusan Kogyo for the formation of a company. Terres Rares and Thann of the one part and Titaninc, I.G. and Titangesellschaft of the other part, have made contractual arrangements with regard to the grant of licences and sales rights for various territories amongst which Japan, its colonies, leased and mandated territories, as well as Manchoukuo. Terres Rares and Thann have made with Titaninc and Titangesellschaft contractual arrangements regarding sales in the Japanese market.

In order to closer determine the relations of the interested parties towards the Japanese enterprise, as well as with each other, and to give Doitsu's activity as trustee the necessary basis, the following agreement, binding also possible legal successors, is made for the protection of all the parties.

Definitions.

1) "Licensed Field"

The term "Licensed Field" wherever herein employed means and includes:

a) All methods, processes and apparatus in the field of manufacture of all Titanium compounds, containing two per cent (2%) or more of the element Titanium in a chemically, mechanically or physically combined state and mixtures thereof, which can be used as pigments, whether or not adapted for other uses and

b) All such Titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses.

2) "European-American Group".

By this designation is meant:

Titaninc
I.G.
Titangesellschaft
Terres Rares
and Thann.

3) "Titan Kogyo".

By this designation is meant the Japanese company, whether or not it is given another name.

4) "Territory of Titan Kogyo".

By this designation is meant:

Japan, its colonies, leased and mandated territories, as at present constituted, as well as Manchoukuo as per the map attached to the "Japan Manchoukuo Yearbook 1935" (Photocopy of this map is attached to this contract).

5) "Territory of Doitsu".

By this designation is meant: all countries outside the territory of Titan Kogyo.

6) "North America".

By this designation is meant the entire continent of that name including the United States, Canada, Newfoundland, Panama and all Central American States and also all islands which were on the 30th July 1920 considered as being geographically appurtenant to said continent and also the Philippine and Hawaian Islands.

Exhibit J-2

7) "Finished Article".

By this designation is meant any artificially produced article or mixture produced by the aid of any Titanium Pigment in such a manner that the product constitutes a cohesive inter-mixture of a Titanium Pigment with other materials as for instance paints, rubber, glass, etc.

1.

a) The European-American group refrain from granting any license under their rights within the scope of the Licensed Field to any firms in the territory of Titan Kogyo other than the Japanese company, Titan Kogyo, mentioned in the introduction.

b) Titaninc, I. G. and Titangesellschaft authorize Doitsu, as their representative, to enter into the attached License Agreement "D" with Titan Kogyo, and Doitsu shall see to it that this be done.

c) Terres Rares and Thann undertake to keep themselves free in such a way that they can at any time grant the Titan Kogyo through Doitsu, for the territory of Titan Kogyo, exclusive licenses on the patents, processes and experiences within the Licensed Field, which they have and shall have at their disposal in future as owners or licencees. The licence comprises the exclusive right for the exploitation of any invention, improvement and anything within the scope of the Licensed Field.

Terres Rares and Thann declared that no licences in the Licenced Field for the territory of Titan Kogyo exist at the time of the conclusion of the agreement.

Exhibit J-2

d) Titangesellschaft undertakes to transmit to Titan Kogyo through Doitsu the information as to technical experience as stipulated in the agreement, respectively to receive such from Titan Kogyo through Doitsu. The other firms of the European-American group shall send their information of technical nature, so far as they are bound to transmit same, to the Titangesellschaft, to be forwarded.

As no exchange of technical information takes place at present between Titaninc, I. G. and Titangesellschaft of the one part and Terres Rares and Thann of the other part, Terres Rares and Thann agree that they shall not be informed about the processes and experiences imparted by Titangesellschaft to Titan Kogyo. The same applies to the processes and improvements placed at the disposal of Titaninc, I. G. and Titangesellschaft by Titan Kogyo.

However, should there amongst these be inventions or should Titan Kogyo make inventions as regards the application of Titanium Pigments, which in no way are based on the experience of and information from Titangesellschaft and establish something new in principle, these inventions shall be placed at the disposal also of Terres Rares.

Terres Rares and Thann agree and the I. G. declares itself willing that the I. G. decide in a form binding for all parties concerned, whether such an invention is new and independent in the above sense. None of the parties shall be entitled to protest against this decision.

Exhibit J-2

Should Titan Kogyo acquire from a third party inventions within the Licensed Field or regarding the application of Titanium Pigments, such inventions shall be placed at the disposal also of Terres Rares, at selfcost.

e) Except to the extent provided for below, under (g), the European-American group undertake not to sell, without the consent of Titan Kogyo, as well as Doitsu, any products within the Licensed Field, either directly or indirectly, to the territory of Titan Kogyo, and, as far as possible to impose the same obligation on their customers and to this end take all reasonable steps to ensure that this obligation shall be observed by their respective customers.

Doitsu shall see to it that Titan Kogyo and Kokusan Kogyo assume the same obligations as regards export of their products within the scope of the Licensed Field, to the territory of Doitsu. Such a sale can however be made through Doitsu (respectively, as far as North America, is concerned, through Titaninc), but only to one or more of the firms of the European-American group and only with the consent of all of these firms.

f) However, the customers of Titaninc, Titangesellschaft, Terres Rares and Thann, as well as their licensees and sublicensees, but not these companies themselves, shall have the right, without objection on the part of Titan Kogyo, to sell "Finished Articles" within the territory of Titan Kogyo and, on the other hand, the customers of Titan Kogyo, but not Titan Kogyo itself, shall have the right, with-

out objection on the part of the above mentioned firms, to sell "Finished Articles" in the territory of Doitsu, with the exception of North-America, to which shall be applied the provisions of the License Agreement "D", art. 2 b).

Although the free sale of substances and products characterised by the designation "Finished Article" is permitted for the customers, the companies shall watch that their customers do not compete in an undesirable way, that is:

1) The customers of Titaninc, Titangesellschaft, Terres Rares and Thann not in a way undesirable for Titan Kogyo;

2) The customers of Titan Kogyo not in a way undesirable for Titaninc, Titangesellschaft, Terres Rares and Thann.

If one of the companies ascertains competition of this kind from a customer of another company, the latter shall take the necessary steps to prevent the customers from continuing this competition.

It seems impossible to fix the particulars of the measures necessary to carry through this principle. The parties shall, however, from time to time meet for discussions regarding the conditions of the market and the steps to be taken.

Doitsu shall see to it that Titan Kogyu accepts these obligations.

g) It shall not be considered as a violation of the obligations under e) and i), if the European-American group continue to sell products within the Licensed

Field in the territory of Titan Kogyo, up to the day on which Doitsu, upon request of Titan Kogyo, informs the European-American group that Titan Kogyo is in a position to satisfy normal demands. To allow Titan Kogyo to take over the sales as soon as possible after the start of its production, the European-American group shall enter into no contracts with customers for the territory of Titan Kogyo for quantities exceeding the normal requirements for 3 months. When Titan Kogyo has given notice as to when it will be in a position to deliver, no contracts shall be entered into for deliveries after that date, and no deliveries exceeding the normal requirements up to that date shall be made. The European-American group shall, however, have the right to deliver the quantities on contracts entered into before receipt of this notice.

Doitsu shall see to it that Titan Kogyo accepts these provisions.

h) The firms of the European-American group assume the mutual obligation not to participate directly or indirectly in any enterprise competing or preparing to compete in the territory of Titan Kogyo by production or delivery of Products within the Licensed Field, or to assist such an enterprise in any way as regards its installations and/or operations and business organisation, by technical or commercial advice regarding products within the Licensed Field. Doitsu is authorised to bind the European-American group in this respect towards Titan Kogyo and shall see to it that Titan Kogyo assumes the same obligations throughout the world.

Exhibit J-2

i) The firms of the European-American group assume the mutual obligation to refrain from selling in the territory of Titan Kogyo any products within the Licensed Field and to cover their total requirements of such products, to be further treated in their own factories in the territory of Titan Kogyo, exclusively from Titan Kogyo. Doitsu is authorised to bind the European-American group in this respect towards the Titan Kogyo, and shall see to it that Titan Kogyo undertake to cover its total requirements of products within the Licensed Field, to be further treated in their own factories in the territory of Doitsu, from one or more of the firms of the European-American group or their licensees or sublicensees.

2.

In connection with the formation of Titan Kogyo, undertaken jointly with Kokusan Kogyo, Doitsu assumes the obligation to see to it that Kokusan Kogyo enter into the following obligations:

a) A license agreement as per attached Contract C;

b) Contracts for the purpose of satisfactory working conditions for Titan Kogyo in the spirit of and along the lines set forth in the annexed drafts: encl. E and F.

c) The processes passed on to Titan Kogyo by Kokusan Kogyo or invented or developed by Titan Kogyo shall be placed at the disposal of Doitsu free of charge by Titan Kogyo for use free of charge in the countries outside the territory of Titan Kogyo, such processes to be passed on by Doitsu to one or

more of the firms of the European-American group, as foreseen in art. 1.

d) *1.* Kokusan Kogyo undertakes, on its own behalf, as well as on behalf of all firms belonging to the Nippon Sangyo Concern, to refrain from any activities or participation in the manufacture of or trading in products within the Licensed Field, other than through Titan Kogyo, and to cover their total requirements of such products within the territory of Titan Kogyo, exclusively from this firm.

d) *2.* Kokusan Kogyo undertakes further, on its own behalf, as well as on behalf of all firms belonging to the Nippon Sangyo Concern, that if they should find some processes involving the use of products within the Licensed Field or have at their disposal such processes as owners or licensees, they shall, when using such processes, cover their requirements in such products within the countries belonging to the territory of Titan Kogyo, from the Titan Kogyo, and in all other countries from the firm or firms designated by Doitsu—unless Kokusan Kogyo can satisfy Doitsu that this is impracticable.

e) The obligations assumed by Kokusan Kogyo in this article, paragr. a) and d) are void if Kokusan Kogyo dispose of all their shares with the consent of Doitsu.

3.

The European-American group authorise Doitsu to act as their representative within the limits and in the spirit of the above mentioned obligations, contracts and principles,

and Doitsu in turn undertakes in its actions to keep closely within these limits and to follow the further instructions of the European-American group.

The I. G. assumes the responsibility towards the other parties hereto for the actions of Doitsu and its possible legal successors.

4.

The firms of the European-American group shall consider the obligations assumed by Doitsu as trustee, as their own—to the extent the firms have bound themselves in this contract—and shall compensate Doitsu for any damage resulting therefrom.

5.

Any communications from the European-American group in connection with the interpretation of the contract shall be despatched to Doitsu, to avoid any misunderstanding and disagreement, exclusively through the I.G., and Doitsu shall use the same way.

6.

As compensation for the efforts made and to be made by Doitsu and I.G., 10% of the profits of the European-American group, resulting from the participation in the Japanese Titanium factory, shall be allotted to Doitsu, this share to be deducted when the profit is paid out.

7.

The present agreement and all the obligations entered into by virtue of this agreement, shall remain in force as long as any one of the parties hereto or any one of their

legal successors holds shares in Titan Kogyo, either directly or indirectly. It is also binding upon their legal successors, as well as upon the purchasers of shares in case one or more of the other parties sell their shares or a part thereof.

8.

As Terres Rares do not participate in the License Agreement "D", neither directly nor indirectly, it is agreed that the provisions of the License Agreement D can only be applied in so far as compatible with the Guaranty-Contract and in so far as no special advantage arises therefrom for the parties to the License Agreement D, which is not provided for in the Guaranty Contract.

Any cases arising in this connection are to be examined in a loyal spirit.

9.

The obligations assumed by the parties hereto shall extend to all the firms depending upon or controlled by the parties, to the end that they cannot be avoided by the formation or aid of such firms.

10.

Differences of opinion as to the stipulations of this contract, which cannot be settled by means of direct negotiations between the parties, shall be settled under the rules of conciliation and arbitration of the International Chamber of Commerce, by one or more arbitrators appointed in accordance with these rules.

Exhibit J-3

Contract to be in English

C.

LICENCE CONTRACT

BETWEEN

Messrs. KOKUSAN KOGYO Kabushiki Kaisha at TOKYO/ Japan hereinafter referred to as "KOKUSAN KOGYO"

and

Messrs. TITAN KOGYO Kabushiki Kaisha, at TOKYO hereinafter referred to as "TITAN KOGYO"

the following agreement is made and entered into, binding the parties as well as their legal successors.

1.

TITAN KOGYO have this day made a contract with the DOITSU SENRYO GOMEI KAISHA of KOBE/TOKYO, by which the two companies agree to grant each other licences for the production of Titanium Pigments, at the terms described in detail in the contract "D". Referring to that contract, KOKUSAN KOGYO undertake to grant TITAN KOGYO exclusive licences within the scope of the "licensed field" as hereinafter defined under all patents, processes and subject matter available to KOKUSAN KOGYO now or later with the right for TITAN KOGYO to grant sublicences.

The term "licensed field" wherever herein employed means and includes

a) all methods, processes and apparatus in the field of manufacture of all titanium compounds, containing two per cent (2%) or more of the element Titanium in a chemically, mechanically or physically combined

state and mixtures thereof, which can be used as pigments, whether or not adapted for other uses and

b) all such Titanium compounds and mixtures, which can be used as pigments, whether or not adapted for other uses.

2.

Whenever KOKUSAN KOGYO file an application for letters patent on an invention in the licensed field KOKUSAN KOGYO shall within two months from the date of filing send a copy thereof to TITAN KOGYO with information as to the countries in which KOKUSAN KOGYO will file an application on such invention.

TITAN KOGYO and their licensees or sublicensees shall be entitled to apply for patents in all other countries and KOKUSAN KOGYO will on request supply TITAN KOGYO with all necessary papers and powers for that purpose and so far as possible under the provisions of the International Convention for the Protection of Industrial Property.

KOKUSAN KOGYO shall prosecute with all possible diligence and care, all patent applications which KOKUSAN KOGYO have announced will be filed by them and in the case of difficulties confer with TITAN KOGYO their licensees or sublicensees in the respective countries as instructed by TITAN KOGYO.

3.

KOKUSAN KOGYO undertake to make in due time all payments necessary to maintain and prolong the patents in the licensed field, unless TITAN KOGYO expressly renounce their claim on an exclusive license.

Exhibit J-3

4.

The expenses incurred by KOKUSAN KOGYO in obtaining, maintaining, prolonging or defending any patent in the "Licensed Field" in future will be refunded by TITAN KOGYO. TITAN KOGYO is, however, relieved of this obligation when the exclusive license is renounced by them or otherwise terminates in which case TITAN KOGYO shall be entitled to a non-exclusive license under the patents in question.

5.

KOKUSAN KOGYO agree that they will as far as possible require their officers, agents and employees to assign to them any and all inventions within the licensed field which may be made by them or any of them prior to the time fixed for the termination of the exclusive licenses and of any extension of such time.

6.

The exclusive licenses hereby granted shall last as long as KOKUSAN KOGYO continue to own shares in TITAN KOGYO in accordance with the contract made between KOKUSAN KOGYO and DOITSU. Should such ownership cease, TITAN KOGYO will receive a non-exclusive license in respect of all inventions, patents and patent applications of which KOKUSAN KOGYO are then the owner, such licenses being available to TITAN KOGYO as well as their licensees and sublicensees who have received or may subsequently receive a license from TITAN KOGYO.

Exhibit J-3

7.

TITAN KOGYO or any exclusive sublicensee under any patent hereunder shall be entitled at their own expense to take any legal steps for the protection of such patent and recover damages, penalties and profits for infringements of such patent and to receive for their own benefit any sums recovered by such steps. They are for such purposes entitled to use the name of KOKUSAN KOGYO as owners of the patents but this gives them no right to claim reimbursement from KOKUSAN KOGYO of the expenses incurred by the procedure. The party taking such steps shall, however, provide for KOKUSAN KOGYO satisfactory security against all expenses and liabilities which may result for KOKUSAN KOGYO from such proceedings.

KOKUSAN KOGYO shall be notified of such steps immediately and shall be entitled to intervene at their own expense in such litigation.

8.

TITAN KOGYO shall never directly or indirectly question or contest the validity of any patent under which it is licensed by KOKUSAN KOGYO nor use nor infringe the same except as licensed nor connive with or afford any pecuniary or other assistance to any contestant or questioner of such validity.

KOKUSAN KOGYO assume the same obligations with regard to the patents of TITAN KOGYO and of the companies cooperating with TITAN KOGYO in the "Licensed Field".

9.

KOKUSAN KOGYO undertake that, in case they invent or have at their disposal as owners or licensees any process which involves the use of Titanium Pigments, they will

stipulate when granting licences in respect of such processes, that the Licensees shall cover their requirement of Titanium Pigments solely and exclusively from TITAN KOGYO or their licensees or sublicensees, or such other firms designated by DOITSU, unless KOKUSAN KOGYO satisfies DOITSU that such stipulation is impracticable.

10.

KOKUSAN KOGYO undertake to provide that the NIPPON SANGYO CONCERN undertake for itself and use all endeavours and take all measures in its power to ensure that its associated and affiliated companies shall respect this agreement as if they were parties to it and that they shall do nothing contrary to the interests of TITAN KOGYO and the companies cooperating with TITAN KOGYO in the "Licensed Field".

Exhibit J-4

Contract to be in English.

D.

LICENCE CONTRACT.

Between

Messrs. DOITSU SENRYO GOMEI KAISHA at KOBE/TOKYO, JAPAN,

hereinafter referred to as "DOITSU"

and

Messrs. TITAN KOGYO Kabushiki Kaisha at TOKKO

hereinafter referred to as "TITAN KOGYO"

the following agreement is made and entered into binding the parties as well as their legal successors and to the purpose of exploiting the processes for the production of Titanium Pigments available to either of the parties now or in future.

In this agreement DOITSU act as trustees of TITAN COMPANY INC., 7 West 10th Street, WILMINGTON, DELAWARE, U.S.A., I. G. FARBENINDUSTRIE AKTIEGESELLSCHAFT, FRANKFURT a/M., TITANGESELLSCHAFT m.b.H., I. G. WERK-LEVERKUSEN a.Rh., with which firms they have made corresponding arrangements and contracts.

1.

DEFINITION.

a) *"Licensed Field".*

The term "Licensed Field" wherever herein employed means and includes

1) all methods, processes and apparatus in the field of manufacture of all Titanium compounds, containing two per cent (2%) or more of the element Titanium in a chemically, mechanically or physically combined state and mixtures thereof, which can be used as pigments, whether or not adapted for other uses and

2) all such Titanium compounds and mixtures, which can be used as pigments whether or not adapted for other uses.

b) *"North America"*.

By this designation is meant the entire continent of that name including the United States, Canada, Newfoundland, Panama and all Central American States and also all islands which were on the 30th July 1920 considered as being geographically appurtenant to said continent and also the Philippine and Hawaian Islands.

c) *"Territory of* TITAN KOGYO".

The term "Territory of TITAN KOGYO" wherever herein employed means and includes:

Japan, its colonies, leased and mandated territories, as at present constituted,

as well as Manchoukuo as per the map attached to the "Japan Manchoukuo Year Book 1935". (Photo-copy of this map is attached to this contract).

d) *"Territory of* DOITSU".

The term "Territory of DOITSU" wherever herein employed means and includes all countries outside the territory of TITAN KOGYO.

Exhibit J-4

e) *"Finished articles".*

By this designation is meant any artificially produced article or mixture produced by the aid of any Titanium Pigment in such a manner that the product constitutes a cohesive inter-mixture of a Titanum Pigment with other materials as for instance paints, rubber, glass, etc.

2.

a) The DOITSU agree to grant to TITAN KOGYO for the territory of TITAN KOGYO an exclusive licence in respect of all or any patents, processes and subject matter within the scope of the Licensed Field of which TITANINC., I.G. and/or TITANGESELLSCHAFT now is or may hereafter become entitled to grant for such territory an exclusive licence and a non-exclusive licence in respect of all or any patents, processes and subject matter within the scope of the Licensed Field as to which TITANINC now is or may hereafter become entitled to grant or may be entitled to obtain the right to grant for such territory a non-exclusive license solely for the purpose of the production of titanium compounds within the Licensed Field with full rights throughout the territory of TITAN KOGYO to manufacture and/or use and/or sell the titanium compounds so produced, whenever TITANINC., I.G. and/or TITANGESELLSCHAFT has or is entitled to obtain power to confer such right subject always to the conditions contained in this agreement.

These licenses do not include the right for TITAN KOGYO to grant sublicenses.

b) No objection shall be made to customers of TITAN KOGYO selling "Finished Articles" in the territory of DOITSU but so that any such sales to North America shall

be kept within the limits specified below, and no such sales shall be made by TITAN KOGYO itself in the territory of DOITSU.

"Finished Articles" in the manufacture of which titanium products produced by TITAN KOGYO have been used as raw material may be imported to North America provided that the same does not constitute such an important part of such finished article that its sale substantially interferes with TITANINC's or TITANGESELLSCHAFT's or their licensee's or sublicensee's sale. TITAN KOGYO agree that upon receiving notice from DOITSU that such importation into North-America of such finished article does interfere with the sale of the products of the above mentioned parties, TITAN KOGYO will endeavour to prevent such importation. DOITSU agree that neither DOITSU nor any of the above mentioned parties will sue the TITAN KOGYO or any purchaser from, or customer of, direct or indirect of the TITAN KOGYO on account of the importation into or sale and use in North-America of any such finished article until after six months from the time such notice shall have been given to the TITAN KOGYO.

3.

a) TITAN KOGYO agree to grant to DOITSU for the territory of DOITSU an exclusive license in respect of all or any patents, processes and subject matter within the scope of the Licensed Field of which TITAN KOGYO now is or may hereafter become the beneficial owner or in respect of which TITAN KOGYO is or may hereafter become entitled to grant for such territory an exclusive license and a non-exclusive license in respect of all or any patents, processes and subject matter within the scope of the Licensed Field as to

which TITAN KOGYO now is or may hereafter become entitled to grant or is entitled to obtain the right to grant for such territory a non-exclusive license solely for the purpose of the production of titanium compounds within the Licensed Field with full rights throughout the territory of DOITSU to manufacture and/or use and/or sell titanium compounds so produced and with the right to grant sublicenses wherever TITAN KOGYO has or is entitled to obtain power to confer such right subject always to the conditions contained in this agreement.

b) No objection shall be made to customers of TITANINC., TITANGESELLSCHAFT or their licensees or sublicensees selling "Finished Articles" in the territory of TITAN KOGYO but no such sales shall be made by these companies themselves.

c) The exclusive as well as the non-exclusive licenses shall on the written request of DOITSU be granted direct to TITANGESELLSCHAFT or TITANINC or any of its licensees or sublicensees.

d) The TITAN KOGYO undertake that when granting a license in the territory of DOITSU, for a process involving the use of Titanium pigments, they will impose on the licensee the obligation to purchase all Titanium pigments required, solely and exclusively from TITANINC, I. G., TITANGESELLSCHAFT or their licensees or sublicensees in accordance with the instructions given by DOITSU on enquiry, unless in any particular case TITAN KOGYO satisfy DOITSU that such a stipulation is impracticable.

4.

Except to the extent provided for in the preceeding articles 2. and 3. hereof, or as may be otherwise specifically

agreed between the parties hereto, neither of the parties hereto shall without the consent of the other sell or knowingly permit to be sold within the territory of the other party any of the products within the scope of the Licensed Field and to this end each of the parties hereto shall take all reasonable steps to ensure that this obligation shall be observed by their respective customers.

If DOITSU permit TITAN KOGYO to sell any products within the scope of the Licensed Field in or for the territory of DOITSU, TITAN KOGYO shall make such sales through DOITSU. DOITSU are from now on appointed sole agents of TITAN KOGYO for all countries outside the territory of TITAN KOGYO and remain such agents as long as TITAN KOGYO have the right to an exclusive license from DOITSU, their licensees or sublicensees with the exception of North America for which the TITANIUM PIGMENT CO. INC., 111 Broadway, NEW YORK CITY, shall be appointed exclusive agent.

The TITAN KOGYO shall on the request of DOITSU appoint the firms for which DOITSU is trustee—their licensees or sublicensees—sole agents for their respective licensed territories.

TITAN KOGYO shall only deal with these agents through DOITSU and possible sales shall be dependent upon the consent of DOITSU.

TITAN KOGYO are only obliged to execute such orders from DOITSU as TITAN KOGYO approve of. DOITSU can fix the prices and terms for resale at their own discretion.

If TITAN KOGYO permit DOITSU to sell any products within the scope of the Licensed Field within or for the territory of TITAN KOGYO, DOITSU shall effect such sales

only through TITAN KOGYO. TITAN KOGYO are from now on appointed sole agents of DOITSU for the territory of TITAN KOGYO and remain such agents as long as DOITSU have the right to exclusive licenses from TITAN KOGYO.

DOITSU are only obliged to execute such orders from TITAN KOGYO as DOITSU approve of. TITAN KOGYO can fix the prices and terms for resale at their own discretion.

Although articles 2. and 3. of this contract permit customers of DOITSU or of TITAN KOGYO to sell substances and products characterized by the designation "finished articles" without other restrictions than specified in article 2., the two companies shall watch carefully that their customers do not compete with either of the companies to an undesired extent within the territories reserved the company in question. If one of the companies ascertains competition of this kind from a customer of the other company, the latter shall take the necessary steps to prevent the customer from continuing the competition.

It seems impossible to fix the particulars of the measures necessary to carry through this principle and therefore the parties will from time to time meet for discussions regarding conditions of the market and the steps to be taken.

5.

a) TITAN KOGYO, whenever they file an application for Letters Patent on an invention in the Licensed Field shall within two months from the date of filing send a copy thereof to DOITSU with information as to the countries included in the territory of DOITSU in which TITAN KOGYO will file an application on such invention. TITAN INC., TITANGESELLSCHAFT and their licensees or sublicensees shall be entitled to apply for patents in all other countries

within their territory, and TITAN KOGYO will on request supply DOITSU with all necessary papers and powers for that purpose and so far as possible under the provisions of the International Convention for the Protection of Industrial Property.

TITAN KOGYO shall prosecute with all possible diligence and care all patent applications which TITAN KOGYO have announced will be filed by them in the territory of DOITSU and in the case of difficulties confer with the licensee or sublicensee in the respective countries as instructed by DOITSU.

a 2) If TITAN KOGYO shall receive information as to the application by any other person, firm or company for letters patent in the Licensed Field in respect of which it shall be entitled to an exclusive license or to grant an exclusive license in the territory of DOITSU they shall with all possible diligence and care act to the purpose of providing DOITSU with the necessary information, papers and documents to enable TITANINC. and/or TITANGESELLSCHAFT and/or their licensees and/or their sublicensees to secure an exclusive license or applying for a letters patent in the countries within the territory of DOITSU and so far as possible under the provisions of the International Convention for the Protection of Industrial Property.

b 1) DOITSU agree that TITANINC., I. G. and TITANGESELLSCHAFT whenever they file an application for Letters Patent on an invention in the Licensed Field respectively shall within two months from the date of filing send a copy thereof to DOITSU (TITANINC. and TITANGESELLSCHAFT through I. G.) to be passed on to TITAN KOGYO with information as to the countries included in the territory of TITAN KOGYO in which they will file an application on such invention. TITAN KOGYO shall be entitled to apply for

patents in all other countries within their territory and TITANIC, I. G. and TITANGESELLSCHAFT respectively will on request supply TITAN KOGYO through DOITSU with all necessary papers and powers for that purpose and so far as possible under the provisions of the International Convention for the Protection of Industrial Property.

TITANINC., I. G. and TITANGESELLSCHAFT respectively shall prosecute with all possible diligence and care all patent applications which they have announced will be filed by them in the territory of TITAN KOGYO and in the case of difficulties confer with TITAN KOGYO.

b 2) If TITANINC., I. G. or TITANGESELLSCHAFT shall receive information as to the application by any other person, firm or company for Letters Patent in the Licensed Field in respect of which they shall be entitled to an exclusive license or to grant an exclusive license in the territory of TITAN KOGYO they shall with all possible diligence and care act to the purpose of providing TITAN KOGYO through the intermediary of DOITSU with the necessary information, papers and documents to enable TITAN KOGYO to secure an exclusive license or applying for a Letters Patent in the countries within the territory of KOGYO and so far as possible under the provisions of the International Convention for the Protection of Industrial Property.

c) Each party shall make punctually all payments necessary for the maintenance or prolongation of the patents owned or controlled by it, and with respect to which exclusive licenses are hereby granted or provided for.

With respect to patents of TITAN KOGYO in "North America" DOITSU shall be entitled to have the payment made by TITANINC. or their licensees in the name of TITAN KOGYO and to debit TITAN KOGYO for each payment.

TITAN KOGYO shall in due time inform DOITSU of the dates on which payment is due, to enable such payments to be made in a regular manner and without difficulty.

d) TITAN KOGYO as well as DOITSU (and the latter in the name of one or more of the firms represented by them) may relieve themselves of the obligation to pay any part of the expenses of obtaining, defending, maintaining or prolonging any Letters Patent or application for Letters Patent, with respect to which they possess an exclusive license by delivering to the other party owning or controlling the same a full and duly executed release of its exclusive license in which case the party so renouncing its right shall have a non-exclusive license in respect of the same.

e) Either party named under d) may relieve itself of the obligation to pay its share of the expenses of maintaining or defending any Letters Patent owned or controlled by it and with respect to which an exclusive license in favour of the other party is hereby granted or provided for by delivering to the other party (the exclusive licensee thereunder) a full complete and duly executed assignment of all the right, title and interest of such party in and to the same.

f) Either party or any exclusive licensee or sublicensee under any patent hereunder shall be entitled at its own expense to take any legal steps for the protection of a patent with respect to which an exclusive license to such party is hereby granted or provided for and to recover damages, penalties and profits for infringements of such patent and to receive for its own benefit any sums recovered by such steps. They are for such purpose entitled to use the name of the owner of the patent, but this gives them no right to

claim reimbursement from the owner of the patent of the expenses incurred by the procedure. The party taking such steps shall, however, provide satisfactory security against all expenses and liabilities which may result for the owner of the patent from such proceedings.

The other party whether owner or licensee under the patent shall be notified of such step immediately and shall be entitled to intervene at its own expense in such litigation.

6.

Each party hereto agrees that it will cooperate with the other party by imparting semi-annually to the other party full and accurate information in detail as to knowledge obtained by it since the last report in and applicable to the Licensed Field.

7.

Each party hereto agrees that it will so far as possible require its officers agents and employees to agree to assign to it throughout the world any and all inventions within the Licensed Field which may be made by them or any of them prior to the time herein fixed for the termination of the exclusive licenses and of any extension of such time.

8.

The licenses herein provided for shall be granted and accepted and their continuance dependent upon the following conditions to be stated in every license agreement:

a) That the licensee shall never directly nor indirectly question or contest the validity of any patent under which it is licensed or use or infringe the same beyond the limits of the license nor directly nor indirectly connive with or af-

ford any pecuniary or other assistance to a contestant or questioner of such validity.

b) TITAN KOGYO undertake to render to DOITSU on or before the last day of January and July of each year true and correct statements in writing as to their production in the Licensed Field during the preceding 6 months, the DOITSU to have the right to have these statements verified.

c) The future cost of maintaining or prolonging any Letters Patent with respect to which exclusive licenses are hereby granted or provided for, the future cost of defending suits brought to annul or cancel said Letters Patent or any of them and the future cost of obtaining Letters Patent as provided for in section a) of article 5. hereof shall be equally divided between DOITSU and TITAN KOGYO and the party making such payments shall be reimbursed by the other party for its share of the said payments within sixty days after the receipt by the other party of a verified statement of account evidenced by appropriate vouchers.

d) Each party hereto shall at all times on request of the other duly and with all possible diligence execute and deliver to such other party all additional papers and documents and do and perform all other acts requisite and proper to fully effectuate all the provisions and obligations of this Agreement and particularly as regards all licenses herein referred to and also all patents and the maintenance and enforcement of the same and the preperation filing and prosecution of applications for patents.

e) TITAN KOGYO assume the obligation not to participate directly or indirectly in competitive enterprises producing or delivering or preparing to produce or to deliver the products in the Licensed Field or to assist them in any way

whatever as regards their installations or operations, business organisations, etc., by technical or commercial advice or by preferential deliveries, grant of licenses, assignment of patents or in any other manner. TITAN KOGYO further undertake to keep all processes and subject matter within the scope of the Licensed Field secret as regards third parties. TITAN KOGYO will make stipulations to this effect in their contracts, etc., with their employees, workmen, etc., in as far as this is possible and legal.

f) In the event of either of the parties hereto at any time violating or failing to perform any of the conditions contained in article 2, 3, 4, 5a) and b), 6, 7 and in this article, the other party may by notice in writing duly despatched by registered post notify the delinquent party accordingly. Unless within six months after such despatch the delinquency has ceased and satisfaction has been made, the license hereby granted to the delinquent party may at the option of the aggrieved party at any time thereafter be terminated by notice sent by registered post to the delinquent party by the aggrieved party but no such termination of license shall operate to relieve the aggrieved party from its own obligations under this agreement nor terminate the licenses or sublicenses granted to it hereunder.

9.

Each party hereto agrees that in acquiring rights to inventions within the Licensed Field it will so far as possible endeavour to provide that such rights shall extend to all countries or places within the territory with respect to which any license to the other party hereunder is hereby granted or provided for.

Exhibit J-4

10.

The exclusive license hereby granted or provided for shall remain in force for the longest period for which the respective parties have power to grant such licenses, provided however that such licenses shall terminate if and when DOITSU or their successors cease to be owners of shares in TITAN KOGYO in accordance with the Partnership Contract B. (copy of which is attached hereto), which was made between DOITSU and the KOKUSAN KOGYO K. K. TOKYO.

Should such ownership cease, each of the parties hereto shall receive a non-exclusive license for the longest term for which it is then possible to grant for their respective territories for all inventions, patents and patent applications within the Licensed Field which the other party at the date of termination owns or in respect of which it is then entitled to grant or is entitled to obtain the right to grant such license.

DOITSU shall be entitled to pass such licenses on to TITANINC., I. G. and TITANGESELLSCHAFT, and/or their present or future licensees or sublicensees.

All other obligations and rights under this agreement shall cease.

11.

TITAN KOGYO are entitled to transfer their rights in toto but not otherwise and only in connection with the transfer of their entire business to any person, firm, association or corporation which assumes the obligations of TITAN KOGYO, and this agreement in all respect shall be obligatory, not only upon each of the parties hereto respectively, but

also upon their respective assigns, successors and legal representatives.

12.

It is understood and agreed that the obligations assumed by each of the parties hereto shall extend to any and all subsidiaries of either of such parties the control of which is held by either party hereto to the end that the terms of this agreement shall not be avoided by the existence or formation of affiliated or subsidiary companies.

Exhibit J-5

E.

Minutes for an agreement between Titan Kogyo and Kokusan Kogyo regarding supplies made and services rendered by Kokusan Kogyo to Titan Kogyo are to be made on the following principles:

1) Raw materials, energies, intermediary products and machinery manufactured or generated by Kokusan Kogyo themselves or any of their subsidiaries or affiliated companies or any other member of the Nippon Sangyo concern are to be supplied at self-cost price plus maximum 10%.

2) Raw materials, energies, intermediary products and machinery purchased by Kokusan Kogyo are to be supplied by Kokusan Kogyo to Titan Kogyo at purchase price without any additional charge.

3) Titan Kogyo are bound to cover their requirements of the above mentioned products and energies with Kokusan Kogyo unless purchases can be made at more favourable terms than those offered by Kokusan Kogyo.

4) With regard to services as for inst. rent for ground and buildings, repairs, water supply, transport charges, etc. terms are to be arranged on a reasonable basis.

Exhibit J-6

F.

Minutes for an agreement between TITAN KOGYO and the KOKUSAN KOGYO K. K. TOKYO, on the terms of agency.

If TITAN KOGYO do not desire to sell their products directly and wish to appoint KOKUSAN KOGYO their agents, an agreement including the following terms must be made:

1) Exact definition of the field of products and geographic territory for which KOKUSAN KOGYO are appointed agents,

2) Selling prices are fixed by TITAN KOGYO,

3) TITAN KOGYO grant KOKUSAN KOGYO 5% selling commission on their net proceeds,

4) Only the denominations, trade marks, brands, etc. of TITAN KOGYO may be used for the sales,

5) Reservation of proprietory rights reserved to TITAN KOGYO on all letters, papers, printed matters, and especially customers' indexes referring to the trade of TITAN KOGYO,

6) Reservation of the right to withdraw from the contract if KOKUSAN KOGYO neglect the sale of the products of TITAN KOGYO and DOITSU ask for the withdrawal.

7) Termination of the contract at the latest when KOKUSAN KOGYO surrender their shares in TITAN KOGYO or if TITAN KOGYO be liquidated.

Exhibit J-7

Translated from French.

Société de Produits Chimiques
des Terres Rares.
67 Rue de Prony

Paris, January 20th, 1936.

Titan Company Inc.
7 West 10th Street
Wilmington, Delaware.
U. S. A.

Dear Sirs,

Further to our last conversation, we beg to confirm that in the Pool Agreement and its appendices, as well as in the text of the Guaranty Contract, copies of which were exchanged January 18th 1936, we pointed out to you that by the designation "Société de Produits Chimiques des Terres Rares" we meant Société de Produits Chimiques des Terres Rares and Fabriques de Produits Chimiques de Thann et de Mulhouse, and that you were in agreement with this.

As arranged, we should be obliged if you would kindly confirm your approval.

Yours very truly,

(sign.) J. BLUMENFELD.

328-B

Exhibit J-8

Translated from French.

Paris, February 4th, 1936

Société de Produits Chimiques
des Terres Rares
67 Rue de Prony
Paris

Dear Sirs,

We thank you for your letter of January 20th and take pleasure in confirming our agreement.

Yours very truly,

Sig. G. JEBSEN
Vice President.

Copy to I. G. Farbenindustrie, Mr. Borgwardt
" " Titangesellschaft.

Exhibit K

THIS AGREEMENT made the 1st day of January 1937 Between CANADIAN INDUSTRIES LIMITED (hereinafter called "C-I-L"), a corporation organized and existing under the laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec, of the first part, and NATIONAL LEAD COMPANY (hereinafter called "National"), a corporation organized and existing under the laws of the State of New Jersey, U. S. A., and having an office at 111 Broadway, New York City, of the second part.

WHEREAS:—

(1) The parties hereto have agreed to co-operate in the manufacture and sale of titanium compounds, which expression whenever used in this Agreement means all forms of the element titanium and all substances, materials and compositions containing two per cent (2%) or more of that element in a chemically, mechanically or physically combined state (including simple mixtures thereof but excluding titanated lithopones and titanium tetrachloride), which can be used as pigments, whether or not adapted for other uses.

(2) National possesses patent rights and processes for the production of titanium compounds and particularly for the production of various qualities of titanium white or titanium dioxide which products are manufactured on an important scale in accordance with such patent rights and processes in factories at Sayreville, New Jersey, and St. Louis, Missouri, U. S. A., and at Leverkusen, Germany, and Billingham, England.

(3) These patent rights were in part acquired and are exercised by National (as successor to its former subsidiary Titanium Pigment Company, Inc., a corporation of the State of Maine) under and in accordance with an agreement dated July 30, 1920, between the said Titanium Pigment Company, Inc., and Titan Co. A/S of Norway which provides for close co-operation between the parties thereto for the development of the industry and under which the interest of Titanium Pigment Company, Inc., has since been acquired and is now held by National and the interest of said Titan Co. A/S has since been assigned to and is now held by Titan Company Inc., U. S. A. (hereinafter called "Titaninc").

(4) The said Titaninc has also made agreements with I. G. Farbenindustrie and with Titangesellschaft m. b. H., of Germany, and with Imperial Chemical Industries Limited and others and with British Titan Products Company Limited, of England, with a view to co-operation and the exchange of technical and chemical experience for the development of the titanium industry.

(5) C-I-L possesses patent rights and processes for the production of titanium compounds and particularly for the production of various qualities of titanium white or titanium dioxide and has access to the technical information of E. I. duPont de Nemours and Company Inc., on such products for use in the Dominion of Canada and the Colony of Newfoundland.

(6) C-I-L has caused a Canadian Company to be formed under the name of Canadian Titanium Pigments Limited with a nominal capital of $50,000. This Company is a private Company and so far only six (6) shares of $100

each in the share capital of the Company have been issued. This Company is hereinafter called "Canadian Titanium".

NOW THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED by and between the parties hereto as follows:—

1. Canadian Titanium shall have the sole right of manufacture and sale of titanium compounds throughout the Dominion of Canada and the Colony of Newfoundland as at present constituted and both parties hereto will satisfy all their requirements for titanium compounds for consumption and/or for sale in the territory above defined by purchasing them from Canadian Titanium and will use all endeavors and take all measures in their power to ensure that their respective subsidiary and associated companies will satisfy their requirements for the said territory in like manner PROVIDED nevertheless that Canadian Titanium shall be able and willing at all times to supply such titanium compounds at competitive prices and of the qualities required.

2. National and Canadian Titanium shall forthwith enter into a License Agreement substantially in the form of the Draft Agreement set forth in the First Schedule hereto with such modifications therein if any as may be approved by both the parties t this Agreement and C-I-L shall forthwith enter into a License Agreement with Canadian Titanium substantially in the form of the Draft set forth in the Second Schedule hereto with such modifications therein if any as may be approved by both the parties to this agreement.

3. National shall forthwith enter into an Agreement with Canadian Titanium for the transfer to Canadian Titanium of the existing business and goodwill of National in titanium compounds in the Dominion of Canada and

Colony of Newfoundland, substantially in the form of the Draft Agreement set forth in the Third Schedule hereto with such modifications therein if any as may be approved by both the parties to this Agreement.

4. The authorized share capital of Canadian Titanium shall forthwith be increased to $1,300,000 consisting of:

(a) 5,000 "A" shares of $100 each of which 1,000 shall be subscribed in cash at par forthwith in the proportion of 49% by National and 51% by C-I-L, and further subscriptions by the parties hereto for such shares, as required from time to time, shall be made in the like proportions in cash at par up to the total authorized;

(b) 8,000 "B" shares of $100 each which shall be issued credited as fully paid up to National as consideration for the transfer by National to Canadian Titanium of the existing Canadian business and goodwill of National in titanium compounds and the carrying out by National of the obligations imposed on it by the Agreement contained in the Third Schedule hereto.

The "A" shares shall carry the following rights:

(1) The right, on a winding-up, to arrears of dividend and repayment of capital, after payment of the liabilities of the Company but in priority to arrears of dividend and repayment of capital of the "B" shares, and to receive the surplus assets remaining after payment in full of the arrears of dividend and capital of the "B" shares.

(2) The right to a fixed cumulative dividend of seven per cent (7%) per annum and arrears thereof in priority to the dividend and arrears of dividend on the "B" shares, and to the balance of the distributable profits remaining after payment of the dividend and arrears of dividend on the "B" shares.

(3) The right to one vote per share.

The "B" shares shall carry the following rights and be subject to the following restrictions:

(1) The right, on a winding-up, to arrears of dividend and repayment of capital, after payment of the liabilities of the Company and payment in full of the arrears of dividend and capital of the "A" shares.

(2) The right to a fixed cumulative dividend of six per cent (6%) per annum and arrears thereof ranking after the payment of the fixed cumulative dividend of seven per cent (7%) on the "A" shares and any arrears thereof.

(3) The right to one vote per share which, however, shall be exercisable only in relation to alteration of the rights attaching to the "B" shares or to the winding-up of the Company or to the sale of its business, or in the event of the fixed cumulative dividend on the "B" shares being in arrear on any date after 31st December 1938, or whenever the holders of the "B" shares are required by law to vote for the sanction of any by-law dealing with or directly affecting such shares.

(4) Such shares shall be redeemable at the option of the Company, either as a whole or from time to

time in lots of 1,000 shares or multiples thereof, on any dividend payment date after the first day of January 1942, at the amounts paid up on such shares, provided that the fixed cumulative dividend on all the "B" shares shall have been paid in full up to the date of any such redemption and provided that notice in writing of any such redemption shall have been given by the Company to the holders of the shares to be so redeemed at least thirty days prior to the date fixed for redemption, and provided further that upon any partial redemption the same proportion of the total number of shares held by each shareholder shall be redeemed as the total number of shares to be then redeemed bears to the total number of shares then outstanding.

It is agreed however between the parties hereto that for so long as the whole of the said "B" shares shall be held by National or any subsidiary company in which it owns the whole of the share capital, neither National nor any such subsidiary company will exercise until after 31st December 1940, the right to vote attaching to such shares in the event of the dividend thereon being in arrear.

5. The funds required for the ~~erection by~~ Canadian Titanium of a factory in Canada shall be provided by an issue of not exceeding $1,100,000 in par value of 30-year 7% Bonds which, as and when so required, shall be subscribed in cash ~~at~~ par in the proportions of 49% by National and 51% by C-I-L. Such bonds shall be redeemable at the option of Canadian Titanium on any interest payment date after 1st January 1942, at par and accrued interest, upon notification in writing having been given at least 30 days in

advance to the holders thereof, in lots aggregating an even $100,000 or multiple thereof and prorated among the holders thereof according to their respective holdings.

6. EXCEPT in so far as is otherwise herein provided, during the continuance of this Agreement no party hereto shall transfer or part with the possession of any of its shares or bonds in Canadian Titanium except with the written consent of the other party to this Agreement and any transferee of such shares shall agree to be bound by all the obligations hereof so far as they are binding on the transferor PROVIDED (1) that on any holder of "A" shares transferring or parting with the possession of the whole of its "A" shares the provisions of Clause 11 hereof shall bind such holder for a period of five years after the date of such transfer but otherwise such holder shall thereupon be released from all its obligations hereunder (2) that any party hereto shall be entitled to have any of its shares or bonds in Canadian Titanium allotted to or to transfer any of its said shares or bonds to any subsidiary Company in which it owns the whole of the share capital and any shares or bonds so held by any such subsidiary Company may be transferred to its parent company being a party hereto or to another subsidiary Company in which that party owns the whole of the share capital. Provided that the holding of any of such shares or bonds by any such subsidiary Company shall in no way relieve any party hereto from any of its obligations hereunder and Provided Also that if any such subsidiary Company shall cease to be wholly owned by its parent Company being a party hereto that party will procure the shares and bonds concerned to be transferred either to itself or to another subsidiary Com-

pany in which it owns the whole of the share capital and (3) that any party hereto shall be entitled to transfer to a nominee or nominees for the purpose only of qualifying such nominee or nominees as a Director or Directors of Canadian Titanium such shares in Canadian Titanium as shall be necessary for that purpose.

On any sale of "A" shares or bonds the same shall first be offered to the other holder or holders of "A" shares for refusal or acceptance within six months. If acceptances are received in respect of more shares or bonds than are offered the shares or bonds offered shall be transferred to the other accepting holders proportionately to their respective holdings.

7. The Board of Canadian Titanium shall consist of not more than six Directors of whom, as long as the percentage ownership of "A" shares by the parties hereto remains substantially as provided in Clause 4(a) hereof, National shall be entitled to nominate and from time to time to remove and replace three and C-I-L shall be entitled to nominate and from time to time to remove and replace three.

8. The President of Canadian Titanium shall be such one of the Directors nominated by C-I-L as may be agreed between the parties hereto.

9. The question of the erection of a factory in Canada by Canadian Titanium is to be left for the decision of the Board after full examination of the circumstances.

10. The requisite alterations in the By-Laws of Canadian Titanium shall be forthwith made to give effect to the provisions of this Agreement.

Exhibit K

11. During the continuance of this Agreement C-I-L agrees that it will not deal in or manufacture titanium compounds in any part of the world except through or at the request of Canadian Titanium and undertakes to use all endeavors and take all measures in its power to ensure that its subsidiary and associated companies shall observe the like restrictions, and National assumes the same obligation with respect to dealings or manufacture within the Dominion of Canada or the Colony of Newfoundland. It is understood that for the purposes of this Clause, E. I. duPont de Nemours and Company Inc. shall not be deemed to be an associated company of C-I-L.

12. Until Canadian Titanium shall have commenced itself to manufacture titanium compounds and as long thereafter as Canadian Titanium may require, National agrees itself to supply Canadian Titanium from the United States, at cost plus ten per cent (10%), and to use its best endeavors to enable Canadian Titanium to obtain from England through British Titan Products Company Limited, at cost plus ten per cent (10%), such quantities of titanium compounds as Canadian Titanium may require to satisfy the market demand therefor in the Dominion of Canada and the Colony of Newfoundland.

13. Subject to the provisions elsewhere contained in this Agreement and to the continued existence during that time of Canadian Titanium this Agreement shall remain in force for thirty years from the date hereof and shall continue from year to year thereafter unless terminated as hereinafter provided. If at or at any time after the expiration of that thirty year period either party or its successor or assign shall wish to retire from the provisions of this

Agreement it shall be entitled to do so provided it has previously given twelve months' notice in writing to that effect to the other party hereto. Either party so retiring shall offer to the other party for refusal or acceptance within 6 months the right to purchase the whole of the bonds and "A" shares in Canadian Titanium then held by or for account of the retiring party at a price for said bonds equal to the par value thereof and accrued interest and at a price for said "A" shares to be determined by mutual agreement and corresponding to the book value of the shares without taking into account any values of patents trade marks or goodwill and in default of agreement the price shall be settled by arbitration in accordance with the laws of the Province of Quebec relating to arbitration. Should the other party be unwilling to purchase the whole of the bonds and "A" shares so offered to it by the retiring party the retiring party shall have the right to require Canadian Titanium to be voluntarily wound up and in that event the other party shall use its voting power in Canadian Titanium to put that company into voluntary liquidation.

14. Should the Agreement of 1920 referred to in the third recital to this Agreement cease or determine for any cause beyond the control of National prior to the expiration of thirty years from the date of this Agreement, National shall forthwith notify Canadian Titanium of such termination and each party to this Agreement or its successor or assign shall have the right to retire from the provisions of this Agreement as of any date after the expiration of six calendar months from the effective date of termination of said Agreement of 1920 or from the date of receipt of notice thereof by Canadian Titanium as afore-

said, whichever date shall be the later, by giving to the other party six months prior notice in writing to that effect. Such retiring party shall have similar obligations to those contained in the last preceding Clause of this Agreement to offer to the remaining party for acceptance or refusal within six months the right to purchase the "A" shares and bonds in Canadian Titanium held by or for account of such retiring party and to require that Company to be wound up should the remaining party be unwilling to purchase the whole of the "A" shares and bonds so offered to it. Save as expressly provided by this Clause or by the preceding clause no party hereto shall without the consent of the other party hereto use its voting power in Canadian Titanium to put that Company into voluntary liquidation.

15. On either party exercising its option under Clauses 13 or 14 hereof the provisions of Clause 11 hereof shall bind it for a period of five years after the date when it ceases to be a shareholder unless Canadian Titanium is wound up in pursuance of either of the said Clauses 13 or 14.

16. Nothing herein contained shall be construed as giving to either party hereto the right to receive or to use or to disclose to its associates or to any other party any of the technical knowledge or experience which may be transmitted or disclosed by the other party to Canadian Titanium hereunder, except to the extent and in the manner provided in the license agreements between the respective parties hereto and Canadian Titanium contemplated by Clause 2 hereof.

Exhibit K

IN WITNESS WHEREOF the parties hereto have entered into these presents.

CANADIAN INDUSTRIES LIMITED
By G. W. HUGGETT
Vice-President

Attest:
RUSSELL SMITH
Secretary

NATIONAL LEAD COMPANY
By W. C. BESCHORMAN
Vice-President

Attest:
M. D. COLE
Secretary

THE SCHEDULES

FIRST SCHEDULE — Agreement to be made between National and Canadian Titanium for exclusive license for Canada and Newfoundland.

SECOND SCHEDULE—Agreement to be made between C-I-L and Canadian Titanium for exclusive license for the World.

THIRD SCHEDULE — Agreement between National and Canadian Titanium forming title to "B" shares in Canadian Titanium to be allotted to National for the consideration therein mentioned.

Exhibit K-1

AN AGREEMENT made the first day of January, 1937 Between NATIONAL LEAD COMPANY, a corporation organized and existing under the laws of the State of New Jersey, U. S. A., and having an office at 111 Broadway in the City and State of New York (hereinafter referred to as "National" which expression includes its successors and permitted assigns) of the one part and CANADIAN TITANIUM PIGMENTS LIMITED, a corporation organized and existing under the laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec, (hereinafter referred to as "Canadian Titanium" which expression includes its successors and permitted assigns) of the other part.

WHEREBY IT IS AGREED AND DECLARED as follows:—

ARTICLE I.

In this Agreement the under-mentioned expressions shall have the meanings set opposite to them respectively as follows:—

(a) "Licensed Field" means and includes all methods, processes and apparatus in the field of the manufacture and use of all titanium compounds, as defined in the paragraph next following, and all such titanium compounds themselves.

(b) "Titanium compounds" means and includes all forms of the element titanium and all substances, materials and compositions containing two per cent (2%) or more of that element in a chemically, mechanically or physically combined state (including simple mixtures thereof but ex-

cluding titanated lithopones and titanium tetrachloride), which can be used as pigments, whether or not adapted for other uses.

(c) "North America" includes the entire continent of that name except the Dominion of Canada and Newfoundland and also includes Panama and all Central American States and all islands which were on the 30th July 1920 considered as being geographically appurtenant to the continent of North America and also the Philippine and Hawaiian Islands.

(d) "South America" similarly includes the entire continent of that name including all countries therein located to the South of Panama and also all islands which were on the 30th July 1920 considered as being geographically appurtenant to the said continent.

(e) "Finished Articles" means any artificially manufactured article or mixture which has been produced by the aid of any titanium compound within the Licensed Field in such a manner that the product constitutes a cohesive inter-mixture of such titanium compound with other materials as for instance paint, rubber, glass, etc.

(f) "Territory of Canadian Titanium" includes the whole of the Dominion of Canada and the Colony of Newfoundland as at present constituted.

(g) "Territory of National" includes all countries outside the Territory of Canadian Titanium.

(h) "Allied Companies" means all companies, firms and commercial or industrial enterprises (other than the parties hereto and licensees and sub-licensees of National, including their licensees and sub-licensees, for the territory of National outside of North America and South America)

which have received or shall receive a license of the nature referred to in Article XIV (a) of the Agreement of 1920 or in Article XIV hereof.

(i) "Agreement of 1920" means the Agreement dated 30th July 1920 between Titanium Pigment Company, Inc. and the Titan Co. A/S under which the interest of said Titanium Pigment Company, Inc. has since been acquired and is now held by National and the interest of said Titan Co. A/S has since been assigned to and is now held by Titan Company, Inc., U. S. A.

ARTICLE II.

National grants and agrees to grant to Canadian Titanium for the territory of Canadian Titanium an exclusive license in respect of all or any patents, processes and subject-matter within the scope of the Licensed Field of which National now is or may hereafter become the beneficial owner or in respect of which National now is or may hereafter become entitled to grant for such territory an exclusive license, and a non-exclusive license in respect of all or any patents, processes and subject-matter within the scope of the Licensed Field as to which National now is or may hereafter become entitled to grant or may be entitled to obtain the right to grant for such territory a non-exclusive license, for the production of titanium compounds within the Licensed Field and for the sale and/or utilization of titanium compounds so produced, and with the right to grant sublicenses wherever National has or is entitled to obtain power to confer such right subject always to the conditions contained in this Agreement.

Exhibit K-1

If National shall be permitted or requested to grant and shall grant a license in the territory of Canadian Titanium in respect of any process involving the use or application of a titanium compound the terms of such license shall be agreed upon by National and Canadian Titanium.

No objection shall be made to customers of Canadian Titanium or of its exclusive licensees or sub-licensees selling Finished Articles in the territory of National but so that any such sales to countries within such territory but outside of North America and South America shall be kept within the limits imposed by the Note to Article VI(c) of the Agreement of 1920, but no such sales shall be made by Canadian Titanium itself.

Any license or licenses to which Canadian Titanium shall be entitled under this Article shall on the written request of Canadian Titanium be granted direct to Allied Companies in respect of the whole or any part of Canadian Titanium's territory or in respect of all or any one or more of the patents or patent applications.

ARTICLE III.

Canadian Titanium grants and agrees to grant to National for the territory of National an exclusive license in respect of all or any patents, processes and subject-matter within the scope of the Licensed Field of which Canadian Titanium now is or may hereafter become the beneficial owner or in respect of which Canadian Titanium is or may hereafter become entitled to grant for such territory an exclusive license, and a non-exclusive license in respect of all or any patents, processes and subject-matter within the scope of the Licensed Field as to which Canadian Titanium now is or may hereafter become entitled to grant or is en-

titled to obtain the right to grant for such territory a non-exclusive license, for the production of titanium compounds within the Licensed Field and for the sale and/or utilization of titanium compounds so produced, and with the right to grant sub-licenses wherever Canadian Titanium has or is entitled to obtain power to confer such right subject always to the conditions contained in this Agreement. Provided, that in respect of any patent, process or subject-matter as to which an exclusive license is or shall be granted to National under this Article National shall grant to E. I. duPont de Nemours and Company, Inc., U.S.A. (hereinafter called "duPont"), whenever so requested by duPont, a corresponding non-exclusive sub-license for North America and South America, upon the condition, however, that duPont shall reimburse or agree to reimburse National for one-half of any expense incurred by National as provided in Article VI (d) hereof, with respect to Letters Patent covering the subject matter of such sub-license, but such sub-license shall not be subject to the conditions stipulated in Article XIV hereof.

If Canadian Titanium shall be permitted or requested to grant and shall grant a license in the Territory of National in respect of any process involving the use or application of a titanium compound the terms of such license shall be agreed upon by National and Canadian Titanium.

No objection shall be made to customers of National or of its exclusive licensees or sub-licensees selling Finished Articles in the territory of Canadian Titanium but no such sales shall be made by National itself. Provided, however (i) any sales within the territory of Canadian Titanium by customers of Titan Company, Inc., located within the territory of National but outside of North America are to

be kept within the limits imposed by the Note to Article VI (c) of the Agreement of 1920 and (ii) the Maritime Organization of the Titan Company A/S (which deals almost exclusively in supplying Scandinavian ships) shall be entitled to make any sales of paste and paint for ships in the territory of Canadian Titanium. National shall upon request inform Canadian Titanium as to sales made in the territory of Canadian Titanium by the said Maritime Organization and will provide any further information that may be necessary to enable Canadian Titanium to form an opinion as to the size of such business and sales, and if such business and sales to ships other than Scandinavian ships should become sufficiently important as to interfere substantially with Canadian Titanium's sales of its own titanium compounds within its territory National agrees on being satisfied of such interference to take all reasonable steps to bring about the limitation of such business and sales to dimensions which will cause no such interference.

Any license or licenses to which National shall be entitled under this Article shall on the written request of National be granted direct to Allied Companies in respect of the whole or any part of National's territory or in respect of all or any one or more of the patents or patent applications, subject always to the right of duPont to a sublicense as hereinbefore provided.

ARTICLE IV.

Except to the extent provided for in the preceding Articles II and III hereof or as may be otherwise specifically agreed between the parties hereto neither of the parties hereto shall without the consent of the other sell or knowingly permit to be sold within the territory of the other party

any of the products within the scope of the Licensed Field and to this end each of the parties hereto shall take all reasonable steps to ensure that this obligation shall be observed by their respective customers.

If either party should at any time permit the other party to sell within or for importation into the territory of the first party any products within the scope of the Licensed Field the following provisions shall have effect:—

(1) The party to whom such permission is granted (herein called "the Principal Party") shall make such sale or procure such sale to be made through the agency of the party granting such permission (herein referred to as "the Agent Party").

(2) Each party irrevocably appoints the other party its exclusive agent for the sale of the said products in the territory of such other party.

(3) Such appointment shall continue so long as the Principal Party has the right to an exclusive license from the Agent Party.

(4) In the case of the territory of National outside of North America and South America Canadian Titanium shall appoint Titan Company Inc. or a licensee of Titan Company Inc. to be designated by Titan Company Inc. its exclusive agent in accordanee with the provisions of Article VI (c) of the Agreement of 1920 but Canadian Titanium shall only deal with its agent through National and all sales to be made by such agent shall depend on the consent of National.

(5) The Principal Party on the written request of the Agent Party shall appoint as exclusive agent for any

part of the territory of the Agent Party an Allied Company which has received an exclusive license for the territory to which such appointment applies.

(6) The Agent Party may fix its own prices and conditions for the resale of any such products but the Principal Party shall not be obliged to effect sales against any orders of which it does not approve.

(7) Each party undertakes to endeavor to prevent its customers from competing with the other in that other's territory to its detriment in the sale of Finished Articles permitted under Articles II and III respectively. The measures to be taken for this purpose are to be discussed and agreed on from time to time.

ARTICLE V.

The parties hereto mutually agree with each other to observe and perform the following obligations, viz.:—

(a) 1. Either party, whenever it files an application for Letters Patent on an invention in the Licensed Field, shall within two months from the date of filing send a copy thereof to the other party with information as to the countries or places included in the territory of the other party in which such applicant party will file an application on such invention. The other party shall thereafter as soon as possible but not later than four months from the receipt of the copy of said application for patent cause the applicant party to be informed by suitable notice as to the country or countries included in its territory in which such other party its licensees and/or sub-licensees desire an exclusive license or licenses under said invention and request applications

for patent thereon to be filed. The applicant party must then file an application for patent on the invention in each of the countries so designated to it and prosecute the same with care and diligence to patent.

2. The applicant party has the right to file applications for patent in its own name in the territory of the other party before receiving any information from the other party as to the filing of such applications for patent as hereinbefore provided.

3. If either party hereto shall receive information as to the application by any other person, firm or company for Letters Patent in the Licensed Field in respect of which it shall be entitled to an exclusive license or to grant an exclusive license it shall forthwith pass on such information to the other party.

(b) Either party hereto may relieve itself of the obligations assumed by it under sub-clause (a) 1 hereof with respect to any or all of the countries designated by the other party by sending by registered mail to the other party within two months of the time of its receipt of said notice of designation from the other party a copy of the said application for patent on the invention with all papers necessary to permit the filing of an application in the country or countries within the territory of the other party with respect to which the applicant party desires to be relieved of said obligations, and so far as possible under the provisions of the International Convention for the protection of Industrial Property, and with the necessary papers for vesting the ownership thereof as distinguished from a license in such other party.

Exhibit K-1

(c) Each party hereto shall make all payments lawfully required to maintain and prolong the Letters Patent owned or controlled by it and with respect to which exclusive licenses are hereby granted or provided for, such payments to be ultimately borne as provided in Article VI (d) hereof.

(d) Either party hereto may relieve itself of its obligation to pay any part of the expenses of defending, maintaining or prolonging any Letters Patent or Application for Letters Patent with respect to which an exclusive license in favor of such party is at the time in force by delivering to the other party owning or controlling the same a full and duly executed Release of the exclusive license of such party thereunder in which case the party so renouncing its right shall have a non-exclusive license in respect of the same.

Where the owner or controller of a patent or patent application is as regards National an Allied Company the Release shall be sent to National and not to such owner or controller.

(e) Either party hereto may relieve itself of its obligation to pay its share of the expenses of defending any Letters Patent owned or controlled by it and with respect to which an exclusive license in favor of the other party is hereby granted or provided for by delivering to the other party (the exclusive licensee thereunder) a full complete and duly executed assignment of all the right title and interest of such party in and to the same.

(f) Either party hereto or any exclusive licensee or sub-licensee under any Patent hereunder shall be en-

titled at its own expense (but subject to the provisions of Article VI (d) in the case of the defence of any action brought to annul or cancel any Letters Patent) to institute and/or defend any actions regarding any patent in the Licensed Field in any territory with respect to which an exclusive license or sub-license to such party, licensee or sub-licensee is hereby granted or provided for and in particular to restrain or to recover damages, penalties or profits for infringement and to receive for its own benefit any sums recovered by such action using where necessary but under indemnity the name of the owner of the patent. The party taking such steps must before so doing provide satisfactory security to the owner of the patent for such indemnity. Notice shall be given by the party taking such steps to the owner or controller of the patent in question who may if it shall so elect enter at its own expense into such litigation and any damages recovered shall in such case be divided between the parties in such manner as they shall agree to be fair and equitable.

Article VI.

The licenses provided for in Articles II and III hereof shall be expressly stated or shall be deemed to be given and accepted and their continuance dependent upon the following conditions:—

(a) That the licensee shall neither directly nor indirectly question or contest the validity of any patent under which it is licensed or use or infringe the same beyond the limits of the license nor directly or indirectly connive with or afford any pecuniary or other assistance to a contestant or questioner of such validity.

(b) Canadian Titanium shall render to National half-yearly statements of production.

(c) The Licensee shall faithfully perform and observe the obligations of Article IV hereof so far as they are applicable to the Licensee.

(d) The future cost of paying taxes, fees and other periodical sums necessary for maintaining or prolonging any Letters Patent with respect to which an exclusive license is hereby granted or provided for shall be borne by the party in whose favor such exclusive license is currently in force, the future cost of defending suits brought to annul or cancel any such Letters Patent shall be divided between the parties hereto in such manner as they shall agree to be fair and equitable, and the future cost of obtaining Letters Patent as provided for in section (a) of Article V hereof shall be borne by the party at whose instance and request such Letters Patent were obtained. The party making any such payments for account of the other shall be reimbursed by the other party therefor within sixty days after the receipt by the other party of a verified statement of account evidenced by appropriate vouchers.

(e) Each party hereto shall at all times on request of the other duly and with all possible diligence execute and deliver to such other party all additional papers and documents and do and perform all other acts requisite and proper to fully effectuate all the provisions and obligations of this Agreement and particularly as regards all licenses herein referred to and also all patents and the maintenance and enforcement of the same and the

preparation, filing and prosecution of applications for patents.

(f) In the event of either of the parties hereto at any time violating or failing to perform any of the conditions contained in this Article VI the other party may by notice in writing duly despatched by registered post notify the delinquent party accordingly. Unless within six months after such despatch the delinquency has ceased and satisfaction has been made any license hereby granted to the delinquent party may at the option of the aggrieved party at any time thereafter be determined by notice sent by registered post to the delinquent party by the aggrieved party but no such termination of licenses shall operate to relieve the aggrieved party from its own obligations under this Agreement nor terminate any license or sub-license granted to it hereunder.

(g) Canadian Titanium as receiver of the sub-licenses from the Titan Company, Inc., assumes all the obligations of Article XIV (a) of the Agreement of 1920 (except sub-section 1 which is to be substituted by a clause similar in all respects to Clause VI (b) hereof so far as refers to statements of production and sub-section 3 which is to be substituted by clauses similar in all respects to Clauses V (a) and (b) hereof) and as regards such sub-licenses where such obligations differ from those hereunder the obligations under the said Article XIV (a) (with the above exceptions) shall prevail.

Article VII.

Each party hereto agrees that it will co-operate with the other party by imparting semi-annually to the other party

Exhibit K-1

full and accurate information in detail as to knowledge obtained by it with the right of disposal since the last report in and applicable to the Licensed Field and will permit the other party by its duly accredited representatives during business hours to inspect, study and enquire into any of its plants where work in the Licensed Field is being done exclusive of its research laboratories provided that neither party shall be obliged to accord such permission to any person who is not at the time bound in writing under his signature to assign all his inventions pursuant to the provisions of the following Article VIII.

ARTICLE VIII.

Each party hereto agrees that it will so far as possible require its officers, agents and employees to agree to assign to it throughout the world any and all inventions within the Licensed Field which may be made by them or any of them prior to the time herein fixed for the termination of the licenses granted or provided for by Articles II and III hereof and to any extension of such time.

ARTICLE IX.

Each party hereto agrees that in acquiring rights to inventions within the Licensed Field it will so far as possible endeavor to provide that such rights shall extend to all countries or places within the territory with respect to which any license to the other party hereunder is hereby granted or provided for.

ARTICLE X.

(a) The licenses granted or provided for by Articles II and III hereof shall remain in force for the longest period

for which the respective parties have power to grant such licenses provided however that such licenses shall terminate if and when National or its successors and/or its subsidiary Companies shall cease to own any shares of Canadian Titanium. Should such ownership cease each of the parties hereto shall receive a non-exclusive license (for itself as well as for all licensees and sub-licensees who have received or may receive a license for use within the parties' respective territories) for the longest term which it is then possible to grant for their respective territories for all inventions, patents and patent applications within the Licensed Field which the other party at the date of termination owns or in respect of which it is then entitled to grant or is entitled to obain the right to grant such license. All other rights, obligations and liabilities under this Agreement shall cease.

(b) If any agreement between one of the parties hereto and one of the Allied Companies should terminate such party has the right to determine the licenses which the parties hereto or either of them have received from such Allied Company. In case such licenses are not executed by the party hereto which was party to the Agreement with the Allied Company, the other party hereto and the Allied Company in question shall have the right and the obligation mutually to grant non-exclusive licenses in manner provided in paragraph (a) above. Mutual rights and obligations remain otherwise as agreed in this Agreement.

(c) Should the Agreement of 1920 and exclusive licenses received or granted under that Agreement terminate before the termination of this present Agreement Canadian Titanium has the right only to non-exclusive licenses so far as they result from the Agreement of 1920 and Canadian Titanium shall if National so requires determine any exclusive

licenses granted to the Titan Company Inc. by Canadian Titanium and substitute them by non-exclusive licenses in accordance with Article X of the 1920 Agreement and give to National the right to a corresponding license or licenses which shall be exclusive of all others except the Titan Company Inc. and its sub-licensees, subject always, however, to the right of duPont to a sub-license as hereinbefore provided.

The termination of the Agreement of 1920 shall not affect the mutual rights and obligations of National and Canadian Titanium regarding the exclusive exploitation of their patents and inventions until the termination of the present Agreement.

ARTICLE XI.

The option contained in Clause XI of the Agreement of 1920 having lapsed South America is open to both National and Titan Company, Inc., under the terms of the 1920 Agreement.

ARTICLE XII.

The interest of either party hereto may be assigned in toto but not otherwise and only in connection with the transfer of the entire business of such party within the Licensed Field to any person, firm, association or corporation which assumes the obligations of such party and this Agreement in all respects shall be obligatory not only upon each of the parties hereto respectively but also upon their respective assigns, successors and legal representatives.

ARTICLE XIII.

It is understood and agreed that the obligations assumed by each of the parties hereto shall extend to any and all subsidiaries of each such party the control of which is held

by such party to the end that the terms of this Agreement shall not be avoided by the existence or formation of subsidiary companies.

ARTICLE XIV.

Either party hereto shall have the right so long as any exclusive licenses hereunder shall be in force and shall not have been terminated by forfeiture, to grant sub-licenses hereunder but neither party hereto shall grant any license under its own patents or any sub-license hereunder in the Licensed Field except for the production of titanium compounds or for the utilization of such compounds produced by one of the parties hereto or a licensee or a sub-licensee of one of the parties. If any such license or sub-license is for the production of titanium compounds or for the manufacture therefrom of any product definable by the term "pigment" and as such utilizable in the composition of any commodity then every such license or sub-license shall be in writing and shall on the face thereof be expressly stated to be given and accepted and its continuance to be dependent upon the following express conditions which shall be binding on the licensee or sub-licensee as the case may be.

(a) To render to its licensor on or before the last day of January and July of each year true and correct statements in writing as to its production in the Licensed Field during the six months preceding the month in which such return is made. The licensor shall have the right to have such statements verified either by oath or by some accountant appointed by the licensor as the licensee shall prefer.

(b) To assume towards its licensor in respect of its (the licensee's or sub-licensee's) inventions and patents in

the Licensed Field the same obligations as are assumed by the licensor under Articles II and III of this Agreement.

(c) To assume towards its licensor the same obligations regarding its patents and inventions as are assumed by the parties hereto towards each other under Article V (a) and (b) of this Agreement.

(d) To assume upon itself the obligations of Article VI (a) hereof.

(e) To appoint as its sole agent in the territory of such party in accordance with the conditions set forth in Article IV hereof its licensor or some nominee of its licensor.

(f) To agree to assume in respect of its licensor the obligations assumed by its licensor in respect of the other party hereto in Article VII hereof and also to assume similar obligations to those assumed by its licensor under Article VIII hereof.

(g) That if the licensee or sub-licensee violates or neglects performance of any of the conditions above recited to be assumed by it the licensor may by registered mail thereto duly addressed notify the licensee or sub-licensee accordingly and that unless within six months after such mailing of such said notice the delinquency has ceased and satisfaction therefor been made, then and in that event the licensor may at its option terminate the license or sub-license by notice to that effect sent by registered mail to the licensee or sub-licensee.

Each of the parties hereto agrees that it will whenever it grants a license or sub-license in the Licensed Field or cancels the same or is notified of any breach thereof promptly notify the other party hereto giving him the name

and address of the licensee or sub-licensee and information as to the character, scope and duration of the license or sub-license.

ARTICLE XV.

It is intended that the mark "Titanox" for use in the territory of Canadian Titanium shall be assigned to it or otherwise made available for its exclusive use in such manner as the parties shall agree upon as most effective for the purpose. Canadian Titanium will use this mark only for qualities which are equal to or better than the quality upon which said mark is now used by National.

ARTICLE XVI.

Where any patent is registered in the name of Titan Co. A/S or Titan Company Inc. or Titanium Pigment Company, Inc. National will procure that any license thereof to be granted hereunder to Canadian Titanium shall be executed by such registered owner or alternatively shall cause the patent to be registered in its name before any license thereof is executed.

ARTICLE XVII.

All notices to National may be sent by registered post addressed to it at its said principal office in New York City. All notices to Canadian Titanium may be sent by registered post addressed to it at its head office. Either party may, at any time or from time to time by notice in writing substitute a new address in lieu of this address above set forth.

ARTICLE XVIII.

This Agreement shall be construed according to the Law of the Dominion of Canada.

Exhibit K-1

IN WITNESS WHEREOF the parties hereto have duly executed these presents the day and year first above written.

NATIONAL LEAD COMPANY

By

W. C. BESCHORMAN
Vice-President

Attest:

M. D. COLE
Secretary

CANADIAN TITANIUM PIGMENTS LIMITED

By

L. W. HASLETT
President

Attest:

RUSSELL SMITH
Secretary

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Exhibit K-2

AN AGREEMENT made the 1st day of January 1937 Between CANADIAN INDUSTRIES LIMITED, a corporation organized and existing under the laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec, (hereinafter called "C-I-L") of the one part and CANADIAN TITANIUM PIGMENTS LIMITED, a corporation organized and existing under the laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec, (hereinafter called "Canadian Titanium") of the other part.

WHEREBY IT IS AGREED by and between the parties hereto as follows:—

1. C-I-L grants and agrees to grant to Canadian Titanium an exclusive license throughout the world in respect of all and any patents, processes and subject matter within the scope of the Licensed Field as hereinafter defined of which C-I-L now is or may hereafter become the beneficial owner or in respect of which C-I-L now is or may hereafter become entitled to grant an exclusive license, and a like non-exclusive license in respect of all and any patents, processes and subject matter within the scope of the Licensed Field as to which C-I-L now is or may hereafter become entitled to grant or may be entitled to obtain the right to grant a non-exclusive license, for the production of titanium compounds within the Licensed Field and for the sale and/or utilization of titanium compounds so produced, and with the right to grant sub-licenses wherever C-I-L has or is entitled to obtain power to confer such right subject always

to the conditions contained in this Agreement. Provided that in respect of any patent, process or subject matter now or hereafter owned by C-I-L and as to which an exclusive license is or shall be granted to Canadian Titanium under this Article, Canadian Titanium shall grant to E. I. duPont de Nemours and Company, Inc., U.S.A., (hereinafter called "duPont"), whenever so requested by duPont, a corresponding non-exclusive sub-license for any part of North America except the Dominion of Canada and the Colony of Newfoundland and of South America, upon the condition, however, that duPont shall reimburse or agree to reimburse Canadian Titanium for one-half of any expense incurred by Canadian Titanium under Clause 4 hereof with respect to Letters Patent covering the subject matter of such sub-license, but such sub-license shall not be subject to the conditions stipulated in Article XIV of that license agreement of even date herewith entered into between Canadian Titanium and National Lead Company.

The term "Licensed Field" herein means and includes all methods, processes and apparatus in the field of the manufacture and use of all titanium compounds, as defined in the paragraph next following, and all such titanium compounds themselves.

The term "titanium compounds" herein means and includes all forms of the element titanium and all substances, materials and compositions containing two per cent (2%) or more of that element in a chemically, mechanically or physically combined state (including simples mixtures thereof but excluding titanated lithopones and titanium tetrachloride), which can be used as pigments, whether or not adapted for other uses.

Exhibit K-2

2. WHENEVER C-I-L files an application for Letters Patent on an invention in the Licensed Field C-I-L shall within two months from the date of filing send a copy thereof to Canadian Titanium. Canadian Titanium shall thereafter as soon as possible but not later than four months from the receipt of the copy of the said application inform C-I-L whether or not Canadian Titanium desires an exclusive license for said invention and if so in what country or countries. C-I-L shall then file an application for patent on the said invention in any country or countries so designated and prosecute the same with care and diligence until the requisite patents are obtained and C-I-L may also if it thinks fit file such an application without waiting for the reply of Canadian Titanium. As regards any such invention or any country or countries with respect to which Canadian Titanium shall not have informed C-I-L of its desire for an exclusive license as aforesaid C-I-L shall be entitled to take out a patent or patents for its own benefit.

3. C-I-L shall be charged with the duty of making all payments lawfully required to maintain and prolong any Letters Patent in the Licensed Field belonging to or controlled by it but only so long as Canadian Titanium continues to hold an exclusive license in respect thereof, provided that C-I-L shall before ceasing to make any such payments give notice to Canadian Titanium that it intends so to do and if Canadian Titanium desires to keep such Letters Patent alive for its own benefit it shall have the right to acquire the same and make such payments itself and C-I-L shall at the expense and cost of Canadian Titanium execute and do such documents, acts and things as may be necessary or requisite for that purpose.

Exhibit K-2

4. The expenses hereafter involved in obtaining, maintaining or defending any Letters Patent in the Licensed Field belonging to or controlled by C-I-L and paid by it shall be reimbursed to C-I-L by Canadian Titanium so long as Canadian Titanium desires to retain an exclusive license under such patent. Canadian Titanium is relieved of this obligation, as to expenses thereafter incurred, when the exclusive license is renounced by it or otherwise terminates in which case Canadian Titanium shall be entitled to a non-exclusive license.

5. C-I-L agrees that it will so far as possible require its officers, agents and employees to agree to assign to it throughout the world any and all inventions within the Licensed Field which may be made by them or any of them prior to the time hereby fixed for the termination of the exclusive license hereby granted.

6. The licenses hereby granted or provided for shall last as long as C-I-L or any of its subsidiary Companies continues to own any shares in Canadian Titanium. Should such ownership cease so that neither C-I-L nor any of its subsidiary Companies own any shares in Canadian Titanium, then Canadian Titanium shall be entitled at once to receive (for itself and for all licensees and sub-licensees who have received or may subsequently receive a license from Canadian Titanium) a non-exclusive license in respect of all or any of the said patents and processes of which C-I-L is then the beneficial owner or in respect of which C-I-L is then entitled to grant a non-exclusive license.

7. Canadian Titanium or any exclusive sub-licensee of any of its rights in respect of the said patents and processes

shall be entitled at its own expense to bring suit to restrain and to recover damages and penalties and profits for infringement of a patent in the Licensed Field, in respect of which it holds or is entitled to receive an exclusive license or sub-license, and to receive for its own benefit any sums recovered by any such suit using if necessary but under indemnify the name of C-I-L. C-I-L shall be notified of any such suit immediately upon its institution and shall be entitled if it shall so elect to intervene at its own expense in any such litigation and to be reimbursed for its expenses therein, ratably with the party instituting such suit, out of any sums recovered thereby. The party instituting any such suit shall first give a satisfactory security to C-I-L against any expense or liability on the part of C-I-L resulting from such proceedings.

8. (a) Canadian Titanium shall never directly or indirectly question or contest the validity of any patent under which it is licensed in pursuance of this Agreement nor use nor infringe the same except as licensed nor directly nor indirectly connive with or afford any pecuniary or other assistance to any contestant or questioner of such validity.

(b) C-I-L shall never directly or indirectly question or contest the validity of any patent of Canadian Titanium or of the companies co-operating with Canadian Titanium in any part of the world in the Licensed Field nor infringe the same nor directly or indirectly connive with or afford any pecuniary or other assistance to any contestant or questioner of such validity.

9. C-I-L undertakes to use all endeavors and take all measures in its power to ensure that its subsidiary and as-

sociated companies shall respect this Agreement as if they were parties to it and that they shall do nothing contrary to the interests in the Licensed Field of Canadian Titanium or its sub-licensees. It is understood that for the purposes of this Clause, duPont shall not be deemed to be an associated Company of C-I-L.

IN WITNESS WHEREOF the parties hereto have duly executed these presents the day and year first above written.

CANADIAN INDUSTRIES LIMITED

By

G. W. HUGGETT
Vice-President

Attest:

RUSSELL SMITH
Secretary

CANADIAN TITANIUM PIGMENTS LIMITED

By

L. W. HASLETT
President

Attest:

RUSSELL SMITH
Secretary

Exhibit K-3

AN AGREEMENT dated the 1st day of January 1937 Between NATIONAL LEAD COMPANY, a corporation organized and existing under the Laws of the State of New Jersey U. S. A. and having an office at 111 Broadway New York City U. S. A. (hereinafter referred to as "National") of the one part and CANADIAN TITANIUM PIGMENTS LIMITED a corporation organized and existing under the Laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec (hereinafter referred to as "Canadian Titanium") of the other part.

WHEREAS it is provided in that certain agreement of even date herewith between National and Canadian Industries Limited that the authorized share capital of Canadian Titanium shall be $1,300,000 divided into 5,000 "A" shares of $100 each and 8,000 redeemable "B" shares of $100 each, carrying respectively the dividends and rights which are fully set forth in such agreement and with all of which the parties hereto are fully familiar.

NOW IT IS HEREBY AGREED AND DECLARED as follows:—

1. National shall transfer to Canadian Titanium as at opening of business January 2, 1937, by appropriate Bill of Sale or other instrument, the existing business and goodwill of National in titanium compounds (as defined in that certain separate Agreement between the parties hereto of even date herewith providing for the reciprocal grant of licenses under patents and patent rights) in the Dominion

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of Canada and the Colony of Newfoundland, including trade marks, unfulfilled contracts and marketing facilities.

2. National also agrees to give and make available to Canadian Titanium all technical knowledge and experience at its disposal in the manufacture of such titanium compounds or relating to the marketing thereof in the Dominion of Canada and the Colony of Newfoundland.

3. In consideration of the foregoing Canadian Titanium agrees to allot to National 8,000 redeemable "B" shares of $100 each of Canadian Titanium credited as fully-paid and numbered 1 to 8000 inclusive.

IN WITNESS WHEREOF the parties hereto have duly executed these presents the day and year first above written.

NATIONAL LEAD COMPANY

By

W. C. BESCHORMAN
Vice-President

Attest:—

M. D. COLE
Secretary

CANADIAN TITANIUM PIGMENTS LIMITED

By

L. W. HASLETT
President

Attest:—

RUSSELL SMITH
Secretary

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Exhibit K-4

THIS AGREEMENT made in duplicate as of the fourth day of December, 1937.

BETWEEN: B. LAPORTE LIMITED, a corporation organized under the laws of England and having its head office in the Borough of Luton, County of Bedford hereafter called "Laporte"

of the First Part,

CANADIAN TITANIUM PIGMENTS LIMITED a corporation of the Dominjon of Canada, havings its head office in the City of Montreal, Province of Quebec, hereafter called "Canadian Titanium"

of the Second Part.

WHEREAS Canadian Titanium is engaging in the business of manufacturing and selling titanium dioxide pigments in the Dominion of Canada and the Colony of Newfoundland hereinafter referred to as "the said territory"; and

WHEREAS Laporte, National Titanium Pigments Limited (hereinafter called "National Titanium") of Luton, England, Titanium Limited of Outremont, Canada, and La Societe de Produits Chimiques des Terres Rares (hereinafter called "S.T.R.") of Paris, France, own or control patent rights and processes for the manufacture and/or use of titanium dioxide pigments within the said territory; and

Exhibit K-4

WHEREAS Canadian Titanium desires to acquire and Laporte has agreed on behalf of itself and of National Titanium, Titanium Limited and S.T.R. (which latter three companies are hereinafter sometimes referred to as "its associates") to sell and transfer to Canadian Titanium the said patent rights and processes together with the existing business and goodwill of Laporte and of each of its associates relating to the manufacture and/or sale of titanium dioxide pigments in the said territory.

NOW THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED by and between the parties as follows:—

1. The expression "titanium dioxide pigments" whenever used in this agreement means all forms of the element titanium and all substances, materials and compositions containing two percent (2%) or more of that element in a chemically, mechanically or physically combined state (including simple mixtures thereof), which can be used as pigments, whether or not adapted for other uses, but does not include finished articles such as paint, rubber, glass, etc.

2. Laporte shall assign, transfer and transmit and shall cause to be assigned, transferred and transmitted to Canadian Titanium for use within the said territory all Canadian Letters Patent owned by Laporte and/or any of its associates as at 1st January, 1937, and all Canadian Applications for patents filed by Laporte and/or any of its associates on or before such date, relating to the manufacture and/or use of titanium dioxide pigments. Such patents and applications are listed in Schedule "A", attached hereto, which list is intended to be accurate and

complete, but should any of the said patents or applications issued or pending as at 1st January 1937 and covered hereunder have been omitted, such schedule shall be amended to include any patent or application so omitted. Laporte on behalf of itself and of its associates warrants that there are no outstanding licences under the said patents and no obligation or encumbrance affecting the said patents and applications which would prevent the full use and enjoyment thereof by Canadian Titanium.

3. Laporte agrees to execute and cause any of its associates to execute forthwith, at the request of Canadian Titanium, any further documents that may be necessary to complete the assignment of the said patents and applications and Canadian Titanium agrees to pay all expenses in connection with the registration of such assignments at the Canadian Patent Office.

4. Should Laporte, National Titanium or Titanium Limited, during the life of this agreement, become entitled to grant rights under any Canadian patent relating to the manufacture and/or use of titanium dioxide pigments, Laporte shall promptly inform Canadian Titanium of such patent and shall, at the request of Canadian Titanium, grant or cause to be granted to Canadian Titanium,

a) whenever exclusive rights may be granted under the said patent, an exclusive royalty-free licence or sub-licence thereunder until the termination of this agreement with, if possible, the right to sub-licence.

b) whenever only non-exclusive rights may be granted under the said patent, a non-exclusive royalty-free licence

or sub-licence under such patent for the life of this agreement with, if possible, the right to sub-licence.

Any licence or sub-licence provided for under this clause shall be granted to Canadian Titanium without cost other than any expense directly applicable to the grant thereof, and the out-of-pocket expenses, if any, incurred by the licensor in procuring the issue of any such Canadian patent.

5. In the event that Laporte, National Titanium or Titanium Limited should now own or should during the life of this agreement, either develop or acquire with the right of disposal in the said territory a y process relating to the manufacture and/or use of titanium dioxide pigments and with respect to which a patent application shall have been filed for any country outside of the said territory, Laporte shall inform Canadian Titanium forthwith of such process, and, at the request of Canadian Titanium shall file or cause to be filed a patent application in Canada at the expense of Canadian Titanium; and shall grant or cause to be granted to Canadian Titanium without royalty an exclusive licence, with the right to sub-licence, under the said application and any patent issued thereon until the termination of this agreement.

6. Should Laporte, National Titanium or Titanium Limited acquire, during the term of this agreement, any rights under any patent relating to the manufacture and/or use of titanium dioxide pigments, with respect to any country outside of the said territory but not with respect to the said territory itself, Laporte agrees to use its best endeavours to ensure that similar rights are offered forthwith to Canadian Titanium for the said territory with respect to the invention covered by said patent. Should any such

rights originate from S.T.R. and not fall within the scope of the preceding Clauses 4 and 5 hereof, it is intended that such rights made available to Canadian Titanium shall not involve the payment of any royalty or other compensation for the use thereof by Canadian Titanium.

7. It is understood and agreed that neither Laporte, nor National Titanium, nor Titanium Limited shall in any way be obliged to supply technical aid or collaboration to Canadian Titanium with respect to any patent rights that may be granted to Canadian Titanium under Clauses 4, 5 and 6 hereof.

8. Laporte shall transfer and cause to be transferred to Canadian Titanium as at 1st January, 1937, the business carried on by Laporte and any of its associates in the said territory with respect to the manufacture, use or sale of titanium dioxide pigments, together with the goodwill attaching to such business, and including marketing facilities and unfulfilled contracts other than those hereinafter mentioned but excluding trade marks and trade names. Laporte agrees to execute and cause to be executed any documents necessary to effect such transfer.

9. Canadian Titanium may, at its option, take over any unexpired sales contracts of Laporte or of any of its associates covering the supply of titanium dioxide pigments in the said territory, a complete list of which contracts shall be furnished to Canadian Titanium forthwith by Laporte. Such of these contracts as are not taken over by Canadian Titanium may be carried out by Laporte and its associates from their stocks already in Canada, or if necessary, from stocks specially imported for that purpose with the knowledge and consent of Canadian Titanium.

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It is further agreed that Laporte and its associates may fill such orders for titanium dioxide pigments in the said territory as they had on their books on 18th December, 1936, and which still remain unfilled, from their stocks already in Canada or if necessary from stocks specially imported for that purpose with the knowledge and consent of Canadian Titanium.

10. It is understood and agreed that except for such sales contracts as it may specifically take over, Canadian Titanium does not assume and shall not be responsible for any obligations whatsoever assumed by Laporte and by its associates with regard to the manufacture and/or sale of titanium dioxide pigments in the said territory, and Laporte agrees to indemnify Canadian Titanium and save it harmless with respect to any claims against Canadian Titanium resulting from any such obligations.

11. Laporte agrees on behalf of itself and its associates that it or they will not use or permit to be used in the said territory the trade marks and trade-names relating to titanium dioxide pigments which are now or may be the property of any of them during the term of this agreement.

12. Laporte undertakes and agrees that neither Laporte nor any of its associates will enter, engage in or interest themselves in, directly or indirectly, or assist others to interest themselves in the manufacture and/or sale of titanium dioxide pigments in the said territory for a period of fifteen (15) years from 1st January, 1937; provided however, that nothing in this clause shall be deemed to hinder or prevent the sale by Titanium Limited of that certain

ilmenite mine situated at or near Ivry, in the Province of Quebec, or of ore to be taken from such mine.

13. If the validity of any patent assigned to Canadian Titanium hereunder is attacked or if such a patent is infringed during the term of this agreement, Canadian Titanium shall be entitled to receive from Laporte, National Titanium and Titanium Limited all assistance other than technical that it may deem necessary to defend such patent or prosecute such infringer; provided however, that Canadian Titanium shall be responsible for the cost of such defence or prosecution.

14. If the validity of any patent under which Canadian Titanium is licenced or sub-licenced in accordance with the provisions hereof should be attacked or if any such patent should be infringed during the term of this agreement, Canadian Titanium may, if it sees fit, defend the said patent or prosecute such infringer, as the case may be, and for the purpose of any such defence or prosecution, Canadian Titanium shall be entitled if it so requires to receive from Laporte, National Titanium and Titanium Limited, all assistance other than technical that it may deem necessary; provided however, that Canadian Titanium shall be responsible for the cost of such defence or prosecution.

If Canadian Titanium shall not with reasonable promptness, in the event of any such attack or infringement, take steps either to defend the said patent or to prosecute the infringer, or if it shall have notified Laporte that it does not intend to take any such steps, then Laporte, National Titanium or Titanium Limited, may, if they see fit, defend such patent or prosecute such infringer; provided that the

party so defending or prosecuting shall be responsible for the cost of such defence or prosecution.

It is understood and agreed that all recoveries resulting from such defence or prosecution shall accrue to the party assuming the cost thereof.

15. As full consideration to Laporte and its associates for the business and goodwill transferred hereunder and for all the patents, licences, sub-licences, rights, benefits and privileges whatsoever that Canadian Titanium receives or may receive under this agreement from Laporte or any of its associates, Canadian Titanium shall pay the sum of Twelve thousand pounds (£12,000. 0. 0.) of which Five thousand pounds (£5,000. 0. 0.) shall be payable on the execution of this agreement, and seven instalments of One thousand pounds (£1,000. 0. 0.) each shall be payable on 1st January in each year during the years 1938 to 1944 inclusive. All such payments shall be made to Titanium Limited, whose receipt for the same shall be a complete acquittance and discharge therefor.

16. Canadian Titanium undertakes and agrees jointly and severally with Laporte and its associates that for the period of fifteen years from 1st January, 1937, it shall not enter or engage in the manufacture and/or sale of titanium dioxide pigments outside the said territory and shall not sell or export or knowingly permit any of its licensees or sub-licensees located within the said territory to sell or export any titanium dioxide pigments to any customer located beyond the limits of the said territory and it shall not knowingly sell or deliver any of the said products to a party within the said territory for export beyond its boundaries; provided, however, that Canadian Titanium or its licensees

or sub-licensees shall be permitted to make sales in bulk to E.I. du Pont de Nemours and Company, Inc. in the United States of America and to such Companies engaged in the production of titanium dioxide pigments outside the said territory as are on 1st January, 1937, and at the time of the bulk sales associated by financial links with National Lead Company of the United States of America or its successors or assigns, for the sole purpose of supplementing the production of the said product by the said companies.

17. Canadian Titanium, and Laporte on behalf of itself and of its associates agree that neither party will question in any way the validity of the patents covered by this agreement, whether such patents are assigned hereunder or are subsequently licenced to Canadian Titanium in accordance with the terms of this agreement.

18. Laporte on behalf of itself and of its associates declares that it has no reason to doubt the validity of the patents hereby assigned, but declines to guarantee the validity of all or any of them. Should any of the said patents be held invalid, Canadian Titanium hereby acknowledges and agrees that it shall have no claim whatsoever against Laporte or its associates, either for any reduction in the consideration payable hereunder or for any loss or damages thereby suffered.

19. Laporte covenants and agrees that Titanium Limited will not sell or otherwise dispose of any of its machinery or equipment at present in Canada without ensuring that such machinery or equipment will not or cannot be used for the manufacture of titanium dioxide pigments in the said territory.

Exhibit K-4

20. Wherever throughout this agreement, notification is required to be given by one party to the other, such notification shall be considered to have been given adequately if a written notice is mailed to the head office of such other party.

21. This agreement is made for the term of fifteen (15) years from the 1st day of January, 1937, to the 31st day of December, 1951.

22. This agreement shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns and be enforceable by them or any one or more of them at such times and in such manner as they or it shall think fit and either collectively or individually.

23. And it is further hereby agreed that this agreement should be construed and be enforceable according to the Law of England.

IN WITNESS WHEREOF the parties hereto have caused their corporate seals to be hereunto affixed and attested by the hands of their proper officers.

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Exhibit K-4

SCHEDULE "A" REFERRED TO IN AGREEMENT OF 4TH DECEMBER 1937, BETWEEN B. LAPORTE LIMITED AND CANADIAN TITANIUM PIGMENTS LIMITED.

Canadian Letters Patent Nos.		Date of Issue	Inventors
246,624		Feb. 10/25	J. Blumenfeld
246,625		Feb. 10/25	J. Blumenfeld
258,871	J. Irwin's interest.	Mar. 9/26	J. Irwin R. H. Monk
258,872		Mar. 9/26	J. Irwin R. H. Monk.
263,084		Aug. 3/26	Blumenfeld & Wiesmann
265,972		Nov. 23/26	Blumenfeld & Mayer
265,973		Nov. 23/26	Blumenfeld & Mayer
269,983		Apr. 19/27	P. A. MacKay
272,238		July 12/27	Blumenfeld
272,762		Aug. 2/27	Blumenfeld
280,382		May 22/28	Stephens, Anderson & Cash
294,792		Nov. 12/29	Alcock & Weber
296,471		Jan. 7/30	C. de Rohden
296,798		Jan. 21/30	M. Mayer
297,815		Feb. 25/30	Stephens, Anderson & Cash
298,490		Mar. 18/30	C. de Rohden
298,491		Mar. 18/30	C. de Rohden
300,248		May 13/30	Monk & Firing (Irwin)
304,089		Reissue of C.P.246,624	Blumenfeld
305,012		Oct. 21/30	Monk & Firing (Irwin)
305,272		Reissue of C.P.246,625	Blumenfeld
319,125		Jan. 19/32	G. Kubin
345,516		Oct. 23/34	Weber & Bennett

Exhibit K-4

THE COMMON SEAL OF B. LAPORTE LIMITED was hereunto affixed in the presence of:—

I.E. Weber
L.P. O'Brien } Directors

W.J. Piggett Secretary

A.M.
C.A.

THE COMMON SEAL OF CANADIAN TITANIUM PIGMENTS LIMITED was hereunto affixed in the presence of:—

L.W. Haslett } President

Russell Smith Secretary

Exhibit K-5

THIS AGREEMENT made this 27th day of February 1939, by and between National Lead Company, a corporation organized and existing under the laws of the State of New Jersey, U.S.A., having an office at 111 Broadway of the City and State of New York (hereinafter referred to as "NATIONAL", which expression includes its successors and permitted assigns) of the one part and Canadian Titanium Pigments Limited, a corporation organized and existing under the laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec (hereinafter referred to as "CANADIAN TITANIUM", which expression includes its successors and permitted assigns) of the other part;

WHEREAS it has been the practice between CANADIAN TITANIUM and NATIONAL to offer to each other inventions under certain patents owned or controlled either by CANADIAN TITANIUM or by NATIONAL or its associated companies and which cover subject matters partly or wholly outside the Licensed Field of CANADIAN TITANIUM as defined in the agreement of 1st January, 1937, between the parties hereto, but which are of interest for the production, use and sale of products within the Licensed Field of CANADIAN TITANIUM or the respective Licensed Fields of NATIONAL and its associated companies, as for instance: recovery of materials used in the titanium industry (e.g., sulfuric acid); utilization of by-products (e.g. copperas); production of extender pigments, apparatus, and the use of titanium pigments and compounds as well as of by-products and extender pigments; and

Exhibit K-5

WHEREAS it is the intention of the parties hereto to continue the aforesaid practice and it is deemed desirable to confirm the effective result which such practice is intended to achieve.

NOW, THEREFORE, THIS AGREEMENT WITNESSETH that the parties hereto have agreed as follows:

1. It is hereby agreed by and between the parties hereto that when the above described inventions are offered as aforesaid and accepted, it means—unless reservations are made—that whoever owns or controls such inventions is willing to give and thereupon gives to the party hereto who is offered and accepts such inventions (and to any of the associated companies of NATIONAL which thereafter may be offered and may accept such inventions in cases where such inventions are owned or controlled by CANADIAN TITANIUM), such rights as it is then empowered to give to use such inventions under patent applications and patents applicable outside its own territory, for the purposes of the production, use and sale of products falling within the Licensed Field of the recipient of such rights and upon the same conditions as those governing the exchange of other inventions falling witnin the scope of such Licensed Field.

2. It is specifically understood that in cases where the recipient of such rights is not interested in obtaining exclusive rights for the purposes mentioned under the preceding clause, it will so advise forthwith and it will thereupon be entitled to non-exclusive rights for such purposes.

3. It is further understood that the provisions of this agreement shall extend only to the benefit of such of the

Exhibit K-5

associated companies of NATIONAL which in general act or will act toward CANADIAN TITANIUM in a reciprocal manner.

4. The expression "associated companies" as used herein means all companies which have received or shall receive licenses in accordance with the conditions contained in Article XIV of the agreement of 30th July, 1920, between National Lead Company and Titanium Company Inc., and also includes Titanium Company Inc. and E. I. duPont de Nemours & Company.

IN WITNESS WHEREOF the parties hereto have caused their corporate seals to be hereunto affixed and attested by the hands of their proper officers.

NATIONAL LEAD COMPANY

signed FLETCHER W. ROCKWELL
HENRY O. BATES

CANADIAN TITANIUM PIGMENTS LIMITED

L. W. HASLETT
President

RUSSELL SMITH
Secretary

Exhibit L

THIS AGREEMENT, made this 5th day of August, 1937, by and between E. I. DU PONT DE NEMOURS & COMPANY, a corporation organized under the laws of the State of Delaware (hereinafter referred to as "du Pont"), and VIRGINIA CHEMICAL CORPORATION, a corporation organized under the laws of the State of Delaware (hereinafter referred to as "Virginia").

WITNESSETH:

WHEREAS du Pont is engaged in the manufacture and sale of titanium dioxide (TiO_2) and related products, and is the owner of certain Letters Patent issued by the United States covering processes for the manufacture of titanium dioxide, all of which Letters Patent are described in Schedule "A", attached hereto and made a part hereof; and

WHEREAS Virginia is engaged in the manufacture and sale of titanium dioxide and related products, and desires to obtain a license under the aforesaid Letters Patent of du Pont;

NOW, THEREFORE, in consideration of the premises and of the covenants contained herein, the parties hereto have agreed as follows:

I.

(a) Du Pont hereby grants to Virginia a non-exclusive license to make titanium dioxide in the quantities specified in paragraph (b) of this Article, and to use and sell tita-

nium dioxide so produced, throughout the United States of America and the territories and dependencies thereof, under the Letters Patent described in Schedule "A" hereof and any reissues or divisions thereof.

(b) The total quantity of titanium dioxide (including the titanium dioxide content of all compounds, mixtures and other products) made by Virginia wholly or partly under the claims of the patents licensed to it hereunder, shall not exceed in any annual period during the continuance of this agreement the quantity specified for such year in the following table:

Annual Period	*Quantity*
October 1, 1937 to September 30, 1938	3,000 tons
" " 1938 " " " 1939	3,000 "
" " 1939 " " " 1940	3,000 "
" " 1940 " " " 1941	6,000 "
" " 1941 " " " 1942	6,000 "
" " 1942 " " " 1943	6,000 "
" " 1943 " " " 1944	6,000 "
" " 1944 " " " 1945	6,000 "
" " 1945 " " " 1946	6,000 "
Each subsequent annual period	9,000 "

II.

(a) Virginia shall pay to du Pont a royalty at the rate per pound specified in paragraph (b) of this Article on the total quantity of all titanium dioxide, including the titanium dioxide content of all compounds, mixtures and other products, produced by Virginia during each calendar year throughout the period of this agreement; subject, however, to the provisions of Article III hereof.

(b) The amount of royalty payable by Virginia as aforesaid on each and every pound of titanium dioxide produced

by it shall be equal to two per cent. (2%) of the selling price per pound of titanium dioxide as contained in du Pont's published carload selling price to the general trade, in effect at the close of each quarterly period for which royalties are payable hereunder; provided, however, that the royalty so payable by Virginia shall be not less than one-fourth of one cent (¼¢) per pound.

(c) Royalties on titanium dioxide produced by Virginia during each calendar quarterly period shall be paid to du Pont, at its office at Wilmington, Delaware, within thirty (30) days after the end of such quarter.

(d) Virginia shall maintain suitable records showing the quantities of titanium dioxide produced by it during the period of this agreement, and the representatives of du Pont shall have the right to inspect such records at any time or times during business hours.

III.

(a) Virginia hereby grants to du Pont a non-exclusive, non-assignable royalty-free license to make, use and sell titanium dioxide throughout the United States of America and the territories and dependencies thereof under the inventions described in United States Letters Patent No. 2,066,074 and Application for United States Letters Patent Serial No. 138,104 (as submitted by Virginia to du Pont under date of July 7, 1937).

(b) In consideration of the license granted under paragraph (a) of this Article, du Pont agrees that titanium dioxide produced by Virginia solely by means of the calcium base process described in the patent and application mentioned in said paragraph (including any modifications of

said process which do not infringe any of the claims of the letters patent licensed hereunder) shall be exempt from the quantity limitation set forth in paragraph (b) of Article I and from the royalty obligations set forth in Article II hereof; provided, however, that this exemption shall apply only where said process includes the rapid mixing of titanium dioxide sulfate solution and calcium sulfate slurry within a period of less than two minutes and forty-five seconds (2′ 45″).

(c) Virginia shall permit the representatives of du Pont at all reasonable times to make a full inspection of Virginia's manufacturing operations for the purpose, and only for the purpose, of verifying that all or part of such operations conform to the process and speed limits referred to in paragraph (b) of this Article.

IV.

If at any time during the life of this agreement du Pont should grant a license under any or all of the patents enumerated in Schedule "A" hereof, and should charge therefor a royalty lower in rate than the royalty terms herein set forth, the royalty imposed hereunder shall be reduced to correspond to such lower rate so long as the latter is payable by any other licensee of du Pont. The provisions of this Article shall not be deemed to apply to the granting of any license by du Pont primarily for a consideration other than the payment of cash royalty by the licensee.

V.

(a) Virginia admits the validity of each of the Letters Patent listed in Schedule "A" hereof, and agrees that it will

not directly or indirectly infringe or contest the validity or scope of any of the claims thereof, or aid or encourage others in so doing. The termination of this license for any cause prior to its normal expiration shall not affect the provisions of this Article or release or discharge Virginia from the admission and estoppel herein set forth.

(b) Du Pont admits the validity of United States Letters Patent No. 2,066,074 and of any Letters Patent issued on Application for United States Letters Patent Serial No. 138,104 (insofar as the Letters Patent so issued cover the invention or inventions claimed in said Application as submitted by Virginia to du Pont under date of July 7, 1937), and agrees that it will not directly or indirectly infringe or contest the validity or scope of any of the claims thereof, or aid or encourage others in so doing. The provisions of this paragraph (b) shall be effective so long as du Pont is licensed under said Letters Patent.

VI.

(a) Virginia agrees that it will affix to the containers of all products made and sold by it under the license granted in Article I hereof, such notices or markings as may be required by du Pont to designate the Letters Patent under which such products shall have been produced.

(b) Du Pont agrees that it will affix to the containers of all products made and sold by it under the license granted in Article III hereof, such notices or markings as may be required by Virginia to designate the Letters Patent under which such products shall have been produced.

Exhibit L

VII.

This agreement shall remain in full force and effect until the expiration of all the Letters Patent listed in Schedule "A" hereof; provided, however, that if Virginia shall fail to perform any of the provisions to be performed by it hereunder, and shall fail to remedy such default within thirty (30) days after notice from du Pont specifying such default, du Pont may terminate this agreement at any time by so notifying Virginia in writing; and provided further, that Virginia may terminate this agreement at any time after the expiration of ten (10) years from the date hereof, if the products then made by it and the methods of producing the same do not infringe the claims of any of the unexpired Letters Patent licensed hereunder, and if it makes available to du Pont all information evidential of such non-infringement. The termination or expiration of this agreement for any cause shall be without prejudice to the rights and remedies of du Pont for any royalties then accrued or earned hereunder, or for any antecedent breach hereof.

VIII.

The rights and obligations under this agreement shall inure to and be binding upon du Pont, its successors and assigns but shall not be assigned or transferred by Virginia without the written consent of du Pont, except to a corporation into or with which Virginia shall be merged or consolidated, or which shall acquire all or substantially all of its assets.

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed by their officers thereunto

duly authorized and their corporate seals to be hereunto affixed, as of the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY

By (s) C. H. RUPPRECHT
General Manager

Attest:

(s) M. D. FISHER
Ass't. Secretary

VIRGINIA CHEMICAL CORPORATION

By (s) JOHN ALLEGAERT
Pres.

Attest:

(s) HORACE J. SEEBECK
Secy.

C.H.B.

Form Approved
Legal Department
H. C. Haskell
Acting Director

Exhibit L

SCHEDULE "A"

Patent Number	Dated	Inventor	Entitled
1,357,690	11/2/20	O. T. Coffelt	Process for the Recovery of Titanium from its Ores
1,489,183	4/1/24	Weizman & Blumenfeld	Production of Titanic Acid
1,504,669	8/12/24	J. Blumenfeld	Titanium Compound
1,504,670	8/12/24	J. Blumenfeld	Titanium Compound
1,504,671	8/12/24	J. Blumenfeld	Titanium Compound
Reissue 16,956	5/8/28	J. Blumenfeld	Titanium Pigment
Reissue 17,429	9/10/29	J. Blumenfeld	Preparation of Titanium Hydroxide
Reissue 17,430	9/10/29	J. Blumenfeld	Preparation of Titanium Hydroxide
1,633,621	6/28/27	J. Blumenfeld	Filtration of Solutions and the Like
1,639,423	8/16/27	J. Blumenfeld	Preparation of Pigments and Paints
1,649,496	11/15/27	N. Specht	Process for the Manufacture of Titanic Oxide
1,655,940	1/10/28	J. d'Ans et al.	Process of Preparing Titanic Oxide from Titanic Ores
1,707,248	4/2/29	J. Blumenfeld	Process for the Manufacture of Titanium Oxide
1,707,257	4/2/29	C. de Rohden	Production of Titanium Tetrachloride
1,750,287	3/11/30	N. Specht	Process of Producing Permanent Paints
Reissue 18,790	4/4/33	W. Mecklenburg	Production of Titanium Dioxide
Reissue 18,854	5/30/33	J. Blumenfeld	Production of Titanium Oxide
1,797,760	3/24/31	C. de Rohden	Production of Titanium Compositions
1,827,691	10/13/31	N. Specht	Process of Treating Ores of Titanium Containing Chromium & Recovering the Sulphuric Acid
1,832,666	11/17/31	N. Specht	Process for the Manufacture of Brown Pigment Containing Titanium from Sludge of Titanium
1,845,633	2/16/32	N. Specht	Process for the Purification of Impure Dioxide of Titanium Containing in Particular Chromium
1,846,188	2/23/32	C. de Rohden	Production of Titanium Pigments
1,851,487	3/29/32	J. Blumenfeld	Preparation of Titanium Hydroxide

Exhibit L

Patent Number	Dated	Inventor	Entitled
Reissue 19,594	5/28/35	Leuchs	Process of Manufacturing Titanium Oxide Suitable for Use as a Pigment
1,885,187	11/1/32	C. de Rohden	Production of Titanium Pigments
1,885,921	11/1/32	G. Kubin	Process for Reducing the Oil Absorption of Titanium Dioxide Pigment
1,885,934	11/1/32	M. Mayer	Art of Producing Oxides of the Fourth Group Metals
1,892,693	1/3/33	Blumenfeld & Mayer	Preparation of Titanium Pigments
1,899,572	2/28/33	Paul Kubelka	Method of Dissolving Titanium Tetrachloride in Aqueous Solvents
1,899,573	2/28/33	Paul Kubelka	Process of Preparing Clear Solutions of Titanium Chloride
1,899,574	2/28/33	Paul Kubelka	Process of Preparing Concentrated Clear Solutions of Titanium Chloride
1,902,203	3/21/33	von Bichowsky	Process of Preparing Titanium Dioxide
1,915,393	6/27/33	von Bichowsky	Method for Producing Titanium Sulphates
1,922,816	8/15/33	R. N. McKinney	Preparation of Stabilized Titanous Salt Solutions
1,931,380	10/17/33	Haber & Kubelka	Production of Titanium Dioxide from Titanium Tetrachloride
1,931,381	10/17/33	Haber & Kubelka	Production of Titanium Dioxide from Titanium Tetrachloride
1,937,037	11/28/33	N. L. Hanahan	Process of Making Titanium Oxide of Fine Texture
1,975,339	10/2/34	von Bichowsky	Method of Improving Pigments Containing Titanium
2,026,862	1/7/36	Blumenfeld & Mayer	Preparation of Titanium Pigments
2,031,750	2/25/36	von Bichowsky	Method for Purifying Titanium Suboxide Materials
2,044,941	6/23/36	N. L. Hanahan	Titanium Dioxide Pigments of Fine Texture
2,047,208	7/14/36	Krchma	Process of Reducing Titanium Sulphate Liquors
2,049,504	8/4/36	Krchma	Cyclic Process for Reducing Titanium Sulphate Liquors

Exhibit M

LICENSE AGREEMENT

This agreement, made and entered into this 27th day of July, 1937, by and between E. I. DU PONT DE NEMOURS AND COMPANY, hereinafter referred to as DU PONT, a corporation organized and existing under and by virtue of the laws of the State of Delaware, with its principal place of business at Wilmington, Delaware, and TITAN CO., INC., hereinafter referred to as TITAN, a corporation organized and existing under the laws of the State of Delaware, having its principal place of business in New York.

WITNESSETH THAT

WHEREAS, DU PONT is the owner of the entire right, title and interest in and to the following letters patent and applications therefor, filed by James E. Booge as inventor, and relating to Blended Titanium Dioxide Pigments,

Country	*Date*	*No. of Patent*
Great Britain	April 26, 1937 (Accepted)	464,836
Italy	Oct. 29, 1935	
France	Jan. 27, 1936	796,587
Germany	Appln. filed Oct. 28, 1935	Ser.No.K.139.771 IV b/22 f
Czechoslovakia	Appln. filed Oct. 29, 1935	Ser.No. P6251/35

WHEREAS, TITAN desires to obtain and DU PONT is willing to grant an exclusive (except as herein limited), non-

assignable, royalty-free license to practice the inventions and to manufacture, use and/or sell the products covered by the aforesaid letters patent and applications throughout the countries in which said letters patent have been granted or in which patents may be subsequently granted, as a result of said applications.

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

1. DU PONT hereby grants to TITAN an exclusive (except as herein limited) royalty-free, non-assignable license, under the aforesaid letters patent and applications therefor relating to blended titanium oxide pigments, to-wit:

Country	*Date*	*No. of Patent*
Great Britan	April 26, 1937 (Accepted)	464,836
Italy	Oct. 29, 1935	336,407
France	Jan. 27, 1936	796,587
Germany	Appln. filed Oct. 28, 1935	Ser.No.K.139.771 IV b/22 f
Czechoslovakia	Appln. filed Oct. 29, 1935	Ser.No. P6251/35

and under any prolongation or extension in terms thereof, to practice throughout the United Kingdom of Great Britain, Ireland and the Isle of Man, France, Italy, Germany and Czechoslovakia only, any process disclosed or

claimed in said letters patent or applications therefor, and to make, use and/or sell throughout each of the aforesaid countries, any products described and/or claimed in said letters patent and/or applications. The license herein granted shall extend to the full end of the term for which said letters patent have been granted or may be subsequently granted in said countries, and the expiration of a patent in one or more of said countries shall not abrogate the license or licenses in any of the remaining countries.

2. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in TITAN shall be subject to the right of DU PONT, or any of its controlled subsidiaries, to freely use and employ said inventions comprised within said Letters Patent and/or applications throughout the countries mentioned, as well as the right of Imperial Chemical Industries, Limited, of London, England, to use and employ said inventions throughout the United Kingdom of Great Britain, Ireland and the Isle of Man.

3. TITAN may grant royalty-free sub-licenses hereunder to the following specific associate companies, to-wit:

(1) Titangesellschaft m.b.H., Leverkusen, Germany

(2) British Titan Products Co., Billingham, England

(3) Societe Industrielle du Titane, Paris, France;

and may, upon consent in writing of DU PONT first obtained and under such terms and conditions as DU PONT in its sole discretion shall deem acceptable, grant additional sub-licenses hereunder to any other person, firm, company or corporation.

Exhibit M

4. In the event TITAN shall grant sub-licenses hereunder to any person, firm or corporation for a stated royalty, it is understood and agreed that TITAN shall pay to DU PONT fifty per cent (50%) of the gross royalties received as a result of any such sub-license or sub-licenses. The said royalties shall be payable directly from TITAN to DU PONT within thirty (30) days after the close of each calendar quarter for the preceding three calendar months during which said royalty shall have been received by TITAN.

5. TITAN hereby accepts the license herein granted and agrees to pay all necessary maintenance fees and/or taxes and effect all necessary workings to maintain said letters patent or those which may subsequently issue as a result of said applications throughout the term covered by this license and within the countries specified. TITAN also agrees not to permit the abandonment of any of said letters patent or of any which may issue as a result of said applications, and in the event TITAN decides to abandon said letters patent, it will notify DU PONT promptly of such intention.

6. TITAN, during the period of this license, acknowledges each of the above patents and any patent or patents which may subsequently issue as a result of the aforesaid applications, as good and valid and agrees not to directly or indirectly contest the validity of such patents, nor to assist others in any infringing operation, but as far as reasonably possible agrees to assist DU PONT in maintaining the validity of each of said patents.

7. It is understood and agreed that the herein created license shall pertain to the Blended Titanium Dioxide Pig-

ment patents and applications hereinabove set out, and that no rights whatsoever are granted herein under any other inventions, patent applications and/or patents now owned or hereafter acquired by DU PONT.

8. DU PONT shall be under no obligation to defend TITAN against suits for infringement arising out of TITAN'S operations under the license herein granted, nor shall DU PONT be liable to any extent for damages assessable against TITAN by virtue of any such infringement.

9. In the event any of the aforesaid letters patent or any letters patent which may issue as a result of said applications are infringed by third parties, then TITAN shall have the right to bring suit against such infringers and for the purposes of said suit shall have the right to sue in DU PONT'S name, or include DU PONT as a nominal party-plaintiff with DU PONT'S prior written approval thereof. DU PONT shall be under no obligation to be other than a nominal party to said suit and under no obligation to share the expenses of such suit, provided, however, that DU PONT may at its election bring suit against infringers in its own name and/or join with TITAN in other than a nominal capacity.

10. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by TITAN and DU PONT, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where DU PONT elects to bring suit in its own name, TITAN agrees to assist DU PONT to obtain evidence to be used by DU PONT in the prosecution of suits for

infringement hereunder to the extent to which TITAN is reasonably able to do, and to otherwise assist DU PONT in the prosecution of such suits to the same extent.

11. This agreement shall be binding upon and inure to the benefit of the parties hereto, their successors, assigns and legal representatives.

TITAN CO., INC.

By (Sgd) W. C. BESCHORMAN
Exec. Vice Pres.

Attest:

W. DOUGLAS COLE
Secretary

E. I. DU PONT DE NEMOURS AND COMPANY,

By (Sgd) C. H. RUPPRECHT
General Manager

Attest:

M. D. FISHER
Asst. Secretary

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Exhibit N

LICENSE AGREEMENT

This agreement, made and entered into this day of June, 20th, 1938, by and between E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter referred to as DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at Wilmington, Delaware, and TITAN COMPANY, INC. (hereinafter referred to as TITAN), a corporation organized and existing under and by virtue of the laws of the State of Delaware, having its principal place of business in the city and state of New York;

WITNESSETH THAT

WHEREAS, DU PONT is the owner of the entire right, title and interest in and to certain inventions more particularly described in the following pending applications for letters patent of the United States, to-wit:

(a) Application (701-K) of Robert M. McKinney for Process of Producing White Titanium Dioxide Pigments of Predetermined Subordinate Tints, Serial No. 69,888, filed March 20, 1936

(b) Application (743-K) of Gordon D. Patterson for Pigments for Use Particularly in Outside Paints, Serial No. 33,264, filed July 26, 1935

(c) Application (867-K) of Roy W. Sullivan for Pigments and Process for Treating the Same, Serial No. 134,577, filed April 2, 1937

and is about to file corresponding applications for letters patent on said inventions in certain countries foreign to the United States, as follows, to-wit:

(a) In Great Britain:

Application (701-K) of Robert M. McKinney for Process of Producing White Titanium Dioxide Pigments of Predetermined Subordinate Tints;

(b) In Germany:

Application (743-K) of Gordon D. Patterson for Pigments for Use Particularly in Outside Paints, and

(c) In France, Holland and Belgium:

Application (867-K) of Roy W. Sullivan for Pigments and Process for Treating the Same;

WHEREAS, TITAN desires to obtain and DU PONT is willing to grant an exclusive (except as herein limited), non-assignable, royalty-free license to practice the inventions and to manufacture, use and/or sell the products described in said applications, or any letters patent which may subsequently issue thereon, throughout the designated foreign country or countries in which the aforesaid applications shall be respectively filed;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

Exhibit N

1. DU PONT hereby grants to TITAN an exclusive (except as herein limited), royalty-free, non-assignable right and license under the following about-to-be-filed foreign applications for letters patent, to-wit:

(a) Application (701-K) of Robert M. McKinney for Process of Producing White Titanium Dioxide Pigments of Predetermined Subordinate Tints, throughout the United Kingdom of Great Britain, Ireland and the Isle of Man;

(b) Application (743-K) of Gordon D. Patterson for Pigments for Use Particularly in Outside Paints, throughout Germany;

(c) Application (867-K) of Roy W. Sullivan for Pigments and Process for Treating the Same, throughout the countries of France, Holland and Belgium

to practice any process and to make, use and/or sell any products disclosed or claimed in said applications or any letters patent which may issue as a result thereof; the right and license herein granted, however, shall exist only throughout the respective foreign country or countries mentioned, and in which such application shall be subsequently filed, and shall continue during the pendency of said application and the existence of any letters patent, prolongations or extensions which may issue thereon.

2. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in TITAN shall be subject to the right of DU PONT or any of its controlled subsidiaries to freely use and employ, throughout said foreign countries, the inventions described and

claimed in said applications and/or any letters patent which shall issue as a result thereof; as well as to the right of Imperial Chemical Industries, Limited, of London, England, to freely use and employ the inventions described and claimed in said applications and/or any letters patent which may issue as a result thereof, throughout the United Kingdom of Great Britain, Ireland and the Isle of Man.

3. TITAN may grant royalty-free sublicenses hereunder, within the licensed territory to its associated companies, as follows:

(1) Titangesellschaft m.b.H., Leverkusen, Germany

(2) British Titan Products Co., Billingham, England

(3) Societe Industrielle du Titane, Paris, France;

and may, upon consent in writing from DU PONT first obtained, and under such terms and conditions as DU PONT shall in its sole discretion deem acceptable, grant additional sublicenses within the licensed territory to any other person, firm, company or corporation.

4. In the event TITAN shall grant sublicenses hereunder to any person, firm or corporation for a stated royalty, it is understood and agreed that TITAN shall pay to DU PONT fifty per cent (50%) of the gross royalties received as a result of any such sublicense or sublicenses. The royalties so accruing shall be payable directly from TITAN to DU PONT within thirty (30) days after the close of each calendar quarter for the preceding calendar quarter during which said royalty shall have been received by TITAN.

5. TITAN hereby accepts the license herein granted and agrees to assume and pay all costs incidental to the prepara-

tion, filing and prosecution of said foreign applications for letters patent; it also agrees throughout the term covered by this license to assume and pay all necessary maintenance fees and/or taxes, and endeavor to effect all necessary workings to maintain any letters patent issuing as a result of the filing of said applications. TITAN also agrees that it will not permit the abandonment of any letters patent which may issue as a result of the filing of said applications, and in the event TITAN shall desire to abandon any such issued letters patent, it will, prior to actual abandonment, promptly notify DU PONT of its decision to abandon, and within ample time to permit DU PONT to maintain said patents in its own behalf and at its own expense, should DU PONT so desire.

6. TITAN, during the period of this license, acknowledges as good and valid any patent or patents which may subsequently issue as a result of the aforesaid foreign applications, and agrees not to directly or indirectly contest the validity of said patents or to assist others in any infringing operation, but as far as reasonably possible agrees to assist DU PONT in maintaining the validity of each of said patents.

7. It is understood and agreed that the license herein created shall pertain to the above-identified inventions and applications and within the licensed territory, and that no rights whatsoever are granted herein under any other inventions, applications and/or patents now owned or hereafter acquired by DU PONT.

8. DU PONT shall be under no obligation to defend TITAN against suits for infringement arising out of

TITAN's operations under the license herein granted, nor shall DU PONT be liable to any extent for damages assessable against TITAN by virtue of any such infringement.

9. In the event any of the aforesaid letters patent or any letters patent which may issue as a result of said applications are infringed by third parties, then TITAN shall have the right to bring suit against such infringers and for the purposes of said suit shall have the right to sue in DU PONT's name, or include DU PONT as a nominal party-plaintiff with DU PONT's prior written approval thereof. DU PONT shall be under no obligation to be other than a nominal party to said suit and under no obligation to share the expenses of such suit, provided, however, that DU PONT may at its election bring suit against infringers in its own name and/or join with TITAN in other than a nominal capacity.

10. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by TITAN and DU PONT, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where DU PONT elects to bring suit in its own name, TITAN agrees to assist DU PONT to obtain evidence to be used by DU PONT in the prosecution of suits for infringement hereunder to the extent to which TITAN is reasonably able to do, and to otherwise assist DU PONT in the prosecution of such suits to the same extent.

Exhibit N

11. This agreement shall be binding upon and inure to the benefit of the parties hereto and their successors.

(SEAL)

TITAN COMPANY, INC.

By G. JEBSON
Vice-President

ATTEST:

C. F. KAEGEBEHN
Ass't. Sec'y.

E. I. DU PONT DE NEMOURS AND COMPANY,

By C. H. RUMPRECHT
General Manager
Krebs Pigments Department

ATTEST:

E. A. HOWARD
Assistant Secretary

A. G. C.

Form Approved
Legal Department
H. C. HASKELL
Asst. Director

Exhibit O

THIS AGREEMENT made this 28th day of March, 1939 by and between National Lead Company, a corporation organized and existing under the laws of the State of New Jersey, having an office at 111 Broadway of the City and State of New York (hereinafter referred to as "National", which expression includes its successors and permitted assigns) of the one part and Titan Company, Inc., a corporation organized and existing under the laws of the State of Delaware, having an office at 111 Broadway of the City and State of New York (hereinafter referred to as "Titan", which expression includes its successors and permitted assigns) of the other part;

WHEREAS, it has been the practice between National and Titan to offer to each other inventions under certain patents owned or controlled either by National or by Titan or their associated companies, and which cover subject matters partly or wholly outside the Licensed Field as defined in the agreement of 30th July, 1920, between the parties hereto, but which are of interest for the production, use and sale of products within that said Licensed Field, as for instance: recovery of materials used in the titanium industry (e.g. sulfuric acid); utilization of by-products (e.g. copperas); production of extender pigments, apparatus, and the use of titanium pigments and compounds as well as of by-products and extender pigments; and

WHEREAS, it is the intention of the parties hereto to continue the aforesaid practice and it is deemed desirable to confirm the effective result which such practice is intended to achieve

Exhibit O

NOW, THEREFORE, THIS AGREEMENT WITNESSETH that the parties hereto have agreed as follows:

1. It is hereby agreed by and between the parties hereto that when the above described inventions are offered as aforesaid and accepted, it means—unless reservations are made—that whoever owns or controls such inventions is willing to give and thereupon gives to the party hereto who is offered and accepts such inventions (and to any of the associated companies of National and Titan which thereafter may be offered and may accept such inventions), such rights as it is then empowered to give to use such inventions under patent applications and patents applicable outside its own territory, for the purposes of the production, use and sale of products falling within the Licensed Field of the recipient of such rights and upon the same conditions as those governing the exchange of other inventions falling within the scope of such Licensed Fields.

2. It is specifically understood that in cases where the recipient of such rights is not interested in obtaining exclusive rights for the purposes mentioned under the preceding clause, it will so advise forthwith and it will thereupon be entitled to non-exclusive rights for such purposes.

3. It is further understood that the provisions of this agreement shall extend only to the benefit of such of the associated companies of National and Titan which in general act or will act in a reciprocal manner.

4. The expression "associated companies" as used herein means all companies which have received or shall receive licenses in accordance with the conditions contained in afore-

mentioned Article XIV of the Agreement of 30th July, 1920, and also E. I. du Pont de Nemours & Company.

IN WITNESS WHEREOF, the parties hereto have caused their corporate seals to be hereunto affixed and attested by the hands of their proper officers.

NATIONAL LEAD COMPANY

FLETCHER W. ROCKWELL.
President

Attest:

H. O. BATES, Secretary

TITAN COMPANY, INC.

C. F. GARESCHE
Vice Pres.

Attest:

CHARLES F. KAEGEBEHN
Assistant Secretary

Exhibit P

INTERNATIONAL PULVERIZING CONTRACT

(Micronizer Matter)

AGREEMENT made this 10th day of April, 1939, by and between INTERNATIONAL PULVERIZING CORPORATION, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at Moorestown, New Jersey, (hereinafter called "the Licensor") and NATIONAL LEAD COMPANY, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at 111 Broadway, in the City and State of New York, (hereinafter called "the Licensee").

WITNESSETH

WHEREAS, the Licensor is the owner of United States letters Patent No. 2,032,827, in the name of Norwood H. Andrews, dated March 3rd, 1936, and Canadian Letters Patent No. 359,089, which Letters Patent relate to both the equipment known as the "Micronizer Reduction Mill" and methods for the production of finely divided materials, and as owner of the said Letters Patent has the power to grant licenses thereunder; and

WHEREAS, the Licensee desires to secure a right and license to use the equipment and employ the methods described and claimed in the said Letters Patents, and the Licensor is willing to grant the same pursuant to the terms hereinafter set forth;

Exhibit P

NOW, THEREFORE, in consideration of these premises and of the mutual terms and conditions herein contained, the Licensor and the Licensee mutually agree and covenant as follows:

1. The Licensor agrees to grant and hereby grants to the Licensee and the Licensee accepts from the Licensor a license exclusive of all others, including the Licensor, together with the right to grant sub-licenses hereunder of the character herein defined to others throughout the United States of America under the said United States Letters Patent No. 2,032,827 covering the said Micronizer Reduction Mill and its use, and any re-issue thereof, and under any and all present and future pending applications for United States Letters Patents and Letters Patents and re-issues thereof in reference to the subject matter of the said Patent No. 2,032,827 which the Licensor may own, or which throughout the term of this license it may acquire, or under which it may become entitled to grant licenses to use the said Micronizer Reduction Mill and the inventions described and/or claimed therein for the processing of titanium pigments, (except titanated lithopones, for which material a non-exclusive license is hereby given with the right to grant sub-licenses of the same character), and titaniferous ores in the production of titanium pigments and for the processing of such other materials as may be agreed upon from time to time by the parties hereto in writing. The license shall continue until the expiration of the said United States Patent No. 2,032,827, or any re-issue thereof; provided, however, that if upon such expiration there shall be in existence any United States Letters Patent under which a license has been granted hereunder, the Licensee

and/or any sub-licensees hereunder upon election may retain a license thereunder at a royalty rate per ton to be agreed upon but in no event to exceed the royalty herein specified. The Licensee agrees not to use any said mills for the processing and sale of materials other than titanium pigments and titaniferous ores in the production of titanium pigments without the written consent of the Licensor. It is also understood and agreed that the right to grant sub-licenses hereunder shall continue for only so long as the exclusive feature of this license shall remain in force and that in granting any sub-licenses hereunder the Licensee will require that the Sub-Licensees conform to the same obligations directly with respect to the Licensor as are accepted in Articles 2, 3, 4, 5, 6, 7, 8, 9, 10, and 13 of this License Agreement by the Licensee and that if the exclusive feature of this License shall be terminated in the manner hereinafter specified any licenses already granted shall continue in force. In all sub-license agreements it will be provided that all payments of license fees and royalties for the use of the Micronizer Reduction Mills shall be made directly to the Licensor; and the Licensee agrees that it will not endeavor throughout the term of this license to secure or secure for its own benefit any additional license fees and/or royalties for the use of the said Micronizer Reduction Mills. Copy of each and every sublicense agreement shall be furnished to the Licensor by the Licensee.

2. The Licensor will manufacture and deliver to the Licensee and/or Sub-Licensees three Micronizer Reduction Mills designed to operate with a capacity of about 3500 lbs. of steam per hour. The first of these mills will be ready for delivery to the Licensee at the plant of the Licensor in

Moorestown, New Jersey, within six weeks from the date hereof, the second within seven weeks from the date hereof, and the third within eight weeks from the date hereof. The Licensee shall make a down payment which shall be considered as a license fee of Twelve Thousand ($12,000) Dollars; of which Eight Thousand ($8,000) Dollars will be paid by the Licensee to the Licensor upon the execution hereof and the balance of Four Thousand ($4,000) Dollars upon the delivery of the last of the said mills as aforesaid. These mills will be constructed after consultation between the engineers of the Licensor and the Licensee and such Mills shall be of material and design as are acceptable to the Licensee and Sub-Licensees hereunder, and the Licensor will furnish the services of its engineers in connection with the installation and operation of these mills and any other mills that may be subsequently manufactured for the use of the Licensee and/or Sub-Licensees hereunder, at the plants of the Licensee, and Sub-Licensees without any further obligation on the part of the Licensee.

The Licensor will be prepared to manufacture for the use of the Licensee and/or Sub-Licensees hereunder such other Micronizer Reduction Mills as may be required by them either collectively or individually during the term of this agreement upon the following conditions; (a) if an order be received by the Licensor from or on behalf of the Licensee or any Sub-Licensee hereunder, within thirty days from the date of execution of this agreement for three (3) mills in addition to those provided for in Article 2, hereof, the license fee per mill shall be Three Thousand ($3,000) Dollars; but if said next three (3) additional mills be not ordered within 30 days from the date of this agreement then, when ordered, the license fee therefor shall

be Four Thousand ($4,000) Dollars per mill; (b) if at any time subsequent to the date of this agreement two or more mills be concurrently ordered, and in addition to those six already provided for, by the Licensee and/or Sub-Licensees hereunder the license fee per mill shall be Three Thousand ($3,000) Dollars; (c) the License fee on orders for single mills shall be Four Thousand ($4,000) Dollars; provided, however, that if the purchase value of the dollar should materially decrease, then a proper allowance will be made by the Licensee and/or Sub-Licensees for the payment to the Licensor of a sum in excess of the license fees above specified; and, further, provided that the Licensee shall have the right to make or to have made for its use any Micronizer Reduction Mills it may require subsequent to the delivery of the first three mills above provided for, and any Sub-Licensee hereunder shall have the right to make or to have made for its use any Micronizer Reduction Mills it may require subsequent to the delivery of the next three mills also provided for above, and that thereafter any subsequent Sub-Licensee hereunder after fulfilling its initial requirements for the said Micronizer Reduction Mills from Licensor on the terms above specified, i.e. if two or more mills are ordered the license fee for each shall be Three Thousand ($3,000) Dollars; if only one mill is ordered the license fee shall be Four Thousand ($4,000) Dollars, shall have the right to make or to have made for its own use any Micronizer Reduction Mill it may require, in which event the Licensor shall be advised in writing and said mills shall be considered as falling under this agreement to the same extent as if manufactured by the Licensor.

Exhibit P

The Licensor guarantees that any mills delivered to the Licensee and/or Sub-Licensees hereunder shall be free from defects in design, workmanship and materials and the Licensor shall place at the disposal of the Licensee and/or Sub-Licensees the services of its engineers and facilities of its laboratories and experimental plant, at the request of the Licensee and/or Sub-Licensee, for which the Licensee and/or Sub-Licensee shall pay the actual expenses incurred by the Licensor.

3 (a). Commencing July 1, 1939, the Licensee and its Sub-Licensees hereunder shall pay to the Licensor a royalty for the processing of all titanium pigments and titaniferous ores in the said Micronizer Reduction Mills, of fifty cents (50¢) per ton of 2,000 pounds on dry basis for the first 4,000 tons and 25¢ for each ton over 4,000 tons processed in any accounting year; said royalty shall be based on the aggregate tonnage processed by the Licensee and that of all other parties to whom licenses have been granted pursuant to Article 1, above.

3(b). Should the Licensor for any contract year commencing with July 1, 1941, have failed to receive from the Licensee and/or Sub-Licensees hereunder royalties totaling at least $10,000 per annum, or a total sum of $10,000 for said year should the royalties not amount to such sum, the Licensor shall have the right upon written notice to the Licensee after the expiration of any contract year provided for herein to terminate the above defined exclusive feature of the license; and, thereafter, provided that the Licensee shall not within 30 days from the receipt of such notice make up the deficiency in said total royalty

to maintain this license exclusive, the license shall become non-exclusive to the Licensee and the royalties will continue to be at the above specified rate; provided, however, that whenever, after termination of the exclusive feature of this license, the Licensor shall notify the Licensee that it has granted a bona fide license to a responsible party within the field of this agreement at a higher rate of royalty which in the aggregate will yield and does yield a return as great or greater than the yearly total dollar royalty payment of the Licensee and all other parties to whom licenses may be granted pursuant to Article 1 above, then it is agreed that the Licensee and/or Sub-Licensees hereunder shall pay royalties in pursuance of Section 3(a) hereof at the same rate as that which may be specified in that other agreement; and provided, further, that in the event a non-exclusive license shall be granted at a royalty rate lower than that specified in Article 3a hereof then the Licensee and Sub-Licensees hereunder shall thereafter be obligated only to pay royalties to Licensor at such lower rate.

4. The Licensee shall furnish to the Licensor quarterly statements showing the amount of net production of properly ground, good material which shall have been processed by the Licensee in any Micronizer Reduction Mill, in accordance with the license herein granted, together with a settlement of any royalty which may be payable to the Licensor, which statements and settlements shall be made within thirty days after the close of each quarterly period. Licensee shall keep separate books of account and records with respect to all titanium pigments and titaniferous ores used in the production of titanium pigments processed in licensed Micronizer Reduction Mills by it and by all Sub-

Licensees hereunder, such accounts and records to be in sufficient detail to enable Licensor to determine the royalties payable hereunder. From time to time during business hours and to the extent required to verify the accounts herein provided for, Licensee shall permit Licensor through its designated accountant to examine said books and records.

5. Title to all Micronizer Reduction Mills delivered by the Licensor to the Licensee and/or Sub-Licensees hereunder or manufactured for use of the Licensee and/or Sub-Licensees under Article 2, above, shall be retained by the Licensor, but the same shall be considered leased to the Licensee or Sub-Licensee by the Licensor, which lease shall be co-temporaneous with the period of the license herein granted under U. S. Patent No. 2,032,827 and upon the expiration thereof or in the event that a Court of competent and final jurisdiction from which no appeal is or can be taken, declare the said patent invalid the title to any Micronizer Reduction Mills under lease to the Licensee or respective Sub-Licensee pursuant hereto shall at once pass to the Licensee or Sub-Licensee together with title to any improvements thereon made by Licensee; provided, however, that if this license agreement or any sub-license agreement shall be otherwise terminated as in Section 13 hereof any and all Micronizer Reduction Mills covered by the terminated license shall be delivered to the Licensor together with title to any improvements made by Licensee or Sub-Licensee; it being understood for the purpose of this Article that should the Licensee or Sub-Licensee be then using, in connection with Micronizer Reduction Mill, described and/or claimed in the said Patent No. 2,032,827, any improvement covered by subsequent other United States Letters Patent included in the license herein granted, such use

shall not operate to prolong vesture of title to the said mills in the Licensor beyond the expiration of this license, but title to any improvement shall remain in the Licensor.

6. The Micronizer Reduction Mills licensed hereunder shall have a marker placed thereon showing ownership in the Licensor, which said marker shall not be removed by the Licensee. The Licensee will not hold itself out to any person as being the owner of any Micronizer Reduction Mill licensed hereunder, unless it shall have acquired title in accordance with the provisions of this agreement.

7. Each party will place at the disposal of the other all information and data which it may secure from time to time in reference to the operation and construction of the said Micronizer Reduction Mills provided, however, that there shall be no obligation on the part of either party to furnish to the other information which may be in the nature of trade or manufacturing secrets, regarding materials processed.

8. The Licensor by its duly accredited representatives shall have the right to inspect any Micronizer Reduction Mill licensed to the Licensee and Sub-Licensees hereunder at any time during usual business hours and also at the close of each year it shall have the right to examine by its duly authorized accountant the books and records of the Licensee and all Sub-Licensees hereunder insofar as the same may relate to the amount of material which shall have been processed in the aforesaid Micronizer Reduction Mill by the Licensee and Sub-Licensees.

9. All inventions and discoveries of a patentable nature which may be made during the term of this license by the

Licensee and Sub-Licensee or those in their control, relative to the patented invention described and/or claimed in the said U. S. Patent No. 2,032,827 or patented invention described and/or claimed in any subsequent United States Letters Patent, under which Licensee shall have a license pursuant with this agreement shall belong to and be assigned to the Licensor, both as to the United States and any foreign country where the Licensor may desire patent protection, and the preparation and filing of any patent application shall be at the expense of the Licensor; provided, that Licensor within 90 days from the date of submission to it of any such invention advise the Licensee and/or Sub-Licensee of its election to procure patent protection thereon; otherwise title to said invention or inventions shall become vested in the Licensee and/or Sub-Licensee, further provided however, that these provisions as to foreign patents shall be subject to any present contractual commitments on the part of the Licensee which at the request of the Licensor shall be certified to the Licensor when the question of filing any such foreign patent application shall arise and; provided, further, that the Licensee or Sub-Licensee shall enjoy after the termination of this license for any reason, the free right of use of any and all improvements made by the Licensee or Sub-Licensee whether the same be patented or unpatented.

10. The Licensee agrees that during the term of this license agreement it will not contest in any manner the validity of any patent under which it is licensed by the Licensor and that it will exercise all reasonable endeavor to use the Micronizer Reduction Mill, to extend its uses, and to make improvements in the operation and construction of the said mill.

Exhibit P

11. The Licensor agrees that during the term of this license agreement it will defend at its own expense any action which may be brought by a third party against the Licensee and/or any Sub-Licensee hereunder or their agents or subsidiaries, claiming that the use of said Micronizer Reduction Mill infringes upon any other United States Letters Patent, providing that the Licensee promptly advise the Licensor of any notice it may receive in reference to any such infringement and cooperate, at the Licensor's expense in such action, and that it will save the Licensee and/or any Sub-Licensee hereunder free and harmless of any expense whatever in connection therewith, whether based upon recovery under an infringement suit or by reason of a settlement of a threatened infringement suit growing out of Licensee's and/or Sub-Licensee's use of the said Micronizer Reduction Mill; provided, however, and notwithstanding anything contained in this agreement to the contrary, that when the total royalties paid to the Licensor by this Licensee and all other Sub-Licensees hereunder shall amount to the sum of Twenty-five Thousand ($25,000) Dollars then no further royalty payments shall be made either by this Licensee, or by any Sub-Licensees hereunder to the Licensor but any such royalties subsequently due the Licensor shall be held in escrow for the benefit of the Licensor, until the final judicial determination of the question as to whether the Micronizer Reduction Mills and its use infringe upon certain United States Letters Patents granted to one Henry G. Lykken, or until this question is settled by agreement between the proprietor of the said Lykken patents and the Licensor, and the Licensee and Sub-Licensees shall be entitled to deduct from such moneys held in escrow such sum or sums as each of them may become liable by

reason of its infringement of the said Lykken patents on account of the use by each of them of the said Micronizer Reduction Mill after which deduction any balance remaining shall be paid over to the Licensor together with such interest as may accrue thereon; and, provided, further, that if at any time after the Licensee and Sub-Licensees hereunder shall have paid to the Licensor as royalties the said sum of Twenty-five Thousand Dollars the Licensee and/or Sub-Licensees shall be made defendants in any infringement action by reason of their use of the said Micronizer Reduction Mills then all royalties accruing thereafter shall be held in escrow for the benefit of the Licensor in the same manner as provided hereinabove.

12. The Licensor agrees, with respect to Canadian Patent No. 359,089, that for a period of three years from July 1, 1939, it will not license or offer to license any party under the said patent to use the Micronizer Reduction Mill and the methods described and claimed therein for the processing of titanium pigments and titaniferous ore for the production of titanium pigments and that if, after July 1, 1942, the Licensor receive a bona fide request for a license it will first offer to the Licensee's associate, Canadian Titanium Pigments, Ltd., the opportunity to acquire a license of the same character and scope and upon the same terms and conditions as those of the bona fide request; provided, however, that should Licensee's associate, Canadian Titanium Pigments, Ltd. at any time prior to or, in the event no other license has been granted by the Licensor, subsequent to the three-year option period herein established desire to obtain a license under the said Canadian Patent No. 359,089, of the same character and scope as hereunder granted the

Licensee, Licensor will grant such license upon the same terms and conditions as hereunder defined except that for the purposes of establishing the rate of royalty and minimum royalty guaranty Canadian Titanium Pigments, Ltd. shall be considered as another Sub-Licensee under Article 1, hereof; and provided, further that the provisions in this Article 12 shall be subject to any present contractual commitments on the part of the Licensor which at the request of the Licensee shall be certified to the Licensee when the question shall arise.

13. In the event of a breach in the terms of this contract by the Licensee, or of a breach by any Sub-Licensee in the terms of its contract, the Licensor shall notify the delinquent party in writing of such default, and should the said delinquent party fail to remedy the said default within 30 days after the receipt of said notice, then the Licensor shall have the right at its election to terminate the license or sub-license agreement and to become repossessed of the Micronizer Reduction Mills licensed to the said delinquent party but such termination shall not in any way affect the licenses enjoyed by non-delinquent Licensee and/or Sub-Licensees; and the Licensee and Sub-Licensees hereunder may cancel their respective license or sub-license agreement for any reason at any time upon three months written notice to the Licensor, in which event the Licensee or respective Sub-Licensee shall be obligated to pay to the Licensor only such royalties as have accrued at the rate above specified to the date of the termination of the terminated agreement; it being understood for the purpose of this Article that if the said Patent No. 2,032,827 be judicially declared invalid by a Court of competent and final jurisdiction from which no appeal is or can be taken all royalty payments shall cease

and determine immediately and the rate of royalty to be paid by the Licensee and Sub-Licensees hereunder to the Licensor for the use of any other patent under which in accordance with this agreement it may enjoy a license shall be made the subject of negotiations between the parties hereto, but in no event to exceed the royalty herein specified.

14. This license shall be non-assignable except to the successors in business of the parties hereto and except that the right to receive royalties hereunder may be assigned by the Licensor without however, relieving the said Licensor of any of the obligations taken herein.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their duly authorized officers and their corporate seals to be affixed hereto the day and year aforesaid.

INTERNATIONAL PULVERIZING CORPORATION

By A. M. STACKHOUSE, President

Attest:

W. ANDREWS,
Asst. Secy.

NATIONAL LEAD COMPANY

By FLETCHER W. ROCKWELL, President

Attest:

H. O. BATES, Secretary

Exhibit P-1

AGREEMENT

This agreement, made and entered into this 14th day of April 1939 by and between NATIONAL LEAD COMPANY, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at 111 Broadway in the City and State of New York (hereinafter referred to as NATIONAL) and E. I. DU PONT DE NEMOURS AND COMPANY, a corporation organized and existing under the laws of the State of Delaware, having its principal place of business at Wilmington, Delaware (hereinafter referred to as DU PONT),

WITNESSETH THAT,

WHEREAS, INTERNATIONAL PULVERIZING CORPORATION, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at Moorestown, New Jersey (hereinafter referred to as INTERNATIONAL) is the owner of the entire right, title and interest in and to a certain United States Letters Patent No. 2,032,827, dated March 3, 1936, for a Micronizer Reduction Mill, and

WHEREAS, pursuant to an agreement dated April 10th, 1939, between INTERNATIONAL and NATIONAL, the latter has become possessed of certain limited, exclusive rights to use together with the right to sub-license others to use non-exclusively the inventions described and/or claimed in said Letters Patent No. 2,032,827, or any reissue thereof, and

Exhibit P-1

WHEREAS, under said agreement of April 10th, 1939, INTERNATIONAL covenants and agrees to grant and accord to any sub-licensee of NATIONAL thereunder the same rights, benefits, privileges and immunities which INTERNATIONAL grants to NATIONAL thereunder, and

WHEREAS, DU PONT desires to obtain and NATIONAL is willing to grant a non-exclusive license to use said Micronizer and employ the methods described and/or claimed in said letters patent or any reissue thereof, throughout the United States of America, and du Pont desires to acquire all benefits, privileges and immunities which may be conferred on a sub-licensee pursuant to said agreement with INTERNATIONAL dated April 10th, 1939.

NOW, THEREFORE, in consideration of the mutual benefits flowing from each party to the other and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of the mutual promises, covenants and undertakings herein set forth and to be duly kept and performed, it is mutually agreed as follows:

1. NATIONAL hereby grants to DU PONT throughout the United States of America a non-exclusive license under United States Letters Patent No. 2,032,827, for a Micronizer Reduction Mill, or any reissue thereof, and under any and all present and future pending applications for United States letters patent, or letters patent or reissues thereof, in reference to the subject matter of said Patent No. 2,032,827, which NATIONAL may now possess or which throughout the term of this license it may acquire, or under which it may become entitled to grant licenses under said

agreement of April 10th, 1939, to use said Micronizer and the inventions described and/or claimed in said Letters Patent No. 2,032,827 for the processing of titanium pigments (including titanated lithopone) and titaniferous ores in the production of titanium pigments and for processing of such other materials as the parties hereto, in writing, may agree upon from time to time. The license herein granted shall continue until the expiration of said Letters Patent No. 2,032,827 or any reissue thereof, provided, however, that if upon such expiration there shall be in existence any United States letters patent under which a license has been granted hereunder, DU PONT, at its election, may retain said license but at a royalty per ton to be agreed upon; but in no event to exceed the royalty herein provided for. NATIONAL furthermore hereby grants, but without itself guaranteeing the performance thereof by INTERNATIONAL, to DU PONT all the rights, benefits, privileges and immunities which are provided and granted for a sub-licensee of NATIONAL pursuant to the terms of the aforesaid contract of April 10th, 1939 between NATIONAL and INTERNATIONAL, including particularly the provisions of Sections 1, 2 and 11 therein.

2. DU PONT agrees that during the period of this license it will not contest in any manner the validity of any patent under which it is sub-licensed hereunder and that it will exercise all reasonable efforts to use the Micronizer Reduction Mills, to extend their uses, and to make improvements in their operation and construction.

3. Commencing July 1, 1939, DU PONT agrees to pay and remit directly to INTERNATIONAL, as a royalty hereunder, for all properly ground, good titanium pigments and

titaniferous ores used in the production of such pigments processed in the licensed Micronizers, fifty cents (50¢) per ton (of 2,000 pounds and on a dry basis) for the first 4,000 tons, and twenty-five cents (25¢) for each ton over 4,000 tons in any accounting year; said royalty to be computed and based upon the aggregate tonnage of licensed materials which NATIONAL and DU PONT, and/or any other sub-licensee or sub-licensees of NATIONAL shall process in said Micronizers in pursuance of said agreement of April 10th, 1939 between INTERNATIONAL and NATIONAL. In order that DU PONT may correctly arrive at any royalties due from it in pursuance of this section, NATIONAL agrees to promptly furnish DU PONT, prior to the due date of any such royalties, with quarterly statements showing the tonnage of micronized licensed materials which NATIONAL and/or its other sub-licensees shall have processed during the preceding quarter in each accounting year; and DU PONT likewise agrees to furnish NATIONAL with similar quarterly statements showing the tonnage of micronized licensed material which DU PONT shall so process.

The royalties herein provided for shall be computed quarterly as of the first day of July, October, January and April, for the preceding quarter, and the net production of properly ground, good material which shall have been processed by DU PONT in any Micronizer Reduction Mill in accordance with the license herein granted during each quarter, shall be reported directly to INTERNATIONAL, accompanied by a check payable to INTERNATIONAL for the royalty due thereon, not later than thirty (30) days after the end of the quarter to which such report relates. A copy of any such quarterly report shall be concurrently forwarded by DU PONT to NATIONAL.

DU PONT agrees to keep separate and accurate books of account and records with respect to all properly ground, good material which it shall process in accordance with this license in the licensed Micronizers; such accounts and records to be in sufficient detail to enable INTERNATIONAL to determine the royalties payable hereunder. DU PONT, from time to time, during business hours, and to the extent required to verify the records herein provided for, shall permit its books and records to be examined by INTERNATIONAL'S authorized agent or officers.

4. Should NATIONAL grant to another party a license under said Patent No. 2,032,827 on a lower royalty basis than that hereinbefore specified, then DU PONT shall be entitled to make its further royalty payments on such lower royalty basis from and after the effective date when said lower royalty basis takes effect for the other party. It is also agreed that in the event NATIONAL'S license under said Patent No. 2,032,827 shall become non-exclusive and INTERNATIONAL pursuant to the terms of said agreement of April 10, 1939, shall notify NATIONAL that it has granted a bona fide license to a responsible party within the licensed field of this agreement at a higher rate of royalty which in the aggregate will yield and does yield a return as great or greater than the yearly total dollar royalty payments of NATIONAL and its sub-licensees under said agreement, then DU PONT shall be obligated to pay royalties hereunder in pursuance of Section 3 hereof, at the same rate as that which may be specified therefor in such other bona fide agreement; and provided, further, that in the event INTERNATIONAL shall grant a non-exclusive license at a royalty rate lower than that specified in Section 3 hereof,

then DU PONT shall thereafter be obligated to pay royalties hereunder only at such lower rate.

5. It is understood and agreed that title to all Micronizer Reduction Mills which DU PONT shall acquire pursuant to this license shall be retained by INTERNATIONAL, such Micronizers to be considered as leased to DU PONT, which lease shall be co-temporaneous with the period of this license and upon the expiration thereof, or in the event that a Court of competent and final jurisdiction, from which no appeal is or can be taken, shall declare said Patent No. 2,032,827 is invalid, the title to any Micronizer Reduction Mills under lease to DU PONT shall thereupon at once pass to DU PONT, together with title to any improvements thereon made by DU PONT; provided, however, that if this license agreement shall be otherwise terminated, as provided in Section 10 hereof, any and all Micronizer Reduction Mills covered by the terminated license shall be delivered to INTERNATIONAL, together with title to any improvements made by DU PONT: it being understood for the purpose of this Section that should DU PONT be then using, in connection with the Micronizer Reduction Mill described and/or claimed in said Patent No. 2,032,827, any improvement covered by subsequent United States letters patents included in the license herein granted, such use shall not operate to prolong vesture of title to the said Mills in INTERNATIONAL beyond the expiration of this license, but title to any improvements shall remain in INTERNATIONAL.

6. It is understood and agreed that Micronizer Reduction Mills licensed hereunder shall have a marker placed thereon showing ownership thereof in INTERNATIONAL,

which said marker shall not be removed by DU PONT. DU PONT will not hold itself out to any person as being the owner of any Micronizer Reduction Mill licensed to it hereunder unless it shall have acquired title thereto in accordance with the provisions of this agreement.

7. The parties hereto agree to place at the disposal of each other all information and data which either may secure from time to time in reference to the operation and construction of the licensed micronizer reduction mills. DU PONT shall also be obligated to furnish such information and data respecting said Mills which it shall develop to INTERNATIONAL; provided, however, that there shall be no obligation on the part of DU PONT to furnish information or data to INTERNATIONAL regarding the licensed materials processed which may be in the nature of trade or manufacturing secrets.

8. The parties hereto, through their duly accredited and authorized representatives, shall have the right at any time and during usual business hours to inspect any Micronizer Reduction Mill which either may install in pursuance of this or said agreement of April 10, 1939. DU PONT also agrees that INTERNATIONAL, through its duly accredited and authorized representatives, shall have the right at any time and during usual business hours to inspect any Micronizer Reduction Mill which DU PONT shall install in pursuance of this agreement.

9. All inventions and discoveries of a patentable nature which may be made during the term of this license by DU PONT relative to the patented invention described and/or

claimed in the said United States Patent No. 2,032,827, or the subject matter claimed in any subsequent United States letters patent under which DU PONT shall have a license pursuant to this agreement, shall belong to and be assigned to INTERNATIONAL, both as to the United States and any foreign country where INTERNATIONAL may desire patent protection, provided INTERNATIONAL shall, within ninety (90) days from the submission of any such invention or discovery to it by DU PONT, notify DU PONT, in writing, that it so elects to acquire said inventions or discoveries; otherwise, title to such inventions or discoveries shall become vested in DU PONT. In the event of such election and preparation, filing and prosecution of any patent application by INTERNATIONAL on said inventions or discoveries, the costs and expenses therefor shall be borne by INTERNATIONAL; provided, however, that the provisions of this Section as to foreign patents shall be subject to any present contractual commitments on the part of DU PONT which, at the request in writing of INTERNATIONAL shall be certified to INTERNATIONAL when the question of filing any such foreign patent application shall arise; and provided, further, that DU PONT shall enjoy after the termination of this license for any reason the free right of use of any and all improvements made by DU PONT or NATIONAL, whether the same be patented or unpatented.

10. If DU PONT shall fail to comply with the obligation herein undertaken and shall continue in such failure for thirty days after written notice from INTERNATIONAL of its default, then NATIONAL may terminate this license agreement, in which event INTERNATIONAL shall become repos-

sessed of the Micronizer Reduction Mills licensed hereunder. DU PONT may cancel this agreement for any reason at any time upon three (3) months' written notice to NATIONAL and INTERNATIONAL, in which event DU PONT shall be obligated to pay only such royalties as have accrued at the rate above specified to the date of termination of the agreement. It is expressly understood for the purpose of this Section that if said Patent No. 2,032,827 shall be judicially declared invalid by a Court of competent and final jurisdiction from which no appeal is or can be taken, all royalty payments herein shall immediately cease and determine and the rate of royalty to be paid by DU PONT hereunder for the use of any other patent under which, in accordance with this agreement, it may enjoy a license, shall be made the subject of negotiations between the parties hereto, but in no event to exceed the royalty herein specified.

11. This agreement shall inure to the benefit of the parties hereto, their successors and assigns, of substantially the entire business relating to the licensed subject matter, and shall not otherwise be assignable.

12. This written license contract embodies all the understandings and agreements between the parties concerning the licensed subject matter, there being no other previous or contemporaneous understandings or agreements, oral or written, between the present parties on the foregoing subject.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be signed in duplicate by their respective and duly authorized officers and their respective corporate

seals to be hereunto affixed on the day and year above written.

NATIONAL LEAD COMPANY,

By (s) FLETCHER W. ROCKWELL
President

ATTEST:

(s) H. O. BATES
Sec'y.

E. I. DU PONT DE NEMOURS AND COMPANY,

By (s) C. H. RUPPRECHT
General Manager, Krebs Pigments Department

ATTEST:

(s) E. A. HOWARD
Assistant Secretary

C.H.B.

Form Approved
Legal Department
H. C. Haskell
Asst. Director

Exhibit P-2

AGREEMENT

This agreement, made and entered into this 19th day of December, 1940 by and between NATIONAL LEAD COMPANY, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at 111 Broadway in the City and State of New York (hereinafter referred to as NATIONAL) and AMERICAN ZIRCONIUM CORPORATION, a corporation organized and existing under the laws of the State of Maryland, having its principal place of business at Baltimore, Maryland (hereinafter referred to as AMERICAN).

WITNESSETH THAT,

WHEREAS, INTERNATIONAL PULVERIZING CORPORATION, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at Moorestown, New Jersey, (hereinafter referred to as INTERNATIONAL) is the owner of the entire right, title and interest in and to a certain United States Letters Patent No. 2,032,827, dated March 3, 1936, for a Micronizer Reduction Mill, and

WHEREAS, pursuant to an agreement dated April 10th, 1939 between INTERNATIONAL and NATIONAL, the latter has become possessed of certain limited, exclusive rights to use together with the right to sub-license others to use non-exclusively the inventions described and/or claimed in said Letters Patent No. 2,032,827, or any reissue thereof, and

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WHEREAS, under said agreement of April 10th, 1939 INTERNATIONAL covenants and agrees to grant and accord to any sub-licensee of NATIONAL thereunder the same rights, benefits, privileges and immunities which INTERNATIONAL grants to NATIONAL thereunder, and

WHEREAS, AMERICAN desires to obtain and NATIONAL is willing to grant a non-exclusive license to use said Micronizer and employ the methods described and/or claimed in said letters patent or any reissue thereof, throughout the United States of America and AMERICAN desires to acquire all benefits, privileges and immunities which may be conferred on a sub-licensee pursuant to said agreement with INTERNATIONAL dated April 10, 1939.

NOW, THEREFORE, in consideration of the mutual benefits flowing from each party to the other and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of the mutual promises, covenants and undertakings herein set forth and to be duly kept and performed, it is mutually agreed as follows:

1. NATIONAL hereby grants to AMERICAN throughout the United States of America a non-exclusive license under United States Letters Patent No. 2,032,827, for a Micronizer Reduction Mill, or any reissue thereof, and under any and all present and future pending applications for United States letters patent, or letters patent or reissue thereof, in reference to the subject matter of said Patent No. 2,032,827, which NATIONAL may now possess or which throughout the term of this license it may acquire, or under which it may become entitled to grant licenses under said

Exhibit P-2

agreement of April 10, 1939, to use said Micronizer and the inventions described and/or claimed in said Letters Patent No. 2,032,827 for the processing of titanium pigments (including titanated lithopone) and titaniferous ores in the production of titanium pigments and for processing of such other materials as the parties hereto, in writing, may agree upon from time to time. The license herein granted shall continue until the expiration of said Letters Patent No. 2,032,827 or any reissue thereof, provided, however, that if upon such expiration there shall be in existence any United States letters patent under which a license has been granted hereunder, AMERICAN, at its election, may retain said license but at a royalty per ton to be agreed upon, but in no event to exceed the royalty herein provided for. NATIONAL furthermore hereby grants, but without itself guaranteeing the performance thereof of INTERNATIONAL, to AMERICAN all the rights, benefits, privileges and immunities which are provided and granted for a sub-licensee of NATIONAL pursuant to the terms of the aforesaid contract of April 10, 1939 between NATIONAL and INTERNATIONAL, including particularly the provisions of Sections 1, 2 and 11 therein.

2. AMERICAN agrees that during the period of this license it will not contest in any manner the validity of any patent under which it is sub-licensed hereunder and that it will exercise all reasonable efforts to use the Micronizer Reduction Mills, to extend their uses, and to make improvements in their operation and construction.

3. Commencing as of July 1, 1940 AMERICAN agrees to pay and remit directly to INTERNATIONAL, as a royalty hereunder, for all properly ground, good titanium pigments

Exhibit P-2

and titaniferous ores used in the production of such pigments processed in the licensed Micronizers, fifty cents (50¢) per ton (of 2,000 pounds and on a dry basis) for the first 4,000 tons, and twenty-five cents (25¢) for each ton over 4,000 tons in any accounting year; said royalty to be computed and based upon the aggregate tonnage of licensed materials which NATIONAL and AMERICAN, and/or any other sub-licensee or sub-licensees of NATIONAL shall process in said Micronizers in pursuance of said agreement of April 10, 1939, between INTERNATIONAL and NATIONAL. In order that AMERICAN may correctly arrive at any royalties due from it in pursuance of this section, NATIONAL agrees to promptly furnish AMERICAN, prior to the due date of any such royalties, with quarterly statements showing the tonnage of micronized licensed materials which NATIONAL and/or its other sub-licensees shall have processed during the preceding quarter in each accounting year; and AMERICAN likewise agrees to furnish NATIONAL with similar quarterly statements showing the tonnage of micronized licensed material which AMERICAN shall so process.

The royalties herein provided for shall be computed quarterly as of the first day of July, October, January and April, for the preceding quarter, and the net production of properly ground, good material which shall have been processed by AMERICAN in any Micronizer Reduction Mill in accordance with the license herein granted during each quarter, shall be reported directly to INTERNATIONAL, accompanied by a check payable to INTERNATIONAL for the royalty due thereon, not later than thirty (30) days after the end of the quarter to which such report relates. A copy of any such quarterly report shall be concurrently forwarded by AMERICAN to NATIONAL.

Exhibit P-2

AMERICAN agrees to keep separate and accurate books of account and records with respect to all properly ground, good material which it shall process in accordance with this license in the licensed Micronizers; such accounts and records to be in sufficient detail to enable INTERNATIONAL to determine the royalties payable hereunder. AMERICAN, from time to time, during business hours, and to the extent required to verify the records herein provided for, shall permit its books and records to be examined by INTERNATIONAL'S authorized agent or officers.

4. Should NATIONAL grant to another party a license under said Patent No. 2,032,827 on a lower royalty basis than that hereinbefore specified, then AMERICAN shall be entitled to make its further royalty payments on such lower royalty basis from and after the effective date when said lower royalty basis takes effect for the other party. It is also agreed that in the event NATIONAL'S license under said Patent No. 2,032,827 shall become non-exclusive and INTERNATIONAL, pursuant to the terms of said agreement of April 10, 1939, shall notify NATIONAL that it has granted a bona fide license to a responsible party within the licensed field of this agreement at a higher rate of royalty which in the aggregate will yield and does yield a return as great or greater than the yearly total dollar royalty payments of NATIONAL and its sub-licensees under said agreement, then AMERICAN shall be obligated to pay royalties hereunder in pursuance of Section 3 hereof, at the same rate as that which may be specified therefor in such other bona fide agreement; and provided, further, that in the event INTERNATIONAL shall grant a non-exclusive license at a royalty rate lower than that specified in Section 3 hereof,

then AMERICAN shall thereafter be obligated to pay royalties hereunder only at such lower rate.

5. It is understood and agreed that title to all Micronizer Reduction Mills which AMERICAN shall acquire pursuant to this license shall be retained by INTERNATIONAL, such Micronizers to be considered as leased to AMERICAN, which lease shall be co-temporaneous with the period of this license and upon the expiration thereof, or in the event that a Court of competent and final jurisdiction, from which no appeal is or can be taken, shall declare said Patent No. 2,032,827 is invalid, the title to any Micronizer Reduction Mills under lease to AMERICAN shall thereupon at once pass to AMERICAN, together with title to any improvements thereon by AMERICAN; provided, however, that if this license agreement shall be otherwise terminated, as provided in Section 10 hereof, any and all Micronizer Reduction Mills covered by the terminated license shall be delivered to INTERNATIONAL, together with title to any improvements made by AMERICAN: it being understood for the purpose of this Section that should AMERICAN be then using, in connection with the Micronizer Reduction Mill described and/or claimed in said Patent No. 2,032,827, any improvement covered by subsequent United States letters patents included in the license herein granted, such use shall not operate to prolong vesture of title to the said mills in INTERNATIONAL beyond the expiration of this license, but title to any improvements shall remain in INTERNATIONAL.

6. It is understood and agreed that Micronizer Reduction Mills licensed hereunder shall have a marker placed thereon showing ownership thereof in INTERNATIONAL,

which said marker shall not be removed by AMERICAN. AMERICAN will not hold itself out to any person as being the owner of any Micronizer Reduction Mill licensed to it hereunder, unless it shall have acquired title thereto in accordance with the provisions of this agreement.

7. It is agreed that AMERICAN shall place at the disposal of INTERNATIONAL all information and data which it may develop from time to time in reference to the operation and construction of the licensed Micronizer Reduction Mills; provided, however, that there shall be no obligation on the part of AMERICAN to furnish information or data to INTERNATIONAL regarding the licensed materials processed which may be in the nature of trade or manufacturing secrets.

8. It is agreed that INTERNATIONAL, through its duly accredited and authorized representatives, shall have the right at any time and during usual business hours to inspect any Micronizer Reduction Mill which AMERICAN shall install in pursuance of this agreement.

9. All inventions and discoveries of a patentable nature which may be made during the term of this license by AMERICAN relative to the patented invention described and/or claimed in the said United States Patent No. 2,032,827, or the subject matter claimed in any subsequent United States letters patent under which AMERICAN shall have a license pursuant to this agreement, shall belong to and be assigned to INTERNATIONAL, both as to the United States and any foreign country where INTERNATIONAL may desire patent protection, provided INTERNATIONAL shall, within ninety (90) days from the submission of any such invention or discovery to it by AMERICAN, notify AMERI-

CAN, in writing, that it so elects to acquire said inventions or discoveries; otherwise, title to such inventions or discoveries shall become vested in AMERICAN. In the event of such election and preparation, filing and prosecution of any patent application by INTERNATIONAL on said inventions or discoveries, the costs and expenses therefor shall be borne by INTERNATIONAL; provided, however, that the provisions of this Section as to foreign patents shall be subject to any present contractual commitments on the part of AMERICAN which, at the request in writing of INTERNATIONAL shall be certified to INTERNATIONAL when the question of filing any such foreign patent application shall arise; and provided, further, that AMERICAN shall enjoy after the termination of this license for any reason the free right of use of any and all improvements made by AMERICAN or NATIONAL, whether the same be patented or unpatented.

10. If AMERICAN shall fail to comply with the obligations herein undertaken and shall continue in such failure for thirty days after written notice from INTERNATIONAL of its default, then NATIONAL may terminate this license agreement, in which event INTERNATIONAL shall become repossessed of the Micronizer Reduction Mills licensed hereunder. AMERICAN may cancel this agreement for any reason at any time upon three (3) months' written notice to NATIONAL and INTERNATIONAL, in which event AMERICAN shall be obligated to pay only such royalties as have accrued at the rate above specified to the date of termination of the agreement. It is expressly understood for the purpose of this Section that if said Patent No. 2,032,827 shall be judicially declared invalid by a Court of competent and final jurisdiction from which no appeal is or can be taken, all royalty payments herein shall immediately cease and de-

termine and the rate of royalty to be paid by AMERICAN hereunder for the use of any other patent under which, in accordance with this agreement, it may enjoy a license, shall be made the subject of negotiations between the parties hereto, but in no event to exceed the royalty herein specified.

11. This agreement shall inure to the benefit of the parties hereto, their successors and assigns, of substantially the entire business relating to the licensed subject matter, and shall not otherwise be assignable.

12. This written license contract embodies all the understandings and agreements between the parties concerning the licensed subject matter, there being no other previous or contemporaneous understandings or agreements, oral or written, between the present parties on the foregoing subject.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be signed in duplicate by their respective and duly authorized officers and their respective corporate seals to be hereunto affixed on the day and year above written.

NATIONAL LEAD COMPANY
By FLETCHER W. ROCKWELL
President

ATTEST:
H O BATES, Secy.

AMERICAN ZIRCONIUM CORPORATION
By ADRIAN D. JOYCE

ATTEST:
CLIFTON M. KOLB
Asst. Sec.

Exhibit Q

LICENSE AGREEMENT

This agreement, made and entered into this 21st day of April, 1939, by and between E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter referred to as DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at Wilmington, Delaware, and TITAN COMPANY, INC. (hereinafter referred to as TITAN), a corporation organized and existing under and by virtue of the laws of the State of Delaware, having its principal place of business in the city and state of New York;

WITNESSETH THAT

WHEREAS, DU PONT is the owner of the entire right, title and interest in and to certain inventions more particularly described in the following United States Letters Patent and pending applications therefor, to-wit:

(a) Application (466-K) of Roy W. Sullivan for Process of Making Calcium Sulfate, Serial No. 17,379, filed April 20, 1935;

(b) Application (632-K) of Gordon D. Patterson for Titanium Oxide Pigments and Process for Producing Same, Serial No. 136,584, filed April 23, 1937; 8 CBR

(c) Application (634-K) of Gordon D. Patterson for Titanium Pigments Containing Water-Soluble Salts of Organic Acids, Serial No. 147,485, filed June 10, 1937;

(d) Application (754-K) of D. H. Dawson, I. J. Krchma and R. M. McKinney, for Preparation of Compounds of Titanium Serial No. 26,790, filed June 15, 1935; (Now Pat. 2,127,247, dated August 16, 1938)

(e) Application (768-K) of W. W. Heckert, for Process for Producing Calcium Sulfate, Serial No. 145,051, filed May 27, 1937;

(f) Application (769-K) of M. L. Hanahan and R. A. Gagnon for Process for Producing Blended Pigments, Serial No. 145,044, filed May 27, 1937;

(g) Application (K-830-A) of A.M. Erskine for Titanium and Zirconium Hydrate Treated TiO_2 Pigments, Serial No. 155,231, filed July 23, 1937

(h) Application (834-K) of M. L. Hanahan and R. M. McKinney for Titanium Pigments and Process for Producing Same, Serial No. 138,583, filed April 23, 1937;

(i) Application (K-834-B) of W. H. Madson for Titanium Pigments and Process for Producing the Same, Serial No. 139,497, filed April 28, 1937;

(j) Application (868-½-K) of J. E. Booge for Water Dispersing Titanium Pigments, Serial No. 145,930, filed June 2, 1937;

(k) Application (871-K) of R. L. McCleary for Water-Insensitive Hydrophillic Pigments, Serial No. 144,759, filed May 25, 1937;

(l) Application (872-K) of R. M. McKinney for Treatment of Titanium Pigments, Serial No. 146,541, filed June 5, 1937;

and has filed corresponding applications for letters patent on said inventions in certain countries foreign to the United States, as follows, to-wit:

(a) In France:

Application (466-K) of Roy W. Sullivan for Process of Making Calcium Sulfate;

Application (768-K) of W. W. Heckert for Process for Producing Calcium Sulfate;

Application (769-K) of M. L. Hanahan and R. A. Gagnon for Process for Producing Blended Pigments;

Application (872-K) of R. M. McKinney for Treatment of Titanium Pigments;

Application (K-830-A) of A. M. Erskine for Titanium and Zirconium Hydrate Treated TiO_2 Pigments

(b) In Great Britain:

Application (768-K) of W. W. Heckert for Process for Producing Calcium Sulfate;

Application (769-K) of M. L. Hanahan and R. A. Gagnon for Process for Producing Blended Pigments

(c) In Holland:

Application (632-K) of Gordon D. Patterson for Titanium Oxide Pigments and Process for Producing Same

(d) In Germany and Japan:

Application (632-K) of Gordon D. Patterson for Titanium Oxide Pigments and Process for Producing Same;

Application (634-K) of Gordon D. Patterson for Titanium Pigments Containing Water-Soluble Salts of Organic Acids;

Application (754-K) of D. H. Dawson, I. J. Krchma and R. M. McKinney, for Preparation of Compounds of Titanium;

Application (834-K) of M. L. Hanahan and R. M. McKinney for Titanium Pigments and Process for Producing Same;

Application (K-834-B) of W. H. Madson for Titanium Pigments and Process for Producing the Same;

Application (868½-K) of J. E. Booge for Water Dispersing Titanium Pigments;

Application (871-K) of R. L. McCleary for Water Insensitive Hydrophillic Pigments

WHEREAS, TITAN desires to obtain and DU PONT is willing to grant an exclusive (except as herein limited), non-assignable, royalty-free license to practice the inventions and to manufacture, use and/or sell the products described or claimed in said applications, or any letters patent which may subsequently issue thereon, throughout the designated foreign country or countries in which said applications shall be respectively filed; and

Exhibit Q

WHEREAS, TITAN warrants that it has the right to grant the licenses hereinafter set forth under the following United States patents and applications therefor, to-wit:

1. Application (Case T.120) of Karl W. Petersen for Titanium Dioxide Pigments, Serial No. 33,383, filed July 26, 1935;

2. Application (Case T.125-C) of Paul Weise, et al. for Preparation of Titanium Oxygen Compounds, Serial No. 136,502, filed April 12, 1937;

3. Patent No. 2,118,916 (Case T.126-B) dated May 31, 1938, to Julius Drucker for Titanium-Containing Pigments;

4. Application (Case T.155) of Karl W. Patersen for Titanium Dioxide Pigments, Serial No. 119,625, filed January 8, 1937;

5. Application (Case T.157) of Ekbert Lederle, et al. for White Pigments, Serial No. 137,494, filed April 17, 1937;

6. Application (Case T.170) of Georg Meder, for Titanium Pigments, Serial No. 137,044, filed April 15, 1937 (Now Patent No. 2,138,384);

7. Patent No. 2,111,460 (Case T.112), dated March 15, 1938, for Alkali Metal Titanates, to Joachim Rockstroh;

8. Application (Case T.115) of Ekbert Lederle, et al. for White Pigments, Serial No. 11,164, filed March 14, 1935;

9. Application (Case T.115-B) of Ekbert Lederle, et al. for White Pigments, Serial No. 142,918, filed May 15, 1937;

10. Application (Case T.115-C) of Ekbert Lederle, et al. for White Pigments, Serial No. 142,928, filed May 15, 1937;

11. Application (Case T.136) of Pierre Lusseyran for Pigment Suspensions and Methods of Preparing Same, Serial No. 88,851, filed July 3, 1936;

12. Application (Case T.165) of Robert W. Ancrum, et al. for Manufacture of Titanium Pigments, Serial No. 155,040, filed July 22, 1937

WHEREAS, DU PONT desires to obtain and TITAN is willing to grant a non-exclusive, non-assignable, royalty-free license to practice, throughout the United States of America, its territories and dependencies, the inventions, and to manufacture, use and/or sell the products described or claimed in said letters patent and/or applications, or in any letters patent which may subsequently issue as a result of any of said applications;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

1. DU PONT hereby grants to TITAN an exclusive (except as herein limited), royalty-free, non-assignable right

Exhibit Q

and license under the following foreign letters patent and/or applications therefor, to-wit:

(1) Throughout France:

(a) French application corresponding to U.S. Application (466-K) of Roy W. Sullivan for Process of Making Calcium Sulfate, Serial No. 17,379, filed April 20, 1935;

(b) French application corresponding to U.S. Application (768-K) of W. W. Heckert for Process for Producing Calcium Sulfate, Serial No. 145,061, filed May 27, 1937 (Now French Patent No. 838,478);

(c) French application corresponding to U.S. Application (769-K) of M. L. Hanahan and R. A. Gagnon for Process for Producing Blended Pigments, Serial No. 145,044, filed May 27, 1937;

(d) French application corresponding to U.S. Application (872-K) of R. M. McKinney for Treatment of Titanium Pigments, Serial No. 146,541, filed June 5, 1937;

(e) French application corresponding to U.S. Application (K-830-A) of A. M. Erskine for Titanium and Zirconium Hydrate Treated TiO_2 Pigments, Serial No. 155,231 filed July 23, 1937

(2) Throughout the United Kingdom of Great Britain, Ireland and the Isle of Man:

Exhibit Q

(a) British application corresponding to U.S. application (768-K) of W. W. Heckert for Process for Producing Calcium Sulfate, Serial No. 145,051, filed May 27, 1937;

(b) British application corresponding to U.S. application (769-K) of M. L. Hanahan and R. A. Gagnon for Process for Producing Blended Pigments, Serial No. 145,044, filed May 27, 1937.

(3) Throughout Holland:

(a) Dutch application corresponding to U.S. application (632-K) of Gordon D. Patterson for Titanium Oxide Pigments and Process of Producing Same, Serial No. 138,584, filed April 23, 1937

(4) Throughout Germany and Japan:

(a) German and Japanese applications corresponding to U.S. application (632-K) of Gordon D. Patterson for Titanium Oxide Pigments and Process for Producing Same, Serial No. 138,584, filed April 23, 1937;

(b) German and Japanese applications corresponding to U.S. application (634-K) of Gordon D. Patterson for Titanium Pigments Containing Water-Soluble Salts of Organic Acids, Serial No. 147,485, filed June 10, 1937;

(c) German and Japanese applications corresponding to U.S. application (754-K) of D. H.

Exhibit Q

Dawson, I. J. Krchma and R. M. McKinney, for Preparation of Compounds of Titanium, Serial No. 26,790, filed June 15, 1935;

(d) German and Japanese application corresponding to U.S. application (834-K) of M. L. Hanahan and R. M. McKinney for Titanium Pigments and Process for Producing Same, Serial No. 138,583, filed April 23, 1937;

(e) German and Japanese application corresponding to U.S. application (K-834-B) of W. H. Madson for Titanium Pigments and Process for Producing the Same, Serial No. 139,497, filed April 28, 1937;

(f) German and Japanese applications corresponding to U.S. application (868½-K) of J. E. Booge for Water-Dispersing Titanium Pigments, Serial No. 145,930, filed June 2, 1937;

(g) German and Japanese applications corresponding to U.S. application (871-K) of R. L. McCleary for Water-Insensitive Hydrophillic Pigments, Serial No. 144,759, filed May 25, 1937.

to practice any process and to make, use and/or sell any products described or claimed in said applications or any letters patent which may issue as a result thereof; the right and license herein granted, however, shall exist only throughout the respective foreign country or countries mentioned, and in which said applications have been filed, and shall continue during the pendency of any such application

Exhibit Q

and the existence of any letters patent, prolongations or extensions which may issue thereon; provided, however, that in respect to applications 466-K of Sullivan and 768-K of Heckert aforesaid, the rights of TITAN hereunder shall be limited and restricted to the employment of the inventions of said 466-K and 768-K applications in the manufacture of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from TITAN and/or its sub-licensees hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products in accordance with any of said licensed inventions.

2. TITAN hereby grants to DU PONT a non-exclusive, royalty-free, non-assignable right and license under the following United States letters patent and/or applications therefore, to-wit:

1. Application (Case T.120) of Karl W. Petersen for Titanium Dioxide Pigments, Serial No. 33,383, filed July 26, 1935;

2. Application (Case T.125-C) of Paul Weise, et al. for Preparation of Titanium Oxygen Compounds, Serial No. 136,502, filed April 12, 1937;

3. Patent No. 2,118,916 (Case T.126-B) dated May 31, 1938, to Julius Drucker for Titanium-Containing Pigments;

4. Application (Case T.155) of Karl W. Petersen for Titanium Dioxide Pigments, Serial No. 119,625, filed January 8, 1937;

5. Application (Case T.157) of Ekbert Lederle, et al. for White Pigments, Serial No. 137,494 filed April 17, 1937;

Exhibit Q

6. Application (Case T.170) of Georg Meder, for Titanium Pigments, Serial No. 137,044, filed April 15, 1937;

7. Patent No. 2,111,460 (Case T.112), dated March 15, 1938, for Alkali Metal Titanates, to Joachim Rockstroh;

8. Application (Case T.115) of Ekbert Lederle, et al. for White Pigments, Serial No. 11,164, filed March 14, 1935;

9. Application (Case T.115-B) of Ekbert Lederle, et al. for White Pigments, Serial No. 142,918, filed May 15, 1937;

10. Application (Case T.115-C) of Ekbert Lederle, et al. for White Pigments, Serial No. 142,928, filed May 15, 1937;

11. Application (Case T. 136) of Pierre Lusseyran for Pigment Suspensions and Methods of Preparing Same, Serial No. 88,851, filed July 3, 1936;

12. Application (Case T.165) of Robert W. Ancrum, et al. for Manufacture of Titanium Pigments, Serial No. 155,040, filed July 22, 1937

to practice throughout the United States of America, its territories and dependencies, any inventions, and to make, use and sell any products described or claimed in said letters patent and/or applications, or in any patent or reissue which shall subsequently be granted thereunder; said rights and licenses to exist throughout the life of said letters patent and/or applications or any patent or reissue which may be subsequently granted thereunder; provided, however, that in respect to Cases T.112 of Rockstroh and T.136 of Lusseyran aforesaid, the rights of DU PONT hereunder shall

be limited and restricted to the employment of the inventions of said T.112 and T.136 cases in the manufacture of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from DU PONT and/or its subsidiaries hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products in accordance with any of said licensed inventions.

3. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in TITAN shall be subject to the right of DU PONT or any of its controlled subsidiaries to freely use and employ, throughout said foreign countries, the inventions described and claimed in said applications and/or any letters patent which shall issue as a result thereof; as well as to the right of Imperial Chemical Industries, Limited, of London, England, to freely use and employ the inventions described and claimed in said applications and/or any letters patent which may issue as a result thereof, throughout the United Kingdom of Great Britain, Ireland and the Isle of Man.

4. TITAN may grant royalty-free sub-licenses hereunder within the licensed territory to its associated companies, as follows:

(1) British Titan Products Co., Billingham, England

(2) Societe Industrielle du Titane, Paris, France

(3) Titangesellschaft m.b.H., Leverkusen, Germany

(4) Titan Kogyo Kabushiki Kaisha, Kobe, Japan

and may, upon consent in writing from DU PONT first obtained, grant within the licensed territory additional sublicenses to any other person, firm, company or corporation.

Exhibit Q

5. In the event TITAN shall grant sub-licenses hereunder to any person, firm or corporation for a stated royalty, it is understood and agreed that TITAN shall pay to DU PONT fifty per cent (50%) of the gross royalties received as a result of any such sub-license or sub-licenses. The royalties so accruing shall be payable directly from TITAN to DU PONT within thirty (30) days after the close of each calendar quarter for the preceding calendar quarter during which said royalty shall have been received by TITAN.

6. TITAN and DU PONT hereby accept the licenses herein granted and TITAN agrees to assume and pay all costs incidental to the preparation, filing and prosecution of said foreign applications for letters patent; it also agrees throughout the term covered by this license to assume and pay all necessary maintenance fees and/or taxes, and endeavor to effect all necessary workings to maintain any letters patent issuing as a result of the filing of said applications. TITAN also agrees that it will not permit the abandonment of any of said applications or of any letters patent which may issue as a result of the filing of said applications, and in the event TITAN shall desire to abandon any such issued letters patent, it will, prior to actual abandonment, promptly notify DU PONT of its decision to abandon, and within ample time to permit DU PONT to maintain said patents in its own behalf and at its own expense, should DU PONT so desire. DU PONT shall be free from paying any expense incidental to the preparation, filing and prosecution of said United States applications in respect of which licenses are herein granted to DU PONT.

7. TITAN and DU PONT, during the period of this license, acknowledge as good and valid the herein-involved

letters patent of the other or any letters patent which may issue as a result of the herein involved applications; and each agrees not to directly or indirectly contest the validity of said letters patent or to assist others in any infringing operation, but as far as reasonably possible, agree to assist each other in maintaining the validity of each of said patents.

8. It is understood and agreed that the license herein created shall pertain to the above-identified inventions and applications and within the licensed territory, and that no rights whatsoever are granted herein under any other inventions, applications and/or patents now owned or hereafter acquired by DU PONT or TITAN.

9. DU PONT and TITAN shall be under no obligation to defend each other against suits for infringement arising out of their operations under the licenses herein granted, nor shall either party be liable to any extent for damages assessable against the other by virtue of any such infringement.

10. In the event any of the aforesaid letters patent or any letters patent which may issue as a result of said inventions are infringed by third parties, then DU PONT or TITAN, as respective licensee, and upon consent in writing first obtained from the respective licensor, shall have the right to bring suit against said infringers, but shall be under no obligation to do so. For purposes of said suit, DU PONT or TITAN shall have the right to sue in the respective licensor's name, or include such licensor as a nominal party-plaintiff therein, provided the involved licensor consents thereto in writing. DU PONT or TITAN, as licensors, shall be under no obligation to be other than a nominal party to said suit and shall be under no obligation to share

the expenses thereof; provided, however, that DU PONT or TITAN, as licensors, may bring suit at their election in their own name against such infringers and/or join the other as licensee therein in other than a nominal capacity, provided the involved licensee consents thereto in writing.

11. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by DU PONT and TITAN, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where either party hereto brings suit against an infringer upon a patent licensed hereunder, the other party agrees to assist in the prosecution of said suit to the extent of making available any pertinent evidence in its possession.

12. This agreement shall be binding upon and inure to the benefit of the parties hereto and their successors.

TITAN COMPANY, INC.

ATTEST: By (s) G. JEBSEN, Vice-President

(s) C. F. KAEGEBEHN
Asst. Sec'y.

E. I. DU PONT DE NEMOURS AND COMPANY,

By (s) C. H. RUPPRECHT
General Mgr., Krebs Pigments Dept.

ATTEST:

(s) M. D. FISHER
Asst. Sec'y.

Exhibit R

LICENSE AGREEMENT

This agreement, made and entered into this 10th day of May, 1940, by and between E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter referred to as DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at Wilmington, Delaware, and TITAN COMPANY, INC. (hereinafter referred to as TITAN), a corporation organized and existing under and by virtue of the laws of the State of Delaware, having its principal place of business in the city and state of New York;

WITNESSETH THAT

WHEREAS, DU PONT is the owner of the entire right, title and interest in and to certain inventions more particularly described in the following United States Letters Patent and pending applications therefor; to-wit:

(a) Application (738-K) of Ray L. McCleary for Procedure for Treating Residual Sulfuric Acid Liquors, Serial No. 183,127, filed January 3, 1938;

(b) Application (873-K) of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937;

(c) Application (876-K) of Robert K. Whitten for Process for Production of Improved Titanium Pigments, Serial No. 166,943, filed October 2, 1937;

Exhibit R

(d) Application (882-K) of Roy W. Sullivan for Calcium Sulfate Pigments, Serial No. 166,564, filed September 30, 1937 (Now Pat. 2,163,385, dated June 20, 1939);

(e) Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937 (Now Pat. 2,150,236 dated March 14, 1939);

(f) Application (885-K) of Roy W. Sullivan for Stabilization of Soluble Crystalline Materials, Serial No. 183,322, filed January 4, 1938;

(g) Application (K-885-A) of George L. Schwartz for Dispersible Pigments, Serial No. 183,311, filed January 4, 1938;

(h) Application (892-K) of Roy W. Sullivan for Pigment Materials and Process of Producing, Serial No. 211,797, filed June 4, 1938;

(i) Application (893-K) of Charles R. Hager for Titanium Oxide Pigments and Process of Producing Same, Serial No. 181,990, filed December 27, 1937;

(j) Application (894-K) of M. L. Hanahan and James D. Prince for Pigment Milling Process, Serial No. 192,314, filed February 24, 1938;

(k) Application (898-K) of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938;

Exhibit R

(m) Application (905-K) of James E. Booge for Preparation of Titanium Concentrates, Serial No. 200,748, filed April 7, 1938;

and has filed corresponding applications for letters patent on said inventions in certain countries foreign to the United States, as will more particularly appear in Section 1 hereof;

WHEREAS, TITAN desires to obtain and DU PONT is willing to grant an exclusive (except as herein limited), non-assignable, royalty-free license to practice the inventions and to manufacture, use and/or sell the products described or claimed in said applications, or any letters patent which may subsequently issue thereon, throughout the hereinafter designated foreign country or countries in which said applications shall be respectively filed; and

WHEREAS, TITAN warrants that it has the right to grant the licenses hereinafter set forth under the following United States patents and applications therefor, to-wit:

1. Application (Case T-187) of Tillman, et al., Serial No. 204,838, filed April 28, 1938,

2. Application (Case T-227) of Tillman, et al., Serial No. 238,358, filed November 2, 1938,

3. Application (Case T-208) of Robert W. Ancrum and Assur Gjessing Oppegaard, Serial No. 228,326, filed September 3, 1938, for Methods of Dispersing Titanium Dioxide Pigments;

4. Application (Case T-232) of George F. New, Serial No. 247, 843, filed December 27, 1938,

Exhibit R

5. Patent No. 1,539,996 (Case T-37) dated June 2, 1925, to Peder Farup, for Process of Recovering Titanic Oxide from Titanium Nitrogen Compounds;

6. Patent No. 1,919,425 (Case T-42), dated July 25, 1933, to Peder Farup, for Process for Dissolving Titaniferous Materials in Acids;

7. Patent No. 2,055,221 (Case T-82), dated September 22, 1936, to Andreas Johan Ravnestad, for Process of Producing Titanium Pigments.

WHEREAS, DU PONT desires to obtain and TITAN is willing to grant a non-exclusive, non-assignable, royalty-free license to practice, throughout the United States of America, its territories and dependencies, the inventions, and to manufacture, use and/or sell the products described or claimed in said letters patent and/or applications, or in any letters patent which may subsequently issue as a result of any of said applications;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

1. DU PONT hereby grants to TITAN an exclusive (except as herein limited), royalty-free, non-assignable right and license under the following foreign letters patent and/or applications therefor, to-wit:

Exhibit R

(1) Throughout France:

(a) French application corresponding to U.S. Application (738-K) of Ray L. McCleary for Procedure for Treating Residual Sulfuric Acid Liquors, Serial No. 183,127, filed January 3, 1938;

(b) French application corresponding to U.S. Application (873-K) of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937;

(c) French application corresponding to U.S. Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937;

(d) French application corresponding to U.S. Application (885-K) of Roy W. Sullivan for Stabilization of Soluble Crystalline Materials, Serial No. 183,322, filed January 4, 1938;

(e) French application corresponding to U.S. Application (K-885-A) of George L. Schwartz for Dispersible Pigments, Serial No. 183,311, filed January 4, 1938;

(f) French application corresponding to U.S. Application (893-K) of Charles R. Hager for Titanium Oxide Pigments and Process of Producing Same, Serial No. 181,990, filed December 27, 1937;

(g) French application corresponding to U.S. Application (894-K) of M. L. Hanahan and

James D. Prince for Pigment Milling Process, Serial No. 192,314, filed February 24, 1938;

(h) French application corresponding to U.S. Application (898-K) of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938;

(2) Throughout the United Kingdom of Great Britain, Northern Ireland and the Isle of Man:

(a) British application corresponding to U.S. Application (876-K) of Robert K. Whitten for Process for Production of Improved Titanium Pigments, Serial No. 166,943, filed October 2, 1937;

(b) British application corresponding to U.S. Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937;

(c) British application corresponding to U.S. Application (873-K) of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937.

(d) British application corresponding to U. S. Application (898-K) of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938;

(3) Throughout Holland:

(a) Dutch application corresponding to U.S. Application (873-K) of Roy W. Sullivan for

Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937;

(b) Dutch application corresponding to U.S. Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937;

(4) Throughout Germany:

(a) German application corresponding to U.S. Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937;

(b) German application corresponding to U.S. Application (885-K) of Roy W. Sullivan for Stabilization of Soluble Crystalline Materials, Serial No. 183,322, filed January 4, 1938;

(c) German application corresponding to U.S. Application (K-885-A) of George L. Schwartz for Dispersible Pigments, Serial No. 183,311, filed January 4, 1938;

(d) German application corresponding to U.S. Application (892-K) of Roy W. Sullivan for Pigment Materials and Process of Producing, Serial No. 211,797, filed June 4, 1938;

(e) German application corresponding to U.S. Application (893-K) of Charles R. Hager for Titanium Oxide Pigments and Process of Producing Same, Serial No. 181,990, filed December 27, 1937;

(f) German application corresponding to U.S. Application (898-K) of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938;

(5) Throughout Japan:

(a) Japanese application corresponding to U.S. Application (873-K) of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937;

(b) Japanese application corresponding to U.S. Application (876-K) of Robert K. Whitten for Process for Production of Improved Titanium Pigments, Serial No. 166,943, filed October 2, 1937;

(c) Japanese application corresponding to U.S. Application (882-K) of Roy W. Sullivan for Calcium Sulfate Pigments, Serial No. 166,564, filed September 30, 1937;

(d) Japanese application corresponding to U.S. Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937;

(e) Japanese application corresponding to U.S. Application (K-885-A) of George L. Schwartz for Dispersible Pigments, Serial No. 183,311, filed January 4, 1938;

(f) Japanese application corresponding to U.S. Application (892-K) of Roy W. Sullivan for

Pigment Materials and Process of Producing, Serial No. 211,797, filed June 4, 1938;

(g) Japanese application corresponding to U.S. Application (893-K) of Charles R. Hager for Titanium Oxide Pigments and Process of Producing Same, Serial No. 181,990, filed December 27, 1937;

(h) Japanese application corresponding to U.S. Application (898-K) of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938;

(i) Japanese application corresponding to U.S. Application (899-K) of Louis C. Eckels for Production of Titanium Pigments, Serial No. 198,899, filed March 30, 1938;

(j) Japanese application corresponding to U.S. Application (905-K) of James E. Booge for Preparation of Titanium Concentrates, Serial No. 200,748, filed April 7, 1938;

(6) Throughout Italy:

(a) Italian application corresponding to U.S. Application (873-K) of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937;

(7) Throughout Belgium:

(a) Belgian application corresponding to U.S. Application (873-K) of Roy W. Sullivan for

Exhibit R

Process for Making Anhydrite, Serial No. 177,379, filed December 2, 1937

to practice any process and to make, use and/or sell any products described or claimed in said applications or any letters patent which may issue as a result thereof; the right and license herein granted, however, shall exist only throughout the respective foreign country or countries mentioned, and in which said applications have been filed, and shall continue during the pendency of any such application and the existence of any letters patent, prolongations or extensions which may issue thereon; provided, however, that in respect to the aforesaid applications of Sullivan K-873, K-882, K-885, K-892; Schwartz K-885-A; Eckels K-899; McKinney K-898; and Booge K-905, the rights granted TITAN hereunder shall be limited and restricted to the use of the inventions involved in said applications K-873, K-882, K-885, K-885-A, K-892, K-898, K-899 and K-905, in the manufacture, use and/or sale of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from TITAN and/or its sub-licensees hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products within the licensed territory of this section in accordance with any of said licensed inventions.

2. TITAN hereby grants to DU PONT a non-exclusive, royalty-free, non-assignable right and license under the following United States letters patent and/or applications therefor, to-wit:

Exhibit R

1. Application (Case T-187) of Tillman, et al., Serial No. 204,838, filed April 28, 1938, for Process for the Preparation of Titanium Dioxide;
2. Application (Case T-227) of Tillman, et al., Serial No. 238,358, filed November 2, 1938, for Process for the Manufacture of Titanium Dioxide;
3. Application (Case T-208) of Robert W. Ancrum and Assur Gjessing Oppegaard, Serial No. 228,326, filed September 3, 1938, for Methods of Dispersing Titanium Dioxide Pigments;
4. Application (Case T-232) of George F. New, Serial No. 247,843, filed December 27, 1938, for Preparation of Chalk Resistant Titanium Dioxide Pigment;
5. Patent No. 1,539,996 (Case T-37) dated June 2, 1925, to Peder Farup, for Process of Recovering Titanic Oxide from Titanium Nitrogen Compounds;
6. Patent No. 1,919,425 (Case T-42) dated July 25, 1933, to Peder Farup, for Process for Dissolving Titaniferous Materials in Acids;
7. Patent No. 2,055,221 (Case T-82) dated September 22, 1936, to Andreas Johan Ravnestad, for Process of Producing Titanium Pigments

to practice throughout the United States of America, its territories and dependencies, any inventions, and to make, use and sell any products described or claimed in said letters patent and/or applications, or in any patent or reissue which shall subsequently be granted thereunder; said rights and licenses to exist throughout the life of said letters patent and/or applications or any patent or reissue which

may be subsequently granted thereunder, provided, however, that in respect of the aforesaid applications of Tillman Case T-187 and T-227 aforesaid patents of Farup Case T-37 and Case T-42 and aforesaid patent of Ravnestad Case T-82 the rights granted Du Pont hereunder shall be restricted to the use of the inventions involved in said applications T-187, T-227 and said patents T-37, T-42 and T-82 in the manufacture, use and/or sale of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from DU PONT and/or its subsidiaries hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products within the licensed territory of this section in accordance with any of said licensed inventions.

3. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in TITAN shall be subject to the right of DU PONT or any of its subsidiaries to freely use and employ, throughout said foreign countries, the inventions described and claimed in said applications and/or any letters patent which shall issue as a result thereof; as well as to the right of Imperial Chemical Industries, Limited, of London, England, to freely use and employ the inventions described and claimed in said applications and/or any letters patent which may issue as a result thereof, throughout the United Kingdom of Great Britain, Northern Ireland and the Isle of Man.

4. TITAN may grant royalty-free sub-licenses hereunder within the licensed territory to its associated companies, as follows:

(1) British Titan Products Co., Billingham, England,

(2) Société Industrielle du Titane, Paris, France,

(3) Titangesellschaft m.b.H., Leverkusen, Germany,

(4) Titan Kogyo Kabushiki Kaisha, Kobe, Japan

and may, upon consent in writing from DU PONT first obtained, grant within the licensed territory additional sub-licenses to any other person, firm, company or corporation.

5. In the event TITAN shall, provided DU PONT consents, grant sub-licenses hereunder to any person, firm or corporation for a stated royalty, it is understood and agreed that TITAN shall pay to DU PONT fifty per cent (50%) of the gross royalties received as a result of any such sub-license or sub-licenses. The royalties so accruing shall be payable directly from TITAN to DU PONT within thirty (30) days after the close of each calendar quarter for the preceding calendar quarter during which said royalty shall have been received by TITAN.

6. TITAN and DU PONT hereby accept the licenses herein granted and TITAN agrees to assume and pay all costs incidental to the preparation, filing and prosecution of said foreign applications for letters patent; it also agrees throughout the term covered by this license to assume and pay all necessary maintenance fees and/or taxes, and endeavor to effect all necessary workings to maintain any letters patent issuing as a result of the filing of said applications. TITAN also agrees that it will not permit the abandonment of any of said applications or of any letters patent which may issue as a result of the filing of said applications, and in the event TITAN shall desire to abandon any such application and/or issued letters patent, it will, prior to actual abandonment, promptly notify DU PONT of its decision

to abandon, and within ample time to permit DU PONT to take over the prosecution of said applications and to maintain said patents in its own behalf and at its own expense, should DU PONT so desire. DU PONT shall be free from paying any expense incidental to the preparation, filing and prosecution of said United States application in respect of which licenses are herein granted to DU PONT.

7. TITAN and DU PONT, during the period of this license, acknowledge as good and valid the herein-involved letters patent of the other; and each hereby releases the other from any and all liability for infringement of such letters patent arising previous to this agreement. Further, each agrees not to directly or indirectly contest the validity of said letters patent or to assist others in any infringing operation, but as far as reasonably possible, agrees to assist the other in maintaining the validity of each of said patents.

8. It is understood and agreed that the license herein created shall pertain to the above-identified inventions and applications and within the licensed territory, and that no rights whatsoever are granted herein under any other inventions, applications and/or patents now owned or hereafter acquired by DU PONT or TITAN.

9. DU PONT and TITAN shall be under no obligation to defend each other against suits for infringement arising out of their operations under the licenses herein granted, nor shall either party be liable to any extent for damages assessable against the other by virtue of any such infringement.

10. In the event any of the aforesaid letters patent or any letters patent which may issue as a result of said in-

ventions are infringed by third parties, then DU PONT or TITAN, as respective licensee, and upon consent in writing first obtained from the respective licensor, shall have the right to bring suit against said infringers, but shall be under no obligation to do so. For purposes of said suit, DU PONT or TITAN shall have the right to sue in the respective licensor's name, or include such licensor as a nominal party-plaintiff therein, provided the involved licensor consents thereto in writing. DU PONT or TITAN, as licensors, shall be under no obligation to be other than a nominal party to said suit and shall be under no obligation to share the expenses thereof; provided, however, that DU PONT or TITAN, as licensors, may bring suit at their election in their own name against such infringers and/or join the other as licensee therein in other than a nominal capacity, provided the involved licensee consents thereto in writing.

11. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by DU PONT and TITAN, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where either party hereto brings suit against an infringer upon a patent licensed hereunder, the other party agrees to assist in the prosecution of said suit to the extent of making available any pertinent evidence in its possession.

12. For the purpose of this instrument, a subsidiary of either party hereto is defined as a company in which said party owns more than fifty per cent (50%) of the subsidiary stock which is entitled to vote for directors.

Exhibit R

13. This agreement shall be binding upon and inure to the benefit of the parties hereto and their successors.

TITAN COMPANY, INC.

By (s) G. JEBSEN
Vice President

ATTEST:

(s) C. F. KAEGEBEHN
Asst. Sec'y

E. I. DU PONT DE NEMOURS AND COMPANY,

By (s) C. H. RUPPRECHT
General Mgr., Krebs Pigments Dept.

ATTEST:

(s) M. D. FISHER
Asst. Sec'y

Form Approved

Legal Department

(S) H. C. HASKELL
Asst. Director

Exhibit S

LICENSE AGREEMENT

This agreement, made and entered into this 23rd day of June, 1941, by and between E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter referred to as DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at Wilmington, Delaware, and TITAN COMPANY, INC. (hereinafter referred to as TITAN), a corporation organized and existing under and by virtue of the laws of the State of Delaware, having its principal place of business in the city and state of New York;

WITNESSETH THAT

WHEREAS, DU PONT is the owner of the entire right, title and interest in and to certain inventions more particularly described in the following United States Letters Patent and pending applications therefor, to-wit:

(a) Application (689-K) of Winfield W. Heckert for Glue Treatment of Calcium Sulfate, Serial No. 225,716, filed August 19, 1938.

(b) Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,218, filed June 22, 1938.

(c) Application (900-K) of James H. Peterson for Process of Preparing Alkaline Earth Metal Titanates, Serial No. 213,835, filed June 15, 1938.

(d) Application (911-K) of Ignace J. Krchma for Titanium Oxide Suspensions, Serial No. 219,601, filed July 16, 1938.

(e) Application (912-K) of John A. Geddes for Improved Titanium Oxide Pigments and Process of Making Same, Serial No. 228,926, filed September 8, 1938.

(f) Application (915-K) of Holger H. Schaumann for Oxidation Treatment of Tinted Titanium Oxide, Serial No. 228,403, filed September 3, 1938.

(g) Application (917-K) of Ignace J. Krchma for Process for Production of Titanium Solutions, Serial No. 233,749, filed October 7, 1938.

and has filed corresponding applications for Letters Patent on said inventions in certain countries foreign to the United States, as will more particularly appear in Section 1 hereof;

WHEREAS, TITAN desires to obtain and DU PONT is willing to grant an exclusive (except as herein limited), non-assignable, royalty-free license to practice the inventions, and to manufacture, use and/or sell the products described or claimed in said applications, or any letters patent which may subsequently issue thereon, throughout the hereinafter designated foreign country or countries in which said applications shall be respectively filed; and

WHEREAS, TITAN warrants that it has the right to grant the licenses hereinafter set forth under the following United States patents and applications therefor, to-wit:

Exhibit S

1. Application of A. J. Oppegaard et al., for Manufacture of Titanium Dioxide Pigments, Serial No. 277,870, filed June 7, 1939.

2. Application of F. Raspe and R. W. Ancrum, for Titanium Dioxide Pigment and Printing Inks Containing Same, Serial No. 283,986, filed July 12, 1939.

3. Application of Herman Giese, for Methods of Making Improved Titanium Dioxide Pigments, Serial No. 300,004, filed October 18, 1939.

4. Patent No. 1,852,510, dated April 5, 1932, to Peder Farup, for Process of Treating Titaniferous Materials with Acids

WHEREAS, DU PONT desires to obtain and TITAN is willing to grant a non-exclusive, non-assignable, royalty-free license to practice, throughout the United States of America, its territories and dependencies, the inventions, and to manufacture, use and/or sell the products described or claimed in said Letters Patent which may subsequently issue as a result of any of said applications;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, and of other good and valuable consideration, the receipt whereof is hereby acknowledged, and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

1. DU PONT hereby grants to TITAN an exclusive (except as herein limited), royalty-free, non-assignable right

and license in the following countries and under the following foreign applications for Letters Patent, to-wit:

(1) Throughout France:

(a) French application corresponding to U.S. Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,218, filed June 22, 1938.

(b) French application corresponding to U.S. Application (900-K) of James H. Peterson for Process of Preparing Alkaline Earth Metal Titanates, Serial No. 213,835, filed June 15, 1938.

(c) French application corresponding to U.S. Application (911-K) of Ignace J. Krchma for Titanium Oxide Suspensions, Serial No. 219,601, filed July 16, 1938.

(d) French application corresponding to U.S. Application (912-K) of John A. Geddes for Improved Titanium Oxide Pigments and Process of Making Same, Serial No. 228,926, filed September 8, 1938.

(2) Throughout the United Kingdom of Great Britain, Northern Ireland and the Isle of Man:

(a) British application corresponding to U.S. Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,218, filed June 22, 1938.

(b) British application corresponding to U.S. Application (900-K) of James H. Peterson, for

Exhibit S

Process of Preparing Alkaline Earth Metal Titanates, Serial No. 213,835, filed June 15, 1938.

(c) British application corresponding to U.S. Application (912-K) of John A. Geddes for Improved Titanium Oxide Pigments and Process of Making Same, Serial No. 228,926, filed September 8, 1938.

(3) Throughout Germany:

(a) German application corresponding to U.S. Application (689-K) of Winfield W. Heckert for Glue Treatment of Calcium Sulfate, Serial No. 225,716, filed August 19, 1938.

(b) German application corresponding to U.S. Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,218, filed June 22, 1938.

(c) German application corresponding to U.S. Application (911-K) of Ignace J. Krchma for Titanium Oxide Suspensions, Serial No. 219,601, filed July 16, 1938.

(4) Throughout Italy:

(a) Italian application corresponding to U.S. Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,218, filed June 22, 1938.

(5) Throughout Holland:

(a) Dutch application corresponding to U.S. Application (888-K) of James E. Booge for Ti-

tanium Pigment Production, Serial No. 215,-218, filed June 22, 1938.

(b) Dutch application corresponding to U.S. Application (912-K) of John A. Geddes for Improved Titanium Oxide Pigments and Process of Making Same, Serial No. 228,926, filed September 8, 1938.

(6) Throughout Belgium:

(a) Belgian application corresponding to U.S. Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,-218, filed June 22, 1938.

(7) Throughout Japan:

(a) Japanese application corresponding to U.S. Application (911-K) of Ignace J. Krchma for Titanium Oxide Suspensions, Serial No. 219,-601, filed July 16, 1938.

(b) Japanese application corresponding to U.S. Application (915-K) of Holger H. Schaumann for Oxidation Treatment of Tinted Titanium Oxide, Serial No. 228,403, filed September 3, 1938.

(c) Japanese application corresponding to U.S. Application (917-K) of Ignace J. Krchma for Process for Production of Titanium Solutions, Serial No. 233,749, filed October 7, 1938.

to practice any process and to make, use and/or sell any products described or claimed in said applications or any Letters Patent which may issue as a result thereof; the right and license herein granted, however, shall exist only throughout the respective foreign country or countries mentioned, and in which said applications have been filed, and shall continue during the pendency of any such application and the existence of any Letters Patent, prolongations or extensions which may issue thereon; provided, however, that in respect to the aforesaid applications of Winfield W. Heckert 689-K, James E. Boobe 888-K, John A. Geddes 912-K, and Holger H. Schaumann 915-K, the rights granted TITAN hereunder shall be limited and restricted to the use of the inventions involved in said applications 689-K, 888-K, 912-K and 915-K, in the manufacture and sale of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from TITAN and/or its sub-licensees hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products within the licensed territory of this section in accordance with any of said licensed inventions.

2. TITAN hereby grants to DU PONT a non-exclusive, royalty-free, non-assignable right and license under the following United States Letters Patent and/or applications therefor, to-wit:

1. Application (Case T.217) of A. J. Oppegaard, et al., for Manufacture of Titanium Dioxide Pigments, Serial No. 277,870, filed June 7, 1939.

2. Application (Case T.240) of F. Raspe and R. W. Ancrum, for Titanium Dioxide Pigment and Print-

ing Inks Containing Same, Serial No. 283,986, filed July 12, 1939 (now Pat. 2,224,987 dated Dec. 17, 1940).

3. Application (Case T.242) of Herman Giese, for Methods of Making Improved Titanium Dioxide Pigments, Serial No. 300,004, filed October 18, 1939.

4. Patent (Case T.43) No. 1,852,510, dated April 5, 1932, to Peder Farup, for Process of Treating Titaniferous Materials with Acids.

to practice throughout the United States of America, its territories and dependencies, any inventions, and to make, use and sell any products described or claimed in said Letters Patent and/or applications, or in any patent or reissue which shall subsequently be granted thereunder; said rights and licenses to exist throughout the life of said Letters Patent and/or applications or any patent or reissue which may be subsequently granted thereunder; provided, however, that in respect of aforesaid application of Raspe and Ancrum, Case T.240, and aforesaid patent of Farup, Case T.43, the rights granted DU PONT hereunder shall be restricted to the use of the inventions involved in said application T.240 and said patent T.43 in the manufacture, use and/or sale of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from DU PONT and/or its subsidiaries hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products within the licensed territory of this section in accordance with any of said licensed inventions.

Exhibit S

3. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in TITAN shall be subject to the right of DU PONT or any of its subsidiaries to freely use and employ, throughout said foreign countries, the inventions described and claimed in said applications and/or any Letters Patent which shall issue as a result thereof; as well as to the right of Imperial Chemical Industries, Limited, of London, England, to freely use and employ the inventions described and claimed in said applications and/or any Letters Patent which may issue as a result thereof, throughout the United Kingdom of Great Britain, Northern Ireland and the Isle of Man.

4. TITAN may grant royalty-free sub-licenses hereunder within the licensed territory to its associated companies, as follows:

(1) Britain Titan Products Co., Billingham England

(2) Societe Industrielle du Titane, Paris, France

(3) Titangesellschaft m.b.H., Leverkusen, Germany

(4) Titan Kogyo Kabushiki Kaisha, Tokyo, Japan

and may, upon consent in writing from DU PONT first obtained, grant within the licensed territory additional sublicenses to any other person, firm, company or corporation.

5. In the event TITAN shall, provided DU PONT consents, grant sub-licenses hereunder to any person, firm or corporation for a stated royalty, it is understood and agreed that TITAN shall pay to DU PONT fifty per cent (50%) of the gross royalties received as a result of any such sublicense or sub-licenses. The royalties so accruing shall be

payable directly from TITAN to DU PONT within thirty (30) days after the close of each calendar quarter for the preceding calendar quarter during which said royalty shall have been received by TITAN.

6. TITAN and DU PONT hereby accept the licenses herein granted and TITAN agrees to assume and pay all costs incidental to the preparation, filing and prosecution of said foreign applications for Letters Patent; it also agrees throughout the term covered by this license to assume and pay all necessary maintenance fees and/or taxes, and endeavor to effect all necessary workings to maintain any Letters Patent issuing as a result of the filing of said applications, and TITAN also agrees that it will not permit the abandonment of any of said applications or of any Letters Patent which may issue as a result of the filing of said applications without first promptly notifying DU PONT of its intention to so abandon and within ample time to permit DU PONT to take over the prosecution of said applications and to maintain said patents in its own behalf and at its own expense, should DU PONT so desire. DU PONT shall be free from paying any expense incidental to the preparation, filing and prosecution of said United States applications in respect of which licenses are herein granted to DU PONT.

7. TITAN and DU PONT, during the period of this license, acknowledge as good and valid the herein-licensed Letters Patent of the other; and each hereby releases the other from any and all liability for infringement of such Letters Patent arising previous to this agreement. Further, each agrees not to directly or indirectly contest the validity of said Letters Patent or to assist others in any infringing

operation, but as far as reasonably possible, agrees to assist the other in maintaining the validity of each of said patents.

8. It is understood and agreed that the license herein created shall pertain to the above-identified inventions and applications and within the licensed territory, and that no rights whatsoever are granted herein under any other inventions, applications and/or patents now owned or hereafter acquired by DU PONT or TITAN.

9. DU PONT and TITAN shall be under no obligation to defend each other against suits for infringement arising out of their operations under the licenses herein granted nor shall either party be liable to any extent for damages assessable against the other by virtue of any such infringement.

10. In the event any of the aforesaid Letters Patent or any letters Patent which may issue as a result of said inventions are infringed by third parties, then DU PONT or TITAN, as respective licensee, and upon consent in writing first obtained from the respective licensor, shall have the right to bring suit against said infringers, but shall be under no obligation to do so. For purposes of said suit, DU PONT or TITAN shall have the right to sue in the respective licensor's name, or include such licensor as a nominal party-plaintiff therein, provided the involved licensor consents thereto in writing. In the event of such consent, DU PONT or TITAN, as licensors, shall be under no obligation to be other than a nominal party to said suit and shall be under no obligation to share the expenses thereof;

provided, however, that DU PONT or TITAN, as licensors, may bring suit at their election in their own name against such infringers and/or join the other as licensee therein in other than a nominal capacity, provided the involved licensee consents thereto in writing.

11. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by DU PONT and TITAN, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where either party hereto brings suit against an infringer upon a patent licensed hereunder, the other party agrees to assist in the prosecution of said suit to the extent of making available any pertinent evidence in its possession.

12. Governmental objection or prohibition shall be a valid plea on the part of either of the parties hereto to decline to disclose or to grant rights with respect to any invention, patent and/or application therefor which, but for such objection or prohibition, would come within the operation of this agreement.

13. For the purpose of this instrument, a subsidiary of either party hereto is defined as a company in which said party owns more than fifty per cent (50%) of the subsidiary stock which is entitled to vote for directors.

Exhibit S

14. This agreement shall be binding upon and inure to the benefit of the parties hereto and their successors.

TITAN COMPANY, INC.

By (s) G. JEBSEN

ATTEST:

(s) C. F. KAEGEBEHN
Asst. Sec'y

E. I. DU PONT DE NEMOURS AND COMPANY,

By (s) C. H. RUPPRECHT
General Mgr., Krebs Pigments Dept.

ATTEST:

(s) F. G. HESS
Asst. Sec'y

Exhibit 6

ITEM 3—NATIONAL LEAD COMPANY SUBPOENA

TITANIUM PIGMENT COMPANY, INC.

ACQUISITION:

2-28-21	15,000	Shares
8-16-22	11,412	"
5-18-23	1,443	"
6-21-23	1,980.9	"
6-25-23	1,019.1	"
7-23-23	200	"
2-29-24	7,000	"
2-26-29	3,105	"
2-28-29	774	"
3- 1-29	135	"
3-25-29	6	"
3-26-29	39	"
11-18-29	486	"
1- 2-30	300	"
12-30-32	7,100	"
	50,000	Shares

100% Ownership

DISPOSITION:

October, 1936 all shares above surrendered to said Company for cancellation or redemption in exchange for all its assets.

TITAN CO. A/S

	SHARES		
	Pfd. A	Pfd. B	Common
12-31-27	21,773	8,714	29,900
5-10-28			23
6-21-29			211
6-26-33			10
	21,773	8,714	30,144
January, 1944 Contract to Purchase from Dr. Jebsen	3,214	1,286	4,646
	24,987	10,000	34,790

Including shares contracted for, ownership over 99%.

SOCIETE BELGE DU TITANE

Subsidiary of Titan Co. A/S.

Sept. 17, 1929—500 Shares Par 1,000 B. F.

Exhibit 6

A/S TITANIA

Subsidiary of Titan Co. A/S

December, 1927—780 Shares Preferred
110 " Common

THE JOSSINGFJORD MANUFACURING CO.

Subsidiary of A/S Titania

December, 1927—536 Shares

TITAN CO., INC.

12-16-29	11,317 Shares
1-28-44	1,683 "
	13,000 Shares

100% Ownership

TITANGESELLSCHAFT m. b. H.

Investment of Titan Co. A/S Nov. 18, 1927—One-half Interest Ownership

Transferred to Titan Co., Inc. December, 1929

UNITED LEAD COMPANY

February 26, 1906—150,000 Shares Common
(entire issue)
and $4,522,000.00—5% Bonds

Bonds completely retired prior to 1929.
Ownership still 100%.

SOCIETE INDUSTRIELLE DU TITANE

Investment of Titan Co. A/S

	SHARES	
	Ordinary	Founders
12-31-27	250	19,129
12-31-27	56,888	
5-10-28	500	
12-31-34		15,555
	57,638	34,684

12-16-29 Transferred to Titan Co., Inc.

Titan Co. A/S also owns 20,875 Shares Common and 22,246 Shares Founders.

Exhibit 6

ASSOCIATED LEAD MANUFACTURERS, LIMITED

	Ordinary Shares	Preference Shares	
9-11-29	7,000		
9-28-29	23,000		
10-10-29	33,650		
10-23-29	20,200		
11- 7-29	10,500		
11-20-29	7,650		
11-20-29	300,000	150,000	
12-19-29	*51,245*		Sold for cash to W. S. Robinson & Associates, England for $243,980.11:
12- 5-29	1,500		
1-31-30	15,000		
2-28-30	7,000		
	374,255	150,000	

12-31-30 Exchanged for 421,036 14/16 Ordinary and 128,571 3/7 Preference Shares of Goodlass Wall & Associated Lead Industries, Ltd. under amalgamation with other Companies.

Exhibit 6

IMPERIAL SMELTING CORP., LTD.

	SHARES		
	Ordinary	Preference	
1-31-31	50,000.	50,000	
5- 8-35		*13,000*)	Sold through Lehman Bros.
5-21-35		*10,000*)	for cash
5-25-35		*27,000*)	$257,477.17.
	50,000	—0—	

GOODLASS WALL & LEAD INDUSTRIES, LTD.

12-31-30—Following Shares received in exchange for 374,255 Ordinary and 150,000 Preference Shares of Associated Lead Manufacturers, Ltd.:

	SHARES			
	Ordinary	Preference		
	421,036 14/16	128,571 3/7		
2-2-31	*14/16*	*3/7*	$ 3.29	—Sold for Cash
4- 1-35		*128,571*	$ 731,975.00	—Sold through Lehman Bros., a/c E. R. Lewis & Co., London
12-14-37	*421,036*		$1,288,938.56	—Sold to Hoyt Metal Co., Great Britain
	—0—	—0—		

CANADIAN TITANIUM PIGMENTS, LTD.

$49,000. Principal Amount 30-Year 7% General Bonds, September 28, 1937

	SHARES		
	Class A	Class B	
9-28-37	490	8,000	
12-31-42		*200*	Redemption at Par, $20,000. Canadian Currency
7-30-43		*200*	Redemption at Par, $20,000. Canadian Currency
5- 1-44		*200*	Redemption at Par, $20,000. Canadian Currency
	490	7,400	

Exhibit 6

AMERICAN ZIRCONIUM CORPORATION

(Investment of Titanium Pigment Co. transferred to National Lead Company)

1-31-36—	1112	Shares Common
12-10-36—	200	" "
1-13-38—	200	" "
	1512	Shares

Above ownership of 1,512 Shares relinquished to Glidden & Co. under surrender of license cancellation and termination of agreement to wit:

May 6, 1935—Titanium Pigment Co., Inc. and American Zirconium Corporation

May 6, 1935—National Lead Company, Titanium Pigment Co., Inc., Glidden Co., Metal & Thermit Corporation and American Zirconium Corporation.

May 6, 1935—Titanium Pigment Co., Inc., American Zirconium Corporation, Glidden Co. and Metal & Thermit Corporation.

Oct. 31, 1936—Assignment to National Lead Company of Contracts of May 6, 1935

Mar. 9, 1944—Glidden Co., American Zirconium Corporation and National Lead Company.

Exhibit 7

Item 6: Schedule of officers and directors (including all members of Executive Committee of NATIONAL LEAD COMPANY—January 1, 1920 to October 30, 1944.

CHAIRMAN OF THE BOARD

Edward J. Cornish	2-23-33— 5- 3-38

PRESIDENTS

Edward J. Cornish	1- 1-20— 2-23-33
Fred M. Carter	2-23-33— 1-12-38
Fletcher W. Rockwell	1-12-38—

VICE PRESIDENTS

Reginald P. Rowe	1- 1-20— 7-17-22
George O. Carpenter	1- 1-20— 4-20-33
Norris B. Gregg	1- 1-20— 9- 6-27
Edward F. Beale	7-27-22— 4-21-38
Evans McCarty	9-15-27— 4-20-33
Fred M. Carter	9-15-27— 2-23-33
William C. Beschorman	9-15-27— 4-21-38
William H. Croft	4-21-31—
James B. Keister	6-27-33—12-22-36
Fletcher W. Rockwell	3-23-37— 1-12-38
Herman T. Warshow	3-23-37—
Harold Rowe	4-21-38—
Henry G. Sidford	4-21-38—12-25-42
William V. Burley	5-25-43—

Exhibit 7

SECRETARIES

Charles Davison	1- 1-20— 1- 7-21
M. Douglas Cole	2-17-21— 4-21-38
Henry O. Bates	4-21-38—

ASSISTANT SECRETARIES

Stratford A. Miller	1- 1-20— 7- 9-20
M. Douglas Cole	11-18-20— 2-17-21
Henry O. Bates	2-17-21— 4-21-38
Charles Simon	5-27-24— 4-16-25
George C. Peterson	4-19-34— 6-17-37
Charles H. Sondhaus	6-17-37—
M. Douglas Cole	6-16-38—12-31-43
Harold E. Keenan	7-30-40—
Charles Simon	7- 3-42—
John B. Henrich	12-16-43—

TREASURERS

Fred R. Fortmeyer	1- 1-20—12-17-25
Charles Simon	12-17-25—

ASSISTANT TREASURERS

Charles Simon	1- 1-20—12-17-25
Henry O. Bates	10- 9-23—
Thomas Kerfut	1- 1-39— 5-26-44
Joseph J. Morsman, Jr.	2-13-41—

DIRECTORS

Reginald P. Rowe	1- 1-20— 7-17-22
Edward F. Beale	1- 1-20—
George O. Carpenter	1- 1-20— 4-20-33
Romulus R. Colgate	1- 1-20— 1- 6-26

Exhibit 7

Edwin C. Goshorn	1- 1-20—	2- 7-24
Walter Tufts	1- 1-20—	2- 7-24
Edward J. Cornish	1- 1-20—	5- 3-38
George W. Fortmeyer	1- 1-20—	12-17-25
Charles E. Field	1- 1-20—	4-20-33
Fred M. Carter	1- 1-20—	2-28-39
William N. Taylor	1- 1-20—	11-21-35
Grafton D. Dorsey	1- 1-20—	5-25-33
John R. Wettstein	1- 1-20—	4-19-28
Gustave W. Thompson	1- 1-20—	1-30-40
Norris B. Gregg	1- 1-20—	9- 6-27
Evans McCarty	7-27-22—	9- 2-33
William C. Beschorman	3-20-24—	1-30-40
Alfred H. Brodrick	4-17-24—	5-25-33
Henry G. Sidford	12-17-25—	12-25-42
Fletcher W. Rockwell	1-21-26—	
William H. Croft	9-15-27—	
James A. Caselton	4-19-28—	2-12-39
William F. Meredith	4-20-33—	9-28-43
Kendall Marsh	4-20-33—	
Leonard T. Beale	5-25-33—	
Herman T. Warshow	5-25-33—	
Charles Simon	3-28-35—	
Oliver H. Greene	11-21-35—	4-21-38
Harold Rowe	4-21-38—	
Joseph J. Morsman	5-24-38—	
Claude F. Garesche	2-28-39—	
James A. Taylor	2-28-39—	
Charles A. Geatty	1-30-40—	
William V. Burley	1-30-40—	
Leonard G. Reichhard	1-26-43—	9-28-43
Walter P. Carroll	9-28-43—	
Joseph A. Martino	1-25-44—	

Exhibit 8

TITANIUM PIGMENT COMPANY, INC.

DIRECTORS

William F. Meredith—	1920-1936
Joseph D. Meredith—	1920-1936
Arthur H. Masten—	1920-1922
Andrew Thompson—	1920-1933
Frederick W. Bahrenburg—	1920
J. Osgood Nichols—	1920-1922
Louis E. Barton—	1920-1936
Clerk: Ernest L. McLean—	1920-1936
Norris B. Gregg—	1920-1927
Edward J. Cornish—	1920-1936
Evans McCarty—	1920-1933
Gustave W. Thompson—	1920-1936
Fletcher W. Rockwell—	1920-1936
Ashleigh S. Moses—	1923-1934
H. T. Warshow—	1923-1936
W. C. Beschorman—	1923-1936
Leonard T. Beale—	1929-1936
Fred M. Carter—	1929-1936
C. F. Garesché—	1934-1936
Ralph M. Roosevelt —	1935-1936
W. W. Washburn—	1934-1936
H. G. Sidford—	1936
I. D. Hagar—	1936

Exhibit 8

TITANIUM PIGMENT COMPANY, INC.

OFFICERS

Chairman of the Board—	Edward J. Cornish, 1920-1935; William F. Meredith, 1936
President—	William F. Meredith, 1920-1935; Ralph Roosevelt, 1936
Vice President—	Andrew Thompson, 1920-1933; Claude F. Garesché, 1934-1936
Vice President—	Evans McCarty, 1920-1933
General Manager—	Andrew Thompson, 1920-1923
Treasurer—	Joseph D. Meredith, 1920-1935; F. H. Dow, 1936
Assistant Treasurer—	George W. Bahrenburg, 1920-1921; 1930-1935
Secretary—	Joseph D. Meredith, 1920-1933; F. H. Dow, 1936
Assistant Secretary—	A. H. Hoffman, 1936
Cashier—	Paul Haasis, 1920-1922

Exhibit 9

TITIAN CO. A/S

Board of Directors

Knud, Dahl, (1929-
E. J. Cornish, (1929-1938)
Evans McCarthy, (1929-1933)
Gustav Jebsen, *(1929-
Christian Vogt, (1929-
Fletcher W. Rockewell, *(1938-
Claude F. Garesché. *(1938-
Harald S. Borchgrevink (1938-

Officers

Christian Vogt, Chairman, (1938-
Gustav Jebsen, Managing Director, *(1938-
S. Knudsen, Local Manager, (1938-
Erik Anker, Sales Manager, (1938-
Th. Bjornstad, Office Manager, (1938-
Emil Noren, Chief Accountant- (1938-

*Present status unknown due to European War.

Exhibit 10

SOCIETE BELGE DU TITANE

Board of Directors

S. J. Henrikssen, (1938-

Gustav Jebsen, *(1938-

Ragnar Iuell, (1938-

Joseph de Vleeschouwer, (1938-

*Present status unknown due to European War.

Officers

Gustav Jebsen, President—*(1938-

Joseph de Vleeschouwer, Manager (1938-

*Present status unknown due to European War.

Exhibit 11

A/S TITANIA

Board of Directors

Harald S. Borchgrevink, (1938-

Knud Dahl, (1938-

Gustav Jebsen, *(1938-

Christian Vogt, (1938-

*Present status unknown due to European War.

Officers

Knud Dahl, President-Chairman, (1938-

E. B. Nolbach, Works Manager—(1938-

Joh. Lenschow, Superintendent—(1938-

Mr. Jaeger, Chief Accountant—(1938-

Exhibit 12

THE JOSSINGFORJD MANUFACTURING CO. A/S

Board of Directors

Harald S. Borchgrevink, (1938-

Knud Dahl, (1938-

Gustav Jebsen, *(1938-

Christian Vogt, (1938-

Officers

Knud Dahl, Chairman—(1938-

E. B. Mölbach, Works Manager—(1938

Joh. Lenschow, Superintendent—(1938-

Mr. Jäger, Chief Accountant—(1938-

*Present status unknown due to European War.

Exhibit 13

TITAN COMPANY, INC.

DIRECTORS

John Milton Ferry, 1929

Adolph Denzau, 1929

Clarence W. Copping, 1929

L. A. Schmidt, 1929

F. M. Schmidt, 1929

W. C. Beschorman, 1930-1938

Gustav Jebsen, 1930-

Fred M. Carter, 1930-1933

Evans McCarty, 1930-1933

E. J. Cornish, 1930-1937

L. T. Beale, 1934-1944

F. W. Rockwell, 1937-

Charles Simon, 1938-

C. F. Garesché, 1938-

Clay R. Smith, 1944-

Exhibit 13

TITAN COMPANY, INC.

OFFICERS

President—	John Milton Ferry, 1929; E. J. Cornish, 1930-1937; F. W. Rockwell, 1938-
Vice President—	Clarence O. Copping, 1929; Evans McCarty, 1930-1932; W. C. Beschorman, 1933-1937; Gustav Jebsen, 1930- C. F. Garesché, 1938-
Secretary—	Adolph Denzau, 1929; M. D. Cole, 1930-1943; C. F. Kaegebehn, 1944-
Treasurer—	Adolph Denzau, 1929; Charles Simon, 1930-
Assistant Secretary—	Sverre Henrikssen, 1930-; C. F. Kaegebehn, 1937-1944
Assistant Treasurer—	Ragnar Juell, 1930-
General Manager—	Gustav Jebsen, 1930-
Comptroller & Auditor—	H. T. Warshow, 1933-1944
Asst. Secretary & Comptroller—	Clay R. Smith, 1944

Exhibit 14

TITANGESELLSCHAFT m. b. H.

"Geschaftsführer" (Managers)

Max Brüggemann, (1938-

Gustav Jebsen, *(1938-

Hans Kühne, (1938-

Fletcher Webster Rockwell, *(1938-

*Present status unknown due to European War.

OFFICERS

Friedrich Raspe, Power-of-Attorney—(1938-

Paul Weise, Special Power-of-Attorney—(1938-

Friedrich Werther, Special Power-of-Attorney—(1938-

Dr. Maus, Office Manager—(1938-

Exhibit 15

UNITED LEAD COMPANY

DIRECTORS

R. P. Rowe	1920-1922
E. J. Cornish	1920-1938
E. T. Merrick	1920-1944
W. A. Price	1920-1922
E. F. Beale	1920-1944
E. R. Hoyt	1920-1932
Walter Tufts	1920-1923
E. McCarty	1920-1933
A. H. Broderick	1920-1934
W. T. Morgan	1920-1924
J. R. Wettstein	1920-1927
C. E. McPhail	1920-1928
G. D. Dorsey	1920-1922
N. B. Gregg	1924-1927
T. H. Markellie	1923-1944
G. W. Thompson	1923-1942
C. E. Field	1925-1944
F. C. Jussen	1925-1944
Theo. Herman	1928-1934
G. H. Worrall	1928-1944
W. C. Beschorman	1928-1944
F. W. Rockwell	1928-
Harold Rowe	1944-
Charles Simon	1944-
Joseph A. Martino	1944-
John B. Heinrich	1944-

Exhibit 15

UNITED LEAD COMPANY

Executive Committee

E. R. Hoyt—1920-1932

E. T. Merrick—1920-1928

R. P. Rowe—1920-1922

G. D. Dorsey—1920-1922

Evans McCarthy—1920-1933

J. R. Wettstein—1920-1939

E. J. Cornish—1920-1938

T. H. Markillie—1923-1928

N. B. Gregg—1923-1927

W. C. Beschorman—1928-

G. W. Thompson—1928-1942

F. W. Rockwell—1928-

Exhibit 15

UNITED LEAD COMPANY

OFFICERS

Chairman of the Board—	E. R. Hoyt, 1920
President—	J. R. Wettstein, 1920-1927; E. J. Cornish, 1928-1938; F. W. Rockwell, 1944-
Vice-President—	R. P. Rowe, 1920-1922
Vice-President—	G. D. Dorsey, 1920-1922
Vice-President—	Norris B. Gregg, 1923-1927
Vice-President—	G. W. Thompson, 1923-1928
Vice-President—	W. C. Beschorman, 1928-1944
Vice-President—	Evans McCarty, 1928-1933
Vice-President—	Harold Rowe, 1944-
Vice-President—	J. A. Martino, 1944-
Secretary—	P. D. Beresford, 1920-1924; J. B. Henrich, 1944-
Treasurer—	Charles Simon, 1944-
Assistant Secretary—	S. A. Miller, 1920; E. R. Dondorf, 1925-1944; E. T. Merrick, 1923-1928; Charles Simon, 1944
Assistant Treasurer—	H. W. Bennett, 1920-1938

Exhibit 16

SOCIETE INDUSTRIELLE DU TITANE

Board of Directors

Noel Alessandri, (1929-1930)
Mr. Paul Gilbert, (1929-
Bernard Gilbert, (1938-
S. J. Henrikssen, (1929-
Emile Lobstein, (1929-1933)
Albert Buisson, (1929-1930)
E. J. Cornish, (1929-1938)
Evans McCarty, (1929-1933)
Max Girard, (1938-
Fletcher W. Rockwell, *(1938-
Gustav Jebsen, *(1938-

Officers

Gustav Jebson, Managing Director, *(1938-
S. J. Henrikssen, Administrative Director, (1938-
Paul Gilbert, Administrative Director, (1938-
S. J. Henrikssen, Secretary, (1938-

*Present status unknown due to European War.

Exhibit

BRITISH TITAN PRODUCTS COMPANY LIMITED

Board of Directors

C. F. Garesché, (1938-

Gustav Jebsen, (1938-

W. S. Robinson, (1938-

F. W. Rockwell, (1938-

O. Wilkins, (1938-

C. J. Stopford, (1938-

Alternates:

S. J. Henrikssen, (1938-

J. L. McConnell, (1938-

D. J. W. Orr, (1938-

A. J. Thompson, (1938-

Officers

W. S. Robinson, Chairman, (1938-

H. S. Tasker, Vice Chairman, (1938-

B. T. Minter, Secretary, (1938-

C. J. Stopford, General Manager, (1938-

Exhibit 18

GOODLASS WALL & LEAD INDUSTRIES, LTD.

BOARD OF DIRECTORS

Clive Cookson, Chairman, (1938-

H. S. Tasker, Managing Director, (1938-

A. P. Bevan, (1938-

Col. A. J. Foster, C.M.G., (1938-

C. F. Hill, (1938-

C. A. Klein, (1938-

R. L. H. Lancaster, (1938-

Sir John Mann, K. B. E., (1938-

E. P. Reynolds, (1938-

F. W. Rockwell, (1938-

J. H. Stewart, (1938-

OFFICERS

Secretary, Urquhart Stewart C.A. (1938-

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Exhibit 19

CANADIAN TITANIUM PIGMENTS LTD.

Directors

C. F. Garesché, (1938-

L. W. Haslett, (1938-

E. A. McKinnon, (1938-

F. W. Rockwell, (1938-

H. Greville Smith, (1938-

J. A. Taylor, (1938-

Officers

L. W. Haslett, President, (1938-

Russell Smith, Secretary, (1938-

R. W. Sharwood, Treasurer, (1938-

G. N. Bates, Acting Manager (not an officer.)

Exhibit 20

AMERICAN ZIRCONIUM CORPORATION

Board of Directors

Adrian D. Joyce
F. H. Hirschland
Hubert E. Rogers
R. H. Horsburgh
Walton Smith

} Tenure of office unknown

Officers

President—	Adrian D. Joyce	(1938-	Tenure of office unknown.
Vice-President—	Walton Smith	(1938-	
Secretary—	Hubert E. Rogers	(1938-	
Assistant Secretary—	Clifton H. Kolb	(1938-	
Treasurer—	R. H. Horsburgh	(1938-	
Assistant Treasurer—	J. A. Peters	(1938-	

Exhibit 21

ITEM 7

Name of National Lead Company Director or Officer	Position Held in Designated Companies
W. C. Beschorman	Director, Titan Company, Inc., (1930-1938); Vice President, Titan Company, Inc., (1930-1938); Director, Titanium Pigment Company, Inc., (1923-1936); Director, United Lead Company (1928-1944); Executive Committee, United Lead Company (1928-).
M. D. Cole	Secretary, Titan Company, Inc., (1930-1943).
Fred M. Carter	Director, Titan Company, Inc., (1930-1933); Director, Titanium Pigment Company, Inc., (1929-1936).
Evans McCarty	Director, Titan Company, Inc., (1930-1933); Vice President, Titanium Pigment Company, Inc., (1929-1933); Vice President, Titan Company, Inc., (1930-1932); Director United Lead Company (1920-1933); Executive Committee, United Lead Company, (1920-1933); Vice-President, United Lead Company (1928-1933); Director, Titanium Pigment Company, Inc., (1920-1933); Director, Societe Industrielle du Titane 1929-1933; Director, Titan Co., A/S, (1929-1933).
E. J. Cornish	Director, Titan Company, Inc., (1930-1937); President, Titan Company, Inc., (1930-1937); Chairman of Board of Titanium Pigment Company, Inc., (1920-1935); Director, United Lead Company, (1920-1938); Executive Committee, United Lead Company, (1920-1938); President, United Lead Company, (1928-1938); Director, Titanium Pigment Co., Inc. (1920-1936); Director, Societe Industrielle du Titan, (1929-1938); Director, Titan Co., A/S, (1929-1938).
L. T. Beale	Director, Titan Company, Inc., (1934-1944); Director Titanium Pigment Co., Inc. (1929-1936).
H. T. Warshow	Comptroller and Auditor, Titan Company, Inc., (1933-1944); Director, Titanium Pigment Company (1923-1936).
Fletcher W. Rockwell	Director, Titan Company, Inc., (1937-); President Titan Company, Inc., (1938-); Director, United Lead Company (1928-); Executive Committee, United Lead Company, (1928-); President, United Lead Company, (1944-); Director, Titanium Pigment Company, Inc., (1920-1936); Director, Societe In-

Exhibit 21

ITEM 8 (continued)

Name of National Lead Company Director or Officer	Position Held in Designated Companies
Fletcher W. Rockwell (Continued)	dustrielle du Titane, (1938-); Director, Goodlass, Wall and Lead Industries, Ltd., (1938-); Manager, Titangesellschaft m.b.H., (1938-); Director, Titan Co., A/S, (1938-); Director, British Titan Products Company Limited, (1938-); Director, Canadian Titanium Pgts. Ltd. (1938-).
Charles Simon	Director, Titan Company, Inc., (1938-); Treasurer, Titan Company, Inc., (1938-); Director, United Lead Company, (1944-); Treasurer, United Lead Company, (1944-); Assistant Secretary, (1944-).
C. F. Garesché	Director, Titan Company, Inc., (1938-); Vice President, Titan Company, Inc., (1938-); Director, Titanium Pigment Company, Inc., (1934-1936); Vice President, Titanium Pigment Company, Inc., (1934-1936); Director, Titan Co., A/S, (1938-); Director, British Titan Products Company Limited, (1938-); Director, Canadian Titanium Pigments Ltd., (1938-).
J. A. Martino	Director, United Lead Company, (1944-); Vice President, United Lead Company, (1944-).
Harold Rowe	Director, United Lead Company, (1944-); Vice President, United Lead Company, (1944-).
J. B. Henrich	Director, United Lead Company, (1944-); Secretary, United Lead Company, (1944-).
G. W. Thompson	Director, United Lead Company, (1923-1942); Executive Committee, United Lead Company, (1928-1942); Vice President, United Lead Company, (1923-1928); Director, Titanium Pigment Company, Inc., (1920-1936).
William F. Meredith	Director, Titanium Pigment Company, Inc., (1920-1936); Chairman of the Board, Titanium Pigment Company, Inc., (1936); President, Titanium Pigment Company, Inc., (1920-1935).
Norris B. Gregg	Director, United Lead Company, (1924-1927); Executive Committee, United Lead Company, (1923-1927); Vice President, United Lead Company, (1923-1927); Director, Titanium Pigment Company, Inc. (1920-1927).

Exhibit 21

ITEM 8 (continued)

National Lead Company Name of Director or Officer	Position Held in Designated Companies
R. P. Rowe	Director, United Lead Company, (1920-1922); Executive Committee, United Lead Company (1920-1922), Vice President, United Lead Company, (1920-1922).
E. F. Beale	Director, United Lead Company, (1920-1923).
Walter Tufts	Director, United Lead Company, (1920-1944).
A. H. Broderick	Director, United Lead Company, (1920-1934).
J. R. Wettstein	Director, United Lead Company, (1920-1927); Executive Committee, United Lead Company, (1920-1939); President, United Lead Company, (1920-1927).
G. D. Dorsey	Director, United Lead Company, (1920-1922); Executive Committee, United Lead Company, (1920-1922); Vice President, United Lead Company, (1920-1922).
C. E. Field	Director, United Lead Company, (1925-1944).
H. G. Sidford	Director, Titanium Pigment Company, Inc., (1936).

Exhibit 38

ITEM 3—TITAN CO., INC. SUBPOENA

TITANGESELLSCHAFT m. b. H.

50% Interest
(Transferred 12-16-29 from Titan Co. A/S)

INDUSTRIELLE DU TITANE

	Ordinary Shares	Founders Certificates
3-28-29	57,638	19,129
12-31-34		15,555
	57,638	34,684

BRITISH TITAN PRODUCTS COMPANY, LTD.

	Shares A	Shares B	
3-31-33	12,250		
6-30-33		125,000	
6-30-33	*1,250*		Transferred to R. W. Greeff & Co. for $5,100.00
3-31-34	77,000		
	88,000	125,000	

TITAN KOGYO

6-30-37 — 10,500 Shares

I. G. Farbenindustrie has option to purchase 50% of above.

Exhibit 39

ITEM 7

Name of Titan Company, Inc. Director or Official	Position Held in Designated Companies
W. C. Beschorman	Director, National Lead Company, (1924-1940); Vice President, National Lead Company, (1927-1938), Director, Titan Company, Inc., (1930-1938); Vice President, Titan Company, Inc., (1930-1938).
Gustav Jebsen	Director, Titan Company, Inc., (1930-); Vice President, Titan Company, Inc., (1930-); Director, Societe Industrielle du Titane, (1938-); Manager, Titangesellschaft m.b.H., (1938-); Director, Titan Co. A/S, 1929-); Managing Director, Titan Co. A/S, (1938-); Director, British Titan Products Company Limited, (1938-); Director, Societe Belge du Titane, (1938-); President Societe Belge du Titane, (1938-) Director; A. S. Titania, (1938-); Director, The Jossingfjord Manufacturing Co. A/S, (1938-).
Fred M. Carter	Director, National Lead Company, (1920-1939); President, National Lead Company, (1933-1938); Vice President, National Lead Company, (1927-1933); Director, Titan Company, Inc., (1930-1933);
Evans McCarty	Director, National Lead Company, (1922-1933); Vice President, National Lead Company, (1927-1933) Director, Titan Company, Inc., (1930-1933); Vice President, Titan Company, Inc., (1930-1932); Director Societe Industrielle du Titane, (1929-1933); Director, Titan Co., A/S, (1929-1933);
E. J. Cornish	Director, National Lead Company, (1920-1938); President, National Lead Company, (1920-1933); Director, Titan Company, Inc., (1930-1937); President, Titan Company, Inc., (1930-1937); Director, Societe Industrielle du Titane, (1929-1938); Director, Titan Co. A/S, (1929-1938);
L. T. Beale	Director, National Lead Company, (1933-); Director, Titan Company, Inc., (1934-1944);
F. W. Rockwell	Director, National Lead Company, (1926-); President, National Lead Company, (1938-); Vice President, National Lead Company, (1937-1938); Director,

Exhibit 39

ITEM 7 (continued)

Name of Titan Company, Inc. Director or Official	Position Held in Designated Companies
F. W. Rockwell (Continued)	Titan Company, Inc., (1937-); President, Titan Company, Inc., (1938-); Director, Societe Industrielle du Titane, (1938-); Manager, Titangesellschaft m.b.H., (1938-); Director, Titan Co., A/S, (1938-); Director, British Titan Products Company Limited, (1938-); Director, Canadian Titanium Pigments Ltd. (1938-);
Charles Simon	Director, National Lead Company, (1935-); Treasurer, National Lead Company, (1925-); Assistant Secretary, National Lead Company, (1942-); Director, Titan Company, Inc., (1938-);
C. F. Garesché	Director, National Lead Company, (1939-), Manager, Titanium Division of National Lead Company (1937-); Assistant Manager of Titanium Division of National Lead Company, (1936-1937); Assistant Production Manager, (1933-1936); Director, Titan Company, Inc., (1938-); Vice President, Titan Company, Inc., (1938-); Director, Titan Co., A/S, (1938-); Director, British Titan Products Company Limited, (1938-); Director, Canadian Titanium Pigments Ltd., (1938-).
Clay R. Smith	Accountant with National Lead Company, (1935-1944); Assistant Secretary and Comptroller, Titan Company, Inc., (1944).
H. T. Warshow	Director, National Lead Company, (1933-); Vice President and Comptroller, National Lead Company, (1937-); Comptroller and Auditor, Titan Company, Inc., (1933-1944).
M. D. Cole	Secretary, National Lead Company. (1921-1938); Assistant Secretary, National Lead Company, (1920-1921); (1938-1943); Assistant to President of National Lead Company, (1938-1943).
C. F. Kaegebehn	Manager, Patent Department, National Lead Company, (1937-); Assistant Secretary, Titan Company, Inc., (1937-1944).

Exhibit 40

Imports of Titanium Pigments
Into the United States and Canada

1931—None

1932—None

1933—275.575 tons as Pure Titanium Oxide
Imported from Titangesellscheft m.b.h., Leverkusen, Germany
For the Account of Titan Co. A.S.

1934— 55.115 tons as Pure Titanium Oxide
Imported from Titangesellscheft m.b.h., Leverkusen, Germany
For the Account of Titan Co. A.S.

33.600 tons as Pure Titanium Oxide
Imported from British Titan Products Co., England

1935—268.422 tons as Pure Titanium Oxide
Imported from Titangesellscheft m.b.h., Leverkusen, Germany
For the Account of Titan Co. A.S.

162.400 tons as Pure Titanium Oxide
Imported from British Titan Products Co., England

Exhibit 40

1936— 45.01 tons as Pure Titanium Oxide
Imported from Titangesellscheft m.b.h., Leverkusen, Germany
For the Account of Titan Co. A.S.

538.890 tons as Pure Titanium Oxide
Imported from British Titan Products Co., England

1937 To Date—None Imported Into The United States

While our records do not disclose the exact distribution of the above imports between the United States and Canada, we believe that all shipments made by Titangesellscheft for the account of Titan Co. A.S. were imported into the United States, and all imports from British Titan Products Co. were for Canada 12-5-44.

In compliance with the du Pont subpoena, the following schedules and statements are furnished, the number before each designating the involved paragraph of the subpoena:

18. The annual production of TiO_2 and composite titanium pigments by du Pont and/or its subsidiaries from January 1, 1928, these figures showing the production of the commodity by its trade names "TI-PURE" (pure TiO_2); "TI-BAR" (barium sulfate-extended TiO_2 in which the barium sulfate content ranges from 70-75%); and "TI-TINT" (TiO_2 colored with small amounts (not to exceed 2%) of various colored metal oxides); "TI-CAL" (calcium sulfate-extended TiO_2 containing 70% calcium sulfate); "TI-SIL" (TiO_2 extended with 70% magnesium silicate); and "DUOLITH" and "TI-TONE". The two latter trade names designate titanated lithopones in which a 15% TiO_2 content is present.

22. Annual sales of Krebs Pigment and Color Corporation and du Pont of TiO_2 and composite pigments from January 1, 1928, in the form of the trade names "TI-PURE", "TI-BAR", "TI-TINT", "TI-CAL", "TI-SIL" and "DUOLITH" and "TI-TONE". The annual production figures requested in this paragraph 22 are shown by the figures already given in response to Paragraph 18 of the subpoena.

It is to be understood that all production figures given for "TI-BAR", "TI-CAL", "TI-SIL", "TI-TINT" and "DUOLITH" and "TI-TONE" include their TiO_2 contents, which also are included in the "TI-PURE" production figures.

Also, all sales and transfers of all pigments shown are on a commodity basis, that is, all quantities include the TiO_2 content.

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Exhibit 41

PRODUCTION (LBS.)

Year	"Ti-Pure"	"Ti-Bar"	"Ti-Tint"
Krebs Pigment & Color Corp.			
1931 (Last 5 mos.)	1,650,819		
1932	7,746,371		
1933	11,022,112		
1934	21,398,714		
1935	40,055,514	4,968,050 (7 mos.)	
E. I. du Pont de Nemours & Co.			
1936	50,371,837	10,058,860	
1937	61,060,966	14,426,367	143,094 (6 mos.)
1938	55,267,150	13,806,360	253,662
1939	70,609,916	17,830,536	662,030
1940	84,709,713	19,653,399	817,998
1941	101,348,806	22,555,649	973,960
1942	88,766,253	11,737,231	907,358
1943	85,686,881	9,778,340	639,718
1944 (First 10 mos.)	79,727,397	10,049,038	803,145

Exhibit 41

PRODUCTION (LBS.)

Year	"Duolith" & "Ti-Tone"	"Ti-Cal"	"Ti-37
Krebs Pigment & Color Corp.			
1931	6,386,650		
1932	6,766,750		
1933	10,174,650		
1934	13,955,350		
1935	23,561,650	9,569,410 (7 mos.)	
E. I. du Pont de Nemours & Co.			
1936	21,434,713	14,922,677	
1937	21,655,350	29,753,730	1,779,57
1938	18,856,206	32,529,503	3,480,23
1939	18,318,245	42,713,099	3,517,20
1940	15,483,965	52,747,003	4,280,80
1941	14,953,499	58,994,629	4,677,46
1942	10,014,176	48,310,234	1,130,52
1943	8,374,411	44,553,114	537,54
1944 (First 10 mos.)	8,647,412	37,216,129	564,40

SALES AND TRANSFERS

TITANIUM DIOXIDE AND TITANIUM PIGMENTS

	"Ti-Pure"		"Ti-Bar"		"Ti-Cal"	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
By Krebs Pigment & Color Corp.						
August 1 - December 31, 1931	1,791,706	$ 304,772	—	$ —	—	$ —
Year 1932	6,042,273	1,004,982	—	—	—	—
" 1933	10,334,197	1,661,873	—	—	—	—
" 1934	18,373,643	2,971,162	—	—	—	—
" 1935	29,921,455	4,895,301	3,195,230	186,540	5,263,862	312,485
By E. I. duPont de Nemours & Co.						
Year 1936	39,110,925	6,312,646	9,636,670	557,879	17,158,898	991,462
" 1937	41,764,159	6,525,839	14,713,198	836,187	27,869,085	1,593,969
" 1938	37,176,798	5,555,587	14,675,199	835,720	31,443,362	1,788,296
" 1939	47,784,592	6,268,834	18,508,468	995,466	42,626,574	2,296,704
" 1940	57,795,500	7,382,916	18,737,985	971,369	52,900,110	2,625,167
" 1941	73,398,973	10,104,498	23,278,574	1,295,964	61,886,546	3,284,614
" 1942	63,018,842	9,336,247	11,903,730	691,083	46,578,651	2,566,938
" 1943	72,851,030	10,816,764	11,961,313	692,136	48,174,929	2,653,084
January 1 - June 30, 1944	34,988,046*	5,216,011	5,331,506	306,523	22,464,313	1,239,254
January 1 - September 30, 1944	54,588,195*	8,140,725	8,181,193	471,092	33,766,475	1,865,680

*Use either but not both.

Exhibit 41

585

Exhibit 41

SALES AND TRANSFERS

Titanium Dioxide and Titanium Pigments

	"Ti-Sil" Pounds	"Ti-Sil" Dollars	"Ti-Tint" Pounds	"Ti-Tint" Dollars	"Ti-Tone" — "Duolith" Pounds	"Ti-Tone" — "Duolith" Dollars
By Krebs Pigment & Color Corp.						
August 1 - December 31, 1931	—	$ —	—	$ —	2,144,203	$ 140,199
Year 1932	—	—	—	—	6,536,165	413,998
" 1933	—	—	—	—	10,057,865	603,015
" 1934	—	—	—	—	13,900,217	835,676
" 1935	—	—	—	—	22,088,306	1,323,723
By E. I. duPont de Nemours & Co.						
Year 1936	454,670	26,391	—	—	21,502,864	1,267,046
" 1937	1,463,290	83,766	52,386	9,634	21,132,126	1,210,620
" 1938	3,356,670	188,318	236,268	41,081	19,220,960	1,098,517
" 1939	3,565,014	189,700	548,904	87,923	18,097,813	982,478
" 1940	4,434,360	226,628	758,814	117,854	15,743,683	792,664
" 1941	4,983,615	269,768	1,065,100	177,463	16,562,407	869,271
" 1942	1,004,275	58,910	815,300	148,290	9,304,151	519,054
" 1943	770,050	44,680	732,621	133,058	9,860,771	552,150
January 1 - June 30, 1944	340,350*	20,493	515,050	92,782	5,229,439	292,277
January 1 - September 30, 1944	512,200*	30,492	725,250	129,643	7,800,739	435,930

*Use either but not both.

Exhibit 45

EXPORT SALES OF "TI-PURE"—TITANIUM DIOXIDE

(Pounds)

1932		
	Canada	
	Canadian Industries, Ltd., Toronto	22,800#
1933		
	Canada	
	Canadian Industries, Ltd., Toronto	22,800#
1934		
	Canada	
	Canadian Industries, Ltd., Toronto	65,800#
	Mexico	
	Du Pont, S.A., Mexico City	3,250#
1935		
	Canada	
	Canadian Industries, Ltd., Toronto	120,000#
	Mexico	
	Du Pont, S.A., Mexico City	3,250#
1936		
	Argentina	
	Alba, S.A., Buenos Aires	4,500#
	Industrias Quimicas "Duperial", Buenos Aires	14,500#
	Canada	
	Canadian Industries, Ltd., Toronto	42,500#
	Cuba	
	Turull, Thomas F., & Co., Havana	150#
	Mexico	
	Du Pont, S.A., Mexico City	4,950#

Exhibit 45

1937

Argentina

Alba, S. A., Buenos Aires	22,000#
Industrias Quimicas "Duperial", Buenos Aires	29,200#

Canada

Canadian Industries Ltd., Toronto	6,100#
Canadian Titanium Pigments, Montreal	120,000#

Cuba

La Teneria Nacional #4, Havana	300#

Ecuador

Ernesto Kruger, Ambato	15#

Mexico

Du Pont, S.A., Mexico City	27,210#

Phillipine Islands

Mabuhay Rubber Shoe Factory, Inc., Cuneta Pasay Rizal	2,100#

1938

Argentina

Industrias Quimicas "Duperial", Buenos Aires	16,550#

Brazil

Industrias Chimicas Brazileiras "Duperial", Sao Paulo	24,300#

Cuba

Cazaban Genin Y Cia, Caibarien	3,000#
Crusellas Y Cia, Havana	4,200#
Leal, Pedro Rodriguez, Havana	300#
Perfumeria Drialys, S.A., Havana	1,500#

Ecuador

Ernesto Kruger, Ambato	15#

Exhibit 45

1938 (Cont'd)

Mexico

Du Pont, S.A., Mexico City	27,110#

1939

Argentina

Industrias Quimicas "Duperial", Buenos Aires	85,720#

Brazil

Cia Brasileira de Artefactos, Rio de Janeiro	1,320#
Guilherme Humitzsch & Cia, Ltda., Rio de Janeiro	3,892#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	37,800#

British West Indies

Jamaica Fertilizer Products, Ltd., Jamaica	600#

Colombia

Hermidez Padilla, Bogota	5,900#

Cuba

Cazaban Genin Y Cia, Caibarien	3,000#
Crusellas Y Cia, Havana	300#
Leal, Pedro Rodriguez, Havana	5,100#
Lopezy, Ignacio Cia, Jovellanos	2,100#
Turull, Thomas F., & Co., Havana	6,000#

Mexico

Du Pont, S.A., Mexico City	24,300#

Phillipine Islands

Mabuhay Rubber Shoe Factory, Inc., Cuneta Pasay Rizal	2,100#
Marcelo Rubber & Latex Products, Inc., Rizal	2,100#

Exhibit 45

1940

Argentina

Industrias Quimicas "Duperial", Buenos Aires	85,010#

Brazil

Candido Aleixo & Cia, Sao Paulo	1,200#
Carrione, Manuel, Rio de Janeiro	2,400#
Cia Brasileira de Artefactos, Rio de Janeiro	28,600#
Cia Industrial, Ltda., Sao Paulo	6,600#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	41,700#
Industrias Reunidas F. Matarazo, Sao Paulo	20,100#
Mfg. de Artigos de Borracha E Ebonite, Sao Paulo	2,400#

Chile

Ceresita, Ltda., Santiago	300#

Colombia

Hermidez Padilla, Bogota	24,000#

Cuba

Cazaban Genin Y Cia, Caibarien	3,600#
Hubbuck, Thomas, & Son, Ltd., Havana	900#
Leal, Pedro Rodriquez, Havana	3,300#
Pinturas Klipper, S.A., Havana	300#
Turull, Thomas F., & Co., Havana	12,610#

Mexico

Du Pont, S.A., Mexico City	51,750#

Peru

Ronald & Co., Lima	4,400#

Phillipine Islands

Mabuhay Rubber Shoe Factory, Inc., Cuneta Pasay Rizal	900#

Uruguay

Industrias Quimicas Uruguayas "Duperial", Montevideo	2,100#

Exhibit 45

1941

Argentina	
Alba, S.A., Buenos Aires	48,600#
Industrias Quimicas "Duperial", Buenos Aires	105,000#
Brazil	
Brickman, A., Rio de Janeiro	1,200#
Cia Brasileira de Artefactos, Rio de Janeiro	4,800#
Cia Brasileira "Rhodiaceta", Sao Paulo	11,100#
Cia Nitrochimica Brasileira, Sao Paulo	15,000#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	30,900#
Colombia	
Hermidez Padilla, Bogota	25,000#
Cuba	
Cazaban Genin Y Cia, Caibarien	1,800#
Leal, Pedro Rodriquez, Havana	3,300#
Pinturas Klipper S.A., Havana	1,800#
Rohner Gehrig & Co., Inc., Havana	300#
Sanchez Ferrandez Y Cia, Santa Clara	3,000#
Turull, Thomas F., & Co., Havana	12,700#
Mexico	
Du Pont, S.A., Mexico City	102,400#
Peru	
Milne & Co., S.A., Lima	4,400#
Ronald & Co., Lima	4,400#
Uruguay	
Industrias Quimicas Uruguayas "Duperial", Montevideo	1,200#
Venezuela	
Venezolana Para El La Industria, Caracas	6,000#

Exhibit 45

1942

Argentina

Industrias Quimicas "Duperial", Buenos Aires	20,400#

Brazil

Cia Brasileira "Rhodiaceta", Sao Paulo	1,800#
Cia Nitrochimica	2,400#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	28,800#

Colombia

Hermídez Padilla, Bogota	1,900#

Cuba

Cazabon Genin Y Cia, Caibarien	4,670#
Hubbuck, Thomas, & Son, Ltd., Havana	20,000#
Leal, Pedro Rodriquez, Havana	5,900#
Pinturas Klipper, S.A., Havana	2,000#
Sanchez, Ferrandez Y Cia, Santa Clara	4,500#
Sanchez, Hegys, & Co., Ltd., Santa Clara	4,200#
Tellechia, Felipe, & Cia, Caibarien	3,000#
Turull, Thomas F., & Co., Havana	13,300#

Mexico

Du Pont, S.A., Mexico City	185,200#

Peru

Ronald & Co., Lima	1,100#

1943

Argentina

Alba, S.A., Buenos Aires	16,200#
Angel Mendez & Cia, Buenos Aires	2,400#
Apeles, S.A., Buenos Aires	45,000#
Dewey & Almy, Quilmes	6,600#
Fiore & Co., Buenos Aires	4,200#
Industrias Quimicas "Duperial", Buenos Aires	123,000#

Brazil

Cia Brasileira "Rhodiaceta", Sao Paulo	6,000#
Cia Nitrochimica Brasileira, Sao Paulo	12,300#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	43,200#
Machado & Cia, Rio de Janeiro	4,484#
S.A. Cortume Carioca, Rio de Janeiro	11,100#

Exhibit 45

1943 (Cont'd)

Colombia

Hermidez Padilla, Bogota	15,600#

Cuba

Batan Y Morán, Havana	11,100#
Cazaban Genin Y Cia, Caibarien	6,000#
Pinturas Klipper, S.A., Havana	4,000#
Sanchez, Ferrandez Y Cia, Santa Clara	300#
Sanchez, Heguys & Co., Ltd., Santa Clara	10,500#

Ecuador

Curtiembre San Pedro DE E Noriega, Guayaquil	900#

Mexico

Du Pont, S.A., Mexico City	77,350#

Peru

Du Pont, S.A., Lima	11,000#
Ronald & Co., Lima	550#

Uruguay

Brussoni, Cia, Montevideo	11,100#

1944 (ten months)

Argentina

Alba, S.A., Buenos Aires	2,700#
Industrias Quimicas "Duperial", Buenos Aires	5,700#

Brazil

Carrione, Manuel, Rio de Janeiro	4,500#
Cia Brasileira "Rhodiaceta", Sao Paulo	21,900#
Cia Nitrochimica Brasileira, Sao Paulo	9,900#
De Castro Vieiras, Rio de Janeiro	5,400#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	10,500#
Industrias Quimicas Brazileiras, Rio de Janeiro	5,400#
Mikail Antonio & Cia, Ltda., Sao Paulo	6,900#
Sociedade Mercantil Importadora, Ltda., Rio de Janeiro	1,500#

Exhibit 45

Colombia

Hermidez Padilla, Bogota	10,200#

Cuba

Batan Y Moran, Havana	7,500#
Cazaban Genin Y Cia, Caibarien	15,000#
Drogueria Sarra, Havana	2,100#
Leal, Pedro Rodriquez, Havana	2,100#
Pinturas Klipper, S.A., Havana	5,000#
Tellechea, Felipe, & Cia, Caibarien	10,000#
Turull, Thomas F., & Co., Havana	15,000#

Mexico

Du Pont, S.A., Mexico City	109,500#

Peru

Compania de Fab. de Prod. Quimicas, Lima	2,100#
Du Pont, S.A., Lima	2,500#

Venezuela

C.A. Venezolana "Covequin", Caracas	21,600#

EXPORT SALES OF "TI-BAR"—TITANIUM BARIUM
(Pounds)

1936

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	4,950#

1937

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	5,650#

Canada

Canadian Titanium Pigments, Montreal	5,000#

1938

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	3,800#

1938 (Cont'd)

Brazil

Industrias Chimicas Brasileiras "Duperial", Sao Paulo	50#	

Canada

Canadian Titanium Pigments, Montreal	7,500#	

Cuba

Leal, Pedro Rodriquez, Havana	300#	

Mexico

Du Pont, S.A., Mexico City	1,400#	

1939

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	11,050#	

Brazil

Cia Industrial, Ltda., Sao Paulo	11,000#	
Industrias Chimicas Brasileiras "Duperial", Sao Paulo	100#	NC

Canada

Canadian Titanium Pigments, Montreal	38,000#	

1940

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	12,222#	

Brazil

Carrione, Manuel, Rio de Janeiro	2,100#	

Canada

Canadian Titanium Pigments, Montreal	10,000#	

Exhibit 45

1940 (Cont'd)

Cuba

Leal, Pedro Rodriquez, Havana	500#
Pinturas Klipper, S.A., Havana	1,200#

1941

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	10,140#

Brazil

Carrione, Manuel, Rio de Janeiro	12,250#

Canada

Canadian Titanium Pigments, Montreal	35,000#

Cuba

Hubbuck, Thomas, & Son, Ltd., Havana	21,000#

1942

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	700#

Cuba

Hubbuck, Thomas, & Son, Ltd., Havan	8,050#
Pinturas Klipper, S.A., Havana	600#

1943

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	4,726#

Brazil

Carrione, Manuel, Rio de Janeiro	7,600#
Cia Industrial, Ltda., Sao Paulo	39,900#

Cuba

Cia Cubana de Pinturas, Havana	2,000#

Exhibit 45

1944 (ten months)

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	606#

Brazil

Cia Industrial, Ltda., Sao Paulo	44,100#

Cuba

Cia Cubana de Pinturas, Havana	4,000#
Hubbuck, Thomas, & Son, Ltd., Havana	40,000#
Leal, Pedro Rodriquez, Havana	2,000#

EXPORT SALES OF "TI-CAL"—TITANIUM CALCIUM
(Pounds)

1934

Canada

Canadian Industries Ltd., Toronto	100#

1935

Canada

Canadian Industries Ltd., Toronto	1,100#

Mexico

Du Pont, S.A., Mexico City	50# NC

1936

Mexico

Du Pont, S.A., Mexico City	100#

1937

No sales

1938

Cuba

Leal, Pedro Rodriquez, Havana	300#

Mexico

Du Pont, S.A., Mexico City	1,100#

Exhibit 45

1939		
	Brazil	
	Ind. Chimicas Brasileiras, Sao Paulo	50# NC
	Colombia	
	Auday & Co., Bogota	2,000#
	Gerlein & Cia, Eduardo L., Bogota	2,100#
	Mexico	
	Du Pont, S.A., Mexico City	425#
1940		
	Argentina	
	Industrias Argentinas "Duperial", Buenos Aires	311#
	Colombia	
	Cia de Productos de Caucho "Grulla", Medellin	500#
	Gerlein & Cia, Eduardo L., Bogotá	2,100#
	Cuba	
	Compania Cubana de Caucho, S.A., Havana	6,000#
	Hubbuck, Thomas, & Son, Ltd., Havana	3,000#
	Leal, Pedro Rodriquez, Havana	500#
	Pinturas Klipper, S.A., Havana	600#
	Mexico	
	Du Pont, S.A., Mexico City	300#
1941		
	Argentina	
	Industrias Quimicas Argentinas "Duperial", Buenos Aires	4,200#
	Colombia	
	Gerlain & Cia, Eduardo L., Bogota	2,100#
	Cuba	
	Compania Cubana de Caucho, S.A., Havana	4,000#
	Hubbuck, Thomas, & Son, Ltd., Havana	4,000#
	Pinturas Klipper, S.A., Havana	900#
	Rohner Gehrig & Co., Inc., Havana	200#

Exhibit 45

1942

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	300#

Cuba

Compania Cubana de Caucho, S.A., Havana	800#
Hubbuck, Thomas, & Son, Ltd., Havana	3,950#
Pinturas Klipper, S.A., Havana	1,150#

Mexico

Du Pont, S.A., Mexico City	22,000#

1943

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	242#

Cuba

Pinturas Klipper, S.A., Havana	4,000#

Mexico

Du Pont, S.A., Mexico City	15,700#

1944 (ten months)

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	242#

Cuba

Cia Cubana de Pinturas, S.A., Luyano	2,000#
Leal, Pedro Rodriquez, Havana	4,000#
Pinturas Klipper, S.A., Havana	10,000#

Mexico

Du Pont, S.A., Mexico City	22,000#

5.50

Exhibit 45

EXPORT SALES OF "TI-SIL"—TITANIUM MAGNESIUM
(Pounds)

1936

Mexico

Du Pont, S.A., Mexico City ..... 600#

1937

England

British Titan Products Co., Ltd., Durham ..... 200# NC

1938

Cuba

Leal, Pedro Rodriquez, Havana ..... 300#

1939

Brasil

Industrias Chimicas Brasileiras, Sao Paulo ..... 50# NC

Canada

Standard Paint Co., Windsor ..... 50#

1940

Cuba

Leal, Pedro Rodriquez, Havana ..... 1,500#

1941

Argentina

Industrias Quimicas Argentinas "Duperial",
Buenos Aires ..... 365#

1942

Argentina

Industrias Quimicas Argentinas "Duperial",
Buenos Aires ..... 175#

Exhibit 45

1943

Mexico

Du Pont, S.A., Mexico City	2,200#

1944 (10 months)

Cuba

Leal, Pedro Rodriquez, Havana	2,000#

Mexico

Du Pont, S.A., Mexico City	5,000#

552

Exhibit 46

SCHEDULE OF ROYALTIES PAID BY AMERICAN ZIRCONIUM COMPANY UNDER AGREEMENT DATED JANUARY 1, 1935

To Krebs Pigment & Color Corporation

	Net Tons	Amount
For Year 1935	2206.600	$15,004.84

To E. I. du Pont de Nemours & Company

For Year 1936	3053.6670	20,468.47
" " 1937	3316.8000	21,227.52
" " 1938	4403.2000	26,303.44
" " 1939	5281.0585	28,498.20
" " 1940	4829.6835	25,114.36
" " 1941	6568.4250	36,794.20
" " 1942	1796.1500*	10,417.68
" " 1943	236.6250*	1,372.43
" " 1944 Six Months	1974.9500	11,454.72

*No production reported 10/1/42-9/30/43, both inc.

CHL/1

Exhibit 47

SCHEDULE OF ROYALTIES PAID BY
VIRGINIA CHEMICAL CORPORATION
—AMERICAN CYANAMID COMPANY
UNDER AGREEMENT DATED AUGUST 5, 1937

	Net Tons	Amount
To E. I. du Pont de Nemours & Company		
For 3 Mos. ended 12/31/37	300.0000	$ 1,920.00
Year 1938	2896.5500	17,102.56
" 1939	4014.0020	21,596.36
" 1940	5024.7750	26,170.43
" 1941	5499.5250	31,934.36
" 1942	5755.7500	33,838.72
" 1943	6437.9295	38,700.47
" 1944 Six Months	3647.1525	22,612.34

Exhibit 48

KREBS PIGMENT & COLOR CORPORATION
AND
KREBS PIGMENTS DEPARTMENT

Royalty paid under Agreement dated January 1, 1933 between Krebs Pigment and Color Corporation and Titanium Pigment Company, Incorporated:

Period Covered	Paid To	Paid By	Amount
Year 1933	Titanium	Krebs	$10,000 Net
" 1934	"	"	10,000 "
" 1935	"	"	10,000 "
" 1936	"	"	10,000 "
TOTAL			$40,000 Net

AT 12686—Krebs 48-C
ZP 8/11/42

Exhibit 49

There being no further business on motion duly made, seconded, and carried the meeting duly adjourned.

s/ ADOLPH DENZAU

.....

Secretary.

TITAN COMPANY, INC.

Minutes of a Special Meeting of the Board of Directors held December 12, 1929.

A special meeting of the Board of Directors of Titan Company, Inc., was held at No. 120 Broadway, in the Borough of Manhattan of The City of New York, in the County and State of New York, on the 12th day of December, 1929, at two o'clock in the afternoon, pursuant to the following written waiver of notice signed by all the directors and fixing the time, place, and purpose of the meeting.

TITAN COMPANY, INC.

Waiver of Notice of Special Meeting of Board of Directors to be held December 12, 1929.

We, the undersigned, being all the directors of Titan Company, Inc., do hereby waive any and all notice whatsoever of a special meeting of the Board of Directors of said corporation and of the time, place, and purpose thereof, and do hereby designate and fix the 12th day of December, 1929, at two o'clock in the afternoon as the time, and No. 120 Broadway, in the Borough of Manhattan of the City of New York, in the County and State of New York, as the place of said meeting; and do hereby waive any and all

notice of said meeting and of the time, place, and purpose thereof, required by the statutes of Delaware, the by-laws of the corporation, or otherwise, and we do hereby consent that any and all business may be transacted at said meeting that may be deemed desirable by the directors present thereat.

Dated, December 12, 1929.

s/ JOHN MILTON FERRY

.....

s/ ADOLPH DENZAU

.....

s/ CLARENCE W. COPPING

.....

s/ F. M. SCHMIDT

.....

s/ L. A. SCHMIDT

.....

There were present John Milton Ferry, Adolph Denzau, Clarence W. Copping, L. A. Schmidt, and F. M. Schmidt, being all the directors of the corporation and constituting a quorum of the Board.

The meeting having been duly called to order, upon motion duly made, seconded, and carried, Mr. John Milton Ferry was chosen Chairman of the meeting and Mr. Adolph Denzau Secretary thereof.

Exhibit 49

It was reported that the meeting was held pursuant to the foregoing written waiver of notice and consent signed by all the directors and, on motion duly made, seconded, and carried, it was ordered that a copy thereof be spread upon the minutes of the meeting.

On motion duly made, seconded, and carried, the following preambles and resolution were duly and unanmiously adopted:

WHEREAS, Titan Co. A/S of Fredriksstad, Norway, has offered to sell, assign and transfer to this corporation as of January 1, 1929, all its certain patents and patent rights relating to the manufacture of titanium and titanium compounds and, subject to the consent of the other parties thereto, all its right, title, and interest under certain contracts as specified in the Agreement hereinafter mentioned, in consideration of the payment by this corporation to said Titan Co. A/S of certain royalties as provided in said Agreement and the further sum of one million six hundred thousand (1,600,000) Norwegian Kroner, payable if desired by the cancellation by National Lead Company as of January 1, 1929, of a corresponding amount of the indebtedness of said Titan Co. A/S to it, and has submitted for acceptance and execution by this corporation an Agreement designed to effectuate said assignment and more fully describing the terms and conditions thereof, executed by said Titan Co. A/S under date of March 23, 1929; and

WHEREAS, I. G. Farbenindustrie A. G. and Titangesellschaft m.b.H., of Leverkusen, Germany, parties to certain of the contracts so offered to be assigned under said Agreement, have consented to such assignment only upon the conditions (1) that National Lead Company shall at all times own at least eighty-six per cent (86%) of the capital stock

of this corporation from time to time issued and outstanding and shall agree not to permit any reduction of its said stock interest without the prior consent of said German companies in writing, and (2) that said Titan Co. A/S, in addition to this corporation, shall remain liable to said German companies for the performance of all obligations applicable to the contract interests so to be assigned; and said I. G. Farbenindustrie A. G. has stipulated the same conditions for its consent to the assignment by National Lead Company to this corporation of the former's proprietary one-half interest in said Titangesellschaft m.b.H., accepted by this Board at it meeting held March 28, 1929; and

WHEREAS, said National Lead Company has given this corporation satisfactory assurances that it will not permit its stock interest in this corporation to fall below eighty-six per cent (86%) of the total capital stock of this corporation from time to time issued and outstanding, without having first obtained the written consent of said German companies to such reduction; and

WHEREAS, said Titan Co. A/S has consented to remain liable for the performance of all obligations applicable to the proprietary one-half interest in said Titangesellschaft m.b.H. and to the contract interests so assigned or to be assigned as aforesaid, provided this corporation indemnifies it and saves it harmless from the consequences of such continued liability; and

WHEREAS, National Lead Company has offered to effect payment of the consideration of one million six hundred thousand (1,600,000) Norwegian Kroner stipulated for the

assignment first above mentioned, by cancellation on its books as of January 1, 1929, of a corresponding amount of the indebtedness of said Titan Co. A/S to it, in consideration of the issue to said National Lead Company of four hundred twenty-eight thousand eight hundred dollars ($428,800) in par value of the fully paid capital stock of this corporation; and

WHEREAS, in the judgment of this Board it is for the best interests of this corporation that the offer of assignment by said Titan Co. A/S hereinabove mentioned be accepted upon the various conditions hereinabove recited; therefore, be it

RESOLVED, that the officers of this corporation be and they hereby are authorized, empowered, and directed (1) to execute and deliver on behalf of this corporation the above-mentioned Agreement submitted by said Titan Co. A/S to effect said assignments and executed by it under date of March 23, 1929; (2) to issue to National Lead Company four thousand two hundred and eighty-eight (4,288) fully paid shares of the capital stock of this corporation upon receipt from said National Lead Company of satisfactory evidence of the cancellation by it as of January 1, 1929, of one million six hundred thousand (1,600,000) Norwegian Kroner of indebtedness of said Titan Co. A/S to it; (3) to execute and deliver on behalf of this corporation such instruments as may be proper to indemnify said Titan Co. A/S for all the consequences of its continued liability for the performance of all obligations applicable to the contract interests and to the proprietary one-half interest in said Titangesellschaft m.b.H. so assigned to this corpo-

ration; and (4) generally to take any and all such steps and to execute and deliver any and all such instruments as may in their judgment be necessary or expedient in the premises.

On motion duly made, seconded, and carried, the following preambles and resolution were duly and unanimously adopted:

WHEREAS, since the acquisition by this corporation from National Lead Company of the former's proprietary one-half interest in Titangeselleschaft m.b.H., said National Lead Company, at the request and for the account of this corporation, has expended the sum of sixty-six thousand one hundred twenty dollars and twenty-eight cents ($66,120.28) for the development of the properties and business of said Titangesellschaft m.b.H.; and

WHEREAS, said National Lead Company has advanced certain additional funds in connection with the business of this corporation and is willing to increase said advances to a total amount of ninety-nine thousand four hundred seventy-nine dollars and seventy-two cents ($99,479.72) to provide working capital necessary to the business of this corporation; and

WHEREAS, said National Lead Company has offered to accept fully paid and non-assessable shares of the capital stock of this corporation at par for all the expenditures and advances so made or to be made by it as hereinabove stated, to a total sum of one hundred sixty-five thousand six hundred dollars ($165,600); therefore be it

RESOLVED, that the officers of this corporation be and they hereby are authorized and directed to issue and deliver

to said National Lead Company or its nominee or nominees one thousand six hundred and fifty-six (1,656) shares of the fully paid and non-assessable capital stock of this corporation of the par value of one hundred dollars ($100) each upon cancellation by said National Lead Company of the present indebtedness of this corporation to it as aforesaid and upon the payment by said National Lead Company to this corporation in cash of an amount equal to the difference between the total par value of the shares herein authorized to be issued to it and the amount of said indebtedness.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the action of Dr. Gustav Jebsen, at a proprietors' meeting of Titangesellschaft m.b.H., held October 22, 1929, in consenting to and effecting on behalf of this corporation an increase in the capital of said Titangesellschaft m.b.H. from one million five hundred thousand Reichsmark (R.M. 1,500,000) to three million Reichsmark (R.M. 3,000,000), and assuming in the name and on behalf of this corporation one-half of said increased capital or seven hundred and fifty thousand Reichsmark (R.M. 750,000), be and it hereby is in all respects approved, ratified, and confirmed, and that the officers of the corporation be and they hereby are authorized and directed to execute and deliver such instrument as may be proper to confirm said action.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the action of the officers of the corporation in agreeing on its behalf with I. G. Farbenindustrie A.G., co-proprietor with this corporation of Titangesell-

schaft m.b.H., that each proprietor allow one million five hundred thousand Reichsmark (R.M. 1,500,000) of its investment in said Titangesellschaft m.b.H., over and above its share of the fixed capital thereof, to remain as a fixed loan to said Titangesellschaft m.b.H. bearing interest at rates from time to time current in Germany, and in assigning this corporation's share of said fixed loan to Metallurgical and Chemical Corporation, a New Jersey corporation, having investments in Germany, in exchange for the promissory note of said Metallurgical and Chemical Corporation to the order of this corporation for an equivalent amount in dollars, payable on demand after December 31, 1931, and bearing interest at a rate substantially equivalent to the rate payable on said fixed loan, be and it hereby is in all respects approved, ratified, and confirmed.

* * * *

The meeting then adjourned to No. 111 Broadway, in the Borough of Manhattan of the City of New York, in the County and State of New York.

The following resignation of F. M. Schmidt as a director of the corporation was presented to the meeting:

Titan Company, Inc., December 12, 1929.

Dear Sirs:

The undersigned hereby tenders her resignation as a director of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ F. M. SCHMIDT

Exhibit 49

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of F. M. Schmidt as a director of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Dr. Gustav Jebsen having been nominated as a director of the corporation in the place the place and stead of F. M. Schmidt resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. Edward J. Cornish had been duly and unanimously elected a director of the corporation in the place and stead of F. M. Schmidt resigned, and he was declared to have been duly elected as such. Thereupon F. M. Schmidt retired from the meeting and Mr. Cornish took his place as a director therein.

The following resignation of Mr. John Milton Ferry as President of the Corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as President of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ JOHN MILTON FERRY

On motion duly made, seconded, and carried, it was duly and unanimously

Exhibit 49

RESOLVED, that the resignation of Mr. John Milton Ferry as President of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Mr. Edward J. Cornish having been nominated as President of the corporation in the place and stead of Mr. John Milton Ferry resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. Edward J. Cornish had been duly and unanimously elected President of the corporation in the place and stead of Mr. John Milton Ferry resigned, and he was declared to have been duly elected as such.

The following resignation of L. A. Schmidt as a director of the corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders her resignation as a director of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ L. A. SCHMIDT

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of L. A. Schmidt as a director of the corporation be and the same hereby is

accepted and that the meeting proceed to the election of a successor in her place. Thereupon, Mr. Evans McCarty having been nominated as a director of the corporation in the place and stead of L. A. Schmidt resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. Evans McCarty had been duly and unanimously elected a director of the corporation in the place and stead of L. A. Schmidt resigned, and he was declared to have been duly elected as such. Thereupon L. A. Schmidt retired from the meeting and Mr. McCarty took his place as a director therein.

The following resignation of Mr. Clarence W. Copping as Vice President of the Corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as Vice President of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ CLARENCE W. COPPING

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. Clarence W. Copping as Vice President of the corporation be and the

same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Mr. Evans McCarty having been nominated as Vice President of the corporation in the place and stead of Mr. Clarence W. Copping resigned, and there being no further nomination, the same were closed and, a ballot having been duly had, it was found and reported that Mr. Evans McCarty had been duly and unanimously elected Vice President of the corporation in the place and stead of Mr. Clarence W. Copping resigned; and he was declared to have been duly elected as such.

The following resignation of Mr. Adolph Denzau as Treasurer of the corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as Treasurer of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ ADOLPH DENZAU

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. Adolph Denzau as Treasurer of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a

Exhibit 49

successor in his place. Thereupon, Mr. Charles Simon having been nominated as Treasurer of the corporation in the place and stead of Mr. Adolph Denzau resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. Charles Simon had been duly and unanimously elected Treasurer of the corporation in the place and stead of Mr. Adolph Denzau resigned, and he was declared to have been duly elected as such.

The following resignation of Mr. Adolph Denzau as Secretary of the corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as Secretary of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ ADOLPH DENZAU.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. Adolph Denzau as Secretary of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Mr. M. Douglas Cole having been nominated as Secretary of the corporation in

the place and stead of Mr. Adolph Denzau resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. M. Douglas Cole had been duly and unanimously elected Secretary of the corporation in the place and stead of Mr. Adolph Denzau resigned, and he was [redacted] been duly elected as such.

[redacted] then entered upon the discharge of his duties as Secretary, after having been sworn to the faithful discharge thereof by the following written oath subscribed and sworn to by him, and, on motion duly made, seconded, and carried, it was ordered that a copy thereof be spread upon the minutes of the meeting.

The same is as follows:

Exhibit 49

TITAN COMPANY, INC.

OATH OF SECRETARY

STATE OF NEW YORK, }
COUNTY OF NEW YORK } ss.:

I, M. DOUGLAS COLE, do solemnly promise and swear that I will faithfully, impartially, and justly perform the duties of Secretary of TITAN COMPANY, INC., a corporation of the State of Delaware, according to the best of my ability and understanding.

Subscribed and sworn to }
before me this 12th day of } s/ M. DOUGLAS COLE
of December, 1929. }

s/ J. A. MARTIN

Notary Public Queens County No. 1310
Certificate filed in N. Y. County No. 764
Term expires March 30, 1930

The following resignation of Mr. John Milton Ferry as a director of the corporation was presented to the meeting:

December 12, 1929

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as a director of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ JOHN MILTON FERRY

Exhibit 49

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. John Milton Ferry as a director of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Mr. William C. Beschorman having been nominated as a director of the corporation in the place and stead of Mr. John Milton Ferry resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. William C. Beschorman had been duly and unanimously elected a director of the corporation in the place and stead of Mr. John Milton Ferry resigned, and he was declared to have been duly elected as such. Thereupon Mr. John Milton Ferry retired from the the meeting and Mr. William C. Beschorman took his place as a director therein.

The following resignation of Mr. Clarence W. Copping as a director of the corporation was presented to the meeting:

December 12, 1929

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as a director of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

CLARENCE W. COPPING

Exhibit 49

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. Clarence W. Copping as a director of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Mr. Fred M. Carter having been nominated as a director of the corporation in the place and stead of Mr. Clarence W. Copping resigned, and there being no further nominations, the same were closed, and, a ballot having been duly had, it was found and reported that Mr. Fred M. Carter had been duly and unanimously elected a director of the corporation in the place and stead of Mr. Clarence W. Copping resigned, and he was declared to have been duly elected as such. Thereupon Mr. Copping retired from the meeting and Mr. Carter took his place as a director therein.

The following resignation of Mr. Adolph Denzau as a director of the corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as a director of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ ADOLPH DENZAU

Exhibit 49

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. Adolph Denzau as a director of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Dr. Gustav Jebsen having been nominated as a director of the corporation in the place and stead of Mr. Adolph Denzau resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Dr. Gustav Jebsen had been duly and unanimously elected a director of the corporation in the place and stead of Mr. Adolph Denzau resigned, and he was declared to have been duly elected as such. Thereupon Mr. Adolph Denzau retired from the meeting and Dr. Gustav Jebsen took his place as a director therein.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the meeting proceed to the election of an additional Vice President, an Assistant Treasurer, and an Assistant Secretary of the corporation to serve until successors shall be chosen and qualified in their stead respectively.

Thereupon the following were duly nominated for the offices set opposite their respective names:

Vice President:	Gustav Jebsen
Assistant Treasurer:	Ragnar Juell
Assistant Secretary:	Sverre J. Henrikssen

Exhibit 49

There being no other nominations the same were duly closed and, a written ballot having been duly had in each instance, it was found and reported that the above nominated had been duly and unanimously elected to the offices set opposite their respective names and they were declared to have been duly elected as such.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the officers of the corporation be and they hereby are authorized, empowered, and directed in its name and behalf to grant to Mr. Andreas Ravnestad, of 24 Rue de la Pepiniere, Paris, France, a full and sufficient power of attorney to represent the corporation in all matters affecting patents and trademarks and applications therefor in all countries, with full power to sign in the name of the corporation any and all documents required in that connection and with full power of substitution.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the Guaranty Trust Company of New York, of 32 Lombard Street, London, England, be and it hereby is appointed Bankers of the corporation and that said Trust Company be and it hereby is instructed to honor the signature or signatures of the following officers of the corporation to all checks, bills, and other documents drawn or made payable with them, and to any order to withdraw any or all securities, short bills, or other property in their hands including any box or boxes and their contents:

Exhibit 49

Edward J. Cornish,	President,
Evans McCarty,	Vice President,
Gustav Jebsen,	Vice President,
(any one of them), or	
Charles Simon,	Treasurer,
M. Douglas Cole,	Secretary,
Ragnar Juell,	Assistant Treasurer,
Sverre Henrikssen,	Assistant Secretary
(any two of them).	

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that Titan Co. A/S, of Fredriksstad, Norway, be and it hereby is constituted and appointed the sole agent and representative of the corporation for the sale of its products in all markets in which the corporation or its predecessor has reserved the right to sell, said Titan Co. A/S to be compensated for its services as said agent and representative by a commission on all sales made by it at a rate to be fixed from time to time by this Board and now for the time being fixed at a five per cent (5%); with power to said Titan Co. A/S to appoint subagents for such sale in any country, for the account and risk of the corporation, subject always to the approval of the corporation of all subagents so appointed and of the terms and conditions of their appointments; and that said Titan Co. A/S be and it hereby is granted the privilege of selling for its own account in the Scandinavian countries, including Finland and the Baltic States, at such prices and upon such terms as it may desire, any and all products purchased by it from the corporation.

Exhibit 49

On motion duly made, seconded and carried, it was duly and unanimously

RESOLVED, that Dr. Gustav Jebsen, a Vice President of the corporation, be and he hereby is appointed General Manager of the business and affairs of the corporation in all countries foreign to the United States of America, with full power and authority to act for the corporation upon all matters arising in the ordinary course of its business in said countries, including the representation of the corporation at all proprietors' meetings of shareholders' meetings of companies in which the corporation owns a proprietary or stock interest, but subject always to the approval of this Board with respect to all matters involving the sale or pledge of, or grant of licenses under, or other disposition of the processes, patents, and patent rights of the corporation, or of its contract rights with respect thereto, or of any other fixed assets or properties of the corporation; and with specific authority for and on behalf of the corporation to file applications for letters patent or similar rights and extensions and renewals thereof in all countries of the world including the United States of America.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the contract of October 3/20, 1927, between Titan Co. A/S and Titangesellschaft m.b.H., heretofore transferred to this corporation, be modified so as to include in the designation "Territory of Titangesellschaft", therein employed, Poland and Portugal and, in the discretion of Dr. Gustav Jebsen, a Vice-President of the corpora-

tion, Italy, and the said Dr. Gustav Jebsen as Vice President of this corporation is hereby authorized, directed, and empowered to take all such steps as in his judgment may be advisable to effect a modification of said contract so as to include Poland and Portugal and, in his discretion, Italy in said designation "Territory of Titangesellschaft", employed in said contract.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the officers of this corporation be and they hereby are authorized and directed to reimburse Titan Co. A/S from time to time for such proportion of the salaries of its employees and employees of A/S Titania as corresponds to the services rendered by such employees in the business of this corporation, and that the total increase in annual salaries of the employees of said companies in the amount of fourteen thousand Norwegian Kroner (Kr. 14,000), as submitted by Dr. Jebsen at this meeting, in so far as it affects this corporation under the above authorization, be and it hereby is approved.

There being no further business, on motion duly made, seconded, and carried, the meeting duly adjourned.

s/ ADOLPH DENZAU

.....

Secretary of the meeting.

s/ M. D. COLE

.....

Secretary.

Exhibit 50

ITEM 8

Sigurd Anderson— Handles patent matters of Titan Company, Inc., in Europe under supervision of A. J. Ravnestad.

J. C. Asselin— Manager of Legal Department of Canadian Industries, Ltd.

L. J. Barley— Consultant and Advisor to British Titan Products; employee of Imperial Chemical Industries, and was in charge of the Commercial Development Department thereof which deals with new products. Presently in the armed forces of England.

Louis E. Barton— Was Technical Director of Research, Titanium Pigment Company, Inc., 1920-1934; Director Titanium Pigment Company, Inc., 1920-1936. Now retired.

H. O. Bates— Assistant Secretary, National Lead Company, 1921-1938; Assistant Comptroller, 1921-1938; Assistant Treasurer, 1923- ; Secretary, 1938-

R. G. Beck— Formerly in charge of Canadian Titanium Pigments, Ltd.

W. C. Beschormárt— Director, National Lead Company, 1924-1940; Vice President, National Lead Company, 1927-1938; Director, Titan Company, Inc., 1930-1938; Vice President, Titan Company, Inc., 1930-1938; Director, Titanium Pigment Company, Inc., 1923-1936; Director, United Lead Company, 1928-1944; Executive Committee, United Lead Company, 1928- Now retired.

M. Bruggemann— A Manager of Titangesellschaft m.b.H., and member of the Board of I. G. Second in charge of Leverkusen Plant.

F. M. Carter— Director, National Lead Company, 1920-1939; President, National Lead Company, 1933-1938; Director, Titan Company, Inc., 1930-1933; Director, Titanium Pigment Company, Inc., 1929-1936. Now retired.

M. Douglas Cole— Assistant Secretary, National Lead Company, 1920-1921; Secretary, National Lead Company, 1921-1938; Assistant Secretary, National Lead Company, 1938-1943; Secretary, Titan Company, Inc., 1930-1943. Now retired.

Edward J. Cornish— Director, Titan Company, Inc., (1930-1937); President, Titan Company, Inc., (1930-1937); Chairman of Board of Titanium Pigment Company, Inc., (1920-1935); Director, United Lead Company, (1920-1938); Executive Com-

Exhibit 50

ITEM 8 (continued)

Edward J. Cornish—(Continued)	mittee, United Lead Company, (1920-1938); President, United Lead Company, (1928-1938); Director Titanium Pigment Co., Inc., (1920-1936); Director, Societe Industrielle du Titane, (1929-1938); Director, Titan Co., A/S, (1929-1938). Deceased.
G. W. Corddry—(Cowdry)—	Salesman, 1932-38; Eastern Sales Manager, Titanium Division of National Lead Company, 1938-1940; General Sales Manager, Titanium Division, 1940-
H. B. Echkoff—	Assistant to Sigurd Anderson in handling patent matters of Titan Company, Inc., in Paris, France.
W. W. Plechner—(Flechner)	Research Chemist, Titanium Pigment Company, 1929-1934; Assistant Director of Research, Titanium Division of National Lead Company, 1935-1939. Deceased.
Claude F. Gavesché—	Director, National Lead Company, 1939- ; Manager, Titanium Division of National Lead Company, 1937- ; Assistant Manager of Titanium Division of National Lead Company, 1936-1937; Assistant Production Manager, 1933-1936; Director, Titan Company, Inc., 1938- ; Vice President, Titan Company, Inc., 1938- ; *Director, Titan Co., A/S, 1938- ; Director, British Titan Products Company Limited, 1938- ; Director, Canadian Titanium Pigments, Ltd., 1938-
I. D. Hagar—	Salesman, Titanium Pigment Company, 1921-1930; Eastern Sales Manager, Titanium Pigment Corporation, 1930-1936; General Sales Manager, Titanium Pigment Corporation, 1936-1937; Assistant Manager, Titanium Division, National Lead Company, 1937-
L. W. Haslett—	Director and President of Canadian Titanium Pigments Ltd., Director of Canadian Industries, Ltd.
J. B. Henrich—	Assistant Secretary of National Lead Company, 1943- ; Secretary of United Lead Company, 1944- ; Assistant to Manager of Patent Dept. of National Lead Company, 1937-1943).
S. J. Henrikssen—	Member of Board of Societe Industrielle du Titane, and Manager of its office and current business; Assistant to Dr. Jebsen; Assistant Secretary, Titan Company, Inc. Director, British Titan Products Company, Limited; Director, Societe Belge du Titane.

*Present status unknown due to European War.

Exhibit 50

ITEM 8 (continued)

E. T. Henry— Manager of the Patent Section of the Legal Department of Canadian Industries, Ltd., having supervision of patent matters for Canadian Titanium Pigments, Ltd.

Mr. Holm— Was a Director of I. G.—handled sales. Retired.

Ragnar Iuell— Assistant Treasurer, Titan Company, Inc.; Director, Societe Belge du Titane. Employee of Titan Co. A/S.

Gustav Jebsen— Director, Titan Company, Inc., 1930- ; Vice President, Titan Company, Inc., 1930- ; *Director, Societe Industrielle du Titane, 1938- ; *Manager, Titangesellschaft m.b.H., 1938- ; *Director, Titan Co. A/S, 1929- ; *Managing Director, Titan Co. A/S, 1938- Director, British Titan Products Company Limited, 1938- ; *Director, Societe Belge du Titane, 1938- ; *President, Societe Belge du Titane, 1938- ; *Director, A. S. Titanis, 1938- ; *Director, The Jossingfjord Manufacturing Co. A/S., 1938-

Charles F. Kaegebein— Manager, Patent Department of National Lead Company, 1937- ; Assistant Secretary of Titan Company, Inc., 1937-1944; Secretary of Titan Company, Inc., 1944-

Hans Kühne— Director of I. G. in charge of the Leverkusen Plant of I. G. and several of their other Plants. Director, Titangesellschaft m. b. H.

Emile Lobstein— Former President of Societe du Minera & Industrielle, Franco-Brazilian. Deceased.

Evans McCarty— Director, National Lead Company, 1922-1933; Vice President, National Lead Company, 1927-1933; Director, Titan Company, Inc., 1930-1933; Vice President, Titanium Pigment Company, Inc., (1929-1933); Vice President, Titan Company, Inc., 1930-1932; Director, United Lead Company, 1920-1933; Executive Committee, United Lead Company, 1920-1933; Vice President, United Lead Company, 1928-1933; Director, Titanium Pigment Company, Inc., 1920-1933; Director, Societe Industrielle du Titane, 1929-1933; Director, Titan Co., A/S, 1929-1933. Deceased.

Joseph D. Meredith— Director, Titanium Pigment Company, Inc., 1920-1936. Deceased.

*Present status unknown due to European War.

Exhibit 50

ITEM 8 (continued)

William F. Meredith—	Director, National Lead Company, 1933-1943; Director, Titanium Pigment Company, Inc., 1920-1936; Chairman of the Board of Titanium Pigment Company, Inc., 1936; President, Titanium Pigment Company, Inc., 1920-1935. Deceased.
B. T. Minter—	Secretary of British Titan Products Ltd.
A. S. Moses—	General Manager, Titanium Pigment Co., 1923-1933; Vice President, National Pigments & Chemical Company, 1923-1933; Chief Engineer, National Lead Company, 1933-1937. No longer connected with Company. Retired on pension on May 1, 1937.
A. V. Purvis—	Former President and Director of Canadian Industries Ltd. Resigned to take charge of the British Purchasing Commission in U. S. A. Killed in airplane crash.
Frederick Raspe—	Manager and Technical Director of Titangesellschaft.
Andreas Ravnestad—	In charge of patent matters of Titan Company, Inc., in Europe, and Technical Assistant to Dr. Jebsen. Employee of Titan Co. A/S.
L. B. Robinson—	Alternate for members of Board of British Titan Products Ltd., and employee of Imperial Smelting Industries.
W. S. Robinson—	President and principal stockholders of Imperial Smelting Industries. Now retired.
Fletcher W. Rockwell—	Director of National Lead Company, 1926- ; President of National Lead Company, 1938- ; Vice President of National Lead Company, 1937-1938; Director, Titan Company, Inc., 1937- ; President, Titan Company, Inc., 1938- ; Director, United Lead Company, 1928- ; Executive Committee, United Lead Company, 1928- ; President, United Lead Company, 1944- Director, Titanium Pigment Company, Inc., (1920-1936); *Director, Societe Industrielle du Titane, 1938- ; Director, Goodlass Wall and Lead Industries, Ltd., 1938- ; *Manager, Titangesellschaft m.b.H., 1938- *Director, Titan Co. A/S, 1938- ; Director, British Titan Products Company Limited, 1938- ; Director, Canadian Titanium Pigments Ltd., 1938-

* Present status unknown due to European War.

Exhibit 50.

ITEM 8 (continued)

R. M. Roosevelt—	Director, Titanium Pigment Co., Inc., 1935-1936. No longer connected with National Lead Company or any of the designated companies.
L. W. Ryan—	Director of Research, Titanium Pigment Corporation, 1928-1933. No longer connected with National Lead Company or any of the designated companies.
Greville Smith—	Director, Canadian Titanium Pigments Ltd.
Leonard Smith—	In charge of Foreign Relations Department of Imperial Chemical Industries, Ltd.
Charles J. Stopford—	Managing Director of British Titan Products, Ltd. 1938-
H. S. Tasker—	Chairman, British Titan Products Ltd.; Director, Goodlass Wall & Lead Industries, Ltd.
A. Thompson—	Formerly Director of Titanium Pigment Company, Inc., 1920-1933.
A. J. Thompson—	Managing Director of R. W. Greef & Company, Ltd., Alternate Member of the Board of British Titan Products, Ltd.
J. L. Turner—	Special Assistant to Dr. Thompson, National Lead Company Research Laboratories, 1928-1934; Director of Research, Titanium Pigment Company, 1934-
J. D. Vleeschouwer—	Manager, Societe Belge du-Titane, 1938-
Max Warburg—	Former head of M. M. Warburg & Company, Hamburg, Germany.
H. T. Warshow—	Vice President, National Lead Company; Director, National Lead Company; Comptroller and Auditor of Titan Company, Inc.
W. F. Washburn—	Chemical Engineer, Titanium Pigment Company, 1921; Superintendent, St. Louis Plant, 1925 (supervisory work there and in building Titanium Plant); Production Manager, Titanium Plant, 1934; Presently engaged as technical consultant on retainer basis.
Andrea Weber—	Member of the Board of I. G., and Director of one of the commercial departments.

Exhibit 51

Response to Paragraph 8 of the subpoena requiring a schedule of individuals giving

(1) present position;

(2) date of appointment to such position;

(3) date employed by du Pont; and

(4) their positions, if any, in any of the companies named in Paragraph (1) of said subpoena controlled by du Pont which are engaged in any phase of the titanium business.

S. L. ABRAMS	Asst. Director, Legal Dept., since Sept. 11, 1940. Employed Aug. 11, 1916.
W. J. BEADLE	First Asst., Treasurer's Dept., since Feb. 16, 1942. Employed May 1, 1928, Development Dept., as Technical Investigator. July 1, 1929, appointed Asst. Director Development Dept.
C. H. BIESTERFELD	Advisory Director of Legal Dept. and Head of Patent Division since June 1, 1926. Employed June 1, 1926.
J. E. BOOGE	Research Director, Pigments Dept., since Jan. 1, 1936. Employed June 25, 1917. Beginning Feb. 1, 1926, Lithopone, Dry Color and Pigment Section, Paint Dept., Newark. Beginning Jan. 1, 1928, Technical Director, Lithopone Division, Newark. Beginning Aug. 1, 1931, transferred to Krebs Pigment and Color Corporation. Beginning May 1, 1935, Research Director, Krebs White Pigments Division.
HAMILTON BRADSHAW	Retired October 1, 1941. Asst. Director, Chemical Dept., from Nov. 1, 1924. Employed Aug. 1, 1905. Asst. Director, Experimental Station, from Jan. 1, 1913 to Oct. 31, 1916. Director, Experimental Station, from Nov. 1, 1916 to Dec. 12, 1920. Asst. Chemical Director from Dec. 12, 1920 to Nov. 1, 1921. From Nov. 1, 1924 to Oct. 1, 1941, Asst. Director, Chemical Dept.

Exhibit 51

LAMMOT DU PONT	Employed Mar. 8, 1902. Sept. 8, 1915—Director and member of Executive Committee. Mar. 23, 1916—Vice-President. Oct. 30, 1918—Member of Finance Committee. Apr. 18, 1919—Chairman of Executive Committee. Mar. 15, 1926—President of Company. May 20, 1940—Chairman of Board.
H. H. EWING	Investigator, Development Dept., since March 1, 1941. Employed April 8, 1918. Beginning March 1927, Asst. Mgr., London Office. Beginning July 1930, Mgr., London Office. Beginning January 1936, Asst. Director of Development Division, Electrochemicals Dept.
J. P. HANCOCK	Patent Attorney, Legal Dept., since employment July 1, 1935.
T. R. HANLEY	Head, Foreign Relations and Customs, Legal Dept., since Sept. 11, 1940. Employed as attorney March 1, 1928.
J. K. JENNEY	Asst. Director, Foreign Relations Dept., since Aug. 1, 1930. Employed Oct. 19, 1925. Appointed Secretary of Foreign Relations Committee Oct. 17, 1927.
G. LUTZ	Deceased, August 1936. Formerly Patent Attorney for both Krebs Pigment & Color Corporation and Grasselli Chemical Co. from 1931 to August 1936.
C. M. LYMAN	Control Mgr., Pigments Dept., since Jan. 1, 1936. Employed Nov. 1, 1928. November 1928 to July 1, 1930, Asst. to Secretary and Treasurer of Krebs Pigment & Chemical Co. Director, Krebs Pigment and Color Corporation from March 16, 1936 to Dec. 31, 1942. Control Mgr., Grasselli Pigment Division, Newark, N.J., from July 1, 1930 to August 1, 1931. August 1, 1931 to June 30, 1933, Asst. Secretary and Treasurer, Krebs Pigment and Color Corporation. July 1, 1933, Secretary and Treasurer of Krebs Pigment and Color Corporation until Dec. 31, 1942.
C. R. MUDGE	Retired as Director of Legal Dept. on Sept. 11, 1940. Appointed Director, Legal Dept., June 1, 1926. Employed Sept. 11, 1903. Director of Company since March 14, 1932.

Exhibit 51

Z. PHELPS

Asst. Gen. Mgr., Pigments Dept., since Jan. 1, 1936.
Director, Krebs Pigment & Color Corp. from Mar. 18, 1935 to Dec. 31, 1942.
Employed Sept. 4, 1917.
Beginning Nov. 1, 1927, Asst. Division Mgr., Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept.
Beginning Jan. 1929, Asst. Mgr., at Fairfield, Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept.
Beginning May 1, 1929, Vice-Pres. and Gen. Mgr., Krebs Pigment and Chemical Co.
Beginning Sept. 1, 1930, transferred to Grasselli Chemical Co. and appointed Asst. Division Mgr., Pigment Div.
From Aug. 1, 1931 to Dec. 1935, Vice-Pes. Krebs Pigment and Color Corporation.

FREDERICK W. PICKARD

(Retired) August 1, 1935.
Employed July 1, 1904.
Jan. 1, 1908—Asst. Mgr., Denver Office.
Oct. 25, 1909—Mgr., Pittsburgh Office.
Dec. 1, 1917—Director of Sales, Wilmington Office.
Oct. 30, 1918—Director of Company, member of Executive Committee, and a Vice-President in charge of Sales Dept.

WILLIAM RICHTER

(Retired) Nov. 11, 1944.
General Mgr., Fabrics and Finishes Dept. from Nov. 1, 1932.
Employed August 1, 1917.
Beginning Nov. 1, 1921, Cellulose Products Dept., Service Manager.
Beginning Apr. 1, 1922, Cellulose Products Dept., Manager, Control Division.
Beginning Oct. 1, 1924, Paint Dept., Acids and Heavy Chemicals, Division Mgr.
Beginning Nov. 1, 1924, Paint Dept., Phila. Works Production, Division Mgr.
Beginning Feb. 15, 1925, Paint, Lacquer & Chemical Dept. (N.Y.), Asst. Gen. Mgr.
Beginning Mar. 16, 1925, Paint, Lacquer & Chemical Dept. (Wilm.), Asst. Gen. Mgr.
Beginning Nov. 1, 1927, Paint, Lacquer & Chemical Dept., General Manager.
Director of Krebs Pigment & Color Corp., July 20, 1931 to Dec. 19, 1935.
Director of Krebs Pigment & Chemical Co., Sept. 16, 1929 to July 31, 1931.

Exhibit 51

WILLIAM RICHTER (Continued)	Director of Grasselli Chemical Co., Nov. 1928 to Oct. 31, 1936. Director of Company from May 19, 1930, to date.
C. H. RUPPRECHT	Deceased—Sept. 10, 1944. General Mgr., Pigments Dept., Jan. 1, 1936 to Sept. 10, 1944. President and Director Krebs Pigment & Color Corp. from Aug. 1, 1931 until Dec. 31, 1942. Employed Dec. 1, 1919. Beginning Dec. 1, 1920, Sales Mgr. of Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept. Beginning Dec. 1, 1921, District Mgr. of Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept. Beginning March 1, 1924, Sales Mgr. of Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept. Beginning Nov. 9, 1924, Sales Mgr., Newark Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept. Beginning Dec. 31, 1928, transferred to Grasselli Chemical Co., Cleveland Sales Dept. as Pigments Division Sales Mgr. From July 1, 1930 to August 1, 1931, Division Mgr., Grasselli Chemical Company, Newark Division.
DR. FIN SPARRE	Deceased—Oct. 7, 1944. Formerly Director, Development Dept., since May 12, 1919. Employed Oct. 28, 1903. Asst. Director, Development Dept., April 1, 1918. Director of Company beginning May 19, 1930.
WENDELL R. SWINT	Director of Foreign Relations Dept. since Aug. 1, 1930. Employed Aug. 1, 1911. Mgr., London Office, April 1, 1926 to July 31, 1930.
E. C. THOMPSON	General Mgr., Grasselli Chemicals Dept., since April 1, 1942. Employed August 1, 1917. Beginning Feb. 1, 1919, Heavy Chemicals & Pigments Dept., Supt. Beginning April 1, 1920, Heavy Chemicals & Pigments Dept., Asst. Director. Beginning Nov. 1, 1921, Paint Dept., Asst. Gen. Mgr.

Exhibit 51

E. C. THOMPSON (Continued)

Beginning Oct. 1, 1924, Paint and Varnish Dept., Asst. Gen. Mgr.
Beginning Feb. 17, 1925, Paint, Lacquer & Chemical Dept., Asst. Gen. Mgr.
Beginning Aug. 1, 1925, Paint, Lacquer & Chemical Dept. Division Mgr.
Beginning Dec. 1, 1928, Vice-President of Grasselli Chemicals Company.
Director Krebs Pigment & Color Corp., July 20, 1931 to March 18, 1935.
Director of Krebs Pigment & Chemical Company, June 17, 1929 to July 31, 1931.
Director of Grasselli Chemical Company, Dec. 1, 1928 to Oct. 31, 1936.
Beginning Nov. 1, 1936, Grasselli Chemicals Dept., Asst. Gen. Mgr.

NOTE: Messrs. L. J. Barley
R. B. Beck
WM. A. BURTON
N. F. CHASE
L. W. HASLETT
A. B. PURVIS
GREVILLE SMITH

are not now, and never have been, employed by du Pont or any of the Companies named in Paragraph (1) of the subpoena controlled by du Pont which are engaged in any phase of the titanium business

Exhibit 51A

KREBS PIGMENT & COLOR CORPORATION

DIRECTORS

From August 1931 to March 1, 1935

W. D. Ticknor
T. P. Walker
M. F. Chase
C. H. Rupprecht
T. S. Grasselli
E. W. Furst
E. C. Thompson
William Richter

From March 1935 to March 1936

A. B. Echols
W. F. Harrington
William Richter
C. H. Rupprecht

From March 1936 to December 1942

C. H. Lyman
Zack Phelps
C. H. Rupprecht

OFFICERS

Title	Name

From August 1931 to March 1934

President	C. H. Rupprecht
Vice-President	T. P. Walker
Vice-President	Zack Phelps
Treasurer	W. U. Reisinger
Secretary	W. U. Reisinger
Ass't Secy & Ass't Treas.	C. H. Lyman

Exhibit 51A

Title	Name
From March 1934 to March 1935	
President	C. H. Rupprecht
Vice-President	T. P. Walker
Vice-President	Zack Phelps
Treasurer and Secretary	C. H. Lyman
Ass't Sec'y & Ass't Treas.	L. C. Reed
From March 1935 to March 1936	
Chairman of the Board	W. F. Harrington
President	C. H. Rupprecht
Vice-President	Zack Phelps
Secretary and Treasurer	C. H. Lyman
Ass't Sec'y & Ass't Treas.	L. C. Reed
From March 1396 to December 1942	
Chairman of the Board	C. H. Rupprecht
President	C. H. Rupprecht
Vice-President	Zack Phelps
Secretary and Treasurer	C. H. Lyman
Ass't Sec'y & Ass't Treas.	L. C. Reed

Exhibit 52 589

Letterhead of

SOCIÉTÉ MINIÈRE & INDUSTRIELLE FRANCO-BRÉSILIENNE

Paris, le 24th December 1925

EVANS McCARTY ESQ.,
Vice President of the United Lead Co.,
111 Broadway, NEW YORK.

CONFIDENTIAL. Dear Mr. McCarty,

Confirming my letter of the 13th ult. Mr. White is still in treaty with the Brimsdown Company. He has just informed me that Hopkin & Williams do not wish to part with any of their preference shares and he has asked me if my Company would consent to sell to the Brimsdown its 10,000 preference shares, being half of the preference Capital of the Company.

My co-Directors here being all on leave and having to consult also our Brazilian colleagues, I will not be able to decide before beginning of next month, but my personal opinion is that owing to the present exchange rate of the franc, our Company would perhaps have interest to sell its shares at £2.—keeping only its ordinary shares.

I wonder how the Brimsdown Co. has the financial means to make this purchase. I suspect that the Auer Co., which is said to control already the Travancore Minerals Co., expects to get also the control of Hopkin & Williams Travancore Co. in order to control also its monazite and zircon production, but this cannot harm the interests of our Company as our monazite and zircon deposits are far more important than the Indian ones.

Exhibit 52

Should the question of purchase of these 10,000 preference shares interest your Company, you could send us a cable and I would ask Mr. White if the Hopkin & Williams Travancore's Board would approve a transfer to your Company or to an English firm representing the interest of your Company as the Board has the right to refuse transfer. Of course, such purchase should give you the control of the ilmenite production.

With my renewed best wishes to you for the coming Year,

I remain, dear Mr. McCarty,

yours very truly,

EMILE LOBSTEIN.

Exhibit 53

January 8, 1926

MR. EMILE LOBSTEIN
Societe Miniere & Industrielle Franco-Bresilienne
20, Boulevard Montmartre, Paris, France

DEAR MR. LOBSTEIN:

I am very much interested in your letter of Dec. 24th regarding the possible sale to us of your preference shares in Hopkins & Williams (Travancore) Ltd., and have just telegraphed you as per copy enclosed.

The Brimsdown Lead Company is now owned by the Associated Lead Manufacturers, Ltd., a very strong and well financed company. As stated in my letter to you of Dec. 28th, I do not see how they can carry on successfully the business of manufacturing titanium pigments on a commercial basis without infringing the patents owned by the Titanium Pigment Co., Inc., or the Titan Company.

As stated in my telegram, I think that the Titanium Pigment Co. would be interested in the purchase of your preference shares in Hopkins & Williams (Travancore) Ltd., provided such purchase would give them the control of the present stock of ilmenite and the future production.

I hardly know enough about the present position of the Company to know whether or not £2.0.0 per share is a fair price. A memorandum made when you and I discussed this subject with Mr. White in London in 1924, states that the properties, leases, etc. stand on the books at £41,000, and that the Company had on hand at that time 3,000 tons of Monazite valued on the books at £12.0.0 per ton. At that date, advances to the Company amounted to £25,000 including directors fees renounced by the directors amounting

to £9,000. We do not, however, know what changes may have taken place in the Company's position since that time. We would also be interested in learning whether the preference shares have any voting rights, and if so, under what conditions. Inasmuch as you do not mention the common shares held by your Company I assume that you do not care to sell them at this time.

It is immaterial to the Titanium Pigment Company whether title to the shares be taken in the name of an English or an American corporation.

Hoping to hear further from you regarding this matter, and thanking you for bringing it to our attention, I am, with kind regards,

Yours very truly,

Vice President

P. S. Are dividends being paid on the preference shares, and if so, at what rate?

Exhibit 54

UNITED LEAD COMPANY

Confirmation of Telegram

WEEK END LETTER JANUARY 8, 1926

LOBSTEIN
PEROBA
PARIS

REFERRING LETTER TWENTYFOURTH WOULD BE INTERESTED IN PURCHASE OF SHARES REFERRED TO IF SUCH PURCHASE WOULD GIVE CONTROL OF ILMENITE PRODUCTION CAN TAKE TITLE IN NAME OF ENGLISH COMPANY IF NECESSARY STOP DO PREFERENCE SHARES HAVE VOTING RIGHTS

MCCARTY

Exhibit 55

SOCIETE MINIERE & INDUSTRIELLE FRANCO-BRESILIENNE

Socte Anme Au Capital de 4,000,000 De Francs Dont 1,000,000 Rembourse

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20 Boulevard Montmartre—
Paris, le 1st April 1926

Evans McCarty Esq.
Vice President of the United Lead Company,
111, Broadway, NEW YORK

Dear Mr. McCarty,

I beg to confirm my letter of the 12th ult.

I inform you confidentially that the Brimsdown Co. has purchased our preference shares at the price of £2 per share which we had fixed.

I regret that I have not been able to secure for your group the control of our friends' deposits of ilmenite to which our purchaser attaches a great importance.

Our Directors in Brazil inform us that the Works have been disturbed by torrential rains.

We have received last week a cable from the Director of our Works informing us that the stock amounted to 900 tons and that he expected to produce 500 tons till end of April, and our Directors cabled that bags were on the way to the Works, that they could not ship in March but would ship on the 11th April.

I hope that there will be no new delay.

With kind regards, I remain, dear Mr. McCarty,

Yours very truly,

SOCIETE MINIERE & INDUSTRIELLE FRANCO-BRESILIENNE
Le President

s/ EMILE LOBSTEIN

Exhibit 56

April 16, 1926

Mr. Emile Lobstein, President
Societe Miniere & Industrielle Franco-Bresilienne
20 Boulevard Montmartre
Paris, France

Dear Mr. Lobstein:

I beg to acknowledge receipt of your letter of the 1st inst. and note that the Brimsdown Lead Company has purchased your preference shares in Hopkins & Williams (Travencore, Ltd.) at £2.0.0 per share, and presume that the Brimsdown Company has also purchased the ilmenite which Hopkins & Williams had on hand.

Your interest in attempting to secure this material for us is very much appreciated. I am not sure that the Brimsdown Lead Company will be successful in their proposed attempt to manufacture titanium pigments, and it may be that we will have another opportunity to purchase the Hopkins & Williams ilmenite should we care to do so at that time.

We have received a cable from your office in Brazil informing us that 500 tons of ilmenite would be shipped this month on the S/S "Manchurian Prince", and we are hopeful that shipments will be made regularly from now on.

We have not as yet received the map of Guaraparie harbor which you promised to send us so that we have been unable to do anything toward chartering a vessel to carry bulk cargoes.

With kind regards, I am,

Yours very truly,

Vice President

Exhibit 57

Letterhead of

SOCIÉTÉ MINIÈRE & INDUSTRIELLE FRANCO-BRÉSILIENNE

Paris, le 24th September 1926

Evans McCarty Esq.,
Vice President of the United Lead Co,
111, Broadway, NEWYORK.

Dear Mr. McCarty,

I hope you had a pleasant trip home.

We have received advice of the shipment of 294 tons ilmenite shipped on the 1st August on s/s "Campos" and 205T980 shipped on the 20th September on s/s "Camamau".

I informed you that we have secured again the directorship of our Works by our former Director, Mr. P. Barrozo; he has only been able to take charge of the Works beginning of this month and we hope that he will secure now regular shipments.

We have transmitted to our Directors in Brazil your wish to receive a chart of the port of Guarapary as soon as possible.

Our Company is presently completing an agreement with the Auergesellschaft which will stabilize the prices of our rare earths products. At the exchange, shares of our Company which had been neglected last month are again in sensible demand.

I am, dear Mr. McCarty,

yours very truly,

EMILE LOBSTEIN

Exhibit 58

October 8, 1926.

Mr. Emile Lobstein, President
Societe Miniere & Industrielle Franco-Bresilienne
20 Boulevard Montmartre, Paris, France

Dear Mr. Lobstein

I have your letter of Sept. 24th which crossed mine of the same date, and note that your new director Mr. Barrozo was not able to take charge of the work until Sept. 1st. I hope that he will soon have the situation in hand, and be able to make regular shipments of ilmenite.

Referring to your comment regarding the shares of your Company, I will appreciate it if you will let us know if anything develops in that connection that you think would be interesting to us. I have in mind your statement to me that it might be quite possible to secure a sufficient number of shares so that between your interests and our own we could control the Company. Any time that you have anything definite to suggest in regard to that matter, we will be glad to consider it.

With kind personal regards, I am,

Yours very truly,

Vice President

Exhibit 59

Letterhead of

SOCIÉTÉ MINIÈRE & INDUSTRIELLE FRANCO-BRÉSILIENNE

Paris, le 22nd October 1926

EVANS MCCARTY ESQ.,
Vice President of the United Lead Co.,
111, Broadway, NEW-YORK.

DEAR MR. MCCARTY,

I duly received your favours of 24th ult: and 8th inst.

We have not yet received any letter from Mr. Barrozo since he resumed the directionship of our Works. On the 9th inst. we received a cable from Mr. Pierre Lobstein who was, as I told you, Director of the Works on account of the Syndicate, advising us that his return back to France was postponed owing to the absence of Mr. Barrozo, we concluded from this cable that the arrival of Mr. Barrozo had been delayed.

We have been advised by our co-Directors at Rio that they sent you under registered cover on the 13th ult. the charter of the harbour of Guarapary; we hope that it will convince your shipping Agents of the possibility to enter into the port.

Our Company still recently bought the warehouse and wharf belonging to Mr. Borges alongside which formerly came 1200/1500 tons steamers. This wharf is a few hundred meters far from our works with which it is connected by railway and shipping in bulk or in bags is very easy.

Our Directors in Rio wrote to us that unhappily small tonnage steamers do no more arrive in Brazil, coal ships

Exhibit 59

and Lloyd Brazileiro's steamers have from 4,000 to 5,000 tons and are then too large to easily work in the port.

If the charter you have received confirms that the depths are sufficient, we are convinced that in acquiring a 1500 tons steamer freight would be very cheap and bags would be spared.

I answer to the part of your letter referring to shares of our Company. In our meeting of 28th July last, I mentioned to you the rather important purchases made by an American Bank and that it seemed likely to me that your Company and Auer Company alone were interested in these purchases.

I told you that with the former capital of our Company of Frs: 4.000.000, divided into 40.000 shares—out of which 30.000 capital shares not reimbursed and 10.000 reimbursed shares—, the Directors' group and their friends had up to now controlled the Company, but with the issue of 50.000 new shares the situation could be modified. You told me that your Company would perhaps foresee the purchase of shares in order to reinforce the position of the leading group.

The market of our Company's shares having been nearly void during the holidays' period, I could not give you any new information about the buyers' group.

From information which was given me since beginning of this month, there were uninterrupted transactions at the rates of 220 to 230 Frs. for capital shares; owing to the general reaction of the Stock Exchange they have fallen to Frs: 210.—but it is most probable that they will rise again.

I have been told that considering the great division of shares, it seems impossible to be able to obtain some thou-

sand shares on the market unless to pay for them much higher prices, but that it would perhaps be possible to get 10.000 shares which belong to a group who would perhaps decide to make a sale in order to realize an immediate profit if they can obtain a sufficient price which I was told would be about 250 Frs.

I believe that if your group possessed on its side 10.000 shares, we would have practically the control of the business of the Company.

I send you herewith Statutes, report and balance sheet of our Company up to 31st December 1925. Our Assets in Brazil which are mentioned on this balance sheet for Frs: 1.186.000.— had been redeemed for more than Frs: 600.000.— and these Assets of Frs: 1.800.000.— are at their value estimated before 1914; we have since the settlement of this balance sheet reimbursed 112 contos of reis to the Syndicate which had undertaken the works on account of our Company.

As to our Assets in France, they can be considered nearly for the whole as Gold Assets.

As I told you, since the increase of its Capital, the Company has reimbursed all its debts; it now has an easy treasury and it realises satisfactory profits from the manufacture of various chemical products. I let it to you to examine whether it may be convenient for your Company to acquire this important lot of shares in case it should be possible to obtain it.

If your Company is willing to conclude the purchase of these 10.000 shares which I am told to be eventually free for sale, I am at your disposal to have the business negociated with the Bank which you would design to conclude this purchase. But owing to the uninterrupted demand

which exists on the shares of our Company and on the other side the interest you may have to take advantage of a favorable rate of exchange of the dollar, it is necessary that your Company should hurry to take a decision and charge me even by cable to make a purchase proposal.

With kind regards,

yours very truly,

EMILE LOBSTEIN

Exhibit 60

November 3, 1926.

Mr. Emile Lobstein, President
Societe Miniere & Industrielle Franco-Brasilienne
Paris, France

Dear Mr. Lobstein:

Many thanks for your very interesting letter of October 22nd with enclosures.

Other matters have prevented my giving these documents the study and attention which their importance warrants, and I am, therefore, unable to give you a quick decision in the matter. The subject is of interest to us, however, and will have our serious attention.

I regret to have to tell you that the chart of the Guarapary harbor which your directors at Rio informed you was sent under registered cover on Sept. 13th has not been received either by the Titanium Pigment Company or myself. This is unfortunate as nothing can be done toward chartering a small steamer until we have the necessary information regarding the harbor.

I am sorry that Mr. Barrozo's return was delayed, and hope that under his management there may be an important increase in the production of ilmenite. The Titanium Pigment Company is not in immediate need of supplies, but it will be more satisfactory for you and for us to have a larger production.

Thanking you for your suggestion with respect to the possible purchase of a block of shares in your Company, a matter to which I will return at the first opportunity, I am, with kind personal regards,

Yours very truly,

Vice President

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Exhibit 61

Dr. G. Jebsen

Berlin,
Hotel Der Kaiserhof
March 4, 1927

Evans McCarty, Esq.
c/o United Lead Co.,
111 Broadway,
New York, U. S. A.

Dear Mr. McCarty:—

I left Norway, as intended, Saturday the 19th of February and called at Mr. Warburg's office, Hamburg, Monday, using the opportunity at the same time also to see our representatives in Hamburg, Messrs. Christensen, Schwartz & Co., 40, Jungfernstiog. I left Monday night and arrived in Paris Tuesday afternoon. Mr. Lobstein was interested to know whether we had talked together about his propositions regarding the acquisition by the National Lead Co. of shares in his Company. I told him that we had not discussed it much and that I had understood that you had written to him about the matter. I gave him to understand that you considered the situation with regard to his deliveries of ore unsatisfactory and that you also were awaiting information as to the export harbour near his mines. He said he had sent you a chart of the harbour. He was, of course, very interested with regard to the position the Titan Co. will take as to the purchase of the shares in Société Industrielle du Titan belonging to the group of Société Minérais et Métaux.

I negotiated that matter with Mr. Morigeault on the basis of the balance sheet of the Company of the 1st of January of this year. You remember perhaps that this Com-

pany has a share capital of 10 Million Francs, of which 2½ Million Francs are paid in. The Company has operated since the 4th of July 1925. Its profit and loss account shows a loss of about 285.000 Francs. Further appears under the assets "Frais de Constitution" to an amount of 136.000 Francs. Further grinding machinery and a shed to the amount of 111.000 Francs. The rest is working capital.

In the balance there are 500.000 Francs in banks and on the other hand the Company owes to the Société Minérais et Métaux 1.200.000 Francs. The Company has a stock of raw material for more than necessary which, however, stands in the balance at reasonable prices, that the realization of the stock under the present circumstances is calculated to give a surplus of about 80.000.—Francs after deduction of general expenses and interest on the loan, the realization to take place in 3 to 6 months. A dissolution of the Company will probably bring the shareholders loss of between 400.000 and 500.000 Francs on the paid in amount of 2.500.000 Francs giving 2.000.000.—Francs or 20 francs per share, on which 5 Francs have been paid in. I offered this sum of 20 Francs per share to Société Minérais et Métaux and the transaction to take place at once. Mr. Morigeault pointed out, however, that when we will continue with the Company, the "Frais de Constitution" of 136.000.—Francs and the sum of 111.000 Francs paid for publicity, which were transferred to the profit and loss account, could not be considered losses, neither would there be any realization of the machinery and the shed, and also the work done represented a certain goodwill, wherefor 25 Francs per share should be a reasonable price. I told him that I had not made up my mind whether to continue with this Company or to dissolve it and start on an entirely

new basis. I reminded that when Société Minér is et Métaux entered into the arrangements with Lobstein, I had frankly asked him and Mr. Vincent on what basis they were interested in this matter, as I could not see that they had any special reason for taking up the development of this industry. They had, however, assured me about their interest and out of loyalty to Mr. Lobstein and his group, who were desirous to have this arrangement done before the expiration of the contract of 3 years of co-operation which we had with Mr. Lobstein—I agreed to certain alterations in order to enable the arrangement to be done. I told him further that it was not my intention to complain about the change of attitude, which Société Minérais et Métaux had taken, as I was convinced that Mr. Vincent and Mr. Mérigeault had gone into the enterprise in perfectly good faith and that it was only later that they had found out that the enterprise was not in their line being much more of a chemical industry than a metallurgical one.

But anyhow, the result was that they had placed us in an inconvenient position leaving us with the Company and bound to certain arrangements, which may make it more difficult for us to find other co-operators in France, if we wanted this. On the other hand, if we dissolve the Company, we will be free and can take up negotiations on a clear basis. I told him further that the Société Minérais et Métaux had reserved for themselves the right of support from the other shareholders until the end of June, if they wanted to dissolve the Company, I would ask him that our agreement should be arranged so that there would be still an opportunity of using that right and that I was willing to pay 25 Francs per share, if we did not make use of that right to dissolve the Company. After some considera-

tions on the part of Mr. Mérigeault he preferred then to have the price for the shares

a) in the case of the dissolution of the Company fixed at 21 Frcs. per share,

b) in the case of the continuation of the Company fixed at 24 Frcs. per share, which I agreed to.

I enclose a copy of the contract, from which you will see that the transaction has to take place on July 1st, 1927 and that the Société Minérais and Métaux sells us 50.000 shares; with which follow 16667 "Parts de Fondateurs" (1 part de fondateurs on 3 shares). Further we will probably also get in 2500 shares from 2 smaller shareholders of his group, and we have also taken the obligation to buy what may be offered us of 12.500 shares, which Société Minérais et Métaux desires to protect. Together with those shares follows also the corresponding quantity of "parts de fondateurs". We will have to inform the Société Minérais et Métaux within the end of May whether we wish the Company dissolved or not, in order to enable Société Minérais et Métaux to take the necessary steps with regard to the general meeting, etc., before the end of June, or exactly before July 7th.

In the meantime the Company will operate as hitherto, and Mr. Mérigeault has kindly offered in the management of the Company to follow my advice. The Company's activities at the present moment are practically only a development of the market, and as Mr. Gilbert is the selling agent and also a member of the Board of Directors, he will in reality be the man of activity in the Company under the present circumstances. I have talked the programme for the operation over with him, and it is understood that he

Exhibit 61

and Mr. Mérigeault will co-operate. I have not told Mr. Lobstein and Mr. Gilbert about my arrangement with Mr. Mérigeault with regard to the shares, but only informed them that no definite decision is taken; Société Minérais at Métaux are willing to leave the question open 3 to 4 months which suits us well, as we are not prepared at the present moment to decide about the future management of the Company.

I am afraid that you will find this very complicated and that I trouble you with a considerable amount of details. My excuse is that I presume it is better to give you rather too much than too little information, and the whole situation over here is naturally complicated during the interval, until the National Lead Co. has taken over the Titan Co. shares and more definite lines are drawn up for our policy in Europe. In short, the decision with regard to the French situation is postponed as far as it can be done.

However, if we are not able within the middle or end of May to definitely decide what should be done in France, I think we will have to take over the shares on the basis of a continuation of the Company, and if we want after that time to make arrangements with any other group in France, the basis for an arrangement with Lobstein and his group will not be so good.

In order to resume the position in France with regard to the future, I beg to put down the following:

In favour of a continuation with Lobstein's group on the present basis speaks the following:

(1) We keep a certain control on the mines of "Franco-Brasilienne" through our contracts, the practical lines of which you are already informed about.

(2) The possible interests of the National Lead Co. for "Franco-Brasilienne".

(3) The avoidance of a dissolution of Société Minérais et Métaux.

Against the continued co-operation with Lobstein and his group on the present basis speaks the following:

(1) The group of Lobstein has not a technical and administrative organization of much value. The have one chemist, M. Sequard, who is very good for laboratory work of a high quality, and is probably of much value for their own chemical problems and may be useful to us, but that is all.

(2) Mr. Lobstein is a man of 76 years of age, and the Company has nobody to take his place when he retires.

The selling organization of the "Franco-Brasilienne" is represented by Etablissement Gilbert, which is the sales agent for the Ste. Ind. du Titane, and which, I think, will be available to us anyhow.

In a later letter I shall write you more with regard to the elements of a future organization as they exist at the present moment.

We have nobody able to take the whole management, and the development of an organization in France will probably demand a lot of my personal attendance. However, once formed, we will have an organization we can handle ourselves and which may in time be useful also in other respects for the National Lead Co.

It will though mean a slower development than if a satisfactory arrangement can be made with an important existing organization.

During my negotiations with Mr. Merigeault, he offered his advice as to which groups he considered of in-

Exhibit 61

terest to cooperate with in France. He mentioned St. Gobain and Kuhlmann, but considered St. Gobain too little active, whereas Kuhlmann is very progressive.

I have always considered that Kuhlmann may be of interest because of its importance as a chemical industrial firm, and would probably have approached them a year ago, if Minerais et Metaux had not entered into the arrangement with Franco Brasilienne.

Of more interest from my conversation with Merigeault was however that he mentioned also Pissard and referred to him several times.

Pissard is, as you perhaps know, member of the Board of Minerais et Metaux and Mr. Vincent is a member of Pissard's French firm Ste. Couleurs. Although Merigeault said that he had not talked with Pissard, I can not entirely dismiss the thought that Merigeault acted on more than his own mind.

I mentioned to Merigeault Pissard's approach to you some years ago and said to him further that I was willing to discuss the question with Pissard, to see if an arrangement could be of mutual interest, but I would not call on Pissard on my own initiative. Mr. Merigeault was willing to talk to Pissard and write me.

In view of your mention of Pissard last time in New York, I thought, a conversation might be of interest, and it will not oblige you or me in any way.

During my negotiations with Merigeault I did not mention your purchase of the shares in the Titan Co., but I should not be surprised if they have an inkling of it. An arrangement with Pissard or Kuhlmann will probably lead to quicker results, but then we will be dependent on these cooperators and not be our own masters in the industry in France.

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I have been trying to give you the position without having made up my mind—what to advise to do. The situation is not cleared up sufficiently to have a definite opinion. The German situation is also to be considered in this connection. I am, however, afraid that the time from now until the end of May will be too short to have the situation as clear as desirable with regard to the question of a dissolution of Ste. Titane, if an arrangement with Pissard or Kuhlmann shall be considered seriously. Negotiations in Germany and France simultaneously, with the question of the concession from the Norwegian Government and the management of the Titan Co.'s current business can probably not be carried so far in three months—especially when I have just been away 2½ months in U. S. A., and when, moreover, your opinion and decision is wanted.

I am trying to keep you informed as things advance step by step and will appreciate very much to hear from you as soon as possible.

I write you another letter to-day, with regard to the German situation.

Mr. Thomsen was very satisfied with the sales in England last year, showing an increase of 61% above 1925.

In France the sales in 1926 were only very little above the previous year, as the exchange situation in the last part of the year had a very bad effect. Mr. Gilbert meant that Titaniumwhite has a good reputation in France as a product of high quality, but the tendency goes to the cheapest possible products at present and the trade has altogether been bad because of the exchange.

With kindest regards,

Yours very truly,

G. JEBSEN

Kindly excuse the appearance of these letters, but they were written by various typists in a typewriting office.

Exhibit 62

March 18, 1927

DR. G. JEBSEN
Titan Co. A/S
Fredriksstad, Norway

DEAR DR. JEBSEN:

I have time this afternoon for only brief comment with respect to your letter of March 4th regarding the position in France.

The situation is, as you say, quite complicated and it will take a little time to digest the information your letter contains. Apparently as a result of your conversations in Paris final decision with regard to the French company can be postponed for several months.

Should it be necessary, however, to make a decision in the meantime I would be inclined to favor taking over the shares of the Societe Minerais et Metaux and continuing the Societe Industrielle du Titane. This would at least insure the continuity of the business, and probably leave you in almost as good a position to deal with other interests as you would be if you dissolved the company. In this case as in other matters, however, we would, of course, be guided by your advice.

I find it a little difficult to form an opinion with respect to the desirability of an association with Mr. Pisart. He is an old acquaintance, and a very capable man, and his company is a very important one. On the other hand, his interests in lithopone are so large that it might be difficult to find a common interest. I hope to see him sometime during my visit to Europe, and to talk over the position with him. In the meantime, however, I see no reason why you should not talk with him if the opportunity offers.

Exhibit 62

March 18, 1927

DR. G. JEBSEN

The firm of Kuhlmann is unknown to me, but I judge from your letter that they are chemical manufacturers of some importance. Copy of the contract for the purchase of the shares owned by the Societe Minerais et Metaux was not enclosed with your letter, but will probably follow by a later post.

I was very much pleased with the conditions I found in the St. Louis factory when I was there last week. The product is now of exceptionally good quality, and very uniform. Costs are being reduced, and as our sales are not quite up to production it has occurred to me that we might find it advantageous to ship some of the product to Europe during the summer instead of waiting for the German factory to be completed. This is a matter you might keep in mind although you perhaps will not want to come to a decision regarding it until you have Mr. Washburn's opinion as to the possibilities of the Norwegian factory, particularly in view of your new Blanc Fixe process.

I have also a long letter from Mr. Lobstein to which I will reply next week, and to which I will refer in my next letter to you.

With kind regards, I am,

Yours very truly,

.....

Vice President

Exhibit 63

COPY

November 4, 1927

Dr. G. Jebsen
Societe Industrielle du Titane
23 Rue Ballu, Paris, France

Dear Dr. Jebsen:

Mr. Pisart has been in New York for several weeks, and is returning to Europe tonight on the Majestic. He called on us here one afternoon a short time ago, and we had a very interesting talk on the subject of the sale of titanium, lithopone and other pigments in Europe.

He appeared to have two points in mind; first, the sale of zinc oxide to the Titan Company and the Societe Industrielle du Titane, and second, the possible use of his manufacturing and distributing facilities in France, Belgium and Holland for the sale and distribution of titanium pigments.

With respect to the first point he stated that while the Titan Company and the French company bought some zinc oxide from his companies he did not furnish your entire supply, and that he would like very much to make a contract with you to supply the entire requirements of the two companies on a sliding scale of prices on the market at the time of shipment.

He further stated that owing to the fact that the Titan Co., was a customer his people had so far refrained from selling Trimetal which, as you know, is a combination lithopone and zinc oxide paste, in Scandinavia, and that they would continue to leave this market to you if you would

purchase your zinc oxide exclusively from them. If, however, they did not enjoy your entire business he felt that they should be at liberty to offer their paste products in Scandinavia.

I do not know all of the circumstances; but from the information at hand it seems to me that it will be in your interest to accept Mr. Pisart's proposal.

With respect to the second point, Mr. Pisart pointed out to me that beside his two grinding plants, one in Paris and the other in the north of France, he had some thirty depots in France from which his products were distributed, and that he felt that they would not only be able to grind titanium pigments for us on an advantageous basis, but that his distributing facilities were infinitely better than anything that Mr. Gilbert could develop for many years.

When I spoke of the possible conflict of interest between lithopone and titanium he reminded me that his Belgian company Stella had ground important quantities of our white lead for many years with entire satisfaction to both parties to the transaction. He also stated that he had discussed with Mr. Vincent the possibilities of manufacturing titanium pigments at his (Pisart's) lithopone plant in the north of France where he has a sulphuric acid factory and an ample supply of black ash available. This situation would also apply to the lithopone plants in Holland and Belgium.

He stated that he was prepared to manufacture titanium pigments for us or, if we preferred, to enter into some joint arrangement similar to the one we have made with the I. G. There are, of course, two sides to such a proposal, but it is nevertheless one to which I think we should give very careful thought.

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I told Mr. Pisart that while personal association with him would, of course, be very agreeable to us there was a possibility of a conflict of interest, and that we would not like to give him a definite answer immediately. I further told him that our titanium interests in Europe were under your management, and that we would depend upon you for advice in all matters of this kind, adding that I would write you at the first opportunity asking you to make arrangements to meet him at some time and place that suited your mutual convenience and discuss the whole position. This I would strongly recommend you to do.

You may develop relationships that will be profitable for both, and in any case you will find Mr. Pisart a very interesting and delightful man.

Yours very truly,

Vice President

Exhibit 64

Letterhead of

TITAN ~~CO.~~ A/S

Fredriksstad, April 8th 1927.

GJ/EH

Evans McCarty Esq.
c/o United Lead Co.
111, Broadway,
New York.

Dear Mr. McCarty,

I received your telegram today as follows:

> "Referring to my letter of 25th March can you tell
> "me when I shall be needed in Norway information
> "desirable in order to make other engagements,"

and have answered you as follows:

> "Believe best time your arrival Norway between
> "15th and 20th May and probably see IG ultimo May
> "stop "Kühne telegraphr proposal agreement sent me
> "and ask me come Leverkusen about 20th April as
> "he leaves 23rd April for 4 weeks."

I propose the above date of following reasons:

1) If there should be any question of doubt with regard to the conditions for the concession, your arrival between the 15th and 20th of May will be of much value.
2) Mr. Hallett will probably have been able to finish his report.

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3) Referring to my letter of yesterday, Dr. Kühne returns about the 23rd of May and consequently the end of May or beginning of June will be a suitable time to negotiate with them, which will be facilitated in case you have been in Norway and looked over the situation here beforehand and you may find time to take a part in the negotiations or anyhow talk matters over with me.

4) We may also have a talk with regard to the French situation before the last term for decision as to Société Industrielle du Titane, which is the end of May, although I believe the best thing to do is to follow your view in your letter of 18th of March, i.e. to continue with the company.

5) From your interesting letter of 25th of March, for which my best thanks, I understand that this time also will suit you.

Possible arrangements regarding the future of the Titan Co. I presume can be talked through and fixed during your stay and carried through without troubling you to come to Norway again—the actual receipts of the shares against payment do probably not need your personal presence.

I have noted with much interest, that a member of your auditing staff is now in Hamburg and believe it will be a very good thing if he will visit us with regard to the mentioned examinations of the books. I hope that our Mr. Knudsen at the same time can have the opportunity to talk over with him any questions of interest with regard to the future book-keeping and the reports you wish to have in future.

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Any suggestions as to simplifying and modernization of the book-keeping I am sure Mr. Knudsen will receive with interest.

If you will let us know in time when we can expect his visit, we shall arrange matters to facilitate his work as far as possible.

We make up a raw-balance every month and it is ready in general about 4-5 weeks after the end of the month. In case of necessity and if it is known sufficiently in advance, we can have it done earlier, probably within about three weeks.

With regard to Mr. Washburn I beg to write you a little later, as I do not see quite clear at present when his visit will be most useful. I think anyhow that it is desirable that he finishes his work with the ilmenite from Sogndal before he leaves and I will be obliged if you will arrange to send us the results soonest possible. His visit will especially be of interest with the view to the factories to be erected in Germany and France. If the experiments in St. Louis give a satisfactory result, this question will be simplified.

With kind regards,

Yours very truly,

G. JEBSEN

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Paris, June 18, 1927.

Mr. E.J. Cornish,
President,
National Lead Company,
111, Broadway,
NEW. YORK.

Dear Mr. Cornish,

I am enclosing copy of a cable sent you from Hamburg on Wednesday of last week. I thought that the information would be of interest both to you and to the Board.

To state the arrangement briefly: a German company is to be formed, in which the "I.G." and ourselves will each hold a half interest. The Company will be registered with an initial capital of 500,000 Marks, but this amount will of course be insufficient for the Company's business, and additional capital will have to be supplied by increases in the capital stock, or by loans to the Company, as may seem best.

The "I.G." will lease to the new Company a factory located on its own property of Leverkussen, near Cologne, and will supply to the new Company Sulfuric acid and such other necessary materials as it manufactures, at factory cost plus 10%, and will sell the product of the new Company through its various branches at an agreed upon commission.

The "Titanium" Company will supply ore from its mine in Norway on an agreed upon basis, and give the new Company an exclusive license in the territory assigned to it under its patents.

6:20

Exhibit 65

A very valuable part of the arrangement is a continuing option or "call" given to the "Titanium" Company on ½ of the product of the new German factory for shipment outside German territory at actual factory cost.

If, as now seems possible, Germany is going to be the cheapest place in the world to manufacture "Titanium" products, this provision in the arrangement is likely to be of great value.

Dr. Jobsen and I visited the works of the "I.G." at Leverkussen on Friday of last week and had a very interesting day. The plant occupies between 1½ to 2 square miles of ground, and employs about 12.500 workers. With the limited time at our disposal, we confined our visit to the heavy chemical department in which we were especially interested.

To give an account of the day would be rather a long undertaking which I will defer until my return. Mr. Warburg did not participate in our conference with the "I.G." people in Hamburg, but his influence had been very helpful in preparing the way. Dr. Jobsen has, I think, handled the negotiations very skillfully.

A year or two ago a Company was formed in France to exploit the business in this country, and 25% of the capital was paid in. The business has not, however, reached a tonnage that would warrant building a factory. The Titanium Company's interest in the French Company was originally a small one, but an opportunity was afforded this year to acquire 50% of the shares which had originally been subscribed for by Société des Minerais et Métaux, a Company whose interests as you know are principally in the metal business, and had no real interest in the Titaniuin Pigment business.

Exhibit 65

Under the present circumstances, I agree with Dr. Jobsen that the Titanium Company should acquire these shares, and arrangements have been made to take them over this week. When this transaction has been concluded, the Titanium Company will own a majority of the shares in the French Company.

It is not probable that we shall fish the Titanium Company to continue to hold the shares in the French and German Companies, and arrangements have been made permitting the Titanium Company to transfer these shares either to the National Lead Company, or to some other Company formed for this purpose.

A telegram was received from Norway on Saturday stating that the by-laws of the Titanium Company had been changed; and the certificates and other documents delivered to the bank in Oslo. Payment will be made to-day.

The foregoing will, I think, give you a fairly good idea of the position as it is up to date, and I will not burden you with a general letter now.

With kind regards,

I am,

Yours respectfully,

Exhibit 65

Copy of Telegram

Leadco New York.

Cornish reached satisfactory agreement with I.G. Stop Jebsen and I visit their plant near Cologne Friday. Papers ready for signature next week Initial capital German company 500,000 Marks First payment 25% Titanco will also take up 50% shares French Company Requiring one million five hundred thousand francs Has funds on hand for payments. Will need advances later on stop Dolm Hotel COLOGNE Friday Paris next week.

Regards. McCarty.

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Dr. G. Jebsen
Titan Company A/S
Fredriksstad, Norway

August 18, 1927

Dear Dr. Jebsen:

On my return to the office I found a long letter from Mr. Vogt under date of July 29th enclosing translations of various documents in connection with the claims of the Fredriksstad Privatbank and Elektrokemisk against the Titan Company. Mr. Vogt's letter deals with these transactions in detail, and the whole position seems now to be in order.

We have also received from den Norske Creditbank a final statement of sums expended for our account. The statement, however, covers only transactions up to and including July 15th, and a separate statement will have to be rendered for any transactions after that date.

I am enclosing copy of my reply to Mr. Vogt's letter which explains itself.

Mr. Vogt's services as counsel for the National Lead Company terminated with his election as a Director of the Titan Company, and we shall, of course, leave in your hands all questions relating to the services he may be expected to render as a Director, and also any legal services he may render which cannot properly be considered his duties as a Director in the Company. I am very much pleased with the way in which our business has been handled by Mr. Vogt, and am glad that he is to continue to be associated with us.

I am also enclosing copy of a letter just at hand from Mr. Lobstein and copy of my reply. I presume that the Auer Company is the German group referred to in the last paragraph of Mr. Lobstein's letter.

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After considering the matter carefully we have come to the conclusion that it will be better for the National Lead Company to hold the half interest in the Titan Gesellschaft and the shares of Minerais et Metaux in the French company in its own name, and I, therefore, telegraphed this information to you yesterday as per copy enclosed. Please advise us when the first payment in connection with the Titan Gesellschaft is required, and remittance will be made promptly. The Titan Company has already paid for the shares in the French company which were held by Minerais et Metaux, and if you will send us a memorandum of the amount paid we will send you a check to reimburse you. I think that there is no immediate hurry to transfer to the National Lead Company the shares in the French company which were originally subscribed for by the Titan Company although we may wish to do so later.

You will be interested to learn that the price of Titanox in the United States has been reduced to ten cents per pound. It is, however, too early to tell what affect this reduction will have upon the volume of the sales. I am arranging to send a small shipment of Titanox to Greeff & Company in London as Mr. Thompson is very anxious to have some of our product there to submit to certain custombers for trial. I do not know just what price I will be able to arrange with Mr. Meredith, but will advise you later when the matter has been settled. As the first shipment will probably not exceed five tons the price is not really a great matter.

With kind personal regards, I am,

Yours very truly,

Vice President

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Exhibit 66

UNITED LEAD COMPANY

CONFIRMATION OF TELEGRAM

AUGUST 17, 1927

LCO
JEBSEN
TITANCO
FREDRIKSSTAD

TAKE SHARES IN TITAN GESELLSCHAFT AND MINERAIS ET METAUX SHARES IN. FRENCH COMPANY IN NAME OF NATIONAL LEAD COMPANY

McCARTY

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TITAN CO. A/S
FREDRIKSSTADT

TELEGRAM

Vexiet mellem

Dr. Jebsen, Titan Co. A/S. Fredriksstad.

og

Evans McCarty, Esq., *London.*

Mottat den

Avsendt den 3.August 1927.

McCarty,
c/o GREEFF
Cannon, London

Vogt absent holiday stop National Lead's account Creditbank closed stop New credit and instruction necessary stop I have pr. telephone today requested Creditbank continue receive outstanding shares for National Lead until further and declared stand. personally responsible stop Creditbank accepted this stop Meeting 25th held Cornish you and Vogt elected directors stop Room reserved Grand Hotel saturday evening for Mr. and Mrs. Moses stop Raspe arrives monday and Kühne middle next week Agreements received from I.G. all signed but only A with datum I.G. explains agreements be exchanged with new when Titangesellschaft constituted stop Schedules re. selfcost and plan of site not annexed. I.G. anticipate these agreed upon during Kühnes stay here stop. I in return sent yesterday necessary papers signed by me to Mathias requesting him forward them to I.G. if no objections. Happy return New York.

Jebsen.

Exhibit 67

Letterhead of

TITAN CO. A/S

GJ/KL

Fredriksstad, September 6, 1927.

Mr. Evans McCarty,
Vice-President,
National Lead Company,
New York.

Dear Mr. McCarty,

On my return to Fredriksstad yesterday, I received your letter of August 18th, for which my best thanks.

I am glad to note that you are satisfied with Mr. Vogt's work.

Franco-Bresilienne

I have noted the contents of your correspondence with Mr. Lobstein. If matters develop so that the contract for ilmenite over a period of years should be seriously considered, it may be wise also to consider at the same time the restrictions regarding deliveries to titanium manufacturers which Franco-Bresilienne accepted in 1922.

Societe Industrielle du Titane has the exclusive right to deliveries in France; but if this company only takes its supplies from Norway, we do not know what attitude Franco-Bresilienne will take. I also presume that it is the "Auer" Company to which Mr. Lobstein has referred.

The Agreement of October 18, 1922, between the Titan Co. and Franco-Bresilienne contains the following stipulations regarding deliveries of ilmenite:

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Extract Art.IV

The Titan Co. undertakes to furnish ilmenite to Franco-Bresilienne, leader of the participation, the mineral which it produces in Norway at the most favoured customer's price.

Franco-Bresilienne reserves to the participation for all the requirements of its manufacture of products in the licensed field the exclusivity of all the titaniferous ore which it disposes from the mines or concessions which it possesses or from the exploitation of deposits belonging to companies which it controls.

Extract Art.V

Further deliveries of mineral which the participation may need will be made under the same terms of payment by the producer, be it Titan Co., be it Franco-Bresilienne, whoever may furnish at the lowest price.

With regard to further deliveries of ilmenite which Franco-Bresilienne may make to the participation, in virtue of the exclusivity accorded to the latter for the manufacture of products in the licensed field for France and its colonies, Franco-Bresilienne will invoice these deliveries at their self-cost price, including general expenses of exploitation, amortization at 10% per annum of its installations, export duties, and a profit of 10%.

Extract Art.XIII Transformation into a Limited Company

The statutes of the limited company shall be made on the following basis:

Advantages brought by the Titan Co., consisting of: Obligation to furnish or on the conditions foreseen for

Exhibit 67

the participation; it being understood that from the date of the termination of the exclusive licenses, the Titan Co. will be relieved of any obligation of delivery of ore and will resume its entire liberty of action.

During the existence of the exclusive licenses the obligations of delivery of ore by the Titan Co. are limited to the quantities which the Titan Co. can deliver from its deposits in working order at the time the orders are passed by the company in surplus of the supply of the Titan Co.s own factories and of the fulfillment of contracts already existing at that time.

Advantages brought by Franco-Bresilienne, consisting of: The advantages granted to the participation, it being understood that deliveries of ore will be ruled by the same conditions which are stipulated above for the deliveries from the Titan Co.

Extract Art. XIV—Additional Agreements:

Subject to the conditions fixed for deliveries of ore in Art. IV, V, and XIII, Franco-Bresilienne grants to the Titan Co. during the existence of the participation and the limited company, which will replace this, the exclusive right to buy ilmenite for the manufacture of products in the licensed field for countries outside of France and its colonies which Franco-Bresilienne may dispose in surplus of the requirements of the participation or the limited company for their manufacture.

Franco-Bresilienne is free to fix its sales price to the Titan Co. for its deliveries. If the Titan Co. does not take deliveries at the minimum self-cost price, calculated as in Art. V, plus a profit of 25%, Franco-

Bresilienne can resume its entire liberty of sale for countries outside of France, but Franco-Bresilienne cannot sell its products in the licensed field under the price fixed to the Titan Co.

If Franco-Bresilienne can dispose of ilmenite quantities more than those necessary for the production in the licensed field, it keeps its liberty of sale for metallurgical uses or for products other than those in the licensed field. Franco-Bresilienne informs the Titan Co. of the sales which it effects.

May 7, 1925, in connection with the formation of Societe Industrielle du Titane, Mr. Lobstein proposed some amendments in the obligations towards the Titan Co., amongst which was the following:

"Franco-Bresilienne shall be free from all obligations of delivery of titaniferous ore and resume its liberty of action at the end of 1936, at which time the exclusive licenses under the patents of the Titan Co. in France expire."

After several verbal discussions on the matter, I wrote on June 1, 1926 (the following year) a letter to Mr. Lobstein accepting the following amendments proposed by him:

"Franco-Bresilienne is free to fix its sales price to the Titan Co. for its deliveries.

"If the Titan Co. does not take deliveries at a self-cost price, delivered from works, which includes the production costs, general expenses, amortization of materials and installations at 10% per annum; this price augmented with a profit of 25% of the total, and still augmented with 5,000 Reis per ton for amortization of

the deposits, Franco-Bresilienne resumes its full liberty of sale for countries outside of France, but it cannot sell for the manufacture of products in the licensed field under the price fixed to the Titan Co."

Further, I accepted the same stipulations as previously with regard to sales for uses outside of the licensed field and with regard to the information to the Titan Co. of its sales.

With regard to the expiration of these obligations, I proposed the term of the end of 1945.

In a letter of June 26, 1926, Mr. Lobstein accepted my proposal of the term "to the end of 1945".

He added further, that in the case Societe Industrielle de Titane should be dissolved, Franco-Bresilienne should be entirely free.

I have not answered this last letter.

I beg you to excuse my taking up your time with this detailed information; but I thought it would be well that you had a record of it.

Re Shares Minerais & Metaux

This I have dealt with in my letter of from Paris.

Re Titangesellschaft

No payments have been made yet.

The first payment will be made by the I.G. for the Titan Co. in connection with the formalities carried out by Dr. Kühne. I.G. will immediately send us a debit note, and I will inform you to pay this to the I.G. for the Titan Co's account.

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A transfer of the interests from the Titan Co. to the National Lead Company cannot take place before the Titangesellschaft m.b.H. formally exists.

For following payments and further requirements of capital, we agreed that, as soon as it can be foreseen, a plan shall be worked out for payments to be made at certain intervals—both partners should then pay equal sums on an account to be arranged to this purpose, which account shall serve to cover the expenditures of the Titangesellschaft.

In another letter I shall deal with various matters concerning Titangesellschaft m.b.H., its organization, self-cost schedules, etc.

Re R. W. Greeff & Co. Ltd.

I met Mr. Thompson in Paris. He seemed to have found difficulties in increasing the price of Extra X. He proposed instead to cut the rebates both for Extra X. and Standard X. and improve the situation in that way. As this, however, does not meet the purpose to improve the relation in the prices between Extra X. and Standard X. I did not follow his proposal.

I have noted the shipment of 5 tons Titanox to London. As you say, the price of those 5 tons is not a great matter. I shall, however, be interested to know as early as possible whether the Titanium Pigment Co. will deliver us Titanox for next year at the price we can pay, as our production and sales policy for next year will be influenced by this.

Some information regarding the acquirement of the majority of the shares in Societe Industrielle du Titane and

Exhibit 67

the arrangement with the I.G. has circulated through the European Press and is said to have emanated from New York.

In a German monthly they quote "The Chemical Trade Journal" and "Chemical Engineering" London, Vol. LXXX, pages 405-406, 414 and 433, No. 2083 of April 22, 1927—an article which probably is inspired by Monk & Irwin of Montreal.

With regard to the competition, the following—which I beg you to receive as confidential information—will certainly interest you:

When last in Leverkusen, I was shown a letter from a connection of the I.G. in U.S., Mr. Albert P. Rippenbein. He has been in connection with a Mr. Chase, who tries to do something in the titanium industry and has formed a group whose members are said to be of substantial means and are members of the Commercial Solvents Corporation. There is talk of a factory to be erected in Baltimore on the basis of ilmenite from Virginia.

Mr. Schleussner, of Roessler & Hasslascher, urged Mr. R. to inform Mr. C. that his company was ready to discuss affiliation with Mr. C. in a syndicate. The Chase group has, however, all the money they can use and Mr. R. did not consider that they would be interested with R. & H. unless they can offer something of special interest.

Another man, by the name of Mr. Litter, has been authorized by the oldest white lead manufacturer in U.S.A. to attempt to arrange an affiliation with Mr. C's group. The reputation of this white lead firm should help the introduction. He offered his entire white lead business to be thrown into the titanium combination. Mr. C. says he

bases himself upon such patents that he can control all the manufacture of titanium in U.S.

Funny enough, Mr. R. considers Mr. C. to be a man whose statements should be taken seriously.

Do you know anything of this?

The above are notes which I took just before I left Leverkusen. Dr. Raspe promised to send me copies of the letters.

With kind personal regards,

Yours very truly,

G. JEBSEN

Exhibit 68

September 23, 1927

Dr. G. Jebsen, Managing Director
Titan Company A/S
Fredriksstad, Norway

Dear Dr. Jebsen:

I have your letter of September 6th, and am interested in the extracts from the contracts with the Franco-Bresilienne. Apparently the Titan Company or the Societe Industrielle du Titan has a call or option on the ilmenite produced by the Franco-Bresilienne, and in no case can the latter company sell its ilemnite elsewhere at a lower price than cost plus twenty-five percent.

You are correct in your presumption that the Auer Company is the company to which Mr. Lobstein refers in his letter. The Auer Company has offered to pay 100 mil-reis per ton for ilmenite in bulk f.o.b. Guarapary. I doubt very much, however, whether this figure is equal to cost plus twenty-five percent. The whole matter hinges, however, upon the ability of the Franco-Bresilienne to make arrangements for forwarding shipments in bulk.

If this can be done I think that the Titanium Pigment Co., will be in a position to take all of the ilmenite Mr. Lobstein's company is apt to produce, but if these arrangements cannot be made it will be very difficult for Mr. Lobstein to compete with other sources of supply. I have had no recent news regarding the shipping situation, but a number of people are working on the problem, and I am hopeful that it will eventually be solved.

The five tons of Titanox for London will not be dispatched from New York until sometime next week. I think that if the experience with this five ton lot is encouraging arrangements can be made to ship larger quantities at a

price that will be satisfactory to you, but I will write you more definitely on this point after I have had a further talk with Mr. Meredith.

The comments in the European press to which you refer were probably the result of some news items which appeared quite generally in the American papers about the middle of August. I am enclosing clipping from the Wall Street Journal which is typical.

The information received from Dr. Raspe regarding possible competition in America is very interesting.

The Mr. Chase referred to is Mr. March Chase a chemical engineer of high standing and well known to us. Mr. Chase is a man whose statements would ordinarily be taken quite seriously, but it is, of course, possible that he may be

We are also acquainted with Mr. Schleussner who is, as your letter indicates, of the firm of Roessler & Hasslascher. We had heard that the Commercial Solvents Corporation were interested in titanium, but did not know that they were one of the group for which Mr. Chase has been acting.

We are a little puzzled by the reference to the "oldest white lead maufacturers in the United States". Wetherill & Brother of Philadelphia are the oldest white lead manufacturers in this country, but their business is not large, and we would not consider that their reputation would be of material assistance in the development of the titanium business. We will be very interested to receive copies of the letters which Dr. Raspe has promised to give you.

Yours very truly,

Vice President

Exhibit 69

General Offices
Lafayette & Sugar Sts
Niagara Falls,NY

Sales office
94 Fulton St.
New York,N.Y.

Plants
Niagara Falls, NY
St. Louis,Mo.

TITANIUM PIGMENT CO., INC.

Niagara Falls, N.Y. Jan. 20, 1926.

Mr. Evans McCarty, V. P.,
Titanium Pigment Co., Inc.,
111 Broadway
New York City.

My dear Mr. McCarty:—

In considering the policies to be adopted by this Company in the future I believe that some of the points referred to in the following paragraphs may prove of interest to you.

All of the controlling United States patents of this Company with the exception of two will expire on or before September 18, 1934. The two patents which expire after that date are U.S. Patent No. 1,313,874 covering pigments or paints in which our composite pigments and zinc oxide are used, which expires August 26, 1936, and our so-called "Blanc Fixe Case" covered by U.S. Patent No. 1,409,648, which expires March 14, 1939.

It is probable, therefore, that the Company's patent control will practically cease during the Fall of 1934, which means in approximately 9¼ years.

The National Lead Company purchased control of the Titanium Pigment Company as of August 1, 1920, or approximately 5½ years ago.

Neither this Company nor the Titan Company has any patent which controls the manufacture of titanic oxide as such and we know there are other companies now offering titanic oxide for sale.

Until very recently we have never seen a titanic oxide pigment that had tinting strength of over 700 (compared to white lead as 100). During the latter part of 1925, however, we have made in our small chemical plant at Niagara Falls titanic oxide products of good color of which the tinting strength has been as high as 1200, and in one case the tinting strength ran 1400.

So far as I am aware there is nothing in our patents or those of the Titan Company which would prohibit another manufacturer from making a mechanical mixture of such a titanic oxide with an extender pigment. Such a mechanical mixture might conceivably have tinting strength nearly equal per unit of titanic oxide contained to our composite pigments.

This Company has three U.S. patents Nos. 1,205,267, 1,205,268 and 1,205,269, all of which expire on November 21, 1933, which broadly cover paint containing amorphous titanic oxide and iron oxide, paint containing amorphous titanic oxide and white lead, and paint containing amorphous titanic oxide and zinc oxide.

If the validity of these three patents can be sustained they would undoubtedly prevent the use of mechanical mix-

tures of titanic oxide and extenders or of titanic oxide itself in paint mixtures containing the titanium pigment alone or mixed with either white lead or zinc oxide.

Assuming, therefore, that these three patents could be sustained this Company might be able to preclude the sale of titanic oxide or mechanical mixtures of titanic oxide and extenders for use in paints until November 21, 1933, or approximately 8¾ years hence.

It is apparent, therefore, in a general way, that this Company's patent control of the situation is a matter of less than ten years, or less than twice the period since the National Lead Company purchased control of this Company.

I believe that all of us, who have watched the rapidly developing use of Titanium pigments, are convinced that ultimately these pigments will be used in large tonages.

I believe also that there has been sufficient activity on the part of others in connection with the research and development of manufacturing processes to indicate that were it not for the strength of the patents of this Company and the Titan Company other Titanium pigments would have been manufactured and marketed on a much larger scale before this and certainly will be as soon as the patent protection expires.

In view of the above it seems to me self evident that the policy of this Company should be to rapidly increase the production and use of Titanium pigments during the next eight or ten years, to enlarge our research development and to *obtain control of the most available sources of raw materials*, so that the Company's position at the expiration of its patent protection would be as strong as we can make it.

Exhibit 69

I do not feel that any of us can be entirely satisfied with what has been accomplished during the past eight or ten years, during which we have been working on the development of Titanium pigments.

In the following schedules are shown the cost of Titanox at St. Louis for the first eleven months of 1925—what these costs would have been had our digestion equipment been adequate and our recoveries of Titanic Oxide and Acid been equal to those at Niagara Falls during the run on Titanox at that plant from April to October, 1925. The two other schedules are my estimates of cost of Titanox and C-Pigment on basis of 1,000 tons per month of each pigment using domestic ore—figured at $15.00 per ton at plant.

Ilmenite from North Carolina or Virginia could be delivered at St. Louis or Niagara Falls for less than that figure, I believe.

St. Louis Plant—1st 11 Months 1925.

		Titanox Cost per Ton
Operating Costs	$ 405,421.57	$ 58.33
Materials		
H_2SO_4	208,373.12	29.97
Ilmenite	234,279.15	33.70
Blanc Fixe	337,874.10	48.61
	$1,185,947.94	$170.61
Production Titanox	6,951.042 Tons	

Had we made as good recoveries at St. Louis from ore and acid as were made at Niagara Falls during run in 1925

Exhibit 69

should have produced 9,200 tons. On that basis figures would have been—

		Cost per Ton Titanox
Operating Costs	$ 405,421.57	$ 44.07
Materials		
H_2SO_4	208,373.12	22.65
Ilmenite	234,279.15	25.47
Blanc Fixe	447,212.00	48.61
	$1,295,285.84	$140.80

Production (11 Mo.) 9,200 Tons
836 tons per Month.

TITANOX

On 1,000 tons per Month (35 tons per Day)

St. Louis Plant
12 Months

		Cost Per Ton
Operating Costs—at $36,900.00 per Month	$442,800.00	$ 36.90
Materials		
9,000 tons Ilmenite at $15.00	135,000.00	11.25
27,000 " 66° H_2SO_4 at $12.50	327,000.00	27.25
9,360 " Blanc Fixe at $60.00	561,600.00	46.80
	$1,465,400.00	$122.20

Exhibit 69

C-PIGMENT

12 Months

On 4,000 tons per Month (35 tons per Day)

Operating Costs—at $36,900.00 per Month	$442,800.00	$ 36.90
Materials		
10,000 tons Ilmenite at $15.00	150,000.00	12.50
33,000 " 66° H_2SO_4 at $12.50	412,500.00	34.38
5,400 " Lime at $11.50	62,100.00	5.17
	$1,067,400.00	$ 88.95

	TITANOX	C-PIGMENT
Selling Price	$200.00	$160.00
Manufacturing Cost	122.20	88.95
Administration and Selling	12.50	10.00
Cost to make and sell	134.70	98.95
Balance	65.30	61.05
	$200.00	$160.00

Of course there are a great many factors which determine the value of a pigment for use in paints, enamels, etc., but assuming that a certain pigment has proven available for either exterior or interior exposure the degree of opacity would have a considerable or possibly controlling bearing on the value of a pigment to the trade. The best measure for testing comparative opacity except actually spreading tests is the tinting strength method, i.e., mixing the required amount of black with a definite amount of the pigment being tested and comparison with standard.

The following schedule shows the tinting strength of various pigments—and on basis of prices shown the cost per unit of tinting strength.

Exhibit 69

	Tinting Strength	Cost per Pound	Cost per 100 units Tinting Strength
White Lead	100	10¢	10¢
Zinc Oxide	200	7½¢	3.75¢
Lithopone	240	5¢	2.083¢
Titanox	350	10¢	2.857¢
C-Pigment	420	8¢	1.905¢
Titanic Oxide	1200	50¢	4.167¢

To sell same unit value as Lithopone, on this basis, Titanox would have to sell at 3.5 x 2.083 = 7.2905¢ per lb., whereas C-Pigment at 8¢ per lb. is cheaper than Lithopone at 5¢ per lb.

One other point in connection with the development in the use of Titanox in paint formulae that does not seem to have been given sufficient consideration is the fact that combinations of White Lead and Titanox, either with or without small percentages of Zinc Oxide, have proved exceptionally durable.

In this connection please refer to the conclusions in Mr. Barton's report of August 15, 1923, "Titanox-White Lead Paints for Exterior Work". This report covered a testing period of seven years during which many different formulae were exposed for test.

Mr. Barton's conclusions were:

1. "Titanox—Basic Carbonate White Lead Paints are exceptionally durable. In this respect being superior to paints made with straight White Lead, combinations of White Lead and Zinc Oxide or Titanox and Zinc Oxide."
2. "If the Titanox-White Lead Paints are properly proportioned they will remain clean and free from

accumulations of dirt and hold tints reasonably well."

3. "The characteristics of Titanox-White Lead Paints offer the opportunity to set a new and higher standard for exterior paints."

His recommendation in this report was:

"That the problem of industrial development of Titanox-White Lead Paints be made a joint investigation by the National Lead and the Titanium Pigment companies."

Further reference is made to a report of Mr. D. W. Edgerly, dated October 29, 1925, which covered his examinations of a series of panels exposed at the Experimental Station of The North Dakota Agricultural College in July and August, 1922, and examined at date of report.

Regarding the Titanox-White Lead combinations Mr. Edgerly commented, as follows:

"Not having a continuous record of the Fargo tests, decisive conclusions are impracticable. In general, however, it is evident that combinations of Titanox and Lithopone are considerably better than those of Lithopone and Zinc Oxide; that combinations of White Lead with Titanox give durable, protective coatings equal to the best results obtained from other combinations. At the present time I do not want to go on record that White Lead and Titanox combinations are better than others, altho that is my present impression based on both the Fargo and Sayville tests.

"Some of the Fargo tests of Titanox-Zinc Oxide combinations are giving excellent results and this has been confirmed by some of the similar types of semi-paste formulae made by paint manufacturers. All of the panel tests of White Lead-Titanox combinations have ranked among the

Exhibit 69

best as far as durability and protection is concerned, but they have shown a tendency to firmly hold dust and dirt which has its effect on appearance.

"The dirt collecting tendency of White Lead paint as often commercially applied, is at least an argument used by the paint manufacturer and a similar condition of a White Lead-Titanox coating would be a factor in the introduction of such combinations. However, in its final analysis, this will not be any more a detrimental or a serious handicap. (having arrived at the definite conclusion that such combinations give the best protective value, and by proper pigment and vehicle proportions the dirt collecting tendency can be practically eliminated), than the continuous medium heavy chalking and "fading" of tints has with the Titanox-Zinc Oxide combinations already on the market."

While I appreciate my lack of experience in this field in which that of others in our organization has been so g I cannot escape from the conviction that failure to develop the market for Titanium pigments to the fullest extent, during the patent protection period, by maintaining high prices and low production, is a policy which will be regretted at a not distant date.

Yours very truly,

TITANIUM PIGMENT CO., INC.,

(Sigd) A. Thompson
2nd Vice President.

AT/K
Copy of this letter to
Messrs. Gregg and Meredith.

Exhibit 70

Letterhead of
NATIONAL LEAD COMPANY

January 12, 1927.

MR. EVANS MCCARTY, Vice President
United Lead Company
111 Broadway, New York

DEAR MR. MCCARTY:

To correct any erroneous impressions I have and to suggest matters for further discussion, kindly permit the following:

1. The Titanium patents expire in 1936 unless extended in ways not at present known to us.
2. Dr. Jebsen's proposal would leave us free to adopt and pursue whatever policy we may desire.
3. Probably the patent rights would fail unless manufacturing is done in Germany, England and possibly other countries.
4. Arrangements can be made for the manufacture of Titanium pigments by one of two companies now existing in Germany; one of which being the chemical corporation (probably the most important in the world), one of whose products now being manufactured is lithopone. The other is a smaller corporation near Berlin.
5. Arrangements with either of these companies would contemplate payment of royalties.

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6. Nothing definite is at present in contemplation to manufacture or market, either in England or other parts of Continental Europe; although efforts have been made to sell and familiarize the public with Titanium pigments.

7. The Norwegian company has been losing money.

8. It probably will continue to lose money until it reaches a point where it breaks even, and thereafter increasing sales will result in rapidly increasing profits.

9. On a conservative analysis of the business and prospects, you estimate that, should we buy these properties, there would be no profits above cost of promotion for the first two years. That for the first five years we could reasonably expect a return of 6% on our investment. That for the following four years we could reasonably expect 20% to 25% on our investment; so that we would get our money back by the time the patent rights expired, and would have as our profit whatever prestige or good-will or other properties the Norwegian company might possess at that time.

10. You called attention to the fact that, if the Norwegian company or its successor enters into license arrangements for the payment of royalty during the life of the patents, at the expiration thereof the company manufacturing the goods would have the plant, the experience and the working force, and could easily recover the trade of all the concerns that had theretofore been selling the goods to the consuming public.

Exhibit 70

If in the foregoing I have correctly reproduced your statements, it seems to me that there could be but one answer to Dr. Jebsen's proposition. I would be sorry, however, to dismiss it in this way. I believe in the future of Titanium pigments, but their development will be slow. The inertia of ignorance and prejudice cannot be overcome except over a term of years. European brands of white lead were imported into the United States for fifty years after prohibitive duty had been placed upon them. Titanium pigments will probably not find their ultimate place in this world for two or three generations. With all our advantages—by means of which we have caused between three and four hundred different concerns to experiment with Titanox—we still find a fear and misgiving that has apparently stopped further increase in sales until the test of time and reaction of consumers justify a further aggressive sales policy.

Therefore, with us in the United States and with the Norwegian company, there is a common need to exploit Titanium pigments and, at the same time, protect ourselves; so that after the expiration of patent rights, we may have the manufacture and sale thereof under our control so as to continue to reap the harvest from the seed we are now sowing. If you, therefore, could formulate a plan satisfactory to Dr. Jebsen, whereby we could arrange to pay a royalty to the Norwegian company similar to that he proposed to ask from the German company, under an agreement that the National Lead Company would endeavor to organize companies in Germany, England and such other European countries as it desired—in each of which companies the National Lead Company should acquire and own

Exhibit 70

at least one-half of the capital stock outstanding—I would personally look with favor upon such an arrangement.

I would be willing to buy the physical assets, including the mine of the Norwegian company; so that the only thing remaining in that company would be its right to draw royalties until the termination of its patent rights.

In the formation of companies in Germany, England and elsewhere, I would be glad to have the present stockholders in the Norwegian company join us to the extent they desire, subject to the limitation that the National Lead Company should own one-half the stock in such companies, and that there should be a local ownership by residents of the country where such plants are located who would have the active management of the company.

I would also desire that arrangements should be made with Dr. Jebsen to retain his interest and continue as manager of whatever business the National Lead Company should acquire. This last is particularly urgent, as we have no one in mind to promote the work that we consider Dr. Jebsen, both by education and character, is especially fitted to do.

Very respectfully,

E. J. CORNISH
President.

Exhibit 71

Book D—page 100 and 101

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, November 17, 1927, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Brodrick, Carpenter, Carter, Cornish, Croft, Field, McCarty, Rockwell, Sidford, Taylor, Thompson and Wettstein

WHEREAS, pursuant to authority given by resolution of this Board adopted January 20, 1927, this Company now owns a substantial majority interest in Titan Co. A/S, a Norwegian corporation, owner and licensor of patents relating to the manufacture of titanium pigments in various countries of Europe and Asia, and

WHEREAS, in furtherance of the interest of this Company in the foreign manufacture and sale of titanium compounds thus acquired said Titan Co. A/S has purchased for account of this Company at a price of 24 francs per share 56,888 shares and corresponding "parts de foundateurs" out of a total issue of 100,000 shares and 66,666 "parts de fondateurs" of Societe Industrielle du Titane, licensee of said Titan Co. A/S for the sale of titanium products in France; and has also for account of this Company entered into a contract with Die Interessengemeinschaft Farben industrie Aktiengesellschaft, of Germany, known as "the I. G.", for the organization, under the name Titangesellschaft m.b.H., of a German corporation for the manufacture and sale of titanium pigments in other coun-

Exhibit 71

tries of Europe and Asia, with an initial capital of 500,000 marks; to be jointly owned and directed by said Titan Co. A/S or this Company on the one hand and said "I.G." on the other, and

WHEREAS, in the judgment of this Board it is for the best interests of this Company and of all concerned that the interests in said French and German companies so acquired or contracted for should be taken in the name of this Company and paid for by it; be it

RESOLVED, that the officers of the Company be and they hereby are authorized and directed to cause to be registered in the name of this Company the shares in said Societe Industrielle du Titane and the interest in said Titangesellschaft m.b.H. so acquired by said Titan Co. A/S for account of this Company and to assume in the name and behalf of this Company all obligations incident to the ownership of such shares and interest; and that said officers be and they hereby are further authorized and directed to reimburse said Titan Co. A/S for the cost of said 56,888 shares of Societe Industrielle du Titane, including expenses in connection therewith, in the total amount of Kr. 209,272.55, with interest thereon to date of reimbursement, and similarly to reimburse said Titan Co. A/S for the cost of any additional shares in said Societe that may hereafter be purchased by it for account of this Company, up to a total of 65000 shares in all, at the price of 24 francs per share plus expenses and interest; and that said officers be and they hereby are further authorized and directed to reimburse said Titan Co. A/S for that portion of its preliminary expenses in the organization of said Titangesellschaft m.b.H. which is chargeable to the capital inter-

est therein acquired by this Company as aforesaid, amounting to Kr. 9,229.22, and from time to time to reimburse "the I.G." for the proportionate share of expenditures made by the latter in the organization and capitalization of said Titangesellschaft m.b.H. which are chargeable to this Company as half owner; and that said officers be and they hereby are further authorized and directed to take any and all such steps and to execute any and all such instruments as may in their judgment be necessary or expedient to carry out the intent of these resolutions and of the transactions herein referred to.

Exhibit 72

Letterhead of

TITAN CO. A/S.

Fredriksstad, October 2, 1926.

EVANS MCCARTY, ESQ.,
c/o United Lead Company,
111 Broadway,
NEW YORK.

DEAR MR. MCCARTY.

The financial and business conditions in Europe after the war has as you know also had its very bad effects on the scandinavian countries.

Here in Norway we have had very severe crisis in banking, industry and shipping. I shall not take your time by a more fully description of the effect of these on the norwegian financiel conditions, the fluctuations of our currency etc.—and their effect on the Titan Co.

It has all the time been agreed upon by all concerned, that the regular business and the development of the Titanium industry was not be interfered with, and you know in a general way the work done and the results we have achieved.

In the spring 1924 a financiel reconstruction of the Titan Co. was effected whereby the original shares were written down from 9.000,000:-kr. to 900.000:-kr. and the share capital than augmented to 7.000,000:-kr., partly through cash payment and partly through the conversion of debts.

Exhibit 72

The Titan Co.'s share capital after the reconstruction is:

Kr. 2.500,000:- pref. shares A 8% cumulative
" 1.000,000:- " " B 8% —"—
" 3.500,000:- ord. shares,

besides which it has a loan from two creditors of together ca. kr. 5.020,000:-.

The pref. shares A and B have two votes pr. share whereas the ordinary shares have only one vote. Of the two creditors the one has kr. 4.850,000:- and is at the same time the holder of a majority of the shares.

It has been thought that these holdings should be kept until the business was sufficiently developed, the company could pay dividends—and the shares could be brought on the market.

The rapid rise of the norwegian exchange has delayed this development.

My investigations this summer as well as my pending negotiations with the Interessengemeinschaft have shown clearly that Titaniumwhite can be more advantageously made outside of Norway than here.

During the negotiations with I. G. the above mentioned largest shareholder and creditor has been approached by an intermediary here in Norway with the purpose of a purchase of their interest in the Titan Co.

The approach is such that a disposal of the interests is considered.

When I was informed of this I thought it only fair to let you know and give the National Lead Co. or Titanium Pigment Co. the first opportunity, and as I have received the mandate to sell their interest, I write you herewith to ask if the matter is of interest to your companies.

Exhibit 72

It is understood, that the other shareholders shall be protected, or with other words an opportunity given them of a sale of their holdings on the same terms.

I presume that they will follow the majority and the entire interest in the Titan Co. can be acquired.

The shares I dispose through the mandate and personally are:

Kr. 1.133,200:- pref. shares A
" 1.000,000:- " " B
" 2.514,500:- ord. shares.

It is not necessary for me to point out to you the advantages for the development of the industry and for your interests to have the whole matter in one hand and personally I will look upon this with sympathy.

It is not known, who the above intermediary represents, but it is not difficult to guess, as he generally has german connections.

The most important of the Titan Co.'s assets are in short:

1). The patents, experiance etc.

a) North America or our contract with your companies.

b) The rest of the world under which our license to Sté Industrielle du Titane.

2). *The factory in Fredriksstad*, which you saw in 1921. Since then supplementary installations have been made for ca kr. 700.000:- and during the last winter and this year we are making various installations besides a factory for a weekly production of 100 tons Blanc

Fixe paste representing an expenditure of ca kr. 200.000:-. The Blanc Fixe. factory is calculated to reduce our costs on that account with about kr. 50:- pr. ton of 70% Blanc Fixe paste.

3). All the shares in *A/S. Titania*, a company which possess the *mining rights* of the ilmenite deposits in Sogndal.

This are estimated to give at least 5 to 6 million tons of 40% ilmenite concentrates.

It has plants for a yearly production of 10.000 tons ilmenite with 40% TiO_2 with 3 shifts operation.

This autumn will be installed a magnetic separator (Ullrich system) which shall concentrate the ore to 44% TiO_2.

Installation cost kr. 20.000:-.

The capacity of the plant is calculated then to be yearly 8.000 tons ilmenite 44% TiO_2 in 3 shifts operation.

The mine and the plant is connected with the Raegefjord harbour, where we have a silo and loading arrangements, by a railway of 8 km. length belonging to the company.

4). 889 shares of a total of 900 in *Lysaker kemiske Fabrik*, near Oslo, which is a company established about sixty years ago for the manufacture of sulphuric acid and superphosphate. It has a production capacity of about 9.000 tons sulphuric acid monohydrate of which the Titane Co. was supplied last year with about 5.000 tons and the rest was used in the manufacture of super-

phosphate besides a small quantity sold as such. It works with the chamber process and its plant for concentration has only this capacity of about 5.000 tons 92% acid; which is fully occupied by the deliveries to our factory in Fredriksstad.

5). A working capital as per enclosed extract from the balance sheet of 31, August in total *kr. 2.258,886:50.*

On the above mentioned installation of together kr. 220.000:- payments have been made per 31 August of kr. 40.000:-.

It is impossible in a letter to give you a detailed account of the various interests and I suggest therefore if your companies are seriously interested that I come to New York with all necessary to negotiate the matter.

Under the present circumstances I should appreciate a cable from you, and will on the receipt of same arrange my passage soonest possible.

With the kindest regards,

Yours sincerely,

E. JEBSEN

Enclosure.

Exhibit 72

EXTRACT FROM TITAN CO.'S BALANCE SHEET PER AUGUST 31, 1926

WORKING CAPITAL:

1) *Materials in stock*			
Sundry materials	Kr.	39,489:—	
Raw materials	"	191,511:11	
Products partly prepared	"	612,389:37	
Pigments and Pastes	"	279,521:54	
Consignment stocks	"	106,223:60	
Raw materials for grinding paste in Belgium	"	8,686:40	Kr. 1,237,821:08
2) *Debtors*	Kr.	434,004:87	
Less Creditors *)	"	232,274:52	" 201,730:35
3) *Bank Deposits*			
Fredriksstad og. Omegns Bank A/S.	Kr.	300,477:89	
Foreign Banks	"	208,493:08	" 508,970:97
4) *Bills Receivable*			
Foreign bills	Kr.	210,105:68	
Domestic bills	"	97,634:27	" 307,739:95
5) *Cash Account*			" 2,624:21
			Kr. 2,258,886:50

*) A sum of Kr. 72,000:— to be paid in four yearly instalments of Kr. 18,000:— not included herein.

Exhibit 73

UNITED LEAD COMPANY

Confirmation of Telegram

OCTOBER 23, 1926

WEEKEND CABLELETTER

WLT
JEBSEN
TITANCO
FREDRIKSSTAD NORWAY

HAVE DISCUSSED SUBJECT YOUR LETTER SECOND WITH MY ASSOCIATES INFORMATION NOT SUFFICIENT TO REACH DEFINITE CONCLUSION BUT VERY INTERESTING WOULD LIKE TO DISCUSS MATTER WITH YOU HERE

MCCARTY

Exhibit 74

DR. G. JEBSEN.
Titan Co. A/S
Fredriksstad, Norway

October 25, 1926

DEAR DR. JEBSEN:

I was greatly interested in your letter of October 2nd, but did not reply immediately as the transaction contemplated is an important one, and I wished to have an opportunity to discuss it with Mr. Cornish before communicating with you. I had this opportunity the latter part of last week, and on the 23rd instant sent you a cable as per copy enclosed.

Your letter gives quite complete information as to the capitalization of the Titan Company and the sums invested by the original shareholders, but makes no mention of the price at which the shares you are authorized to sell can be purchased. Without this information we cannot, of course, reach a definite conclusion, but we presume that if you come to New York you will bring with you full information on that point.

Whether the interest in your Company which has been placed in your hands for sale is purchased by the National Lead Company or by the German interest to which you refer, the subject is of great interest to us, and we would like very much to have an opportunity to discuss it with you before any transaction is concluded. In considering purchase of this interest by the National Lead Company, we would do so with the hope and expectation that your personal interest and connection with the business would be continued.

Anticipating the pleasure of seeing you in the near future, I am with kind personal regards,

Yours very truly,

.....

Vice President

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Exhibit 75

January 13, 1927

Mr. E. J. Cornish, President
National Lead Company
Building

Dear Mr. Cornish:

In your letter to me of the 12th instant regarding the proposal made to us by Dr. Jebsen you speak of your willingness to buy the physical assets of the Titan Company including the mine in Norway.

I have been unable to get Dr. Jebsen to express a definite opinion as to the proper value to be placed upon this mine, and I have found some difficulty in forming an opinion of my own as so much depends upon the future of the industry. Dr. Jebsen tells me, however, that not less than $500,000 have been spent upon the development of the mine and the installation of mining and concentrating equipment and in the rehabilitation of the railway connecting the mine with the harbor.

I think, therefore, that for the purpose of further study of Dr. Jebsen's proposal we may consider the following statement of the relative values of the Titan Company's properties as approximately correct:

Liquid Assets (Cash, Merchandise, Customers Accounts, etc.	$440,000
Sulphuric Acid Works at Oslo	125,000
Factory at Fredriksstad (Scrap value)	50,000
Mine	500,000
Patents, trade-marks, good-will, etc.	1,190,000
Total Purchase Price	$2,305,000

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Should we accept Dr. Jebsen's offer and purchase the shares of the Titan Company we could follow whatever policy we may desire with respect to licensing other manufacturers in Europe such for instance as the I. G. in Germany. Should we elect to develop the industry by building factories in Europe additional capital will be required.

From the information at hand it is difficulty to tell the exact amount, but it will probably be between $1,500,000 and $2,000,000 so that if we go into the enterprise we should contemplate a total investment of approximately $4,000,000 within the next two or three years. This amount would probably be reduced by whatever amount of European capital we might associate with us.

Assuming that a titanium pigment similar to our Titanox can be sold in Europe at a price 60% above the present price of lithopone, we may, I think, look forward at the end of the first five years to a minimum return of $450,000 or something over 11% on this investment after allowing for European income taxes. If the enterprise is successful the returns would, of course, be much larger.

In making this estimate of possible profits no account has been taken of royalties from America. It is obvious, however, that if the business of the Titanium Pigment Company grows as we expect it to the European company will receive revenue in the form of royalties if its own business does not develop at an equally rapid rate. If the European business does develop as rapidly as the American business there will be increased profits due to increased sales.

It seems to me, therefore, that unless we are mistaken in the outlook for the titanium industry the prospects for the business in Europe are promising although the venture

is not free from the hazards which attend all new enterprises and the initial investment is rather large.

I have discussed with Dr. Jebsen your suggestion of developing the business under a license from the Norwegian Company which would contemplate the payment of royalties instead of the purchase of the patents etc., for cash, but he holds out no hope that the suggestion would find favor with the Fredriksstad Privatbank who now control the Company.

As this is Dr. Jebsen's last week with us I should like to discuss the matter a little further with you this afternoon if convenient for you.

Yours respectfully,

Vice President

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GJ/HS

Letterhead of
TITAN CO. A/S
No. 84.

Paris, May 10th. 1928.
Sté Industrielle du Titane,
26 Rue de la Pépinière.

Evans McCarty Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York, N.Y., U.S.A.

Dear Mr. McCarty:

I beg to acknowledge receipt of your favours of April 13th., 18th., 20th. and 27th..

Your letter of April 13th.

I have read the information about the I.C.I. with interest. The news of the Anglo-American Corporation—of a capital of $10.000.000 has been published in Europe—and I have noted that besides Sir Harry McGowan also Mr. Mittchel of the I.C.I. is a member of the Board of the new company. As far as I can see, the American interests are chiefly financial, whereas the British interests are from industrial circles. I wonder why the Dupont company, which is so closely connected with the I.C.I.—especially personally with Sir Harry McGowan—through their explosive interests—has not taken a part in the company.

I have read with interest the press cutting enclosed in your letter of April 20th. regarding a British patent granted to Laporte. As Monk & Irwin already have a patent in Great Britain re calcining with carbonaceous ma-

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terial, I presume that the patent of Laporte concerns a specific feature, probably the use of the specific Blanc Fixe referred to. Laporte has a patent process for the production of Blanc Fixe—we have tried this but could not obtain a satisfactory tinting strength with it.

I have read with much interest your comments in your letters of April 18th. and 20th. as to Montecatini and the Auer Co.

You are right that there is a co-operation between the I.G.I. and the Montecatini in certain matters. You will have seen from my letter of April 5th., page 4, that I indicated to Dr. Kühne, that we may be inclined to make some sacrifices with regard to Italy and Montecatini—and Dr. Kühnes answer that Montecatini's factory's capacity is based on export as well as sales in Italy. The I.G. has a factory for Lithopone in Italy, and as they have previously wanted Italy included in the Titan G.m.b.H.s territory,—the idea indicated may not appeal to Dr. Kühne.

However, the situation has not yet developed far enough to give a clear picture, and as you say it shall be very interesting to see how Dr. Kühne's ideas in these matters will develop. (in view of the I G's experience in patent matters).

It looks to me that we for the time being only can watch developments as closely as possible, and where opportunity comes establish contacts.

It is too early to measure the strength of the various companies as to their commercial and manufacturing position.

Montecatini seems to be the most interesting because of the importance of the company and its Sulphuric Acid position, and it is also to be presumed that the policy of Mussolini will be in their favour.

A fight on the basis of our patents can not very well be started in Germany before we manufacture there—and

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in France not before the new law regarding the working of patents mentioned by me in New York has come into effect. The position in England as to this question I will take up with an expert when I arrive there.

As mentioned the stipulations of the law in these matters are under reconsideration in nearly all European countries, and I was told when last in Leverkusen, that the last Hague Conference went in favour of making these stipulations less demanding.

If we win a patent fight in Germany, I think this will have a moral effect on the others.

There is also the question of making use of our patents to prevent import, but this is a more complicated procedure, as a law suit will be conducted in a country where the infringers do not produce, and the proof being on the basis of a manufacturing process will mostly need evidence taken in another country. I looked into this matter in Denmark last year, and understood that any evidence we wanted from Germany for a law suit in Denmark necessitates the aid of the diplomatic representatives.

I note that you expect Mr. Robinson in the latter part of this month and shall be much interested in any news regarding his enterprise in Avonmouth. There has recently been a Conference in Brüssels, where all European Zinc manufacturers were represented, which had the purpose to regulate the production and prices in order to stabilize the last. Mr. Pisart mentioned that the idea was to keep the price for Zinc about £26.0.0d. From the newspapers it seems that the Conference was a success. This may have a stabilizing effect also on the prices of White Zinc in Europe.

With kindest regards,

Yours very truly

G. Jebsen

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TITAN COMPANY

NEW YORK, N. Y.
December 23, 1926

TITANIUM PIGMENT CO., INC.
94 Fulton Street
New York, N. Y.

DEAR SIRS:

Referring to conferences with Mr. McCarty last summer and during my stay here and with Mr. Meredith last week, I beg to submit the following:

During this year negotiations have been carried on between the Interessengemeinschaft Farbenindustrie Aktiengesellschaft (I. G.) and the Titan Company regarding a license under our patents and under the agreement between your company and us of 1920.

The I. G. is a limited company formed by a fusion of the important German dye manufacturing firms as well as several other chemical industries. Its activities are so manifold and varied that there are comparatively few lines of chemical industries in which the firm is not active. Although I presume this is well known to you I mention it because of its bearing on our negotiations and eventual relation to the I. G.

In view of this situation namely it was already at the first stage of the negotiations clear that I. G. could not be expected to enter into an arrangement based on mutual exchange of patents, method, experience, etc., to such an

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extent as is foreseen and natural for firms of the character and purpose as your company and ourselves.

During Mr. McCarty's visit in Europe last summer I took the opportunity to discuss the matter several times with him as well as representatives of the I. G. with the result that the I. G. and I agreed upon a restriction of the definition of the licensed field to be applied in the eventual agreement with them. This should also express the views which were the result of Mr. McCarty's and my conferences. I enclose herewith the definition which I have already had the pleasure to submit to and discuss with Mr. McCarty and Mr. Meredith and will be obliged to hear from you if you are willing to accept an amendment in our agreement of 1920 permitting us to make an agreement with the I. G. with a definition of the licensed field amended according to the proposal. I shall not nearer point out the advantages and disadvantages of such an amendment as this has been discussed with your Mr. McCarty and Mr. Meredith.

I beg only to mention that I consider this condition from I. G. as reasonable in view of their various activities and believe that the drawbacks will be balanced by the advantages of the cooperation with this concern, and probably will more than so in your case as it adds to the mutual development work the technical and scientific forces of the I. G. which are generally considered very important.

During my latest conferences with Mr. McCarty and Mr. Meredith some alterations of the enclosed proposal have been discussed. If you consider such desirable or necessary and as our interests in this matter are parallel I beg to suggest that your proposals leave open a certain liberty of action for instance by sending me various alternatives in order to further the negotiations. I beg at the

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same time to mention that the further negotiations with the I. G. will probably lead to proposals re other amendments of the contract of minor importance. It is, however, too early to submit anything definite in this respect. I may mention that during my negotiations following points have been taken under consideration, and will appreciate to hear from you if you consider that changes in these directions are objectionable to you.

ad art. V.

It is not possible for the I. G. to exchange its inventions within two months after a patent application is made because the inventions made within the I. G. concern according to their own regulations are exchanged within their own organization only within two months and the further exchange with the Titan Company is then only possible after this period.

As the Titanium Pigment Company and the Titan Company have agreed until further to operate in a somewhat different way from what is foreseen in Art. V I suggest that this article is made the subject of discussion during my visit here.

art. VI. b.

Re statement of the yearly production of TiO_2 under which royalty is to be paid.

Statement under oath is not general practice in Europe. I. G. proposes to give statements as generally practiced and oblige themselves to let us control the statement by a confidant if we so desire.

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I beg to remark that the consent of the National Lead Company and the Titanium Alloy Manufacturing Company as parties to the agreement of 1920 also will have to be acquired regarding the amendments, and will appreciate if you will submit the matter to these two companies already now if you consider that it will meet with any objection on their part.

As the I. G. at our last meeting expressed the desire to see the agreement made and cooperation started with the least possible delay and this presumably also is in the interest of your company and ourselves, I beg to suggest that you make arrangements to deal with the least possible delay with the final agreement between I. G. and the Titan Company which is supposed to be negotiated and submitted to you as soon as possible after my return to Europe.

Yours very truly,

G. JEBSEN.

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Berlin W.
March 3, 1927

Evans McCarty Esq.
c/o United Lead Co.
160 Broadway
New York.

Dear Mr. McCarty:—

I arrived here Tuesday morning from Paris and was received by Mr. Warburg in the afternoon in a most friendly way.

Mr. Warburg asked me to extend to Mr. Cornish and yourself his kindest regards.

After I had explained the question to him, he proposed to consult his special confidential adviser in matters of chemical industry. We discussed then the situation Wednesday and Thursday mo morning about an hour and a half each day and Mr. Warburg was so kind to give the question a very intent and serious consideration.

Following firms were named in connection with a development in Germany:—

Auergesellschaft
Kunheim
I. G.
Sachtleben

The two first were dismissed practically immediately.

Mr. Warburg's opinion of the leading personalities of the Auer Co. confirmed my impression mentioned to you. Kunheim is financially weak. It remains J. G. and Sachtleben.

Sachtleben as I recently wrote you belongs to Metallbank and forms a part of the Gelsenkirchener concern

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A. J. Thomsen informed me in Paris that the Metallbank group has acquired several smaller Lithopone factories and Richard Merton is the most important personality in Lithpone today in Germany. Mr. Warburg's adviser who seemed to be very well informed said that Metallbank together with J. G. controlled today 82% of the German Lithopone production. You know that J. G. and Sachtleben work together with regard to sale and exchange of experience.

Further has J. G. its supplies of Barytes from Sachtleben who owns important deposits in Westphalia.

As to the question of a choice between the J. G. and Sachtleben (Metallbank) I understood that Mr. Warburg considered J. G. more sympathetic with regard to the leading personalities.

I put frankly before him the question of the future of the J. G. whose organization is in a melting pot. He thought it would turn out allright, but I understood that it mostly depends upon the one man, Mr. Porsch, at present who however had assured him, that he was arranging for successors.

Mr. Warburg had quite an open eye for the imperialistic tendency of the J. G. and was especially during the first and second conversation much inclined to the alternative Mr. Cornish touched in a conversation with me to go with us half and half for Germany and neighbour countries to the east and southeast. I understood he was very satisfied with his cooperation with National Lead Co. and appreciated this.

In favor of the first speaks the important position of I.G. with regard to prestige, selling organization, eventual consumption of Titaniumproducts in other parts of their organization, production facilities and inventive power.

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In the other case a slower development of the sale must be expected, and we will have to be prepared on a fight with the J.G. not only in Germany but also elsewhere.

Mr. Warburg expressed the situation very good in the following few words:—

In the one case there may be trouble at home in the other case outside of the home.

We finished that second conversation with a request on my part of information as to certain factors of importance if we started without J.G. Mr. Warburg thought it would not be difficult to find reliable and able men for the organization to be formed. Sulfuric acid will also easily be available.

As to Barytes, his adviser would tell me the next day. There are many deposits of Barytes in Germany but not all equally good. We adjourned the deliberations to the nxt day.

Mr. Warburg's adviser confidentially informed us next day, that he thought a certain deposit of Barytes of the very best could be acquired because of the difficult financial position of the owners, and as Mr. Warburg should meet their bankers within short, he would try to take a feeling with regard to this.

I understood that his adviser was much in favor of an arrangement with the J.G. and that we even should try also to have Sachtleben with us.

He meant that with the productionprices for Titaniumwhite which I had indicated, we need have no fear that the Lithopone makers will not push Titaniumwhite anyhow, and it will give them *a strength vis à vis Pissard* with whom they are now fighting.

He meant that an arrangement guaranteeing the future good cooperation was a juridical question.

Mr. Warburg agreed however with me that a contract never works, if the parties are not satisfied and it not only *is*

to mutual advantage but it must also be believed to be to mutual advantage.

However, Mr. Warburg finished with the advise that I ought first to try to make an arrangement with J. G. and eventually if during the negotiations I felt it could be done also to try to have Sachtleben (Richard Merton) into the combination.

I understood that Mr. Warburg coming to this conclusion considered it a great advantage that we then will have no competition with J. G. in the other countries, but that J. G.'s interest with us would rather be an important advantage in these countries.

I pointed out that National Lead Co. wanted in all cases to have 50% of the shares and Mr. Warburg meant that the other 50% will have to be divided between those.

It was agreed that I take up the matter with J. G. and see Mr. Warburg in Hamburg after I had seen J. G.

He mentioned the thought that we should buy the Barytes deposit first and than go to J. G. in order to have a stronger position. However my negotiations with J. G. have been such that I do not think this will create a favorable impression, and Mr. Warburg agreed when I informed him that it was J. G. who had approached me last year and not the opposite. He kindly offered me the use of his name if this should be advisable. It will depend a little upon circumstances when it will be wise to do so.

These deliberations with Mr. Warburg were very interesting and will certainly prove to be very useful and I will now take up the question with the J. G. on the basis of 50% and 50%, which from the talks I had with Mr. Cornish and you I understood will be in accordance with your views.

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I think however that we ought to be prepared that the J. G. will refuse to negotiate on this basis, being far away from its principles in these matters.

Mr. Warburg's technical adviser pointed out that this principle of 50 and 50 was J. G.'s own for foreign countries, and therefore they should not be against it. However J. G. may consider that differently. If J. G. will negotiate on that basis, it will be very interesting to see if there is any opportunity also to draw in Sachtleben.

A division between J. G. and Metallbank of 50% of the business will though probably be too small an interest for any of them, and I am therefore afraid that this will be a trial to grasp over too much and that neither Mr. Warburg nor his adviser are fully aware that the development of the sale of a new pigment is a comparatively slow business and Titaniumwhite is not old and established enough to be used in such way.

If however, the opportunity is there for such a combination, then the situation of Lithpone in Germany must be a desperate one.

(Mr. Thomsen informed me that Lithopone is now down to £ 18.10.-0. They are trying to make arrangements to increase the price to £ 20.0.0 but have not been able to come to an agreement.)

Another danger with such a plan is the point that such negotiations are likely to take more time than we should loose on such a trial. This can be avoided to a part by acquiring the deposit of Barytes and making other preparations for an independent development of the industry which also will have a moral effect on the negotiations.

The purchase of a good deposit of Barytes in Germany I will beg you to consider seriously and write me your opinion as this is a matter of importance for our future operations.

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The fact that J.G. has no Barytes deposits may bring them to consider this purchase.

The deposit is next to the deposits of Sachtleben and belongs at present to Rhenania.

Rhenania you will remember has joined together with Kunheim and furnishes us with Bariumcarbonate.

I have above tried to give you a survey of the whole situation and I shall appreciate very much to hear from you.

I must confess that I find it a certain difficulty to know how far I can go in the various matters and on the other hand things cannot be held up too long if results shall be achieved.

I understood from Mr. Cornish and you that you both were willing to look upon the development in Europe with broad views, but you will understand that I feel to be in the dark to what extent you will go and especially how quick you will go.

For instance when Mr. Warburg offered to investigate the question of the Barytes mine, I did feel not to have any authorization to encourage this at present.

We have not discusses such a matter in New York and I have not considered it necessary to go to a purchase already now, but if a special opportunity offers itself, it is of such an importance* that I did not feel it wise to restrain Mr. Warburg in his investigations.

Looking very much forward to a letter from you, I beg you to extend my very best regards to Mr. Cornish and your colleagues,

and am with my kindest regards

Yours very truly

G. JEBSEN

*eventually also for our supply of a factory in France and England.

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Letterhead of

TITAN CO. A/S.

Fredriksstad, March 12th 1927.

Gj/EH

EVANS MCCARTY, ESQ.,
United Lead Company,
111, Broadway,
New York.

DEAR MR. MCCARTY:

I arrived from the Continent yesterday and received your letter of the 23rd of February today, as it had been forwarded to Hamburg and arrived there a few hours after I had left. Your letter deals with my letter of the 12th of February. In the meantime I have sent you letters the 15th, 16th and 19th of February and 3rd and 4th of March, from which you will have seen what has happened in the meantime with regard to the situation in France and Germany.

Tuesday morning the 8th I arrived in Cologne and saw Director Kühne of "I.G." in Leverkusen together with his secretary Dr. Raspe and Dr. Weber, the patent lawyer of that part of the organisation of "I.G." (formerly Bayer).

I informed them of the National Lead Company's purchase of the shares of the Titan Co. and also that you are willing to cooperate with the "I.G.", the basis, however, to be that the Titan Co. is interested with 50% in the German enterprise. A limited company will have to be formed to that purpose and we were willing to have the works erected in connection with their works or at another suitable place,

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and they deliver raw materials as sulphuric acid and blanc fixe etc. and we the ore. This will have the great advantage that we can reduce the royalty to Kroner 25.—per ton of TiO_2 to be paid as long as our obligation lasts vis-a-vis "Elektrokemisk". This proposal is according to the basis we agreed upon.

This proposal should facilitate the solution of several questions as for instance also the minimum royalties then will fall away.

I also presented him the definition of "licence field". He objected to the word "marketing" in provision 1. with the remark that if nitro-cellulose laquer should become a very important article for white lacquer, their method of incorporating pigments in this lacquer will be included in the "licence field" and they will be prevented from any arrangements with for instance DUPONT, their most important competitor.

Nitro-cellulose lacquer they think seems to have large possibilities; personally he thought that Titanium white always will have its main outlet as an oil-pigment but—!

I told him that National Lead Co. did not object to the instances put forward amongst which nitro-cellulose lacquer. On the other hand the word "marketing" could not be left out.

If there shall be any possibility that "I.G." develops a method resulting in a consumption of Titanium white of such importance that it will have an influence on the production cost and the risk that "I.G." will give for instance DUPONT the exclusive licence enabling this firm provided it will start manufacture of Ti-white to cut us out from this market for Titanium white, then we will prefer to work without "I.G.".

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It is not the intention of the National Lead Co. and the Titan Co. to prevent "I.G." to exploit inventions like nitro-cellulose lacquer and take the profit of such exploitations themselves, but we will be secured to deliver the Titanium white at competitive prices and not risk that any such invention shall be used as a basis to breed a competitive production.

Mr. Kühne seemed to understand that standpoint. He said however only that he was afraid that "Badische" will not agree because of the nitro-cellulose lacquer.

This point in general I am afraid will be a very difficult one. It will be a question for the "I.G." which interest will be the most important for them in such case.

Let me take another example.

If "I.G." should find an ideal medium to replace linseed oil for paint purposes in general and which also solves for instance our problem of chalking,—shall the "I.G." then be bound to give it to us or can "I.G." exploit it for themselves provided they do not act in such way that we are prevented from marketing our Titanium white to the producers of paints made with such a new product?

Personally I interprete the definition of the "licence field" (as worked out in New York) in the latter way and think this is the best we can do with the "I.G." situation.

If "I.G." makes an invention of that kind, they are likely to do it also without us and if we cooperate together with them, it is more likely that an arrangement with them can be made than else.

If we had had an organisation for the exploitation of Titanium white and other Titanium products developed to the extent that we manufactured all kinds of "finished articles", our situation would be a different, and if the

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organisation of National Lead Co. and the Titan Co. is developed further on the lines indicated by Mr. Cornish at the lunch with you shortly after my arrival, we will also if such case arises, present more of interest for "I.G.". However, this brings the thoughts into questions which are not to be dealt with at present.

Mr. Kühne asked if it is our intention to continue the factory in Fredriksstad or that the German company produce for us. I told him that we did not intend to change this part of the program from what was previously forseen. We are still willing to take from the German company and have in our program also to erect factories in France and England or elsewhere where it is opportun.

I gather this is an important point to him in order to reduce the production cost in the first years.

Mr. Kühne told me he would present the matters to his co-directors at a meeting to be held in Frankfurt Thursday and Friday this week and inform me soonest possible afterwards. If the basis was accepted by the board, he would write me and wanted that we should start immediately to draw up the agreements, as he considered it very important to start operations without losing any time.

He mentioned the competition of the Auer-company. Although their products were not satisfactory and had a bad color, they may improve this and it was very important that we take hold of the market before the competitors.

He also mentioned Montecatini in Italy. I could tell him that my French friends (it was Merigeault) had informed me that Blumenfeld, Thann & Mulhouse, (Montecatini's collaborators) do not seem to represent a danger. It seems to be much more talk than facts.

I asked them if they had met Mr. Blumenfeld. This question seemed to take them by surprise. They answered

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"Yes" and Dr. Weber characterized him as a smart fellow (gerissener Kerl).

They talked to me about the process of MacArthur Irwin in Canada and on my question if they had seen him, they also with some hesitation confirmed this, hasting to explain that they for years already have had connection with him. Your letter informing me of MacArthur Irwin's arrival in Europe came in well there.

At a suitable moment I touched the question of "I.G." taking "Sachtleben" into the Titanium enterprise. Mr. Kühne however, was against this saying he could see no reason. "I.G." is not dependent upon Sachtleben with regard to barytes, as they own one deposit together. Sachtleben has touched the question of making Titanium white with "I.G." but they have made no work whereas "I.G." has done considerable. If and when Titanium white develops to a competitor with lithopone, then would be the time for "I.G." to consider to take their friends in lithopone into cooperation, but at the present moment Sachtleben could not bring anything of interest.

I did not insist on this further partly because I see his point of view and also partly because I understand Mr. Warburg did not consider a cooperation with these people very appealing.

Sachtleben has a large pyrites mine containing a certain percentage of zinc and after the sulphure has been burnt off, they extract the zinc of the cinders. Consequently the zinc in that material has only the value which the lithopone gives it. They have large barytes deposits at Meggen and besides these "I.G." and Sachtleben own a large deposit at Meggen together. Mr. Kühne said that these Meggener

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deposits deliver the best quality of barytes for the production of black ash and the products de be derived therefrom.

My general impression has been this, but the information is of interest in view of the barytes deposit of RHENANIA in the same district, which I mentioned in my letter of the 3rd of March.

As I told Mr. Kühne that an agreement with the "I.G" could not be definitely concluded before the concession of the Norwegian Government was granted and you had taken over the shares, he got very impatient saying that they had now waited 4 months* because of my trip to U.S.A. and it could no go on like that with indefinite postponement.

Novbr,
Decbr,
January
February

I told him that the National Lead Co. and the Titan Co. had all interest to push the grant of the concession and as there were all reasons to consider that the concession will be given and the National Lead Co.s purchase of the shares be effected, negotiations between the "I.G." and the Titan Co. could be done in the meantime, so that little time will be lost.

I believe his impatience was partly an expression of his disappointment that the "I.G." has not acquired the shares of the Titan Co. Some remarks later from his secretary leads me to these thoughts. However, they have the right to demand consideration with regard to the furtherance of the negotiations without any delay on our part.

I therefore believe it will be wise to take up the negotiations with them immediately in the case they accept our basis of 50:50, and beg you to cable me on receipt of this if anything in the present or previous letters makes it desirable to postpone matters, or you wish me to receive a letter from you before going further.

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During the conversation with Mr. Kühne I mentioned that the National Lead Co. already cooperated with Mr. Warburg in an enterprise in Germany and that Mr. Warburg had expressed to me his great satisfaction with this cooperation and also expressed himself in the highest terms regarding the leading personalities of the National Lead Co.

I mentioned this in connection with discussin of the "licence field" and also told him about the spirit and relation which has existed between the National Lead Co. and the Titan Co. during the last 6 years.

I suppose you have returned from your trip to the South at this time and hope you have enjoyed the trip.

With kindest regards,

Yours truly
G. JEBSEN

P.S. Wednesday the 9th I saw Mr. Max Warburg in Hamburg and informed him about my visit to Leverkusen. He had no remarks to make.

I asked him kindly, if he had the opportunity to express to Mr. Bosch his views upon the National Lead Co. especial with regard to the characters of the leading personalities of the company. He told me that Mr. Bosch was a man of sentiment (Gefühlsmensch) and that he will tell him that in cooperating with the National Lead Co. and the Titan Co., the "I.G." will come into a good family.

He awaited a visit of Geheimrat Bücher, the secretary of Mr. Bosch, the next week and will use that opportunity.

He asked me to keep him informed and offered to do the same to me, for which I am much obliged to him.

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March 25, 1927

Dr. G. Jebsen
Titan Co. A/S
Fredriksstad, Norway

Dear Dr. Jebsen:

Since writing you on the 18th instant I have received your very interesting letter of the 12th telling of your interview with Director Kuhne of the I. G.

We are in entire sympathy with the course you have been following as it is in accord with our conversations when you were in New York. It is, therefore, unnecessary to make any further comment until we have your report of the I. G.'s reply to your proposals. In the meantime, we will give some thought to the points suggested by Mr. Kühne.

There are, however, a few matters in connection with the visits of our engineers and others to Europe about which I would like to have your advice. In previous letters I have informed you that we are arranging to have the mine examined by our Mr. Hallett, and in my letter of February 23rd I enclosed a letter from Mr. Hallett asking for some information and outlining some preliminary work that would expedite the inspection. Mr. Hallett now informs me that owing to some work he has in hand here it will be inconvenient for him to arrive in Norway before the 1st of May. It is quite possible that this will be in ample time, but I should like to have your opinion on that point; also advices from you as to whether it would suit you to visit the mine with Mr. Hallett in the early days of May.

Exhibit 80

Mr. WASHBURN: I think that we are now in a position to spare Mr. Washburn for a short visit to Europe at whatever time will be productive of the best results provided that the visit can be made sometime during the next three or four months. I do not know just what your thought is on the subject, but it has occurred to me that if you think it wise to have Mr. Washburn come over before the new concessions have been granted we could have an understanding that Mr. Washburn's expenses would be paid by the Titan Company. These expenses would, therefore, be for your account if the concessions were not granted, and for our account if the purchase of the Titan Company was concluded in accordance with our arrangement with you.

One of the members of our auditing staff is now in Hamburg where he has been located for the past two years. He expects to return to America on the 1st of July, but it has occurred to me that if agreeable to you we could have him make such examination of the books and accounts of the Titan Company as to verify the amount of working capital, thus saving the expense of employing an outside auditor such as Price Waterhouse & Company. If this is agreeable to you we will make the necessary arrangements, but if not, we would suggest that Price Waterhouse & Company be employed for that purpose.

There have been some new developments in connection with the white lead business in England, and it is possible that I may find it desirable to go to London before going to the Continent. In that event I shall probably leave here early in May, and after spending a short time in England be in a position to meet you in Norway or at some other point on the Continent the latter part of the month. This

plan, however, is only tentative, and can be changed to suit conditions as they develop.

As we may have to move rather quickly at the end, I would suggest that you use the cable freely in keeping us advised as to developments on your side and your advice respecting them.

With kind personal regards, I am,

Yours very truly,

Vice President

Exhibit 81

Letterhead of

TITAN CO. A/S

Fredriksstad, March 16th 1927.

GJ/EH

Evans McCarty, Esq.
United Lead Co.
111, Broadway,
New York.

Dear Mr. McCarty:

I have today received a letter of March 14th from Mr. Kühne of "I.G." as copy enclosed. The following is a rough translation:

> "According to wish, I should like to inform you today of the result of the consideration of your proposals at the Board Meeting in Frankfurt.
>
> "The "I.G." agrees in principle to form a company together with the Titan Co. in which both parties have an interest of 50%.
>
> "The fixation of further particulars can now, as discussed, be proceeded with as soon as possible."

Referring to my letter of the 12th instant, I shall appreciate to hear from you as soon as possible in this matter.

I suppose it will not be long before I receive a proposal to an agreement regarding the "G.m.b.H." (Ltd. company), which it was agreed Mr. Kühne would send me, and I shall have to make a draft for a license agreement as soon as possible.

Exhibit 81

I was in Oslo yesterday, and will have to go in there again the day after tomorrow (Friday) regarding the Concession.

The application for the Concession has been delivered to the Government by Mr. Vogt, and matters are proceeding at present without delay. This case absorbs however rather more time than one would think, because so many persons are involved.

With kind regards,

Yours very truly

G. JEBSEN

Enclosure.

Exhibit 82

RADIOGRAM

GC 37 LCM NWK 1219 APR 8 1927 AM 9 50

FREDRIKSTAD 47 8TH 15 15

LCD MCCARTY CARE UNITED LEAD NEW YORK BELIEVE BEST TIME YOUR ARRIVAL NORWAY BETWEEN FIFTEENTH AND TWENTIETH MAY AND PROBABLY SEE IG ULTIMO MAY STOP KUEHNE TELEGRAPHS PROPOSAL AGREEMENT SENT ME AND ASK ME COME LEVERKUSEN ABOUT TWENTIETH APRIL AS HE LEAVES TWENTY THIRD APRIL FOR FOUR WEEKS

JEBSEN

133B

Exhibit 82

April 8, 1927

Dr. G. Jebsen
Titan Co. A/S
Fredrikstad, Norway

Dear Dr. Jebsen:

I am enclosing copy of my telegram of yesterday asking if you could tell me when I shall be needed in Norway, the information being desirable in order that I might make some other engagements. This morning I have your reply reading as follows:

> "Believe best time your arrival Norway between fifteenth and twentieth May and probably see IG ultimo May stop Kuehne telegraphs proposal agreement sent me and ask me come Leverkusen about twentieth April as he leaves twentythird April for four weeks"

In view of the information in your telegram I shall probably follow the plans already tentatively formed and sail from here for England on the 30th of this month. This will enable me to spend a week or ten days in London as may be necessary, and to arrive in Norway before the end of May. I do not believe that it will be possible for me to arrive as early as the 20th.

In connection with the visit to Norway I am wondering whether in the month of May it will be more favorable for us to go via Newcastle and Bergan or by rail through Germany. In the latter case I am under the impression that we could leave the train at Fredrikastad without going as far as Oslo. Will appreciate your advice. If time does not

permit communicating with me before I leave New York, a note to London care of Greeff & Company will answer the purpose.

Anticipating the pleasure of seeing you again before many weeks, I am, with kind regards,

Yours very truly,

Vice President

Exhibit 83

Mr. McCarty.

COPY

April 29, 1927.

My dear Mr. Warburg:

Our Mr. Evans McCarty, whom you met when we were in Hamburg, is sailing today duly authorized to represent the National Lead Company in all matters in which it is interested in Europe. His particular duties at this time are in connection with the Titan Company of Norway, whose purchase he negotiated, and any developments that may take place in Germany looking to the manufacture of titanium pigments there.

Needless to say, Mr. McCarty is one of our most capable and trustworthy officers, and any assistance that you may give to him will be very much appreciated by us.

Sincerely yours,

(Signed) EDWARD J. CORNISH

Max M. Warburg, Esq.,
M. M. Warburg & Co.,
Hamburg 1., Germany

Exhibit 84

Letterhead of

TITAN CO. A/S

FREDRIKSSTAD August 17th 1927.

GJ/EH

Evans McCarty Esq.
United Lead Company,
111, Broadway,
New York.

Dear Mr. McCarty,

Re Agreement.

At the end of July I received a letter from the I.G in which they enclosed the agreement A. signed by the I.G. with datum and the other agreements except B. signed without datum. The I.G. mentioned that the date was not put in because the agreements are to be made with the Titangesellschaft when this company is constituted. I returned the agreements to be signed by the Titan Company with signatures in the same manner. I sent them, however, first to Dr. Mathies with request to forward them if he found everything in order. According to information from Dr. Mathies the agreements have been forwarded.

The I.G. did not enclose the schedules for self-cost price and plan of the site, proposing that these matters should be definitely decided upon when Dr. Kühne was here in Fredriksstad. The matter is, however, again postponed until our arrival in Leverkusen, as time was very short here. It seems to me also better that Mr. Moses could have a look at the site beforehand.

Exhibit 84

In the letter from the I.G. of 26th of July the company writes me amongst others:

(Translation from German). "In order to exclude misunderstandings we beg to lay down in writing our understanding regarding agreement D, II section 4.

As already mentioned verbally several times during the negotiations, the case may arise, that our firm comes into the position to import into the American countries Titanium White for instance in "spraying enamels"—that is in mixtures, which falls under "Finished Article" because we can or will not manufacture there.

In this case we are of the opinion, which also you have expressed at these occasions, that our firm must buy the Titanium products from the German Titangesellschaft, but that as a client of this company it can export the finished article to the American countries, as long as the quantities of the Titanium products which are imported there in such manner, do not substantially restrain (wesentlich behindern) the Titanium business there. Otherwise after six months an agreement between the producing parties (Titanium Pigment Co. Inc. and the German Titangesellschaft) should be done (müssten wohl getroffen werden).

As soon as our firm will and is in the position to produce itself or through licensees the finished article in America, then the titanium products according to agreement must be taken from the Titanium Pigment Co. Inc. respectively its representatives.

We shall be thankful if you will confirm your principal accordance with this interpretation of our agreements."

I answered to this:

(translation from German).

Exhibit 84

"In our agreement with T.P.Co. Art. VI (c) B, it is foreseen, that an import of "Finished Article" can be made to a certain degree.

The limitation is that this import must not "substantially interfere" with the sales of the T.P.Co. and its eventual licensees. If the American company finds that such interference, however, is the case, then the Titangsellschaft must endeavour to prevent such import, but at the same time the T.P.Co. is obliged not to sue the importer under their patents in the first six months.

It has also to be a presumption for the action of the T.P.Co. that the Titanium product shall constitute an important part of the finished article. Whether the importance of this part (the titanium product) is to be estimated according to its weight or otherwise, is not expressed, and must presumably be considered from the point of view of its effect on the sales of the American company.

Your thought, that one should seek to make an agreement if the case arises, seems to me a natural solution of the situation in the interest of all parties concerned."

The I.G. has not answered this letter, but Dr. Kühne and Dr. Raspe declared my interpretation to be satisfactory. I don't think there is any reason to put this question of interpretation before the Titanium Pigment Co., but will like to have your private opinion if you disagree with my view.

I have noted with interest that the I.G. has mentioned this matter as I interprete this as a sign of their willingness conscientiously to keep the agreement in this respect, which is a matter of much importance to the Titanium Pigment Co.

Exhibit 84

Reading through the agreements on my return after my holidays I found that a slip had taken place, namely the following:

The I.G. has agreed to oblige all licensees of processes which imply an application of Titanium compounds to cover their requirements of these from the Titangesellschaft or its licensees respectively sublicensees according to agreement C. Article IX and to cover its own requirements of Titanium compounds in the territory of the Titangesellschaft exclusively from this company, but nothing is said about the case of I. G. manufacturing itself in our territory. Of course it has all the time been understood that the I.G. will be under the above obligation also in this case.

When I was in Hamburg 29/7 I called on Dr. Mathies and drew his attention to this slip, which I consider he beyond any body ought to have observed. He agreed to write to Dr. Brüggemann and ask for a letter confirming our view.

Dr. Mathies has written to me that he has received such a confirmation and Dr. Kühne, when he was here, agreed to have it added to the agreements when these were finally written.

Dr. Mathies charged me 300 Mark for this. In view of your critisism of his last bill I mentioned this to Mr. Warshow and suggested that he should take the matter up with Dr. Mathies when he passed Hamburg for the purpose of having him drop the bill. Mr. Warshow suggested before he left that he would say to Dr. Mathies that I had found the bill to be too high and as Mr. Warshow felt himself responsible for the recommendation of Dr. Mathies, he would ask him to refrain from the additional bill, which made not a good impression. I left the matter in Mr. Warshow's hand.

Exhibit 84

By the way in the letter from I.G. of 26th of July as above translated the I.G. has already acknowledged the obligation.

There are in the additional agreements with the I.G. which you will remember, several points which we have to place before the Titanium Pigment Co. I shall deal with this in another letter, which I beg, however, to send you when I have been in Leverkusen, as there are certain stipulations with regard to the exchange of patents which I think should be somewhat improved in the interest of all parties concerned.

With kind regards,

Yours very truly,

G. JEBSEN

P.S. August 18th 1927.

I have today received a letter from Dr. Mathies in which he defends his bill in view of the work done—especially all the night work with the reworking and the translations of the agreements and in consideration of the press of time. He mentions that in total the work represents about 14 days. He believes that his bill is throughout within regular practice. At last he says that he will, however, refrain from the additional bill, as it is an unpleasant thought to him that one of his clients should find his bill too high.

I have also today received a letter from Mr. Warshow from which I see that Mr. Mathies has sent him copy of the letter.

Exhibit 85

Letterhead of
TITAN CO. A/S

GJ/AK Paris, November 3rd 1928.

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New-York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your letter of October 23rd.

I beg to confirm my cable of yesterday as follows:

"REFERRING LETTER 130 IG'S AGREEMENT IN PRINCIPAL RECEIVED"

and your answer received to-day :

"REFERRING TO YOUR TELEGRAM 2nd DO YOU RECOMMEND IMMEDIATE "INCORPORATION NEW COMPANY,"

as well as my cable of today :

"AWAIT FURTHER NEWS BEFORE INCORPORATION".

I enclose translation of the following correspondence: Letter from the Titan Co A/S to I.G. Farbenindustrie of 10th of October, requesting their agreement to the transfer of the interests to the Titan Co Inc.;

Letter from the I.G. Farbenindustrie to Titan Co A/S of 25th of October, giving their consent.

I also enclose translation of a letter from me to Dr. Brüggemann of 10th of October, concerning the details in question.

Exhibit 85

I have not had the opportunity to talk this matter over with Dr. Brüggemann and would like to have done so before you incorporate the company.

I do not see any difficulties before us in this matter, but would like to have gone actually through each point with Dr. Brüggemann in order to ascertain that his point of view agrees with mine.

I had yesterday a message from Mr. Washburn, according to which the calcination will start the 5th or 6th of November and a marketable product may be had in the middle of the month.

I have had so much to do and have still before me, that I have had to postpone my visit to Leverkusen, but hope to be able to go there in the middle of next week.

I have kept in touch with Mr. Washburn and Dr. Raspe partly by letters and partly through the telephone, following the progress of the operations.

The day before yesterday they have made 130-140 tons of precipitate.

The material has reached the second Dorr tank and has by washing and calcination in the laboratory given a quality equal to St-Louis N° I and better.

I shall feel very happy the day we have got our first marketable pigment, provided we have it within the time expected so that we can start the introduction into the market.

During my stay in Leverkusen, we agreed that the price for Standard T to be foreseen for Germany, should be 5 Mk. above the price for White Zinc which is 65 Mk. per 100 Kos delivered franco. The definite fixation of the price was postponed until the product was actually available.

Dir. Holm of the I.G., who is in charge of the sale of titanium white as well as lithopone, insisted upon an in-

crease of the commission of 5%. He argued that it was necessary to give a commission of 5% to the representatives in the foreign countries and the I.G. will have nothing for their work.

He further considered it necessary to have an increase of the commission on goods sold through Christensen Schwartz & Co, as the I.G. will have to give this firm 4% (Christensen Schwartz has to give 2% to their sub agents).

The idea of giving an extra commission to I.G. for goods sold through Christensen Schwartz did not appeal to me. Accepted as principle it can be used as a basis for I.G. later to argue a cancellation of the arrangement.

With regard to the 5% to their foreign representatives, I think Mr. Holm is right.

I suggested that Titangesellschaft should pay to the I.G. for the first year a fixed sum in addition to the commission for the introduction work, the amount of this to be revised next year when we have more experience with regard to the business. We agreed on a sum of 60.000 Mk.

You may consider this rather high. I thought it wise however, to have the I.G.'s commercial department feel that their efforts should not be limited by a too small budget. The commercial department is interested not only to have a success as to the quantities of sales done, but also I presume, to have their budget showing balance or a profit and it would not be wise if they felt titanium white to be an extra burden involving a deficit for them.

All propaganda cost is paid by the Titangesellschaft.

In the agreements is, as you will remember, not foreseen that the I.G. shall stand delcredere.

I was asked if we wanted the I.G. to be responsible for payments, in which case there will be a question of remuneration, but I told Dir. Holm that the idea was that

Exhibit 85

the I.G. being interested in Titangesellschaft with 50%, will be sufficiently interested to see the payments coming in.

With reference to your interview with Dr. Kühne and Dr. Raspe they wanted to take over Portugal, Poland and talked also about Italy. I confirmed that we had agreed upon that they could take over Portugal at once and that it is foreseen that they could take over Poland. This is in accordance with your interview. I said however that I wanted not to give them Poland immediately. We will let the I.G.'s representative undertake the sales in Poland but I wanted the actual transfer of Poland to the Titangesellschaft as a part of their territory not done at the present. (We will ultimately have to give them Poland, but I should prefer to keep the matter pending until I see the attitude of the I.G. in various other questions, which I presume will turn up.)

Dir. Holm mentioned that they were very well represented in Italy through Italian firms and had a good basis for negotiations with Montecatini.

Purchase of White Zinc. I pointed out to them that it would be preferable to buy White Zinc from Pisart if this was possible against the Custom tariffs.

Dir. Holm who knows Pisart very well from negotiations regarding Lithopone, understood my point of view and said he was willing to do so in case Pisart could offer a better price than German White Zinc makers; at equal price he thought that they will have to give German makers preference.

Dir. Holm promised to keep me informed of the negociations with Pisart.

Hoping that what has been agreed upon above, falls in with your views, I am, with kind regards,

Yours very truly,

G. JEBSEN

Exhibit 86

Translated from German

MINUTES N° 3, 1930.

May 3, 1930.

MINUTES FROM CONFERENCES RE TITANIUM WHITE MATTERS AT LEVERKUSEN, MARCH 24TH AND 25TH 1930.

Present: Dir. Dr. Jebsen
" " Kühne
" " Brüggemann
" " Jähne
" " Raspe

1°—With regard to the offer made by Lickfett, to acquire the titanium ore mines near Egersund, belonging to the Christiania Minekompani A/S, no decision is to be taken for the time being. It is decided in the meantime to acknowledge receipt of Lickfett's letter, stating that at the price mentioned by him, the company is not interested in taking an option.

2°—Kühne and Jähne will examine with Hilpert the question as to whether about 10 workmen could be taken over by the Titangesellschaft in order to reduce the cost of repairs, and whether the 30% extra charge, recently applied, could be exceptionally dropped for the Titangesellschaft.

3°—Raspe is to prepare an estimate of the expenses in connection with tests, and submit it at the next conference.

4°—The sale of ground ilmenite under the mark "Kronos" and the name "Ilmenite Black" is agreed.

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Exhibit 86

5°—In order to release Schwenk from correspondence duties, a secretary is to be engaged for Raspe.

6°—Mr. Reinhardt, director of the "Vereinigung Deutscher Zinkweiss-Fabriken", is to be informed in reply to his last letter addressed to Titangesellschaft, that in future would be abstained from distribution of the pamphlets in question at exhibitions. We hoped that the same policy would be adopted with regard to the pamphlets issued by the zinc white and white lead manufacturers against titanium white.

7°—In our monthly calculations the specifications of repairs should be made, as far as possible, on similar lines to what is done by the I. G. in this connection.

8°—The project concerning the clarification of the titanium solution by means of filtration with preceding crystallisation of the iron sulfate (estimated cost RM. 110.000) was approved, the apparatus to be installed in "Querbau" II on the blanc fixe filtration platform.

9°—In order to increase the production of blanc fixe, it is to be tried to raise the capacity of the preevaporation by means of a previous concentration of the too thin original solution. At the same time the manufacturing of blanc fixe from barium carbonate and sulphuric acid and also from BaS and sulphuric acid, is to be thoroughly studied. Kühne's suggestion to produce Blanc Fixe from carbonate in a wooden precipitation tank and to let the mixture run immediately afterwards into the Dorrtank 4, seems to be the quickest and cheapest way to solve the question. Proposals in this connection are to be submitted as soon as possible.

Exhibit 86

10°—Raspe is requested to submit at the next conference an exact plan for the production of a high percentage composite pigment with CaSO4 and a 100% TiO2.

11°—The transport costs of the raw materials have up to now been calculated on a wrong basis. They should in future be added after the addition of the percentages. A retroactive credit statement should be rendered.

12.—In order to reduce the patent expenses, foreign patents of small importance are to be dropped.

13.—In order to avoid fluctuations in the "Gestehungspreise," caused by the quarterly amendments, Kühne and Brüggemann propose that half-yearly or annual average "Gestehungspreise" be applied in the future.

With regard to the BaS price, Kühne will examine more thoroughly the estimate and the calculation of the sales prices and then make a proposal.

14.—Raspe submitted his calculation of the "Gestehungspreise" for TiC14. Dr. Jebsen observed that the price stated of RM. 1.50 per Kg. of TiO2 was too high, considering the production costs of the Titanfabrik, agreed, however, to the proposed "Gestehungspreis" of RM. 2.00 per Kg. TiC14 being applied for the settlement until further notice. All the gentlemen present agreed to this.

15.—It is agreed that the interest on the loans contracted by Titangesellschaft be booked over profit and loss account. The interest on accounts for services rendered (merchandise, repairs, etc.) will be charged to production.

Exhibit 86

16.—The company tax is also to be booked over profit and loss account (amount for 1929 RM. 10.000 of the RM. 100.000 paid in 1929). According to conference with Dr. Brüggemann on March 27, 1930, the notary fees in connection with capital increases, are to be booked over the profit and loss account, similarly to the company tax.

17.—It is agreed that the special expenses incurred in connection with the starting of the Titanfabrik and amounting to RM. 21.000 be debited production.

18.—The share in the general expenses on the stocks of goods ready for sale, stored at Leverkusen or elsewhere, is to be capitalised.

19.—In view of a somewhat different method of calculating the general expenses of the I. G. Farbenindustrie; an addition to the "Einstandspreis" established under the new calculation methods of the I. G., of 10% for general expenses, instead of 15% as heretofore, is to be made, effective as from Jan. 1, 1930. This arrangement is to be considered as temporary and neither the Titangesellschaft m.b.H. nor the I. G. Farbenindustrie are to be definitely bound by the same.

Dr. Brüggemann believes, on the basis of previous calculations, that a settlement on the above mentioned basis will be equal to that hitherto applied, suggests however, that some experience be gathered before a final decision is taken.

20.—Dr. Jebsen stated that he had received an inquiry from Fredriksstad as to whether they should continue to work Italy from there and that considering the

information received from Mr. Holm and Arca, according to which our sales prospects in Italy were unfavorable, he had advised Fredriksstad that they could continue their work. He thought that it would be better if the Titan Co. A/S would continue to handle the sales in Italy, since the work on this market has in the first place a tactical interest, in view of the activities of Montecatini outside Italy.

Dr. Kühne asked if the profits of the sale could not be left to Titangesellschaft. Dr. Jebsen expressed the opinion that, according to the investigations made, large quantities could not be expected and the amounts would not be of importance. Dr. Jebsen asked if the Titangesellschaft would also support eventual losses.

Titan Co. A/S was inclined to let Montecatini take over Italy if the latter agreed to keep away from the other countries

Dr. Kühne asked if we would also at the same time protect Germany and Dr. Jebsen pointed out that the interest of the Titan Co. in the Titangesellschaft were in favour of this. . . . He had, already at an earlier date, expressed the assumption, in connection with a transfer to the Titangesellschaft, that, in case of an agreement with Montecatini, the markets of the Titan Co. should also be protected, and for this no compensation could be given the Titangesellschaft for giving up the Italian market.

(sign.) RASPE.

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Exhibit 87

Letterhead of

TITAN CO. A/S

SJH/AK

Paris, June 18th 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Enclosed please find translations from German of the Minutes numbered 1, 2 and 3, 1930 from the Board Meetings held in Leverkusen on January 4, 6 & 7, February 5 to Febr. 8 and May 3, 1930, as well as translation of the Minutes from t annual Partners Meeting held in Leverkusen on April 2nd this year.

These papers were examined by you during your stay in Paris.

Yours very truly,

S. J. HENDRIKKSEN

Exhibit 87.

Translated from German.

Minutes No 1—1930.

Minutes from conference in Leverkusen re titanium matters, January 4, 6 and 7, 1930.

Present: Dir. Jebsen
" Kühne
" Holm
" Brüggemann
Beckmann
Dr. Raspe

1.) A change in the prices for Standard T, Standard A and Paste is not found right at the present state of the market. Rebates can in certain cases be allowed on the list prices, but the net proceeds from the sale should not be under RM. 66.

2.) With regard to sales expenses, another conference is to be held in the next few weeks.

3.) The modified final proposal for the publicity expenses for 1930 will be sent Dr. Jebsen from Frankfurt soonest possible.

4.) Dr. Jebsen mentions that he had discussed with the National Lead Co. the proposal regarding a 10% increase on the deliveries to Titan Co., subject to I.G. dropping the 10% increase on the raw material prices. This question, however, is not to be decided at present. It is desirable to await further developments.

Exhibit 87

5.) The I.G.'s proposal—which has already been discussed previously—to apply a rate of 15% as general expenses in connection with deliveries to T.G.m.b.H., was accepted by Dr. Jebsen on behalf of Titan Co. Inc. it being understood that this should be considered as a maximum rate. This reservation was accepted by the gentlemen of the I.G.

6.) With regard to South America, Dr. Jebsen mentioned that the quesetion put forward by the gentlemen of the I.G. could not be decided at the present, in view of the option of the Titanium Pigment Co.

The Titan Co. is represented in some South American countries by branches of the I.G. and Dr. Jebsen declares himself ready, subject to the approval of his Board of Directors, to transfer to the T.G.m.b.H. the profit realised by sales made through these representatives.

7.) Further, Dr. Jebsen declares that the Titan Co. Inc. is willing to let the T.G.m.b.H. take over Italy, according to the wish of the I. G. Dir. Holm wishes to examine once more the sales possibilities in Italy before a decision is taken in this connection.

Exhibit 87

8.) Dr. Raspe is requested to prepare a detailed annual report regarding the factory operations of the Titan G.m.b.H.

9.) Dr. Jebsen proposes that tests be made with regard to the possibility of using Standard T as a paint for indoor use.

10.) Dr. Jebsen proposes that numbered minutes be made out, placed in a minute-book and signed each time. Dr. Raspe is requested to take care of this.

11.) Of the M. 100.000, taxes on the capital increase, M. 10.000.—is to be written off for the year 1929.

12.) Dr. Jebsen requests that a record of all titanium patents of the Titan G.m.b.H. be prepared for the management. The patents which are being filed for inventions of the T.G.m.b.H.'s organisation, are to be filed in the name of his company. It is to be examined under which names such patents are to be filed which are the result of cooperation with the Gentlemen of the I.G. Dr. Kühne will examine this question specially.

13.) The amount of the royalty is to be fixed according to the exact percentage of contents.

14.) The monthly deliveries to the Titan Co. Inc. will not, as has been the case hitherto, be debited immediately, but debited, value 15th of the month.

(sign.) Dr. Raspe
(sign.) Dr. Brüggemann
(sign.) Dr Jebsen
(sign.) Dr. Kühne.

Exhibit 88

Letterhead of

TITAN CO A/S

GJ/HS.

Paris, July 23rd. 1931.
Dr. G. Jebsen,
26 Rue de la Pépinière, Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York, N.Y., U.S.A.

Dear Mr. McCarty:

I returned last night from Leverkusen.—Matters have improved considerably there.

The production of Standard "T" was started in the latter part of June. The first product came out of the furnace about 10 days ago, and I was informed, that they yesterday reached a daily production of 40 tons Standard "T", and that the product is the same as in November last, perhaps slightly better.— The start of this manufacture has taken place without any special or unforeseen difficulties, and the operations are running normally. — The spirit of the organisation is better with less or no nervousness.

Dr. Raspe and Dr. Weise have made a lot of experiments in the laboratory this winter and spring, studying the Blumenfeld methods, and are in hope to develop a process on the same lines in principle, without infringing the Blumenfeld patents, obtaining a product with a tinting strength of 14/1500. In the laboratory they have even obtained a higher tinting strength; it is though still an open

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question how it will work on an industrial scale, which can only be answered by experience.

Dr. Mayer of Aussig has sent to Titangesellschaft a sample of a product he has made in the laboratory with a tinting strength between 14/1500. He says to have made this by a new process with a titanium tetra chloride, and he says that he should be able to make it at a price between 5/600 Marks per metric ton.— From previous experience the statements are to be received with a certain precaution. Dr. Kühne doubts the figures, and believes that he will find the handling of ferrous chloride inconvenient.— You will also know that this kind of processes are likely to involve a lot of repairs. Dr. Kühne agreed with me, that the process has the drawback that it requires a very cheap source of supply of chlorine.

For the sake of information I shall appreciate if Mr. Hallett will send me the datas he developed by his investigation of the Sté Francaise du Titane's process.

Last Friday I had a meeting with Director Holm and Director Körffer.— The sales of the I.G. for the Titangesellschaft show quite an improvement in the last two months, and they are now in tonnage equal to last year.— The sale of Standard "A" has gone back, and has been replaced by a larger sale of Standard "T" and TiO_2. Contrary to England—where the sale of Extra "T" has gone back—the quantity in Germany is the same as last year.— I could though not agree with Director Holm, who thought we could be satisfied with the sales this year, and I told him so.

Dr. Schütz of Sachtleben has informed Dr. Kühne and Director Holm of his conversations with Mr. Cornish and Mr. Moses regarding Titanox versus Lithopone, and the

development in the United States had evidently impressed them.—

Dr. Schütz had suggested, that Sachtleben should take an interest in the Titangesellschaft, and Dr. Kühne told me, that they in principle were willing to make such an arrangement. The part to be transferred to Sachtleben should be taken from both of us (I.G. and Titan Co. Inc.). I doubted that the National Lead Company would agree to have less than 50%, and I could not see how a satisfactory arrangement could be reached. I was though willing to explore the situation. Dr. Kühne also thought it difficult to find a solution.

By arrangement of Dr. Kühne we had lunch together with Dr. Schütz yesterday at Leverkusen. Most of the time was spent in talking about the difficult financial and political situation at present.—

Dr. Schütz considered it not to be the moment for plans of this kind, but thought no harm done, if we talked over the matter. He had no definite proposals to make, but suggested for consideration that Sachtleben should become a partner in Titangesellschaft. Before this could be decided upon he thought it necessary that we agreed upon which place titanium should take in the market, as he considered that otherwise Sachtleben having an interest in Titangesellschaft, would only develop in an impossible situation. By making an arrangement on these lines, Sachtleben would have to let titanium have its way so far as agreed upon, and although this would be painful, they would have the consolation to be partly compensated by their interest in titanium. The situation would be clear, and not the inconvenient one of the I.G., which now was led by the obligations towards us to develop titanium against their own interest in Lithopone.

I expressed my appreciation of the frank and open way in which he stated his views, and that I would appreciate if a way could be found, by which we could make Sachtleben interested to mutual benefit. This seemed to me though difficult, but I was glad to explore the matter with him.

The situation with the I.G. at present is not as he sees it, because they do not have the whole lithopone market, and of every ton of lithopone which was replaced by titanium, the I.G. had only a part, and the part which they had in titanium I thought would compensate them.

If, however, Sachtleben also became interested, the I.G.'s part in lithopone will remain the same, whereas its part in titanium will be reduced.

I asked him what he thought the position of Pisart would be. Will we not risk that Pisart also will demand an interest in the titanium business? And if not, that he will start to send lithopone into Germany and take up a fight lowering the lithopone prices anyhow?

Dr. Schütz thought it rather likely that Pisart would do this in any case (which means that the Lithopone Convention may have a short life). I asked him what place he thought titanium white should be given in the market, but he would not express any opinion, and put it up to us to express our views.— He considered Mr. Cornish's point of view too optimistic. I agreed that Mr. Cornish was very optimistic in this matter, but thought that he had good reasons for it.

I did not consider the step of the American lithopone makers in reducing their prices very wise.

The New Jersey Zinc Co. had stated to Dr. Schütz, that they have still a good profit with their present price of

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lithopone. I did not doubt this, but as Titanox gives a better profit, a price fight will not lead to the result intended by the lithopone makers. It would have been better to let titanium have its way, until it had got its position in the market—a position it will get in any case. This does not mean, that lithopone will be wiped out. I thought that there will always be a certain place for lithopone, which will be kept by lithopone makers who have at their disposal cheap sources for zinc.

Pisart's position was touched upon, and it was considered, that his sources of zinc were not favourable. He is buying some from the Duisburg Kupfer Hütte (I.G. plant), and the price is between £16 and £17 (confidential).

Dr. Schütz was in a very low spirit with regard to the general position of Germany, and hoped for a satisfactory solution of the present crisis. He thought that many of the business people had had so many difficulties during and since the war, that they were coming into a state of apathy. Dr. Kühne was somewhat more optimistic, although also he considered the situation very grave, and in case of no arrangement with regard to the German debts, riots and revolution are to be expected.

Dr. Schütz thought that France's purpose was through such a revolution to have Germany divided up in three parts: a northern, a southern and a western country, and that France immediately will offer financial aid to a political group in Munic and Cologne, provided a separation from the northern and eastern Germany takes place.

I told Dr. Schütz that I will meet Mr. Beschorman in London and take the opportunity to discuss his suggestions when he came.

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Dr. Schütz took the opportunity to mention, that an agreement had been reached with the National Lead Company as to the conditions of a cooperation in the matters of Baroid and various Barium products, but although repeatedly requested, he had not been able to obtain from Mr. Harth copies of patents or patent applications or various other information confirming or substantiating the information Mr. Harth had given verbally, and thought that he was entitled to this, before he entered into any agreement.

I told him I would mention this to Mr. Beschorman, so that the matter could be cleared up.

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In the meeting with Dr. Kühne and Director Holm I encouraged them to go ahead with the development of sales in South-America, without a definite promise of a transfer of Titan Co. Inc.'s rights in these markets.

The question of a reduction in the prices in Germany I did not take up, but in connection with the reference to Dr. Schütz's talks in the United States, the possibilities of competition between titanium and lithopone were openly discussed. Director Holm doubted much, that titanium ever could be produced at sufficiently low prices to compete with Lithopone, when the price of this was reduced to its very lowest. Dr. Kühne was inclined to agree with him, mentioning at the same time, that the production price of titanium may come down to ca. 30-35% above the production cost of lithopone. I thought it not advisable at this moment to enter into a discussion about the price ratio by which titanium would seriously compete with lithopone.

There was during this conversation no indication of an intention of the Germans not to let titanium have its free run. What develops from Frankfurt in this matter remains to be seen. I have the impression, that the technical organisation in Leverkusen are doing their best to get the production price down. Dr. Raspe is now trying to run the factory at its highest capacity for the sake of experience and also in order to be able to turn over to the production of TiO_2 pigment again soonest possible.

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The stock in Leverkusen of pigments of 1st class quality was in the beginning of July—with the exception of the TiO_2 pigment, the production campaign of which had just been finished—very low, in fact lower than it ought to be. With the new production of Standard "T", however, now started, we will soon work up a considerable stock.

Hoping that your recovery is developing satisfactorily, I am, with kindest regards to Mrs. McCarty and yourself,

Yours very truly

G. JEBSEN

P.S. I had lunch with Mr. Wilson today, and had an interesting talk with him, which I much appreciated.

Mr. Warshow was in Leverkusen during my stay and went together with Mr. Juell and Mr. Ley through the office organisation there to the purpose of a reduction in the personnel. It was found, that by reducing the reports, a man and a stenographer could be spared, and that experience during the first half year to come may allow a further reduction. Mr. Warshow's visit to this purpose was quite agreeable to Dr. Kühne and Dr. Brüggemann.

Mr. Warshow has also made himself more acquainted with the organisation here in Paris, which I much appreciated.

After his visit to London, he will go to Norway to the same purpose, and I shall be glad to have his opinion and possible suggestions to economies there.

I leave tomorrow night for the coast to visit my family for a week before going to London to meet Mr. Beschorman and Mr. Sidford.

Copy sent
Mr. Cornish.

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P.S. Mr. Thompson told me over the telephone to-day, that sales in titanium during the first three weeks of July had been quite good, whereas the general trade was slacking.

In London it was felt by many, that the Germans had exaggerated their condition and made the crisis worse in order to obtain the best possible arrangements.

In Cologne it was very calm on the surface. There is probably some truth in the London opinion, but no doubt the German Government has now taken very strict measures especially to force the Germans to give information as to what capital they have in foreign countries. Anybody knowing about somebody else having money put away in foreign banks, or having capital about which they have not given information to the Government, can be put into prison, if they do not inform the authorities. It was felt that this develops a very bad moral leading to attempt to blackmailing and denounciation.

On the other hand the German municipalities in general have been spending a lot of money for social improvements of no or little remunerative character. Already two years ago Director Holm and Dr. Kühne criticised this very heavily. It was the result of the internal political situation, forcing the more conservative to give concessions to the socialists. Whether though the Government will be able to keep the population in hand with the masses of unemployed is difficult to say, and I have asked Mr. Thompson to provide for a three months stock in England in order to be prepared if riots should come. Fortunately the districts around Cologne and Leverkusen are amongst the more quiet ones, but even so there may be transportation difficulties.

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Translated from German.

CONFERENCE

September 24th. 1928 at Leverkusen.

Present: Dr. Jebsen
Dr. Brüggemann
Dr. Raspe.

1°. Regarding the supplementary agreement foreseen in paragraph 4. of the addition to the contracts C. and D. of 3/20 October 1927, Dr. Jebsen promises to communicate once more with the American Gentlemen, as to a definite settlement of this question in the form of a "Gentleman agreement". As far as Dr. Jebsen has understood the American gentlemen, the Titanium Pigment Co.'s interests, as far as can be seen, are not opposed to the principle idea. However, the American patent law and the practise of the American patent authorities can compel the Titanium Pigment Co. not to hold this engagement, and it is impossible to foresee, which may be the further developments of such an engagement. However, the principle idea is looked upon favourably.

2°. The date from which the rent should be calculated, according to paragraph 1. of contract E. dated 3/10. October 1927, is fixed to be July 1st. 1928.

3°. The date at which the operations were started—to be declared to the control and tax authorities—is fixed to be September 15th. 1928.

4°. The transfer of a certain amount of interests of the Titan Co. A/S. Fredriksstad, to a new American company, as mentioned in Dr. Jebsen's letter of September 15th. 1928, is motivated by:

1°. The necessity of a regulation of Dr. Jebsen's personal participation in the titanium-business contemplated by the Americans.

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II°. The desire to avoid Norwegian taxes, which would result from the sale of the Leverkusen production through the Norwegian company, according to contract J. of 3/20. October 1927.

According to Dr. Jebsen's letter of September 13th.; it is intended to form the new American Company in such a way that the National Lead Co. participates with minimum 86% and Dr. Jebsen—up to 14%. Thus, the proportion, as regards the National Lead Co., would be the same as for our previous contract-opponent, the Titan Co. A/S., Fredriksstad. Therefore there are no principle objections to undertake this formal change in the person of the contract-opponent. For the purpose of a homogeneous conception ("Erfassung") of the titanium-agreement existing between the Americans and ourselves, by the new company, it is also intended to transfer to the new company the shares of the Titangesellschaft m.b.H., which up to now were the property of the National Lead Co., and also to transfer to the said company the new shares of the American group which will be created in connection with the intended increase of capital (of Titangesellschaft m.b.H.).

Dr. Jebsen will write us in the name of the Titan Co. A/S. a letter stating the proportion in which the National Lead will participate in the new company, and asking if we agree to the transfer of the rights to the new company, it being understood that the Titan Co. A/S. maintains their "Haftung".*) We have promised to confirm our agreement ("Einverstandnis") to the Titan Co. on receipt of this letter.

(Sign. BRÜGGEMANN).

*) The meaning is: maintain their responsibility for the fulfillment of the obligations.

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RESOLVED, that the action of Dr. Gustav Jebsen, at a proprietors' meeting of Titangesellschaft m.b.H., held October 22, 1929, in consenting to and effecting on behalf of this corporation an increase in the capital of said Titangesellschaft m.b.H. from one million five hundred thousand Reichsmark (R.M. 1,500,000) to three million Reichsmark (R.M. 3,000,000), and assuming in the name and on behalf of this corporation one-half of said increased capital or seven hundred and fifty thousand Reichsmark (R.M. 750,000), be and it hereby is in all respects approved, ratified, and confirmed, and that the officers of the corporation be and they hereby are authorized and directed to execute and deliver such instrument as may be proper to confirm said action.

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At the request of the Chairman Dr. Jebsen thereupon reported upon the general conduct of the business and affairs of the corporation in countries foreign to the United States, under his charge as General Manager, explaining that full details of this business were on file at the home office in the form of correspondence with Vice President McCarty and reports, financial statements and minutes of meetings which had from time to time been sent him; that with respect to specific authority given him by the Board he wished to report that pursuant to the Board resolution of December 12, 1929, he had confirmed by letter to Titangesellschaft m.b.H. the amendment of the contract with that company of October 3/20, 1927, so as to include Poland and Portugal in the "territory of Titangesellschaft" thereunder, as also the Free City of Danzig, mention of which had inadvertently been omitted from the resolution referred to, but had not yet thought it opportune to effect amendment of said contract so as to include Italy in such territory; that with respect to the various patents of the Company and applications for patent made on its behalf, he had thought it expedient in several instances, for reasons of economy or on other practical grounds, to allow certain patents to lapse through non-payment of maintenance charges and to withdraw certain pending applications, all as detailed in a typewritten memorandum which he had had prepared and now submitted to the meeting, and that he would like to have the Board's approval of his actions in that respect and its authority for him to deal with the patent situation in like manner in the future.

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Upon separate motions duly made and seconded the following resolutions were thereupon unanimously adopted.

RESOLVED, that the various acts and proceedings of Dr. Jebsen as General Manager of the business and affairs of this corporation in all countries foreign to the United States, as orally reported by him at this meeting and as embodied in his various reports, statements, letters and minutes of meetings on file at this office, in respect not only of his management of the direct business of this corporation but also as its representative at meetings of companies in which this corporation owns a proprietary or stock interest, be and they hereby are in all respects approved, ratified and confirmed.

RESOLVED, that authority be and it hereby is granted Dr. Gustav Jebsen, Vice President of this corporation, to take such action with respect to the maintenance or non-maintenance of existing patents of the corporation and with respect to the prosecution or withdrawal of patent applications filed on its behalf as he may from time to time deem advisable, reporting from time to time to this Board appropriate details of action taken by him under this authority.

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Letterhead of

TITAN CO. A/S

GJ/AK

Paris, March 30th 1928.
c/o Sté Industrielle du Titane
26 Rue de la Pépinière

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New-York City, U.S.A.

Dear Mr. McCarty,

I arrived here yesterday after a very good passage and write already to-day re an incidental meeting on board, which may prove of interest.

Going through the list of passengers the second day, I found that on board was a Major Barley.

In 1924 and 25 a Major Barley of the Nobel Industries had tried to meet me to talk titanium. In the beginning of 1925 he wrote me that he would be in Oslo and we met there. I told him it was too early to think of the erection of a factory for titanium-white in England, as the market had to be more developed. He asked me to have them in mind when matters were ripe, which I promised him.

I had only a slight remembrance of his look, but found out who it was and renewed the acquaintance Saturday afternoon.

He was well informed about the arrangements of last year and said he knew that National Lead Co were very nice people. I told him I was studying the English situation

and thought we could use the opportunity to talk the matter over. He said they were now in I.C.I. occupied with so many big problems that he did not know if the board would be inclined to take up any more now. He remembered our first meeting with great pleasure and had always felt that he would like to see an arrangement done with me, and so on . . . .

I told we wanted cheap sulfuric acid and I was afraid it could not be made so cheap in England as on the continent. He said that they were erecting a factory in Billingham near Newcastle for sulphate of ammonia and there would make sulfuric acid from gypsum found on the place and were confident they could make it cheaper than anybody on the continent.

He thought it very lucky we had met and told me Sir Harry McGowan was on board. He asked me about our patent situation and "what about Weizmann." I told him briefly my view upon this—practically as I summarised it for you re the Titan Co's patents before I left,—and he told me to my surprise that he remembered I had said the same to him in 1925.

He thought the white lead manufacturers ought to be taken into a combination.

I told him that you and Cookson were personal friends and the best relations existed between you.

I did not think there would be any principal objections from your side, but I could not see what they could bring in of value. He meant they did not need to have a large interest.

Mr. Barley said he was very interested—he did however not know if there could be any principal political objections against a cooperation.

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He thought we should make a cut and dry proposition to which the Board could take a standpoint.

Later I met Mr. Mittchell and Mr. Nicholson, members of the Board of I.C.I., and some other friends or acquaintances, amongst others a Mr. White of Union Carbon and Carbide Co, a young man who had a charming young wife visiting Europe for the first time.

Mr. Mittchell I knew by name through Norsk Sprangstof Industri—they are competitors in South America—and Mr. Mitchell told me they were not so bad as their reputation.

Monday I had a little talk with Major Barley and told him I would like to hear more of Billingham as I had got interested in what he said the other day. He could not expect a cut and dry proposition from us. I was talking only on my own behalf. An arrangement would have to be worked out together between the two parties. I did not think that National Lead Co would make a proposition. He said he understood that. He was afraid the I.C.I. at present could not think of cooperating with us as they had so many important things on their program and they would have no time and men available for it. They could not take the responsibility for the management at present. The Billingham factory would not be in operation before 18 months.

They would though always be willing to sell us sulfuric acid.

I had told him some of the lines of our agreement with I.G. and said we had a call on part of the production in Leverkusen and it may be of interest to organize the Company now and start manufacture later. We have good agents in England who could continue to sell. By making a company we would show our intentions.

He saw our interest in that respect he said.

I asked about the political objections he had mentioned there may be, but he thought there were none.

He asked me if the White Lead people would have to be in with them and National Lead have the fifty percent alone. This was his own idea as I had not suggested anything except told him the first time that in Germany we were fifty-fifty. I said though I considered this would have to be the case.

I said to him that I.G. at the time they were reorganizing their activities, had found titanium to be of such interest that they came to me already two years ago and had given a considerable attention to make an agreement with us. He thought the agreement with I.G. spoke a lot in favour of our patents.

I told him that our agreement with I.G. arranged for future cooperation in patents and the same would have to be the case with I.C.I. "Of course",—he said.

The talk was though short as he had an appointment. He wanted to have another talk before I left.

After my impression of our first talk, I was rather surprised that he did not try to have me meet Sir Harry McGowan, but I did not express any desire in that direction.

Sir Harry McGowan was on board chiefly together with Sir James Dunn and some other of the titled persons. Sir James I have met several times before, he invited me to see him in London, but I am not particularly keen on that. He has not a very good reputation as a businessman.

The next and last day I played a game of tennis with Major Barley and some others and had a little talk with him afterwards. He asked me what I thought should be done further.

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I meant the matter had so far no hurry, he could study it on his side and I would study it on my side.

I precised that I had been talking only on my own behalf and did not know what you thought, except that it was your intention to put up a factory in England when convenient.

I would come to London in May and if convenient we could perhaps meet there. He seemed relieved and said that was very good.

He felt that if the matter should be put before the board now, they would not take it up because of fault of man and time.

In the evening I said good-bye to Mr. Mitchell who asked me to see them in London,—they were not a bad lot,—he thought the English stood much nearer to the Scandinavians than to the teutons—(Mitchell's expression)—they would take care of me, and so on.

Barley joined in and Sir Harry McGowan. When I told Sir Harry that I had heard a lot about him from mutual aquaintances, he said he was not so bad as his reputation, which seems to be a standing joke in that Company. Mitchell told that Barley had been talking a lot of titanium and me and commercial solvent and so on. I made the talk rather short and when I left them, invitations to see them in London were strongly renewed.

I do not know whether Sir Harry is a type you would like. However, I.C.I. is as you know a very important Company.

Mentioning to Sir Harry National Lead Co's interest in titanium in Europe and my representation of you, he seemed to know National Lead Co but did not make any comment.

You mentioned that Sir Alfred Mond had recommended Weizman to Mr. Cookson. I wonder how much connection there is there.

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It is difficult to tell you in a letter many small incidents of indications.

I cannot free myself entirely from the impression that they were playing a little poker with me, with the idea of having me to commit myself by showing much eagerness—but I may be wrong.

I asked Major Barley what production price Billingham would have for sulfuric acid—he was very reluctant to give any figure, but mentioned at last 25 shillings for 92% acid but said this was a figure I could not refer to later. I appreciated that but told him they would have to give us figures later.

I asked him if they had operated their process on an industrial scale; he said no, but they had no doubt that it would work out all right.

I do not know exactly Major Barley's position in the Company. He is probably investigating and preparing various projects for the board, but without any influence beyond that.

I hope this letter will reach you before Mr. Robinson leaves New-York, as it may be of interest to you in connection with your talks with him.

My travelling plans have been a little changed as the I.G. have asked me to come to Leverkusen on Monday. Thompson has written me that he will be here the 3rd and I have proposed to meet him here the 5th. He will be away from London until the sixth of May and I thought to go to London then.

My intention is then also to call on Mr. Robinson. Between the 15th and 30th of April I will try to meet Mr. Pisart.

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I mentioned Avonmouth the first day to Mr. Barley as a possible source of sulfuric acid. He said the situation would be different in 1930 when the advantageous ore contracts had run out.

Later I expressed a surprise that they had not connected with Avonmouth when they needed so much acid and there was a new source which probably needed an outlet. He did not react on that remark.

Billingham is near Newcastle and steamers up to 6000 tons can go in there.

You will yourself see the advantages and disadvantages of Billingham contra Avonmouth. I may though mention that deposits of Barytes are chiefly in North Wales, which according to Barley, are of quite good quality. Without having seen statistics, my impression is though that most Barytes for chemical purposes are imported from Germany (Sachtlebens mine at Meggen).

With regard to the lines on which a cooperation with I.C.I. eventually should be made, I have not indicated anything beyond what Barley may have concluded from my indications of the I.G. agreement.

As I mentioned to you, it seems to me difficult at all to make an arrangement which in view of our I.G. agreement will not mean a considerable sacrifice.

Considering the matter I came to the following which I permit myself to suggest, namely—an agreement with the I.C.I. on the same basis as with I.G. with the difference that instead of having a call on 50% of the production at self cost—we have 50% of the net profit of the company to be formed and fifty percent goes to the money invested of which we take the half—resulting in ¾ of the total profit to us.

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This will probably look to I.C.I. as a very stiff proposition and it may have to be arranged with two series of shares—giving the invested cash money preference shares.

In that case it is still stiff but not without precedence.

We may of course also ask a part of the preference shares and a smaller part, for instance 1/3, of the common stock in exchange for patents, experience market and a right for the English company to a part of our call on the Leverkusen production.

You may think now that my mind is running pretty fast, but I cannot omit to think that sulfuric acid at 25 shillings, the situation of Billingham near Newcastle and cooperation with I.C.I. seems interesting, provided the people are all right.

You probably have or can have good information as to this last question.

I had a little talk the first day with Barley as to the I.C.I.'s plans of operation and he said they were very confident in the future. They were now trying to arrange the chemical industries of the Empire to avoid competition and rationalize, and they felt that although it may take time, they would come out all right.

Their field of operation would most likely be the Empire. It would be three large divisions: Europe, The Empire and U.S.A.

One day he asked me about ilmenite, the Indian, Brazilian, Norwegian and Canadian deposits.

I told him that as far as I know the Indian deposits are small, the Brazilian in which we have a hand are neither very large. Both may prove rather expensive to operate, the Canadian were not easily accessible, whereas our Norwegian were near the sea on the south west coast of

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Norway. He asked if the quality was good in Norway. When I said yes, he commented: well they are very convenient placed for Billingham.

He asked what we would do in Canada. I told him I had nothing to do with Canada. The market was small but my impression was that it was in your mind to put up a local factory there. He mentioned they had a sulfuric acid factory there: I do not remember whether it was in Quebec or Montreal.

I did not see much of Mr. Klein.

We had one talk together, but he was very careful not to say much of his work.

He considered Titanium-White a good pigment and meant he had shown it by taking up his experimental work.

He had managed not to infringe our patents. He did not say when he would be manufacturing.

I told him I had heard that Cookson was putting a high percentage TiO_2 on the market. He seemed very surprised, denied it and added—unless something new has turned up since I left in January.

He asked me if I knew anything about Monk and Irwin's Baryum-Titanate which they will put on the market. I said no and thought he would make Baryum-Titanate. He agreed, but only as an intermediary product. He said we will both have to make the pigment much cheaper—to which I agreed. It was the industrial conditions in Norway which had prevented us so far. He knew that, he said.

Everywhere in U.S.A. he had heard complaints that your prices in U.S.A. were too high. If only prices would come down, they would use more.

He did not speak highly of Blumenfeld's patents which he thought were our process Blumenfeld had tried to trim.

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This has been a longer letter than intended. I hope though it has not bored you and I look much forward to your early comments, especially as to my talks with I.C.I. I should much appreciate to hear from you whether you want me to continue with I.C.I. and if so, to what extent and on which lines.

Please extend my very best regard to all your colleagues and express my appreciation of all the kindness shown to me.

I hope Mrs. Cornish is recovering from her serious illness and beg you especially to convey my sympathy and best regards to Mr. and Mrs. Cornish.

With the kindest regards to Mrs. McCarty and yourself and Mr. and Mrs. Spalding and many thanks for all your hospitality which I enjoyed very much,

Yours sincerely

G. JEBSEN

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April 11, 1928

Dr. G. Jebsen
Societe Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Your telegram of the 31st ultimo from Paris was received in due course as was also your telegram of the 7th instant from Leverkusen. The latter, however, was not delivered until after office hours so that we did not receive it until Monday morning.

I immediately telegraphed to St. Louis regarding the drawing for the conveyor, and on receipt of their reply cabled to Leverkusen that the drawing had been despatched on March 22nd. It should be in their hands by this time.

I note the information in your telegram that it is expected that the factory at Leverkusen will be completed by the 15th of August, and that our German friends desire that Mr. Washburn arrive at Leverkusen by the 15th of July. At the moment I can see no reason why this cannot be arranged, but will advise you definitely a little later on.

I am also in receipt of your letter of March 30th from Paris which is both interesting and entertaining. I met Sir Harry McGowan in New York a few years ago at a luncheon given by Mr. Felix du Pont, but do not know him at all well.

You are no doubt correct in your impression that Sir Harry and his friends were trying to play a little poker with you and learn as much as they could. I am confident, however, that you were quite able to take care of yourself,

Exhibit 93

I have felt for some time, and I think on one occasion mentioned to you that we would probably have an opportunity to make some connection with the Imperial Chemical Industries if we desired to do so. I am not sure, however, that it would be a better connection for us than Mr. Robinson and his friends. It is a situation in which I think we can keep our own counsel and await developments.

When I last saw Mr. Robinson he told me that he would be in New York on or about the 7th of April, but I have heard nothing from him since Christmas, and do not know whether or not his plans have been changed.

Mr. Hagar has just returned from a two weeks trip in Canada. There appears to be no indication as yet that McArthur Irwin have actually done anything toward builgins a factory in Canada. Apparently they have shipped some ore to England and possibly to your friends from whom you formerly bought blanc fixe, and the development work is being done over there. Mr. Monk one of McArthur Irwin's men reported to one of our friends in Montreal that he expected to have sample shipments of satisfactory quality from England in the very near future.

I think that the time has arrived for us to actively enter the Canadian market, and we are making arrangements to do so.

We hear reports that the Commercial Pigments Company's factory in Baltimore is now in production, but we have as yet had no samples of their product.

A pure titanium oxide of fair quality said to be manufactured by P. Schueller & Son of Hannover, Germany, is being offered here at 16¢ per pound, and one of our friends has placed an order for a five ton lot.

Exhibit 93

I will be very much interested in learning the results of your conference with Mr. Thompson.

You will be pleased to learn that Mrs. Cornish is improving, and that Mr. Cornish hopes to bring her home at the end of this week.

With kindest regards for Mrs. Jebsen and yourself, I am,

Yours sincerely,

Vice President

Exhibit 94

Letterhead of

TITAN CO. A/S

No. 272

GJ/AK

Paris, October 3rd 1929.

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New-York City, U.S.A.

Dear Mr. McCarty,

Re Mr. Robinson and Avonmouth.

Last week—the same day as you talked with him over the telephone—I had, as you know, lunch with Mr. Robinson and his son, and told him my impression of Mr. Tilden Smith's plant.

Mr. Robinson told me that he would not go ahead titanium in competition with you.

I told him that last time I saw him, I had been frightened by the high price for Sulphuric Acid which he had mentioned. I thought his manufacturing situation would allow him to make any price for Sulphuric Acid, but understood he was under an arrangement with the other English Sulphuric Acid manufacturers regarding his sales-price. I also had received information to the effect that freight rates in England and between English ports were rather unfavourable compared with freight rates from the Continent.

Mr. Robinson said he was at full liberty to do as he wanted down at Avonmouth and mentioned a price of 35/- for 70% acid. I considered this price far too high. We had

originally in mind to put up a factory in England, France and Germany. I had, though, been under the impression that the manufacturing conditions on the Continent were such that a factory in England would work under unfavourable conditions, but when he had found Avonmouth to be a suitable place for a Lithopone factory it ought also to be suitable for a Titanium plant. Mr. Robinson thought he could make us conditions at Avonmouth which would enable us to meet any competition from the Continent.

I told him that with the old friendship between him and you, we ought to be able to find a basis for an arrangement. Mr. Robinson said that if we would go together with him he would be glad to do so. If we preferred to put up a factory alone he would like to see it at Avonmouth.

On my question about Barytes he thought he would be in no difficulty to get this, as he, on advertisement, had had many offers of deposits in England. He could also have Barytes from the South of Europe and his relations with the Metallbank were such that they would not decline to let him have Barytes from Meggen.

Saturday I spent a very pleasant time with Mr. Robson at Avonmouth.

They have a very large site, so that there is plenty of space for Titanium and other factories. The Otenan plant looked well. The site is near the harbour. The water supply at the present was very limited, but Mr. Robson thought they could be able to make arrangements to meet our requirements at reasonable conditions.

Apart from Sulphuric Acid, the manufacturing conditions in Avonmouth are probably equal to most places in England. Mr. Robinson considers labour conditions to be better and I have no reason to doubt this.

Exhibit 94

The site is placed on a low flat land near the sea and some foundation work will probably be necessary.

With regard to freight rates within England and for export, information will be sent me either by Mr. Robson or Mr. Robinson junior as soon as they have got it. Mr. Robinson senior mentioned that he was closely connected with the railway companies in England and the policy of these companies was, on demand, to reduce the freight rates if necessary, provided they thereby did not put other industries out of business, which of course is not the case with Titanium, anyhow at present. Motor transports on the roads was used increasingly and may prove far more advantageous.

Mr. Robson told me that Barytes could be had at the price of £2.- per ton. If we mined it ourselves it could probably be had at the price of £1- or £1-5-0 (this is high, compared with I.G.'s and Pisart's conditions).

Monday I told Mr. Robinson senior confidentially, what our terms were with the I.G. and that in my opinion we should be interested in the erection of a factory in England, because of the advantages it presumably has to provide the British Empire with British goods, and the position it will give us in England. We could probably not expect to manufacture cheaper in England than on the Continent, but when putting up a factory we ought as far as it could be foreseen, ascertain that the conditions were such with regard to raw materials, labour and distribution facilities, that any competitor is not better placed and we were at least on equal foot with competition from the Continent. It was the lowest possible production price which should be the primary consideration. I had wished to mention this before he left on his winter trip and I would ask him

to consider the matter during his trip, from this point of view. His sulphuric acid prices were far too high and I asked him to consider to take his profit not in the sulphuric acid but through a participation in the Titanium enterprise.

Mr. Robinson thought this a very fair statement. He mentioned the importance of his enterprises and thought we should consider him a better partner than the I.G. which he knew and cooperated with in certain matters in Germany. His Zinc interest will lead him to the manufacture of Lithopone and he had had repeated approach from various sides with regard to Titanium.

He pointed out that the management of the Titanium enterprise would have to be made by us. He would give us every assistance from his concern, but we should have the management.

With regard to sulphuric acid, he suggested that we could buy this at a price equal to the I.G.'s and to be adjusted from time to time in periods of 5 to 10 years—in accordance with change of manufacturing conditions. Through his cooperation with the I.G. he knew their manufacturing prices. I did not mention our price in Leverkusen, as I did not think to be at liberty to do so.

I told him that I should have mentioned the longs years it had taken us to introduce the Titanium White into the English market, the conservative nature of this,—we were now selling at a rate of about 2500 tons Standard T p.a. and it looked as if it was a matter of price reduction to have this consumption considerably increased within a few years. Every English paint manufacturer was familiar with our material.

Mr. Robinson said that he found it perfectly justified that we should have a compensation for this. When we

had agreed upon the principle of the contracts, he would leave it to others of his organisation to work out these. He mentioned the mutual confidence you both had in each other and said that he was quite willing to leave it to you to fix the nearer conditions.

His idea was to have Mr. Robson and his son in the Board. We did not talk nearer as to what his participation would be. I only mentioned that we probably would not arrive at a basis that day and suggested that he thought over the matter and had a talk with you when he arrives in New-York during the spring.

The time for the erection of the factory, I thought, will have to be fixed under consideration of the development of the English market as well as the German, as we of course would like to start the new factory without impairing too much the manufacturing conditions of the German factory, but it might be well to make the arrangements in order to put ourselves on the English map.

I much enjoyed the talks with Mr. Robinson who asked me to give you his best regards.

I look forward to discuss this matter more fully with you on my arrival in New-York.

Yours very truly,

G. JEBSEN

Exhibit 95

Letterhead of
TITAN CO. A/S

No. 309.
GJ/AK

Paris, March 28th 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

I beg to acknowledge with my best thanks the receipt of your letters of March 14th and 19th concerning your correspondence with Mr. Robinson.

I have been awaiting the informations mentioned in my earlier letters. These arrived yesterday and I am looking forward to go through the matter early next week.

Yesterday I also received a letter from Mr. Holm quoting his London representative, Mr. Harold Wilson, as follows:

" I have just been informed that the Imperial Chemi-
" cal Industries are contemplating very seriously the
" manufacture of Titanium in this country. I under-
" stand that it has gone a long way. These people, of
" course, know the future of Titanium and they also
" think that they will get protection. It is exactly the
" same as with the Imperial Smelting, they are all out
" for protection, so that is that."

I enclose copy of a letter to Mr. L.B. Robinson in view of the above and hope my letter is all right.

With kind regards,

Yours very truly,

G. JEBSEN

Exhibit 95

GJ/AK

..... Paris, March 28th 1930.

L.B. Robinson Esq.
95 Gresham Street
London E.C.2.

Dear Mr. Robinson,

Mr. McCarty has informed me of your correspondence with him concerning the visit of Messrs. Ticknor and Chase.

In this connection it may interest you that friends of ours have just been informed that the Imperial Chemical Industries are contemplating very seriously the manufacture of titanium. Whether the information is correct, I do not know. Some years ago they entertained the idea, but I was then informed—I believe your father was the source—that they had decided not to take it up.

With kind regards,

Yours very truly,

Exhibit 96

April 11, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have yours of March 28th, No. 309, reporting the information your have received with respect to the plans of the Imperial Chemical Industries.

Last year Mr. W. S. Robinson was told by those in control of the Imperial Chemical Industries that they had definitely dropped any idea of manufacturing titanium products, but it may be that they have changed their mind.

It seems likely that we shall have to do something definite with respect to manufacturing in England, but the decision can be deferred until Mr. W. S. Robinson's return which will probably be late in June at which time I expect to be in London also.

Yours very truly,

Vice President

Exhibit 97

Book D—page 288

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, October 23, 1930, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Brodrick, Carter, Cornish, Field, McCarty, Rockwell, Sidford, Taylor and Thompson.

RESOLVED, that the action of the officers of the Company in consummating negotiations for the purchase by the Company of 50,000 6½% Preference Shares and 50,000 Ordinary Shares of Imperial Smelting Corporation, Ltd., of London, England, at the price of £1 each for said Preference Shares and £0.14.3 each for said Ordinary Shares, be and it hereby is and said purchase is approved, ratified and confirmed.

Exhibit 98

Letterhead of

TITAN CO. A/S

No. 387

GJ/AK

Paris, January 26th 1931

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

I enclose copy of a letter received from Mr. Thompson regarding possible interest of the I.C.I. in Titanium.

When I next am in communication with. Mr. L.B. Robinson, I will ask if he has any information in this respect.

With kind regards,

Yours very truly,

G. JEBSEN

Exhibit 98

Copy.

R. W. Greeff & Co Ltd London, 23rd Jan. 1931

Dr. G. Jebsen
The Titan Co A/S
26 Rue de la Pépinière
Paris
France

Dear Dr. Jebsen,

Mr. Noel Heaton has privately received information that the I.C.I. are investigating the possibility of Titanium pigments very closely. He was unable to get details as the information was of a confidential nature but the impression he formed was that extensive developments of the use of Titanium pigments were contemplated by this Company, and they were considering whether they could work with "Kronos" Brand, Blumenfeld or whether the Brown and Klein process would suit their purposes.

The information is vague in its character, but is passed on for what it is worth.

It is a matter for your consideration as to whether you wish to be in contact with the I.C.I. in the matter.

Yours sincerely,

ALFRED J. THOMPSON (sign.)

Exhibit 99

Letterhead of
TITAN COMPANY, INC.
7 West 10th Street
Wilmington Delaware, U.S.A.

Paris, July 15th, 1931.

GJ/HS.

Evans McCarty Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York, N.Y., U.S.A.

Dear Mr. McCarty:

I much enjoyed my visits with you and Mrs. McCarty and was very glad to see on my last visit how well you were on the way to recovery.

I hope Mrs. McCarty is well and join her in the hope, that you will take care and not resume work before you are strong enough to stand the strain, so that you do not risk a setback.

In accordance with Mr. Cornish I continue to write you about the matters here, it being understood that you will only take the trouble with them as far as circumstances permit.

I arrived last Sunday afternoon in London, and left for Paris on Thursday morning.

Monday and Wednesday I went over the sales situation with R. W. Greeff & Co.. The sale of Standard "T" has improved somewhat in the last month, so that they reckon the sales were the same as last year during the same period.

Exhibit 99

—The sale of Extra "T" has gone back, in view of the competition with TiO_2. They are now introducing the TiO_2 product from Leverkusen, and have hitherto sold about 40 tons. It is appreciated in the paint trade. In the rubber trade the opinion differs—some prefer the Montecatini product, whereas others find our material competitive. In the linoleum trade the product from Leverkusen does not, as mentioned, give the same effect as the Montecatini product. The reason for this is under investigation.

The question of a reduction of the prices was discussed. —Mr. Heaton expressed as a preliminary opinion, that in case we will fully compete with Lithopone in England, the price must allow a paint manufacturer to make a mixture of Standard "T" and Barytes of the same tinting strength as Lithopone at an expense of £16 per ton (the price of best grade Lithopone). At Barytes at £5 per ton, this means £21/8/0d. per ton of Standard "T".

The experience of United States points to a price of £23 for Europe. It may be this is due to the further development of the use of special vehicles in U.S.A. These special vehicles are coming more and more into use also here, and a lower price of Standard "T" will presumably add to this development. No definite conclusions were reached, and the matter postponed for further considerations.— The time for making a reduction will anyhow not be before in the beginning of September after the holidays. The Lithopone Convention will have a meeting at that time, and it may also be advisable to wait till that has taken place.

Tuesday I called on W. S. Robinson and his son. I had an interesting conversation with them and enclose a Memo. regarding my interview with Mr. W. S. Robinson, during which the son was present most of the time.

Exhibit 99

I had lunch with Mr. L. B. Robinson, who had continued to study the conditions for a factory in London compared with Avonmouth. The study was, however, not finished.

He has also been working on drafts of the contracts—apart from license agreement—and will send me these.

You will note from the Memo.—Mr. W. S. Robinson's proposal:—that I work out a general scheme for an arrangement.

I promised to consider this.

I would not decline his suggestion, as you may find advantages in having a scheme put forward at the right time to him from me instead of having it come direct from New York.

In view, however, of the matter still being under consideration in Broadway 111, and—as expressed in Mr. Cornish's letter to Mr. Robinson—no conclusions having been arrived at yet, it looks to me premature at the present—apart from the fact that I have not developed my own view sufficiently yet. Conditions are so changing, that it seems doubtful whether it is advisable to make any definite moves at all at present.

I will much appreciate to hear from you in this matter as well as of any developments in U.S.A. pertaining to this.

I had a short talk with Dr. Kühne over the telephone last Friday.— Dr. Schütz had told him, that Mr. Cornish had ~~expressed quite some~~ interest in his suggestion to have Sachtleben with us in the Titanium business.— Dr. Kühne seemed interested and asked me to consider this until we meet.— I go to Leverkusen tonight and will meet him either tomorrow or Friday.

When in London I called, as Mr. Cornish suggested, on Colonel Foster. He was not in town.— Next day I talked

Exhibit 99

with him over the telephone, and he very kindly offered to call on me in Greeff's office the following day as he would not be in his own office. As I had to leave for Paris, I proposed to call on him on my next visit to London in August.

Mr. Warshow came here to-day and will go to Leverkusen on Friday with Mr. Juell.

Mr. Wilson is in Leverkusen to-day.

I look forward to meet Mr. Beschorman and Mr. Sidford in London in the beginning of August.

Mrs. Jebsen leaves to-day with the children for the coast. Her recovery has gone well, but she is still somewhat weak. She sends her kindest regards to Mrs. McCarty and yourself, in which I heartily join.

Encl.

Yours Sincerely

G. JEBSEN

Copy to
Mr. E. J. Cornish.

Exhibit 99

TITAN COMPANY, INC.

M E M O.

re interview with Mr. W. S. Robinson on July 7th, 1931.

Mr. W. S. Robinson told me, that he had answered Mr. Cornish's letter in the sense, that he will wait until we can form an opinion. He will be glad to cooperate with us in the Titanium matter, but in the case we take another decision he will understand, that this is a result of the circumstances of the situation. We must count that a tariff will be imposed within two years.

In one of his letters to Mr. Cornish he had mentioned —although this was no matter of his—the possibility that by continued export from Germany into England the Germans may consider to have a right to such, and a claim to be compensated if a tariff, or other reasons, brought us to erect a factory in England.

For instance the Germans had offered him to sell their goodwill in the Lithopone trade in case of a tariff. He had declined this and suggested, that they should put up a factory in England of their own—he had even offered to manufacture for them in Widnes, and they continue to sell to their customers.

I explained the difference between the situation of I.G. re the English market by the existing arrangement with us in Titanium, and their situation as Lithopone-manufacturers selling in the English market for their own account, and thought no such claim could rightly be raised in our case. — He was glad to hear this.

I asked him, if his objection to a compensation also applies to us. He said no, it was obvious that we should

have a compensation for the market we had developed.—He had only mentioned the above matter for our consideration—in view of his experience in Lithopone. I told him, that the question of cooperation with him had been under much consideration in the National Lead Co., but when I left, no definite opinion had been formed, and in short Mr. Cornish's letter gave the situation.— There was a desire in the National Lead Co. to cooperate with him, if it could be done to mutual advantage.

There were certain matters in his letter to Mr. Cornish in which I could not see clearly what he meant:

1) That he was afraid of being "left out" by not having the composite pigment included—he will remember that the compensation for the same could not be agreed upon—he had not accepted the formula of 8 times the profit, as he will do in case of Frickers Zinc Oxide business.

He thought it must be considered that Fricker has a factory and various assets besides the goodwill. I agreed, but it should also be considered, that our business, although established, is only in its infancy with a lot of ploughing work done, the value of which is not expressed by the present business.—Zinc Oxide is a product, the use of which is fully developed, and only grows with the general growth of the business.—He agreed—and as he may have appeared to be asking too much, and did not want to stand in a false light (I do not remember his expression)—he would suggest, that we go to one or two auditing firms of high standing and ask their opinion—as he had done when he purchased Orr.—I thought his suggestion very interest-

ing. In a case like this though—where an estimate of the future possibilities also enter into consideration—an auditing firm may not have sufficient competence. Their opinion may though be helpful.

2) How should his expression "avoiding wasteful competition" be interpreted? Competition between Titanium and Lithopone is unavoidable.—I had already, when Mr. L.B. Robinson informed me of their purchase of Orr mentioned, that I thought this will come.

Mr. Robinson had been thinking of unjustified cutting of prices to the expense of both. All pigments compete with each other, and cutting of prices will be to no one's advantage.

By having Zinc Oxide, Lithopone and Titanium under the same direction, their sale could be worked to better advantage of all. They should carry on as different organisations, but be directed from one source. Modern business should go for "Concentration of legislation" and "Decentralisation of administration." —I thought this may be all right if the economic interests were the same in all three industries, but when he had 25% interest in Titanium, and perhaps 100% in Lithopone, it may be difficult.

He proposed that I should work out:

1. a general scheme,
2. take up the question of compensation with Thompson & McLintock (auditing firm independent of him), and his son take it up with Honeymoon & Level (their auditors).

He asked me to keep in mind, that he had been holding back from Titanium in view of his friends. He

Exhibit 99

had been in Norway and seen the factory in Fredrikstad from outside before National Lead Co. had acquired it.—I told him, that when Titan Co. A/S. was for sale, I would in any case have given the National Lead Co. the first call in view of the previous cooperation.

I would think over his suggestion, but I could only consider it from the point of view of the Titanium industry—if the other relations between National Lead Co. and Imperial Smelting should be taken into account, it was beyond my competence.—He thought this all right.

I told him, I did not know how National Lead Co. will look upon bringing all into one pot.

Confidentially I mentioned, that Pisart had wanted an interest with us in Titanium, and I thought once, that the only way would be to bring all his pigment interests and ours—re the markets in question—into one pot, and both parties take a 50-50 interest, but neither McCarty nor Pisart was interested in that.

I told him that 50-50 arrangements had its advantages, but also decided disadvantages, and asked how he would look upon a 49-51% division.—He said this was of no importance to him.—When I had worked out a scheme, he would give me his frank opinion. I told him I will think the matter over, and that I will be back in London in the beginning of August. Mr. Robinson will, according to his present plans, be in London then. In the meantime his son will ask their auditor's opinion as to compensation for the goodwill.

G. JEBSEN

16/7-31

364

Exhibit 100

COPY

November 6, 1931

Dr. G. Jebsen
Titan Co. Inc.
26 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your letters of the 21st, 22nd and 23rd ultimo, Nos. 404, 405, 406, and have read them with a great deal of interest.

It is a little early as yet to tell what the exact position will be in England when governmental policies are fully developed, but we received a cable from Mr. W. S. Robinson a few days ago advising us that he expected import restrictions at an early date and a tariff in February. Mr. Robinson, as you know, is usually very well informed.

We are at a certain disadvantage in our English business in buying in a country that is on the gold standard and selling in one with a depreciated currency.

All of these indications indicate to me the desirability of manufacturing in England at an early date, but I find that my associates are not entirely in accord with this idea. However, we expect to discuss the matter fully in the near future, and see if we can come to some unanimity of opinion. In the meantime, we will be glad to have your views.

I am sorry that it was necessary for you to make the reductions in salaries referred to in your letter of October 22nd, but you really had little choice in the matter. It is gratifying to know that the reductions were received in

such good spirit by all of the staff. The action taken by you with respect to your own salary is particularly appreciated.

I am continuing to come to the office for a few hours each afternoon, and find it very interesting and enjoyable. So far there has been no indication of fatigue.

With kind regards, I am,

Yours very truly,

McCARTY
Vice President

Exhibit 101

Letterhead of

TITAN CO. A/S

GJ/KL

Fredrikstad, Den November 17, 1931.

Mr. Evans McCarty,
c/o National Lead Company,
New York.

Dear Mr. McCarty,

Many thanks for your two letters of October 30th and the one of November 6th. I received the first two the day before I left Paris for going to Norway and your letter of November 6th today.

I am very glad to see that you are recovering well and enjoy the return to the office for a few hours each day. I hope that you will be careful and not overtax your strength —better take it easy and not risk a set-back.

Re. the English position.

We have particularly two factors which may make it desirable to put up a factory in England:

1. The tariff question.

As far as this matter will influence, I would suggest that we await further developments.

The election has given a majority for a National Government and not specifically for a tariff policy, and drastic tariff measures, if not proven absolutely necessary, will by many be considered as a misuse of the mandate given. On the other hand, as time passes Mr. MacDonald and his

followers may find it more and more difficult to keep up their position against the pressure from the conservatives.

In Germany the situation is most seriously considered as to what measures should be taken to keep up their exports.

As the factory at Leverkusen is not yet fully occupied and in view of the latest low production prices, I am most inclined to think that we should still wait some time for further developments before making any decision, as far as being influenced by the English tariff policy.

2. The erection of a factory by competitors.

The danger of this should be followed closely. Mr. Beschorman informed me of the approach which has been made to the "Associated Lead", and I should appreciate much to hear from you whether your contact with Du Pont has developed any further information.

As to the National Titanium Pigment Company in England, there are no specific news. They have though not ceased their activity, as Greeff & Co. encounters their competition to the same extent as previously. Mr. Heaton mentioned today in a letter that he has authoritative information that our competitors are experimenting with precipitation of TiO_2 on colloidal clay—a matter which Mr. Heaton thinks of interest, as this base will show the advantage of less settling compared with Blanc Fixe and insolubility compared with calcium sulphate. Mr. Heaton does not though mention whether the competitors referred to are the National Titanium Pigment Company or Montecatini.

I have been in Fredriksstad a week, going through the position here.

I requested Mr. Knudsen some time ago to investigate the possibility of selling the dwellings we have for some of our employees, as these incur comparatively high expenses. We have three houses:

Exhibit 101

Kasernegaten 49 is a smaller property for which, with the reduction in the personnel, we have less use.

Fleischergaarden (the house occupied by Mr. Knudsen), for which it is considered not so easy to find a purchaser, and

Astrupgaarden, which, presumably, will not be so difficult to dispose of.

The yearly expenses will be less if we sell these properties and compensate the employees for the extra expense of renting apartments or houses elsewhere.

Since my suggestion was made, the Norwegian currency has depreciated and this may lead to higher prices, but people in Fredriksstad are not looking forward to any better times of local reasons.

My idea was that we should sell the houses at prices corresponding to the booked value. There are mortgages on the houses, so that the loss on depreciation of the currency is counterbalanced to a great extent by the loan.

It happens that we have found people who are interested in the two first-mentioned properties, and it looks as if we may obtain prices which Mr. Dahl, Mr. Vogt and Mr. Knudsen, who are better informed than I am about present values, recommend should be accepted and practically corresponds to booked value. I have asked them to try to make the sale subject to your approval; but if the purchasers will not agree to such a delay, we have thought it better to accept. I hope this will meet with your approval.

With regard to Astrupgärden, which is occupied by Mr. Mölbach and Mr. Hanssen, we have thought of waiting, as this property is easier to sell, and in case the depreciation of

the currency will effect higher prices as time goes, we may take advantage of this.

Considerable effort is made by the Government and authorities in Norway to keep the price level down, in spite of the currency movement, in order to keep the export industries going. Norges Bank (corresponding to Federal Reserve) wanted to follow the policy of keeping the Norwegian currency on a gold basis, but has been forced, partly by circumstances and partly by pressure from the other Scandinavian central banks, to depart from it. It seems that the stabilization cannot take place before the English currency is stabilized and that it will follow the movement of the £, as Norway by its export and important mercantile fleet is to a very great extent dependent on the English currency.

I leave tomorrow for Oslo and at the end of the week for the Mines at Rekefjord, to go through the new plant and will at the same time attend to the questions in Mr. Hallett's letter of September 25th. The production is about 750 tons a month at present and the TiO_2 content of the concentrates is 44.5% to 45%. Mr. Lenschow has the impression that the grinding installation is on the smaller side. With improvement of this, he estimates the capacity to 1000 tons per month, but hope to reach a higher figure. I will write you further about this after my visit at Rekefjord.

Mr. Dahl and Mr. Vogt requested me to send you their very best regards.

With kindest regards to Mrs. McCarty and yourself.

Yours very truly,

G. JEBSEN

Copy to Mr. Cornish.

Exhibit 102

Letterhead of

THE ROOSEVELT HOTEL

NEW YORK CITY
NEW YORK

November 21, 1931.

Dear Mr. Cornish:—

I received a rather important telegram from Tasker (Associated Lead) last evening and I am sending along a copy to your hotel as I cant get hold of you at Broadway this morning. As you may wish to send a copy to Mr. McArthy, I am enclosing an extra one and if you would like to have a talk with me on it during the week-end, I shall be available. If not, I will telephone you first thing on Monday morning and arrange to come down to Broadway as soon as you are clear of your morning correspondence.

You will remember I have discussed the probability of some such move coming about with you several times and it is really an outcome of talks Tasker was having while Mr. Beschorman was in London. I hope, therefore, your own views as to the Titanium future in England can be easily adjusted to fit into this position so as to keep the British Empire market under our control. If you can fortify me with your views on a workable joint effort, I shall go back home quite happy.

Sincerely yours,

ROBERT BROWN

Exhibit 102

COPY

COPY TO TELEGRAM

To Robert Brown, New York from H. S. Tasker, London.

"Have been approached by National Titanium Pigments with view of joint manufacture (at) Runcorn adjoining factory (of the) Chemical & Metallurgical (Co) who will supply buildings and facilities (on) advantageous terms and acid (at) very low rate. Company will cover British Empire in order (to) take advantage (of) future preferential tariff. Venture will be supported by chief interests (associated with) Chemical and Metallurgical Co. namely Barnatos (Johannesberg) Consolidated, and. Kleinworts and New Consolidated Goldfields (who are) also willing to (give) financial support. Felt such influential approach could not be neglected in view of their determination (to) proceed in any event and (I) have therefore signed (a) six months agreement binding upon both sides (for) joint consideration and action on the basis (that) they put in process, patents and goodwill, and plant (and) we put in Brown-Klein patents benefit (of) control (of) raw materials—but not the actual Hopkins & Williams (Travancore) Shares—benefit (of) selling organization at reasonable commission and for this we divide equity fifty-fifty with them after providing return for those who provide finances etc. The National Lead Co's contracts (for ore) of course (will) not (be) disturbed. If (in) meantime they incur trading losses in existing pilot plant during (the) six months we shall bear this up to One hundred pounds per month. Although (the) other side (are) anxious (to) proceed immediately (I) have persuaded them (to) allow

Exhibit 102

us (to) first approach National Lead Co. with (the) object (to) establish one factory including all three interests on the basis of we and National Titanium Co. divide joint holding (on basis of) fifty-fifty. Please try to ascertain whether National Lead Co. are willing (to) cooperate (on) above lines. If affirmative cable as early as possible their views regarding terms on the basis of New Company also take over their position (in) British Empire. In the event of this (the) Rundorn location is not absolutely essential. Reasonably quick action desirable in view of political situation.

TASKER

Exhibit 103

COPY

Dr. G. Jebsen
Titan Co. Inc.
24 Rue de la Pepiniere
Paris, France

December 14, 1931

Dear Dr. Jebsen:

I have your cable of December 2nd from Cologne in reply to mine of November 28th; also your letter of November 17th from Fredriksstad which was written before my telegram was dispatched.

Your recommendation that we await further developments before reaching a decision with respect to an English factory has much to commend it although it is always possible that our hand may be forced by competing interests.

So far we have had no advices of any duties being assessed upon titanium products by the British government. We read in the newspapers that the German government has been given authority to negotiate on all tariff matters, and it has occurred to us that a word from our friends in the I. G. might influence the government to make representations to England with respect to titanium directing the attention of the English government to the fact that titanium products are not made in England in an important way, and are being imported from Germany.

Mr. Robinson writes that there is a very wide move throughout the United Kingdom to extend local manufacturing, and titanium is definitely included.

In my letter of November 27th I sent you copy of a cable received from Mr. H. S. Tasker of the Associated

Exhibit 103

Lead Manufacturers telling of one project that is now being definitely considered.

In any event, I think our own minds should be as clear as possible as to what we want to do if we are forced to move quickly.

I do not know just what is the present position with respect to your negotiations with Mr. Robinson and the Imperial Smelting Corporation nor have I heard any final conclusions as to whether or not Avonmouth is a desirable point for the manufacture of titanium pigments. It seems to me that that is one of the first things we should clear up. I am under the impression that aside from the question of water supply Avonmouth is not so advantageous a point for the distribution of the finished product as is, for instance, London, but this may be offset by a lower price on sulphuric acid and partly also by concessions in freight rates from the Great Western Railway. Mr. Beschorman handed me some calculations bearing on this point, but I have not had an opportunity to consider them carefully.

Should the British government place a tariff on crude barytes our supply of that material might easily become an important question to us, and I have been wondering if in that event it would be advantageous for us to make some sort of an arrangement with LaPorte. As I understand it, LaPorte manufactures blanc fixe from Witherite obtained from a mine owned or controlled by them in the Newcastle district. If an advantageous arrangement can be made with LaPorte we would not only have a British source of supply, but would be saved the cost of a blanc fixe plant which is not inconsiderable.

You are naturally basing your calculations on the use of Norwegian ilmenite, but should Great Britain in pursuance of their present protective policy put a tariff on ilmenite we

might be forced to use Indian ore. At the moment there would be no difficulty in securing our supply of Indian ore should we think it wise to do so.

As I wrote you some time since, we have again been approached by Mr. Chase and his associates on the subject of an arrangement with respect to the Blumenfeld patents. These gentlemen would like to secure a working arrangement in the United States, and in order to get it are willing to be of any assistance they can in helping us to secure a similar arrangement in Europe. They claim that they have no interest in the European situation whatsoever. I understand that there is a possibility that Mr. Blumenfeld may be in New York on his way back from Japan before the end of this mouth in which case an opportunity will be afforded to discuss the matter of his personal interest with him. I have told Mr. Chase that this was his part of the project, and we would await some definite suggestion from him.

I do not know just how far it is wise for us to attempt to go in gathering all interests into one camp before starting an English factory, and it may be that we will do well to go ahead on our own, and deal with the other interests later.

It has been so long since I have had an opportunity to discuss these questions with you that I feel I am not very well acquainted with your views on the subject.

In connection with the negotiations with Mr. Robinson it will interest you to know that we have decided not to join him in his lithopone and zinc white businesses.

With kindest regards for you and Mrs. Jebsen, and every good wish for Christmas and the New Year, I am,

Yours very truly,

McCARTY

Vice President

Exhibit 103

CABLEGRAM

1931 DEC 2 PM 11 13

DW240B KOELN 26 2
NLT MCCARTY LEADCO NEWYORK,

LEADCO MCCARTY.
c/o NATIONAL LEAD CO
111 BROADWAY

RECOMMEND AWAIT FURTHER DEVELOPMENTS ENGLISH AND CONTINENTAL POLICY BEFORE ANY DECISION REGARDING FACTORY ENGLAND LETTER SENT FROM NORWAY NOVEMBER 17 REGARDS.

JEBSEN.

Exhibit 104

COPY

December 15, 1931

W. S. Robinson, Esq.
95 Gresham Street
London, England

Dear Bill,

Many thanks for your letters of the 25th and 30th November.

I am glad to hear that you escaped pneumonia, and hope that your stay at the seaside has put you on your feet again. These must be very difficult times for you, and you will have to take care of yourself in every way that you can.

Your letter to Mr. Cornish on the subject of exchange was very interesting indeed.

While we sustained some loss on our balances in London they were relatively small compared with the losses on open customers accounts and undelivered contracts for white lead sold in sterling. Fortunately, however, the loss on the exchange will not exceed the profit in the merchandise. We should have been warned by your letters and comments when you were here in June, but it seemed incredible to us that England would abandon the gold basis even temporarily.

Mr. Beschorman tells me that he has written you with respect to our participation in the Orrs and Frickers businesses.

In so far as titanium is concerned I think that both Mr. Cornish and Dr. Jebsen would like to postpone building a factory in England until there is more certainty as to sterl-

ing values and as to the policy of the English government with respect to a tariff on titanium. It seems to me quite likely, however, that if we wish to protect our position in Great Britain we shall have to act before these matters are definitely settled.

So many of our people have had a hand in these conversations, and I have been absent from so many of them that I am not sure just how matters stand at present.

One of the first things that we shall have to do, of course, is to determine whether or not Avonmouth is a desirable location for a titanium plant. My impression is that there was some question as to whether the supply of fresh water was adequate, and Mr. Robson was to investigate the matter. I have not, however, learned the results of his investigations. Apparently Avonmouth is at some disadvantage with respect to London in the matter of freight charges, but these can be offset to some extent by a lower cost for sulphuric acid, and it is also possible that in order to get a plant located on their lines some concessions may be obtained from the Great Western Railway. That is a matter you will no doubt discuss with Sir Robert Horn at the proper time.

Another question for us to decide is whether we wish to make an attempt to bring the several groups of patents under one control before embarking on the enterprise. This may be possible, but it is likely to delay matters, and it may be better for us to make a start, and deal with competing interests later.

I have written Dr. Jebsen with respect to all these matters. He has just returned to Paris from Norway, and is now in a position to deal with them all very promptly.

Exhibit 104

You probably have formed some fairly definite ideas yourself with respect to this business, and your views will have great influence with us.

Your letters give no information as to where you will b at Christmas time nor as to what your winter plans are. You have not spent a winter in England for many years, and I am wondering if you are going to risk it this year particularly in view of your recent illness. If Santa Barbara tempts you, and you can be away from London long enough for such a journey in these troublous times we will look forward to the pleasure of seeing you in New York.

Do not be disturbed about my health. My strength does not come back as rapidly as I had hoped, but it is returning slowly, and I am enjoying my office contacts very much.

Mel joins me in love and best Christmas wishes for you and Gertrude.

Sincerely yours,

7713

Exhibit 105

Letterhead of

TITAN CO. A/S

Mr. Carter ✓
Mr. Beschorman ✓

No. 418.
GJ/AK

Paris, January 4th 1932.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your letter of December 14th. This has crossed my letters of December 8th and 9th, which partly answer the questions you put.

In the following I will try further to answer your various questions, as far as I can under the present circumstances.

The conditions of the world at the moment are such, that any definite engagement, based on politic movements, may prove wrong.

Personally I am at present inclined to think that when the economic war is over, we may find the various important European countries with moderate tariff barriers, which make it advisable to erect factories in markets like England and France when these markets are sufficiently developed. This development has, as you know, not been so rapid as it looked like some years ago and, although there may be a general change in 1932, we need also a considerable increase

of the sales before this point is reached. In the meantime, it will probably be more economical to base ourselves on the factory in Leverkusen, which is not fully occupied.

Re England.

Your thought of a possible effect of representations from the German Government to England, with respect to Titanium, did fall in with my own. Nothing has been done by the I.G. hitherto and Mr. Holm expressed over the telephone the opinion that the German Government has so much more important matters to deal with at present, that they will not consider it opportune to take up such a matter. (You will know that a 50% dumping duty has been put on Lithopone since you wrote, and Mr. Holm considered this caused by the forced import from Pisart.)

I am more afraid that the English Government's attention to Titanium will be drawn by English interests, than by German.

It will of course be unfortunate if an English Titanium factory should be erected by competitive interests, and the idea with the British Titan Products Company—as a sign that we intend to put up a factory in England—not meet the purpose.

It is difficult to understand that the Associated Lead Manufacturers will start a titanium manufacture, knowing as we do, what it costs to get a factory well operating as to time and money,—and with us as competitors. It seems to me that the only excuse of such a step would be ignorance. I hope it will be possible, with your 20% interest in Associated Lead, to make it clear that such an enterprise will mean a loss of money and no profit.

Exhibit 105

Re Mr. Robinson.

I have done nothing vis a vis Mr. Robinson (except inquiry re water-supply), as Mr. Beschorman last autumn, when leaving England, wrote me that "the situation would be discussed in New York and some sort of decision arrived at, of which I would be informed". It seemed mal à propos in the meantime for me to take up the matter with Mr. Robinson or his son.

You will remember from my correspondence, late autumn 1930, that Avonmouth is not well placed from the point of view of freight rates. This was chiefly based on rates for water transport or with trucks, this being cheaper than railway. Mr. L.B. Robinson expressed the opinion that various other factors may counterbalance this, and intended to make an investigation in this connection, which however had not materialised last summer. He had at that moment in thought later to put up a Lithopone factory in Avonmouth and, in view of this and his presumably better knowledge of English conditions than mine, I have postponed to form a definite opinion.

From our investigations hitherto, Liverpool, London or Newcastle are indicated as far as freight rates are concerned.

Laporte's position in Luton seems to me not favourable for a titanium factory—it being in the middle of the country, with extra costs of transport for incoming materials and probably difficulties with the disposal of our Sulphuric Acid—Iron Sulphate solutions. The Blanc Fixe we bought from them for Fredriksstad was not very satisfactory, wherefore we preferred to make our Blanc Fixe from Barium Carbonate.

Exhibit 105

It is difficult to believe that the English Government should go so far as to put a tariff on crude Barytes and Ilmenite.

With regard to the Indian Ilmenite, the freight rates will—I presume—represent some handicap and not always remain as low as at present.

Re Blumenfeld.

From Mr. Blumenfeld's office I am informed that he will be back here at the end of January or beginning of February.

Mr. Blumenfeld does not, as you know, inspire much confidence, and any arrangement with his group would, I believe, be facilitated if his interest was controlled by somebody else of his group, of a more responsible nature and trustworthiness.

The negotiations last spring developed the following points:

Commercial Solvents' interest in England was, according to Blumenfeld, limited so, that they could do nothing without him. It seemed, though, that Commercial Solvents had some rights to Blumenfeld's English Patents, and I have the impression that Mr. Ticknor and Mr. Chase thought, this, together with Blumenfeld's weak financial position, would enable them to bring about an arrangement giving them the control of his interest in England.

Montecatini entered, though, also into the picture, as it had a right for some years to export to England.

On Mr. Ticknor's and Mr. Chase's suggestion, based on their talks with Donegani, it was assumed by them that Donegani would accept a certain arrangement. When I met Donegani with Blumenfeld, it appeared, though, that

Exhibit 105

Donegani demanded considerably more and seemed to have no regard for his agreement with Blumenfeld, as this has been represented to me by B. Blumenfeld did not seem to have sufficient strength to keep Montecatini to their agreement, and suggested that we should make an arrangement with him and fight Donegani together afterwards. I declined to buy a law-suit, and the other alternative was to try to conciliate the two. Mr. Burton made an attempt with not much result. I would not follow their suggestion to go between; both Blumenfeld and Donegani seemed to hope that we would make a further sacrifice for the sake of an arrangement.

Also the English position with respect to the composite pigment was left open in your talks with Mr. Chase.

My impression, as the negotiations developed, made me less and less interested in an arrangement. I tried, though, to develop the matter as far as possible, up to such a point that an arrangement might be made in case this was considered desirable for your interests in U.S.A.

When Mr. Beschorman was in Leverkusen, it was agreed with Dr. Kühne that the contact with Dr. Mayer of Aussig, in this matter, should be continued, expressing to him that, with Dupont's entrance, the question had been postponed, but it might be advisable that he tried to make an arrangement with Blumenfeld, by which Aussig takes over the control of the same countries as T.G.m.b.H., as this might facilitate any future arrangements between these two companies.

Mr. Ticknor said to me last autumn that Mr. Ewing, Dupont's representative in London, would see Donegani this autumn, and, as Dupont has many points of interest together with Montecatini, Mr. Ewing might influence him.

It seems to me that Commercial Pigments or Dupont are nearest to clear up the matter between Blumenfeld and Montecatini. They must have a clearer view of the relations between these two, and should have influence with both. If Dupont took over Blumenfeld's European interests, we would have some more responsible people to deal with.

The value of the Blumenfeld French group is chiefly a nuisance value. What this represents is difficult to say under the present circumstances, as it—first of all—depends upon his ability to get capital. His reputation in France will make this difficult for him and, as far as I know, most of the important groups in France have got enough of him. He has, though, connections with Mines Domaniales de Potasse d'Alsace, which has a factory in Rouen, and Blumenfeld talked of putting up a factory with them. The present conditions in France are, though, not encouraging.

Blumenfeld's sales policy generally has been to cut prices. This is particularly experienced by Mr. Gilbert who meets him as competitor also in other products than Titanium.

I believe the wisest thing to do is, as you have done—await that Mr. Chase develops some suggestions.

I have noted with much interest your decision that you will not join Mr. Robinson in his Lithopone and Zinc White business.

In view of Mr. Beschorman's conversations in England and the above mentioned letter from him, and as I personally have considered it better to await developments—I have postponed any initiative on my part.

I think, though, it would be well to continue the study of the best place and conditions for an English factory.

Exhibit 105

On the other hand, any move by me may interfere with the conversations which have gone on by your people.

With regard to Mr. Tasker's plan, the only matter which seems to be of interest to us is the facilities offered by Chemical and Metallurgical Company as to Sulphuric Acid. It would be interesting to know on what terms the supply of Sulphuric Acid is thought to be.

Please extend my best wishes for the New Year to all friends in the National Lead Company.

With the kindest regards for you and Mrs. McCarty and every good wish for the New Year,

Yours very truly,

G. JEBSEN

P.S.—The calculations re freight rates from Avonmouth were based on rates for water or road transport. The railway rates were special—and even so they were higher—in some cases considerably higher.

I enclose a list of the rates from Avonmouth to various places.

Copy to Mr. Cornish.

Exhibit 106

January 8, 1932

Dr. G. Jebsen
Titan Co. Inc.
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have not written you in reply to your letters Nos. 407, 408 and 409 regarding the English position as there have been no developments during the holidays.

Our people here are inclined to share your views, and await developments, but Mr. Robinson writes that he considers it very unwise to delay.

My own opinion is that sooner or later we will have to have an English factory if we wish to maintain our position in the British market, and that the necessity for it may come sooner than some of us now anticipate. In view of this, I think, we should have as definite ideas as our present information permits as to what we want to do in the event that we decide to manufacture in England.

It may or may not be possible or desirable for us to clear up the patent situation before we start. Nothing has been heard from Mr. Blumenfeld since my last letter to you on the subject, and yesterday I suggested to Mr. Chase that he attempt to formulate some proposal for the rights to the Blumenfeld patents in England so that we might have something definite to begin with. I fear that the European situation is too complicated for us to deal with all countries at one time.

On November 27th I sent you copy of a cable from Mr. Tasker. We heard nothing further from him on the

subject until yesterday when a letter arrived stating that he would write us shortly with respect to titanium matters. We will try to keep you posted with respect to this correspondence, but there is no reason why you should not meet Mr. Tasker the next time you are in London, and discuss the position with him.

We have no desire to have the Associated Lead Manufacturers share in the management of the English business, but should we form an English company it might be wise to allow them to participate to a small extent as they are large potential buyers as well as potential competitors. In addition to this they are largely interested, as you know, in Hopkins & Williams Travancore Ltd.

I think that heretofore all your plans for an English factory have been based upon the use of Norwegian ore, but it may prove to be desirable to use ore of British origin in which case the Travancore deposits would be of interest. For your information, these sands containing 52% TiO_2 can now be bought for from 45 to 50 shillings per ton c.i.f. United States ports.

Please let us know by cable when you next visit London as there may be some matters we would like to put before you at that time.

Your letter of December 23rd, No. 417, has just been received, but I have not had the time to study it.

With kind regards and every good wish for the New Year, I am,

Yours very truly,

Vice President

Exhibit 107

January 12, 1932

Dr. G. Jebsen
Titan Co. Inc.
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Some weeks after his return from Europe last autumn Mr. Beschorman handed me some draft copies of proposed agreements between the Imperial Smelting Corporation and British Titan Products which he said he had received from you. As far as I can find there is no further information here concerning them. They appear to be the result of your conversations with Mr. L. B. Robinson, but of that I am not sure.

Although I have not compared them carefully the agreement dealing with the license appears to follow the lines of the agreement of 1920.

The agreement respecting the price of acid is based partly upon the profits in the business.

We presume these contracts embody Mr. Robinson's ideas, but we have no expression of your views concerning them.

As a matter of fact, we over here do not know just how your negotiations with Mr. Robinson stand, and will appreciate it if you will let us know what the situation is.

With kind regards, I am,

Yours very truly,

McCARTY
Vice President

Exhibit 108

Book D—page 351

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, February 18, 1932, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Brodrick, Carter, Cornish, Croft, Field, Rockwell, Sidford, Taylor and Thompson.

Approving proposal to W. S. Robinson for organization of new Company to handle titanium business in Great Britain, capitalized initially at £500,000 to be issued as follows: £250,000 to Titan Company, Inc., (£125,000 thereof for license under patents, technical knowledge and good will and £125,000 thereof for cash), £125,000 to Imperial Smelting Corporation for cash, and the remaining £125,000 to Imperial Chemical Industries or other satisfactory associates for cash.

Exhibit 109

Mr. Cornish has a copy of Dr. Jebsen's letter

DR. G. JEBSEN

Care of R. W. Greeff & Co., Ltd.
Thames House,
Queen St. Place.
London. E.C.4.

18th Feb. 1932

Mr. Evans McCarty,
Vice President,
The National Lead Company,
111, Broadway,
New York. U.S.A.

Dear Mr. McCarty,

My best thanks for your two cables :-

(1) "Please consult W S Robinson and ask him to show you recent cables and correspondence stop will appreciate your opinion"

(2) "If you approve suggest that you propose to Robinson that deals Titan products have initial capital of £500,000 stop. £125,000 to be issued to Titan Co for license technical knowledge (of) and goodwill of established business further £125,000 to be issued to Titanco for cash and £125,000 to Imperial Smelting Corporation for cash remaining £125,000 to be sold for cash to ICI or other prospective partner stop question of location of plant contracts for acid and ore may be dealt with separately if desirable stop should retain Greeff as selling agents to preserve continuity of business stop If plan not approved by Robinson invite counter proposal"

Exhibit 109

I have had two talks with Mr. Robinson and submitted to him the suggestion contained in your last cable, however, without indicating that somebody else could be taken as partner instead of I.C.I. I also left out for the time being any special agreement for the supply of raw materials mentioning only that I presumed we would have these on the most favoured customer conditions.

I told him that I personally would prefer to have 51% interest as I thought this would be of advantage to all on the point of your management, but I did not make it a condition. He thought this might be arranged with voting shares. He mentioned that I.C.I. might say that this, being a British industry, the majority ought to be in British hands. On my reaction that that would be the end of our negotiations he expressed the view that we might always talk about it. We finished up that he would say to the I.C.I. that there was an opportunity for them and him to make an arrangement with us on the basis of 50:50 interest.

On his question I told him that a preliminary calculation for a factory of 1200 tons Ti02 and 5000 tons of Standard T annual output had shown a cost of about Kroner 4,000,000 or £220,000, not including a factory for barium sulphide, cost of site and various other minor items. The calculation was made by a Norwegian engineer—Mr. Mulbach—on the basis of Continental experience and the Pound or Kroner to have Gold value or that "£1 was still worth 20/- in England". With increasing domestic prices the figures must be different. To this should be added working capital. (Later I informed him that the capital employed in our German enterprise was around Marks 7,000,000.) He expressed the opinion that the domestic price level will not increase for some time to come.

He evidently thought £375,000 cash very much. The company should not do banking business. Capital could be provided for but not called in unless necessary. He would expect a company with £500,000 capital to show normally a nett earning of £50,000. I thought this could be expected as a normal nett profit of £6 per ton for Standard T and £19 per ton for Ti02 seemed reasonable. Our present English price would be too high to consider as a basis for a normal nett profit.

On his request I informed him confidentially of the quantities delivered to customers within the British Empire in 1931, and that a rough estimate had shown an earning of about Mks. 250,000—this last figure with the reservation that we had not yet definitely established it.

He mentioned his information to you that his output for Sulphuric acid on the basis of his present capacity in Avonmouth has its market. I told him I considered a higher freight rate from Avonmouth to consumers compared with London or Widnes corresponded to 5/- to 7/- lower price for Sulphuric acid in Avonmouth.

Mr. Robinson did not express a definite opinion as to the situation of a factory but from our conversation I gathered that he was still interested to have it in Avonmouth as he intends to increase his capacity by about 100,000 tons sulphuric acid a year. I could not see the advantages of Avonmouth and thought Widnes might be more interesting in view of a possible arrangement for delivery of barium sulphide from Orr's factory which would be to the advantage of both. I had, though, postponed any definite opinion as I had been told that he had planned putting up a lithopone factory in Avonmouth. He mentioned confidentially that Pisart was considering erecting

a factory in Avonmouth on the basis of supplies from him. (Pisart must then have changed very much his opinion of Avonmouth as expressed to me some years back).

I pointed out to Mr. Robinson that we produced Sodium Sulphide as a by-product and it may be of interest to the I.C.I. to have the opportunity to handle this material from us in order not to have the trade disturbed.

Mr. Robinson will see the I.C.I. people to-morrow and I have an appointment with him on Saturday.

Considering the advantages and disadvantages I believe an arrangement on the above lines is interesting to us. Apart from both companies' general position it will represent a combination with the two most important sulphuric acid manufacturers in England who can, presumably, make acid cheaper than anybody else—I.C.I. in Billingham and Imperial Smelting Corporation in Avonmouth.

It does not appear from Mr. Robinson's conversation that he would be willing to give us a price for sulphuric acid cheaper than what may be considered reasonable in consideration of the quantities we may consume and presumably the Imperial Smelting Corporation and I.C.I. will have an arrangement between them for the regulation of the market, but if combined with them we will probably have prevented anybody else from manufacturing on the basis of cheaper acid than us.

If a combination with these two companies prevents anybody else from entering the industry—anyhow on a basis representing serious competition—it can be worth while to have them as partners also in view of the strength and influence they otherwise can exercise.

I told Mr. Robinson that we had been in no hurry as to the erection of an English factory in view of the German

factory not being fully occupied, but if the present trend of policy develops further we will have to put up a factory sooner or later in this country as we, under no circumstances, will let the English market go and I.C.I. have to reckon with our competition.

With regard to the Barytes position Mr. Robinson mentioned first that he controlled the only two mines in the United Kingdom—his son informed though that negotiations for the second mine were not concluded yet. Mr. W. S. Robinson told me he had been investigating mines in Devonshire and intended also to investigate some old mines in the Midlands. In Wrentnall he had ore in sight for about three years' consumption and a year's supply in Widnes. He was still importing Barytes from Germany and I gathered that he intended to continue to do so in spite of the 10% duty.

Mr. Tasker is away on holiday and will return next week. I saw Colonel Foster to-day—he sends his best regards—and touched on the question of the interest Goodlass Wall & Lead Industries take in Titanium. I mentioned incidentally costs and the trouble we have had in acquiring our experience and also that it has taken us three years to educate the Germans in the matter. I did not think there would be room for two factories in England. Colonel Foster agreed with this and spoke on general lines of co-operation. I mentioned the importance of mixtures of white lead and titanium and suggested that the A.L.M. should work in this direction being supplied by us. Colonel Foster offered to arrange a lunch with Mr. Tasker on my plan to return to London in the first week of March.

I leave on Saturday evening for Frankfurt to deal with certa matters with Mr. Weber Andreae regarding sales.

Exhibit 109

Mr. Weber Andreae has expressed the desire to have me meet Dr. von Schnitzler who is leaving for New York on Tuesday the 23rd. He is one of the most important, if not the most important man on the commercial side of the I.G. He is a lawyer by education and somewhat of the type of the Germans of the families in the best positions before the war.

I had a visit of Mr. Weber Andreae in Paris in January and told him en passant that his visit once to The National Lead Company of New York was much appreciated and he suggested that von Schnitzler should make a call, which I encouraged—(I thought it would be well the closer the personal connection can be established)—and I understand Mr. Weber Andreae has arranged that Dr. von Schnitzler shall call on Mr. Cornish and you during his visit to New York.

With kind regards,

Yours very truly,

G. JEBSEN

P.T.O.

P.S. I enclose statement of deliveries to customers in the British Empire.

Exhibit 110

COPY March 5, 1932

ear Dr. Jebsen:

Your letter of February 18th to Mr. McCarty has been read by all of us with much interest. We expect another letter from you shortly.

I think that the sales that they have been making in England, and the profits made thereon, justify the demand for £125,000 for the good will and knowledge of our people. The losses suffered in this business in learning about its various conditions, our ability to overcome those losses and reduce the cost of making titanox from 28¢ a pound to its present price, entitled us to a fair compensation for that experience which would become available to a newcomer.

I would not like to make any arrangements whatsoever with people whom I would distrust if they had more than one-half the stock. If there is any reason in the laws or customs of England to preserve the theoretical control of the company in people living in England, I know of no reason why we should complain of that condition at this time. I therefore would not make it a sine qua non that we must have 51% of the stock—or even more than 49%—if the laws of England make that desirable.

I expect to hear from you very shortly and therefore will not at this time further discuss your very interesting letter.

Sincerely yours,

E. J. CORNISH

P. S. They hope to operate on Mr. McCarty about the middle of next week and I will keep you and his other friends advised when anything worthy of a cablegram happens.

Dr. Jebsen
c/o R. W. Greeff & Co. Ltd.
Thames House, Queen Street Place
London E. C. 4, England

Exhibit 111

No. 6
GJ/AK

..... Paris, April 7th 1932.

Edward J. Cornish Esq.
President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Cornish,

I beg enclosed to send you copy of a letter from Mr. Robinson, which speaks for itself.

I leave for London next week in order to take up the matter with Major Barley and Robinsons.

It is of course not chiefly the patent situation which should be taken into account by the I.C.I., but our total position in the titanium industry, our sales and goodwill in the English market and our many years' experience from manufacture on a large scale.

I hope and think the I.C.I. will realise the fight they will have with us in case they want to take up the titanium industry with no agreement with us.

I.C.I. has last year shown quite some improvement in their position. Nevertheless they have had to go through a very difficult time and are not out of the woods yet, with their great variety of interests and the many new enterprises they started some time back.

If their reference to several of our basic patents expiring in a year or two, means that we should have to reckon with lower profits, it should be remembered that the profits I have taken as a basis are in ratio to the profits from litho-

pone, or even lower, and a reduction of the titanium profits would presumably lead to a still larger proportion of the lithopone business to be taken by titanium.

This is of course a somewhat delicate matter, in view of the Robinsons' interests, and I will have, before the conference with Major Barley, to hear from Robinson more in detail, in what way he has discussed these matters with I.C.I.

It will be of interest to hear Major Barley develop his ideas.

I understand from your letters that you do not lay stress upon the company being financed in the way proposed by us as long as we receive £125.000 for our going business and have 50% of the shares.

It may interest you that Major Barley called on me in Norway in 1924 or 1925, to the purpose of I.C.I. taking an interest in titanium at that time. I told him then, that it was too early to start a factory in England and he asked me to keep in contact with I.C.I. and remember them when we thought the time was ripe.

I saw him once or twice after that, and I met him, Sir Harry McGowan, Mr. Mitchell and Mr. Nicholsen on a boat leaving New York, I believe in 1928. Major Barley expressed then still interest for Titanium, but considered that the I.C.I. had their hands so full up with other matters, that they could not attend to the titanium question then.

I wrote Mr. McCarty about our conversations.

Major Barley gave me at the same time the interesting information, that he considered the new works which they were constructing at Billingham, able to deliver acid at 25/- a ton.

Exhibit 111

As this was no by-product acid from zinc roasting, I considered the price very cheap. Dr. Kühne told me afterwards that the acid in Billingham was to be made of gypsum with cement as by-product and under favourable conditions, as in Billingham, with gypsum deposits on the spot and cheap coal, and the market for cement, the acid was to be had as a by-product for nothing.

The Billingham works were erected for the production of ammonium sulphate and, as you probably know, this industry is in a deplorable state because of far too many factories having been erected.

With kindest regards,

Yours very truly,

Exhibit 111

COPY

IMPERIAL SMELTING CORPORATION LIMITED

95 Gresham Street

London E.C.2.

4th April 1932.

Dr. G. Jebsén PRIVATE and CONFIDENTIAL
Société Industrielle du Titane
26 Rue de la Pépinière
Paris

Dear Dr. Jebsen,

Following further discussions of a general nature with Imperial Chemical Industries on the question of their association with us in the White Pigment industry, certain letters have been exchanged with reference to the best course to be followed in submitting a definite detailed scheme for consideration of their Directors.

In writing on these matters, and particularly the question of the disclosure of the financial return to be expected from the various branches of the industry, Major Barley has made the following statement:

"With regard to titanium white, for instance, our conclusions show that 6000 tons of pigments could be provided for by an investment of the order of £150,000 which would not justify a scheme on the scale put forward by Dr. Jebsen. The point, therefore, arises, would the National Lead Company agree to a scheme which was capitalised on the actual requirements of the situation and which

Exhibit 111

would take into account the fact that the patent situation in this country becomes extremely weak by next year".

I do not know whether the reference to 6000 tons of *pigments* is intended to refer to pure TiO2 or the composite pigments but it appears that the I.C.I. have already drafted some scheme in relation to Titanium of which we have not previously been aware. In the circumstances we feel it would be preferable for Major Barley and yourself to discuss the matter direct rather than that we should attempt to enter into discussion on the details of your business and estimates of capital required.

If this course appeals to you, I would be glad to hear when you may be free to come to London so that we may make the necessary arrangements for a meeting. In the meantime, we have not communicated with Mr. Cornish as it appears preferable for this to be done by yourself—rather than have advices to them coming from two sources.

Kindest regards

Yours sincerely,

L.B. Robinson (sign.)

Exhibit 112

Paris, April 27th, 1932

GJ/HS

Major L. J. Barley,
c/o Imperial Chemical Industries Limited,
Millbank,
London S.W.1

Dear Major Barley:

As requested by you during my conversation on Wednesday the 13th, with you and Mr. L. B. Robinson, I have the pleasure to confirm the following:

National Lead Company is willing to co-operate with Imperial Chemical Industries and Imperial Smelting Corporation in the development of a titanium industry in the British Empire on the following basis:

A limited company to be formed with a capital of £500,000 divided as follows:

Imperial Chemical Industries	£125,000	against cash payment
Imperial Smelting Corporation	125,000	" " "
National Lead Co. or its subsidiary	125,000	" " "
do. do.	125,000	for compensation for patents, trade mark and goodwill.

A royalty of 25 Norwegian Kroner per ton produced of titanium dioxide or its equivalent to be paid by the Company until the end of 1936.

The British Company to erect a factory in England for a production capacity to be decided upon.

Exhibit 112

In case it should on closer study be found that less capital is required at the start, I am willing to recommend to the National Lead Company that only the amount of cash capital necessary will be called up, it being understood that in case an extension of the business is built up on profits remaining in the Company some method may be adopted in order to arrive at the result that the National Lead Company's group shall always retain one half of the voting power and shall receive one half of the profits either as dividend or by capitalisation of profits.

Thus on a capitalisation of £500,000, the whole of which is not required at present, the position would be:

125,000	(A)	shares allotted to N.L.Co. fully paid as consideration for goodwill and patent rights.
125,000	(B)	shares paid up only to the extent of one-third of the cash required and held by I.S.C.
125,000	(B)	shares paid up to the extent of another third and held by I.C.I.
125,000	(B)	shares paid up to the extent of another third and held by N. L. Co.
500,000		

The profits would be divisible equally among all the shares irrespectively of whether they are fully or partially paid. Thus the profits of any year would either be distributed as dividend or if it was desired that the bulk of them should be kept in the business one quarter would be paid in

dividend on the A shares and the balance utilized in paying up the uncalled capital on the B shares.

The following is intended as a brief statement of the main principles we agreed upon as a basis for the co-operation between the parties.

PERIOD.

We should co-operate for a minimum period of 30 years.

If any of the parties wish to terminate the arrangement at the end of this period the party shall at least 12 months previously offer its shareholding to the other parties pro rata with their interest in the Company at a price corresponding to the book value exclusive of any value for patents, trade marks and goodwill. (In default of agreement, the price to be settled by arbitration).

Shares not bought by one party can be purchased by the other parties in ratio to their holdings.

If no party wishes to terminate the arrangement, it continues in periods of ten years.

If no member is willing to purchase the shares offered for sale, they may with the consent of the remaining members be disposed of to other parties. Such consent not to be unreasonably withheld.

TERRITORY.

The British company shall manufacture and sell within the British Empire and Egypt with the exception of any part of North America.

LICENSES.

I beg further to state the following:

The titanium industry was originally started by the Titan Company A/S., Norway, and the Titanium Pigment Co., U.S.A., which in 1920 made an agreement of co-operation by exchange of all technical experience and exclusive

or nonexclusive licenses under their various patents for the production of titanium products.

In order to avoid competition and friction, it was agreed that each company should confine its activity of manufacture and sales to a definite territory; the Titanium Pigment Co. to North America and the Titan Co. A/S to Europe, Asia, Africa and Australia. As regards South America, this was left open for both companies.

National Lead Company acquired at that time a substantial and later a controlling interest in the Titanium Pigment Co.

In 1924 the National Lead Company acquired the controlling interest in Titan Co. A/S. and afterwards this company's patent interests were transferred to the Titan Co. Inc., U.S.A., which was formed and controlled by the National Lead Company.

In 1927 Titangesellschaft m.b.H., Germany, was formed by I.G.Farbenindustrie and Titan Co. A/S. (later subrogated by Titan Co. Inc.) for the purpose of developing a titanium industry within the territory of Germany, Poland, Russia, Austria, Hungary, Checkoslovakia, Switzerland, Roumania, Yougoslavia, Bulgaria, Greece, Turkey, Japan, China, Spain and Portugal.

This Company by agreement exchanged licenses with the Titan Co. Inc. for their respective territories and the Titan Co. Inc. in turn exchanged these with the Titanium Pigment Co.

Titangesellschaft is by agreement with I.G.Farbenindustrie the exclusive licensee under all patents and inventions of I.G. in the "Licensed Field" for the whole world with the right to give sub-licenses.

The I.G.Farbenindustrie has further undertaken, besides covering its own requirements of Titanium products, also when giving licenses on processes involving the use or consumption of Titanium products to oblige its licensees to cover their requirements from Titangesellschaft m.b.H. or its licensee or sub-licensees.

I beg to quote the definition of the "Licensed Field" agreed upon with the I.G.Farbenindustrie.

> "By this designation is meant all methods and "processes in the field of the manufacture of tita- "nium compound containing two per cent (2%) or "more of the element titanium as well as the titanium "compounds themselves. By titanium compounds "are understood substances, materials, and composi- "tions in which the element titanium is combined "in a chemically or physically combined state. For "instance the composition pigments of the character "of the titanox belong to them. Simple mixtures do "not come under this definition."

The agreements provide that export of products within the "Licensed Field" outside the territory of the licensee cannot be undertaken by the licensee which also shall endeavour to prevent its customers from doing so.

Articles manufactured by the customers of the licensee can be freely exported except to and from North America in respect of which the parties shall endeavor to prevent such exportation in case the titanium product constitutes such an important part of such finished article that its sale will substantially interfere with the sale of the titanium products of the licensee in the territory to which the export has taken place.

Exhibit 112

(One exception is made in so far as the Titan Co. A/S., Norway, in its agreement with Titangesellschaft m.b.H. is reserved the right to export and sell maritime paints through its maritime organization. This deals almost exclusively in supplying Scandinavian ships and the sales constitute a relatively small volume of export).

If any party should withdraw from the co-operation by selling as above foreseen its interest in the British company, the above mentioned exclusive licenses granted by that party to the company become nonexclusive licenses.

It is presumed by the National Lead Company that its co-operation with Imperial Chemical Industries Ltd. and Imperial Smelting Corporation Ltd. will be based on the same principles for the purpose of avoiding friction and establish confidence and good co-operation between the various companies.

In order to preserve the continuation of the sales, R. W. Greeff & Co. Ltd., who act as sole distributor for the United Kingdom, Ireland, Australia and New Zealand shall continue in this or a similar capacity for the British company. In view of your remarks regarding this matter I add, that in case the efficiency of R. W. Greeff should not be satisfactory, the Board of the new company must be free to make other arrangements in the interest of the British company.

The British Company to have the right to draw their requirements of raw materials from Imperial Chemical Industries Ltd. and Imperial Smelting Corporation on most favoured customers' terms.

For reasons verbally explained, the conditions of delivery of sulphuric acid and Bariumsulphide or Barytes should be agreed upon separately, before or at the time a co-operation is to be definitely decided upon.

Exhibit 112

Each party to vote at General Meetings and to be represented on the Board of the Company in proportion to its shareholding.

I wish to add further that in case it should be considered desirable that Goodlass Wall and Associated Lead Industries Ltd. should be associated with the British company as shareholder, this will be agreeable to the National Lead Company, and an arrangement will then of course have to be made with them based on the same principles as above outlined.

If the above principles are acceptable to the parties concerned, and when the same are accepted, I shall be glad to follow your suggestion and in co-operation with representatives of the companies undertake a study to establish an estimate of the cost of production and the erection of a factory in England.

If the result is satisfactory, agreements in detail are to be prepared.

As to the final plans for the factory to be made when co-operation is finally decided upon, we shall look forward with interest to follow your suggestion of co-operating with the organisations of the interested parties in the manner you suggested for the purpose of establishing the best possible plans for the factory and of finding the most suitable location for the manufacture.

Yours very truly

A. JEBSEN

Exhibit 113

No. 7. Received May 11/32

GJ/AK

..... Paris, April 29th 1932.

Edward J. Cornish, Esq.
President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Cornish,

I returned from London at the end of last week, after having had various conversations there, with I.C.I., I.S.C. and Goodlass Wall & Lead Ind., and beg herewith to give a statement of the situation as I see it.

I.C.I. is seriously contemplating to take an interest in Titanium together with Lithopone and Zinc Oxide, considering that there is an opportunity at the present to arrange these industries so that they may develop on the basis of their merits without cutting each other's throat, and thus secure profits to all of them, and being of the opinion that each will have a place of its own and compete with each other in certain sections of the market.

It may be that I.C.I. also will consider Titanium alone, if they do not get together with I.S.C. in Lithopone and Zinc Oxide, but this has not been their starting point of view.

In this connection, I would mention that they have been experimenting with Titanium, but do not seem to have reached a basis by which they feel confident as to their calculation of possible cost.

Their interest in Titanium is probably also caused by its possible use in connection with various of their manufactured articles like Glyptal Resin and others. They have during last winter propagated formulas for paints, recommending the use of Titanium. It seems also that they seeuses for it in other industries, with which they are more or less connected.

The result of my conversation with Major Barley of I.C.I. in the presence of L.B.R., followed later by a meeting where also W.S.R., Mr. Clive Cookson and Mr. Tasker were present, is laid down in a letter to Major Barley, copy of which is enclosed and of which copies also have been sent to W.S.R. and G.W. & L. Ind.

At this last meeting W.S.R. criticised our proposal re the formation of a company, from the point of view that a compensation of £125,000 for our present business will represent ¼ of the interests in this industry for eternity, and he did not like that his part in the business should cost £1.- per share, whereas the price for ours in reality would be 10/- cash. He suggested that the compensation should be given in 6% limited preference shares—cumulative from the day the factory started its operations, which he reckoned to take 30 months in England (he may have included in this the first year of operations). The ordinary shares to be issued against cash. He did not express himself as to the division of the ordinary shares. Later he declared that he was willing to take a 17 to 25% interest.

Major Barley of I.C.I. had hoped that we all would enter the Company on the basis of only cash.

Mr. Cookson and Mr. Tasker talked about their patents and National Pigment Co's patents, which did not seem to interest anybody else much, except that W.S.R. seemed

inclined to buy them out against a small sum, in order to get rid of a possible nucleus of competition.

W.S.R. expressed rather strongly the view, that 51% of the Company should be in British hands, and felt confident that this would be accepted by the National Lead Company—on the basis of his experience with you.

I have not given up definitely the 50-50% proposition, but asked them what reasons they have for their point of view, mentioning that I thought National Lead Co. would not insist upon 50% if they had good reasons for 51-49%.

It seems that it is chiefly a matter of national feeling and pride.

We may have to give in in this question, which from your letters I understand will be accepted by you, but I believe a discussion of the reasons will be somewhat useful with regard to the future.

I did not enter into any discussion of W.S.R.'s comments on our proposal, but suggested that the three companies should all consider the matter and make us a proposal.

Before that meeting Mr. Robinson was informed about our present profits on the business in the British Empire, but not the others. I afterwards informed Major Barley of the same, which seemed to impress him considerably. The figures were:

Net profits on the present business in the British Empire after deduction of commission and publicity expenses.

Profit 1931

1°—based on average of production price plus general expenses in Leverkusen (incl. research) and large stock per 1/1-1931 $44.000.-

2°—based on production price
plus general expense in 1931 "53.600.-

Calculated profit in 1932

based on present sales prices and sales
in ratio to the first 3 months—
and expected production price
plus general expense

Sales: 375 t. TiO2 *Profit:* £18.400 = gold £14.350.
250 t. Extra T
1363 t. Standard T

He thought this information adds considerable strength to our claim of compensation, etc.

I have been somewhat hesitant to give this information before I new more about their attitude towards us.

I have the impression that it is not the intention of the I.C.I. to start a competition with us in case we do not come together, as they have their hands otherwise full up and will hesitate to make a fight—the matter not being of sufficient interest to them in such case, at the present. I believe, though, that, as time goes on, their interest in Titanium will be increasing, and therefore it would be wise to have an arrangement with them and their assistance already now, as they presumably can assist considerably in the development of the uses of Titanium.

With regard to G.W. & Lead and., I do not feel so certain that they will not try to develop a production on the basis of the National Pigments Co.—if they do not come together with us—although they no doubt will hesi-

tate before doing so. I believe they feel that they do not know much about production and costs of Titanium. Mr. Tasker expressed to me that they considered they should take up Titanium, but felt the situation was difficult, in view of the National Lead Company having not shown any reaction to their suggestions (or proposals).

Major Barley and I were not much inclined to bring G.W. & L. Ind. into discussion at the present stage, but this was more or less forced upon us by W.S.R. (We thought it was better to take up the matter with them later, as they presumably would have to accept the basis we agreed upon, anyhow.) From my conversations with his son and previous comments of W.S.R. regarding G.W. & L. Ind's management and their ability to compete, this was an unexpected change of W.S.R.'s attitude regarding this firm; it seems to have been the result of a conversation between him and Mr. Clive Cookson and Mr. Tasker.

The deciding influence regarding the conditions of an arrangement will rest with I.C.I., if they go in.

W.S.R. will, I believe, not like then to be left out in view of his interests in Lithopone and Zinc Oxide, even if Robinson and I.C.I. should not come together in this matter.

Re Sulphuric Acid.

Major Barley has based his calculations on 45/- per ton of 78% acid. Expressing my view on this price, he seemed first inclined to think that a reduction could be made, but at a later meeting he thought we would have to pay 45/-. He brought me together with a Mr. Wallis of I.C.I., who seemed to take care of their sulphuric acid interests. Mr. Wallis argued strongly for this price being reasonable, and

pointed out that the Metallurgical and Chemical Co. in Runcorn, who had put up a very modern factory, was selling at the same price, without employing their factory at full capacity, and [illegible] evidently not found it to their account to try to develop the market with lower prices. They had now an arrangement with the other sulphuric acid manufacturers. This factory is owned by a very rich and independent group. I suggested that there may have been other reasons for this result, but Mr. Wallis assured me that it was due to their production costs.

Major Barley said openly that we would have to meet the united policy of I.S.C. and I.C.I. with regard to sulphuric acid.

Asking me regarding Robinson's idea as to sulphuric acid, I mentioned the principle of the proposal worked out by L.B.R. and myself, according to which the sulphpric acid price should be based on a low basic price and a part of the profit calculated on the profit on pure Ti02. This idea seemed to interest him.

I presume it will be very difficult to break the convention regarding sulphuric acid prices and get better conditions than most favoured customers. The I.C.I. will presumably never accept that we put up a factory of our own, but will probably meet us with a price which will correspond to what it will cost us if we make it ourselves,—either alone or in conjunction with somebody else,—in order to get a lower production cost resulting from a larger output. It may be then, that a price based on selfcost incl. depreciation but no interest, plus a part of the profit, will be a better arrangement.

I should appreciate if you will have time to send me your comments to this.

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With regard to W.S.R.'s suggestion as to the compensation for our business and the capital structure of the Company, I shall be much obliged for your comments. It will probably not be the final proposition from the other parties, but it would be of great help, for my guidance, to have your opinion. From your letters I have the impression that in such case you would like to see us having 50% of the shares issued against cash. This will mean an obligation on our side to put up £187.500 cash, if and when £375.000 are required; I do not, though, definitely know whether you are prepared to do this. From our investigations hitherto it is likely that the means required for the start of the business will not be so much as foreseen by our proposal, but it seems advisable to make an arrangement by which the Company can call in sufficient means to make its development unhampered and not be obliged to go to all partners for consent as to the extension of the factory.

I must confess that W.S.R.'s proposal surprised me somewhat, as it is rare in my experience to see goodwill compensated by preference shares. It may be a desire on his part, not to engage himself with too much cash.

You will note from my letter to Major Barley the program laid down for the further negotiations.

Major Barley was very desirous of discussing the possible cost of the production and erection of the factory. I was, though, not inclined to do this before his Company had agreed to the main principles, as such a discussion would involve a lot of detailed information to be given to him. He did not hide that his calculations had shown a nice profit, but that he did not feel that he could trust them.

I have the impression that Major Barley does not consider the National Pigments Co's patents and position to be of any interest and, on Mr. Clive Cookson's question as

to Blumenfeld, he answered that they had no trade in the British Empire. He said that Dupont had a factory based on Blumenfeld and also Montecatini; Dupont, however, was not interested to erect a factory in the British Empire. He was interested in the information that Dupont and National Lead Company were good friends, and I have the idea that he may ask Dupont's point of view before I.C.I. takes a standpoint. This may lead to some complications, in view of Dupont's desire to make an arrangement with you for U.S.A. and the difficulty there is in doing so, without an arrangement also on this side. — I just mention this, in case you should hear anything from Dupont.

Major Barley expressed very definitely that a Company formed with National Lead Co., I.C.I. and I.S.C. as partners, in his opinion, would leave no chances for National Pigments Co. or Blumenfeld, and you will know from my previous letters, that this seems very likely also to me.

Looking forward to hear from you, I am, with kindest regards,

Yours very truly,

G. JEBSEN

P.S.—It will interest you that the factory in Leverkusen produced:

		Prod. cost per 100 Kg. excl. packing & general expense
January	211 t. TiO2 at	M. 74.52
February	271 t. " "	" 69.65
March	400 t. " "	not established yet.

Last year the production costs were: M. 95.34.

P.P.S.—For the sake of order, I enclose copies of my letters of today to Goodlass Wall & Lead Industries, and Mr. L.B. Robinson.

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COPY

Wm. S. Robinson

95 Gresham Street
London E. C.2

2nd May 1932.

Dr. G. Jebsen
26 Rue de la Pépinière
PARIS
France

Dear Dr. Jebsen,

I have read through the copy of the letter you have addressed to Major Barley and the A.L.M. following the conversations that took place here in London, and I would just like to repeat that I do not think the proposals for the capital structure of the proposed company will be found acceptable by our friends.

In determining what might prove to be so, one must bear in mind that nothwithstanding our repeated advice to establish some form of works in this country, you have not done so. You are therefore today facing the certainty of competition unless an agreement is made with your most likely competitors. The latter, we are bound to say, are not likely to accept any proposal which did not give *cash capital* a *first* charge on profits.

We are inclined to think that their views will be towards something on the following lines—

The Company to be formed with a capital of £500.000, divided as follows:

"A" Shares—375.000 for cash

"B" Shares—125.000, issued as fully paid to the N. L. Group for patents, Trade mark, good-will etc.

The profits, after amortization and reserves, to be divided—

1. In paying 7% on cash capital—"A" Shares.
2. Balance to be divided—25% to "B" Shares
   75% to "A" Shares.

I have not discussed this in any way with our mutual friends, and we believe that the business is one primarily affecting the National Lead Company and yourself.

Best regards,

Yours sincerely,
W.S. ROBINSON (sign.)

Exhibit 115

No. 11. Received May 20/32

GJ/AK

..... Paris, May 10th 1932.

Edward J. Cornish Esq.
President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Cornish,

Referring to my letter No. 7, I beg to add the following information:

In my first meeting with Major Barley, he had objections to our proposal that R.W. Greeff & Co should have the sales, and asked if this should be for ever. I pointed out that the National Lead Company wanted R.W. Greeff & Co as sales organisation, in order to preserve the continuity of the sales work, and I considered this condition prompted by the desire to have the sales developed as well as possible. Major Barley thought I.C.I.'s organisation could do better than R.W. Greeff & Co in the dominions and the colonies, and also with regard to certain industries where they have special influence. This is quite likely, and I did not think we should object to I.C.I. doing the sales in such cases. (R.W. Greeff & Co have the sales at present for the United Kingdom and Ireland, Australia and New Zealand. In South Africa, India, Egypt and other places, we work through other agents and connections.)

In the meeting with Mr. Clive Cookson and Mr. Tasker, Mr. Tasker also objected to R.W. Greeff & Co. Major Barley there expressed his satisfaction with the explana-

tion I had given him as to R.W. Greeff & Co continuing the sales.

These are the reasons for my corresponding remark on page 6 of my letter of April 27th to Major Barley.

From my last conversation with Major Barley alone, the following may be of interest:

We talked about the competition between Lithopone and Titanium, and I expressed your view in this respect. Major Barley very strongly assur[illegible]e, that their principle was, never to stand in the way [illegible] progress. They would be interested to develop ta[illegible] ongly, but price-cutting competition should not be allowed. Wishing to have this more clearly defined, I asked if he meant, that for instance it would be reasonable to make a price for Titanium White, which in relation to production price, gave the same profit as Lithopone in relation to its production price, and further, that, in case the production price of Titanium being relatively high because of a smaller outlet, the price to be fixed to stand in ratio to the production price to be expected when a larger production was reached. He accepted this as a reasonable way to look at it.

If our reasons for R.W. Greeff & Co as sales organisation were fear of the Lithopone interests, he thought we need not to fear this. I told him, I considered our standpoint was prompted, as mentioned, by the desire to see the sales develop in the best way. Major Barley mentioned, that they for instance had been developing a new method of making linoleum, which they will give to the linoleum manufacturers and alter their industry, and they might in that connection be able to create a large outlet for Titanium, which it would take us considerably more time to open up. I agreed to his point of view there.

I asked him if his remark, that the Titanium is linked up with Lithopone and Zinc Oxide, was to be understood so, that if they did not agree to W.S.R.'s proposal re these last, they would not be interested in Titanium. He thought he could not answer this at present. I.C.I. was looking over various industries at present, in groups, and they considered them in groups. It may be that they would also consider Titanium separately. It would be, though, a comparatively small thing to them then. I told him I would like to see I.C.I. take an interest anyhow in the Titanium industry, as it is a chemical process in their line.

Major Barley thought they could be of much assistance to us in the development. I showed some diffidence in accepting this view, as I considered the development of the manufacturing part would be done by the company's own organisation, and the advantage to the Titanium Industry of I.C.I.'s experience generally would much depend upon the chemists I.C.I. put in, and their ability to make this experience available to us, but anyhow I felt that we were more or less of the same family.

Talking of the 50-50% or 49-51% interests, I repeated some of my previously mentioned arguments, and added that it might well be that W.S. Robinson was right in his view that the National Lead Company would not insist upon 50% if there were good reasons for the British interests having 51%, and therefore I had asked him in the first interview, if he had any reasons for asking this. Major Barley told me, that generally they wanted that the British interests should have 51%, as a principle. They had a company together with Dupont in England, in which Dupont had 49%, and it was working very well. They had another company on the basis of 50-50%, which did not

work so well; they were then obliged to put up a lot of details for consideration with their partner, delaying decisions, etc.

Later the same afternoon, I saw L.B.R. and mentioned to him my remarks to Major Barley, concerning your possible point of view as to 49 or 50% interest in the company, asking him to mention this to W.S.R.

I asked him, when leaving, whether the linking up of Titanium with Lithopone and Zinc Oxide was such, that it could lead to I.C.I. considering only all three, or if they might take interest in one and not in the other. He first thought they would have to take the stones with the plums, and not only pick out the plums. This has been said in connection with the question of Lithopone and Zinc Oxide. He did not know his father's point of view as to Titanium, but anyhow they were not partners in Titanium yet.

With kindest regards,

Yours very truly,

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Exhibit 116

COPY

May 14, 1932.

Dr. G. Jebsen
Societé Industrielle du Titane
24 Rue de la Papiniere
Paris, France.

Dear Dr. Jebsen:

In the absence of Mr. Cornish we called the Executive Committee together yesterday and as a result of their deliberations we cabled you as per enclosed copy, which I trust is perfectly clear to you.

There is one other point I think is necessary to emphasize. In your letter of April 27th to Major L. J. Barley of the Imperial Chemical Industries Limited, copy of which you also sent to the Associated Lead and to Mr. Robinson, you specify the division of the capital, on the last item, as National Lead Company or its subsidiary £125,000 for compensation for patents, trade mark and good-will. This is not strictly a true statement of what the £125,000 is being paid for. This amount is being paid to the National Lead Company or its subsidiary for its established business in Great Britain, for its trade marks, good-will and technical knowledge which will be given the new company to enable them to start off without all the trouble that we have had in the past.

We think it is absolutely essential for them to thoroughly understand that we are asking nothing for the patents. Unless this is thoroughly understood by them you will have the A.L.M. and National Pigments people, if

taken in, making a demand for payments for their patents which must be avoided as our laboratory people attach no importance to these patents whatever.

I would therefore suggest that you write Major Barley and send copies of your letter to both Mr. Robinson and the A. L. M. people, correcting this particular statement. You will readily understand how vitally important this will be in your future negotiations.

Yours very truly,

Vice President.

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Exhibit 117

Letterhead of

LONDON HOUSE

3, New London Street,
London, E.C.3

10th. June, 1932.

Ref.—HST/ML.

W.C. Beschorman, Esq.
New York.

Dear Mr. Beschorman,

I want to let you know the present position with regard to Titanium.

The result of the correspondence which has taken place, and of discussions which followed, was that it seemed best that, if possible, we should work along with the National Smelting Company and Imperial Chemical Industries, in endeavouring to bring about a working arrangement with your goodselves, and it was our hope that we might be able, through this association, to bring into such a group the two patent positions in which we were involved. Negotiations were proceeding, as you know, with this general end in view.

You will remember that so far as National Titanium Pigments Limited were concerned, we had arranged to have an option over their position for a six months' period. We had kept them fully advised of the position, and, to the best of our belief, they were completely satisfied with the line of action that was being followed, but, somewhat to our surprise, immediately on the expiry of the option period, they

advised us that they had made an arrangement with Messrs. Laporte, of Luton, who are manufacturers of Blanc Fixe, for the establishment with them of a plant.

It will not, therefore, be possible to get hold of this outfit—at any rate for the time being.

I have seen Dr. Jebsen this morning, on the eve of his sailing for New York, and he will be able to give you further particulars of the position.

I think it is advisable that if arrangements are made for manufacture by a more influential group, a definite move, which would be known about in the trade, should be made at an early date.

With kind regards,

I am,

Your sincerely,

H. J. TASKER.

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Exhibit 118

NATIONAL LEAD COMPANY
111 Broadway, New York, N. Y.

The following is carbon copy of telegram sent this day

June 25, 1932.

Week End Letter

CARTVAN
LONDON

IN CONVERSATION WITH DOCTOR JEBSEN I UNDERSTAND THERE IS A DIFFERENCE OF OPINION AS TO RE AMOUNT OF CAPITAL THAT WOULD BE REQUIRED TO CONSTRUCT A PLAN AND FURNISH IT WITH SUFFICIENT WORKING CAPITAL STOP .THEREFORE PROPOSE FORM COMPANY AT ONCE STOP NECESSARY CAPTAL FOR CONSRUCTING WORKS, EQUIPMENT AND WORKING CAPITAL TO BE DETERMINED BY MUTUAL STUDY TO BE ADVANCED IN CASH TWO THIRDS BY ENGLISH ASSOCIATES AND ONE THIRD BY US STOP TO BE REPRESENTED BY FIRST PREFERRED STOCK SEVEN PERCENT CUMULATIVE STOP A SECOND PREFERRED SIX PERCENT CUMULATIVE STOCK OF £125,000 to be given US IN PAYMENT FOR TECHNICAL KNOWLEDGE OUR PRESENT ENGLISH BUSINESS PATENTS AND GOOD WILL STOP A THIRD ORDINARY STOCK IN SUCH AMOUNT AS MUTUALLY ACCEPTABLE TO BE ISSUED FORTY NINE PER CENT TO US AND FIFTY ONE PERCENT TO ENGLISH ASSOCIATES STOP 50TH FIRST AND SECOND

PREFERRED TO HAVE NO VOTING POWER UNLESS AFTER THREE YEARS FROM DATE ISSUED DIVIDENDS ARE NOT EARNED AND PAID STOP LOCATION OF PLANT AND OTHER DETAILS TO BE DETERMINED TO MUTUAL SATISFACTION AFTER PROPOSITION ACCEPTED IN PRINCIPLE STOP UNTIL ENGLISH PLANT IS PRODUCING PRODUCT TO BE SUPPLIED FROM LEVERKUSEN AT COST STOP THERE IS NO DOUBT BUT THAT TITANIUM PIGMENTS CAN BE MANUFACTURED AT LEVERKUSEN AT LESS COST THAN IN ANY OTHER PLACE IN EUROPE STOP UNDER OUR CONTRACT WITH THE I. G. COMPANY THEY HAVE TO BE FURNISHED TO US AT COST AT ALL POINTS OUTSIDE OF THE TERRITORY ALLOTTED TO THE I. G. STOP IT IS FUNDAMENTALLY UNWISE TO CONSTRUCT A PLANT UNLESS IT BECOMES NECESSARY TO DO SO BECAUSE OF THE PROTECTIVE POLICY OF ENGLAND AT THIS TIME STOP IT IS QUITE POSSIBLE THAT WHEN WE COME TO CONSIDER THE MATTER OF PLANT WE MAY CONCLUDE ON A MUCH LESSER EXPENDITURE THAN WE ARE MAKING FOR INSTANCE IN NEW JERSEY AT THIS TIME BUT I AM CONTENT THAT THE ARGUMENTS FOR AND AGAINST THIS SHOULD BE CONSIDERED BY ALL WHO ARE WITH US IN THE ENTERPRISE AND DETERMINED BY MUTUAL CONSENT WHEN WE HAVE AGREED IN PRINCIPLE ON THE AMOUNT THAT IS TO BE PAID TO US STOP I ALSO SEE THE JUSTICE OF MAKING

THE CASH CONTRIBUTED TO THE ENTERPRISE THE FIRST CHARGE UPON THE EARNINGS OF THE COMPANY STOP IF WE REPRESENT THAT OUR TECHNICAL KNOWLEDGE PRESENT BUSINESS PATENTS AND GOOD WILL GENERALLY TOGETHER WITH AN OBLIGATION TO GIVE TO THE COMPANY WHEN FORMED THE ADVANTAGE OF ANY NEW IDEAS WE DEVELOP WHETHER IN THE UNITED STATES GERMANY OR ELSEWHERE IS WORTH £125,000 THEN WE SHOULD CONCEDE THAT THE CASH CAPITAL ADVANCED SHOULD HAVE A FIRST CHARGE SO THAT IT WOULD HAVE NOT ONLY THE BUILDINGS AND EQUIPMENT, BUT ALSO OUR GOOD WILL AS SECURITY FOR THE PAYMENT OF A FIXED DIVIDEND ON SUCH STOCK STOP THAT SEEMS TO ME TO BE A JUST DEMAND WHICH WE SHOULD CONCEDE STOP A FIRST PREFERRED CUMULATIVE SEVEN PERCENT DIVIDEND SEEMS TO ME TO BE A WELL SECURED INVESTMENT FOR THE CASH THAT IS PUT IN IT AT A HIGH RATE OF INTEREST STOP REGARDING THE PAYMENT OF £125,000 TO US FOR OUR GOOD WILL, ETC., I CAN ONLY SAY THAT OUR TECHNICAL KNOWLEDGE HAS BEEN VERY COSTLY RESULTING IN OUR HAVING OVER SIX MILLION DOLLARS INVESTED IN THE MANUFACTURE OF TITANIUM PIGMENTS INVOLVING LOSSES OF OVER TWO MILLION DOLLARS BEFORE THEY BEGAN TO PAY STOP I AM INFORMED THAT TWO OF THE BEST REPUTED ACCOUNTANTS OF GREAT BRITAIN

(ONE SUGGESTED BY YOU) HAVE PLACED £125,000 AS THE FAIR VALUE OF THE BUSINESS THAT WE HAVE BEEN DOING IN GREAT BRITAIN STOP THEREFORE IT SEEMS TO ME TO BE FAIR THAT WE SHOULD BE PAID FOR THAT IN A SECOND PREFERRED STOCK DRAWING SIX PERCENT CUMULATIVE DIVIDENDS STOP THIS WOULD NOT INVOLVE ANY MONEY ON THE PART OF THOSE WHO CONTRIBUTED TO THE FIRST PREFERRED STOP THEY WOULD HAVE TO BE PAID IN FULL BEFORE WE WOULD GET ANYTHING ON OUR STOCK STOP OUR PRESENT BUSINESS IN ENGLAND IS MORE THAN SUFFICIENT IN PROFITS TO PAY THE SIX PERCENT DIVIDEND ON THE £125,000, stop but manifestly by making this a SECOND PREFERRED STOCK THOSE PROFITS WOULD BE APPLIED FIRST TO THE DIVIDENDS ON THE FIRST PREFERRED STOCK BEFORE WE RECEIVE ANYTHING STOP THE COMMON OR ORDINARY SHARES WOULD OF COURSE CONTROL THE BUSINESS STOP THEY WOULD REQUIRE NO MONEY AND WOULD BE WORTH WHATSOEVER THE EARNINGS (after paying DIVIDENDS ON THE FIRST AND SECOND PREFERRED) SHOULD BE CAPITALIZED AT STOP THE CONCESSION THAT WE WOULD ACCEPT FORTY NINE PERCENT AND GIVE TO THE BRITISH ASSOCIATES FIFTY ONE PERCENT WOULD GIVE TO THE CITIZENS OF GREAT BRITAIN CONTROL WHICH MIGHT BE VALUABLE BECAUSE OF THE LAWS OF GREAT BRITAIN OR OF ANY

OF THE COLONIES THAT MAY ENTER INTO RECIPROCAL ARRANGEMENTS WITH GREAT BRITAIN STOP THE SUGGESTION THAT THE PREFERRED STOCK SHOULD HAVE NO VOTING POWER UNLESS DIVIDENDS WERE NOT PAID AFTER THREE YEARS OF OPERATION WAS DESIGNED TO SECURE TO THE PREFERRED STOCKHOLDERS THE RIGHT TO ASSERT CONTROL IN THE COMPANY IF ITS DIVIDENDS WERE NOT PAID STOP ALL THE OTHER DETAILS REGARDING LOCATION, CONTRACTS FOR SULPHURIC ACID, CONTRACTS FOR POWER, LIMITATION OF TERRITORY AND SO FORTH I THINK CAN WELL BE DEFERRED UNTIL WE HAVE AGREED IN PRINCIPLE ON WHAT HAS GONE BEFORE AND CAN MEET THE PEOPLE JOINTLY ASSOCIATED WITH ARGUMENTS THAT APPEAL ONLY TO THE WELFARE OF OUR ORGANIZATION INSTEAD OF AFFECTING THE WELFARE OF THEIR OWN SEPARATE ORGANIZATION STOP IF PROPOSITION IS NOT SATISFACTORY TO PROPOSED ENGLISH ASSOCIATE PLEASE CONSIDER IF YOU WOULD LIKE TO JOIN US AND TO WHAT EXTENT

CORNISH

Exhibit 119

IMPERIAL SMELTING CORPORATION LIMITED

96, Gresham Street,
London, E. C. 2

The Savoy-Plaza Hotel,
New York, N. Y.
July 16, 1932.

Edward Cornish, Esq., President
National Lead Company
111 Broadway, New York, N. Y.

Dear Mr. Cornish:

I have to advise you that the Imperial Chemical Industries, Goodlass Wall and Associated Lead, and the Imperial Smelting Corporation are prepared to accept the proposals in your cable to me of 25th June with the following modifications—

1. The necessary capital for constructing works, equipment and working capital to be found in 7% cumulative First Preference stock,—

   51% by the British interests
   49% by National Lead

2. After payment of 6% on the £125,000. of Second Preferred stock alloted to you, the profits to be divided thus—

   51% to the British interests, and
   49% to the American interests.

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3. The new company to take over your British Empire business, patents and goodwill—not "English" only as stated in your cable.

4. Immediate maximum commitment of British group to be limited to 51% of £10,000., capital for further investment to depend on result of technical and market study, and satisfaction of Imperial Chemical Industries' accountant with the valuation of present profits of the business National Lead is to hand over.

The Imperial Chemical Industries state that it is very desirable to eliminate competition in the relatively small British market, and subject to your concurrence, they will do this by offering a small participation to the Blumenthal people, who are desirous of entering the business.

I trust the proposals set out herein will be satisfactory to you.

With best personal regards.

Yours sincerely,

W. S. ROBINSON

Exhibit 120

COPY

July 20, 1932.

Mr. W. S. Robinson
Chateau Laurier
Ottawa, Canada

Dear Mr. Robinson:

I have your letter of the 16th instant.

The first modification, requiring the National Lead Company to advance 49% of the cash required to construct necessary works in England, to be represented by 7% cumulative First Preferred stock, is quite satisfactory.

The second modification, which I presume contemplates an issue of Common stock which is subject to the First and Second Preferred stock, is also satisfactory to us.

The third modification could not be made to apply to Canada but could be made to apply to all of the rest of the British Empire. This is because the American company has the exclusive rights in Canada, whereas the European company would not be able to transfer any rights in Canada whatsoever, although the National Lead Company has the controlling interest in both companies. The other stockholders differ in the two companies; Dr. Jebsen holding a minority interest in the European company and none in the American company, and some stockholders owning stock in the American company and none in the European.

Inasmuch as our sales department is thoroughly organized in Canada and negotiations have been pending with other Canadian interests to manufacture in Canada, and we have $550,000 par value of Canadian gold bonds with which to build the plant (if necessary) in Canada, I think

Exhibit 120

probably this feature will adjust itself by letting our Canadian company, instead of building a plant, buy from the American company or the new plant to be constructed in England, whichever may prove to be more advantageous to it; but itself to keep control of its own sales, that are already well organized far beyond anything we have in England proper. For the time being, therefore, the Canadian business should be excluded from consideration.

Referring to Paragraph 4. of your modifications. I assume that the £10,000 is deemed sufficient to provide immediate requirements for working capital, with the English company acquiring its goods from the I. G. at cost and paying the necessary expenses of selling etc., until such time as we can determine, in consultation with the Imperial Chemical Industries, yourself and others immediately associated with us, the location of the plant, its probable cost and the amount of cash required for its construction and ultimate working capital. If it means a further discussion as to the value of what we are putting in at £125,000, I suggest that the Imperial Chemical Industries satisfy themselves as to that point before we attempt to get together on further details, as I desire that matter not to be the subject of negotiations with any man whom we send over to Europe.

It would be satisfactory to the National Lead Company for you to invite the Blumenfeld interest, or any other interest that you desire, to join in the enterprise.

Dr. Jebsen left for Paris on the "Aquitania" last Saturday.

Sincerely yours,

(Signed) E. J. CORNISH
President.

Exhibit 121

August 12, 1932.

Mr. J. S. Robinson
S. S. Bremen
58th Street
Brooklyn, N. Y.

Dear Mr. Robinson:

As requested yesterday at our conference, I am enclosing you memorandum showing Blumenfeld's position in the world markets.

Trusting you will have a pleasant voyage and with kindest regards,

Yours very truly,

Vice President.

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August 12, 1932.

Memorandum for Mr. W. S. Robinson re Blumenfeld position.

Blumenfeld sold the North American rights to Commercial Pigments Company originally for part cash and royalty; the royalty has since been computed on to a cash basis and purchased by the Commercial Pigments Company so that Blumenfeld has no income from the North American rights.

They were also given an option on the British rights, and consequently before Blumenfeld could sell or transfer his British rights to any one he would have to offer them to the Commercial Pigments Company on the same basis as the suggested transfer.

Blumenfeld's French rights are held by Thann & Mulhouse, terms unknown.

The Italian rights were sold to Montecatini for one-half common stock interest in the plant, with restrictions not to ship out of Italy without Blumenfeld's permission. Montecatini has since obtained Blumenfeld's permission to ship into Great Britain, and we understand ships somewhere between 300 and 400 tons of pure TiO_2 per annum. We understand that this stock has never paid a dividend.

The rights for Germany, Switzerland, Spain, Portugal, China and Japan were sold to Aussig, on what terms we do not know. Our best information is that Aussig's production is approximately 300 tons of pure Titanium oxide per annum.

We further understand that on all of these contracts both parties to each contract are required to post the other party on all improvements developed, and give the other party the right to use said improvements. It is for this reason that I felt that it would be dangerous to take Blumenfeld into the English company.

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Exhibit 122

The Park Lane Hotel
Piccadilly
London W.

10th November 1932

Mr. E. J. Cornish, President
National Lead Co.
111 Broadway, New York

Dear Mr. Cornish:

I am enclosing a copy of a letter from Mr. Tasker dated November 1st which I received on November 8th with reference to Klein/Brown patents. I am also enclosing a copy of my reply to Mr. Tasker's letter. Mr. Tasker has sent copies of this letter to all of our partners.

Neither Dr. Jebsen nor I know anything of any "preliminary discussions" to which Mr. Tasker refers. These discussions may have taken place with Mr. Robinson. I have not previously heard of anything nor seen the letter from Mr. Cookson to Mr. Robinson dated September 26th referred to in his letter. I have since obtained copy of this letter from Mr. Robinson and am enclosing it herein. In my acknowledgment to Mr. Tasker I merely stated that I am sending this letter on to you without any further comment. I did the same thing with Mr. Cooksons letter in which he also referred to the Klein/Brown patents. Unless I receive definite instructions from you to discuss this matter further I will not do so. My own feeling, however, is that payment of shares amounting to £125,000 which we receive for our business, goodwill, technical assistance and

so forth did not nearly cover its actual value as can be readily seen from the report from Thomson McLintock & Co. The offset to what we put in was the goodwill value brought in by our partners which in the case of I.C.I. and I.S.C. was very substantial. *In the case of Goodlass Wall I imagined that one of the* considerations in bringing them in was to eliminate any friction with the Klein/Brown patents, without any payments whatever other than the privilege of subscribing to stock in the new company at par. Why don't they give a portion of their shares at par to Brown & Klein and satisfy them in that way?

In order to give you a complete picture of this question I communicated with Major Barley since his name was mentioned in connection with the Hopkin & Williams (Travancore) Ltd. and obtained from him a copy of the letter which he wrote to Mr. Tasker on November 8th in reply to Mr. Tasker's letter.

This matter will probably come up at one of the early meetings of the Board of Directors of the new company and they will obviously wish to have your opinion or any suggestions you wish to make in this connection.

The contracts and agreements have all now been tentatively drawn and will be sent out to the various parties on Friday the 11th November. We are still awaiting your decision with reference to the reservation made by I.C.I. as to licensed field and your decision will involve some changes throughout the various agreements, but we are hoping to put them into effect as soon as possible upon receipt of word from you.

Mr. L. B. Robinson, Dr. Jebsen and myself, together with the attorneys are having a final meeting this afternoon after which the completed drafts of the contracts will be sent out to our other partners who will then submit them

to their legal departments. Some time next week we will have a meeting of all the partners to discuss any suggestions or possible changes and I am hoping that by the end of next week we will have the final drafts of the completed contracts and documents and that I will be ready to return. Dr. Jebsen feels that I am too optimistic in that respect but I feel that subject to any unusual snag coming up I shall be able to follow these plans.

Most cordial regards

Sincerely yours

H. T. Warshow,

P. S. Jebsen received your cable today, Nov. 10th, and will probably decide to go to Cologne to get the approval of the I.G. to this contract in advance. W. S. Robinson leaves for Australia Tuesday. L. B. Robinson goes to Paris next week for several days. It may be *three* weeks or perhaps even longer before the *actual* agreements are in final shape for me to take back. Furthermore, everything is settled except the license field, on which point Jebsen is in complete charge. I am perfectly willing to follow your wishes, but I believe I should be back in my office immediately. If you have no objections, I should like to return immediately with the contract, as it is at present, and have Jebsen send on licensed field later. If you approve, will you be good enough to cable me *immediately* upon receipt of this letter.

H. T. W.

Exhibit 123

Letterhead of

TITAN CO. A/S

GJ/KL October 19, 1927.

Confidential

Mr. Evans McCarty,
Vice-President,
National Lead Company,
New York.

Dear Mr. McCarty,

I enclose copies of two letters, of April 28th and August 12th this year regarding Mr. Chase, which Dr. Raspe has given me.

Dr. Raspe asked me to leave out the names, for the purpose of discretion, as he did not want to risk that the I. G. should come into an inconvenient situation by these letters', through coincidence, coming into other hands. Consequently, I have only put in the initial letter of each name, which I presume is sufficient to you with the information you already have received; and trust you will take due regard to Dr. Raspe's anxiety.

Yours very truly,

G. JEBSEN

Enclosures:
Copies of letters.

Exhibit 123

R1.

Albert,
80 William Street,
NEW YORK. April 28, 1927.

You will note from my letter of to-day that Mr. C. is again departing for Europe on April 30th. Regarding titanium oxide. He was unable to get to Frankfurt on his last trip, and I also doubt whether he'll be able to get there on this trip. He expects to be gone but one month.

I understand he concluded, or is concluding, a very fine (and important) deal with European interests on titanium oxide patents. His work has interested and occupied him to such an extent that he has been forced to turn over to his partner Col. W., his old and very lucrative Columbia account,—worth to him $15.000 to $25.000 a year. I cite this to indicate Mr. C. important attitude towards titanium.

Glidden Company (paints) came out recently with an announcement that it as arranging to go into the titanium oxide business on a big scale. (By the way, the Commercial Solvents Company seems to be mixed up in some important way with Mr. C. recent activities).

I have also recently read an announcement that the National Lead Company has bought up (or into) a Norwegian titanium producer.

Now I might be able to get Mr. C. ear when he returns anent your interest in titanium oxide. So if you care to, you may send me what data you have,—and explain briefly your position,—and I will feel Mr. C. out.

Sincerely yours,

R.

P.S. By the way,—other friends of mine are very anxious to get connected with a titanium oxide producer. They are important in the American paint industry.

A.-P.-R.

Exhibit 123

R.
New York. August 12, 1927.

Mr. H.
I. G. Farbenindustrie,
Frankfurt a.M., Germany.

Dear Mr. H.:

I beg to acknowledge receipt of your cablegramm as follows:

> "Please cable name of Firm backing C an his position in firm is it Titanium Pigment Company"

I had been on the point of sending you some additional information on this C. matter. Since writing you last, I have been informed that this C. Titanium syndicate has decided on *Baltimore* as the location for Titanium Oxide plant, and that is already planning the erection of a plant there. My informant expressed the opinion that Baltimore was decided upon as the location because of its accessibility to Titanium (barytes?) deposits in Virginia. Whether this was merely a guess on his part, or something which had been definitely told him by Mr. C., I do not know. He also thought that other reasons for locating the plant in Baltimore may have been due to the fact that it is a seaport and within cheap freight distance of the import eastern markets.

I have not seen Mr. C. in some three weeks. When I last saw him, he informed me definitely that he had organized and was the head of a syndikate composed of men who were heavily financially interested in the Commercial Solvents Corporation, but whom he, intimated, were acting as

individuals and not for the Commercial Solvents Corporation. He also gave me to understand, that this group was not organized into a company as yet, and had made no affiliation or combination with any industrial organization. A few days ago Mr. Silsby informed me that more recent information he had received indicated that there had been no change in the status of this group, or their relations with others, since my interview with Mr. C. of some weeks ago. (Should this letter be repetitious of my last letter to you, please note that in order to get this off in a hurry, I am writing it without access to the copy of my last letter to you, which is home in my private file.)

The Titanium Pigment Company is owned entirely or controlled by the National Lead Company, which is the controlling factor in the American white lead business.

Mr. C. gave me to understand, that his group were not connected with the National Lead Company; but expected to be indirect and definite opposition and competition to them. You will recall my having informed you that Mr. C. had made the statement that his crowd would control the American (and foreign?) Titanium Oxide situation because of their control of patents. He made this remark in direct reference to the National Lead Company's Titanium Pigment Company, and as an illustration of this group's weaker position relative to the position of his group. He intimated that regardless of the National Lead Company, his group would control the Titanium Oxide situation in America and that if the National Lead Company were fully alive to the situation, it would get out of the business, or attempt to make a deal with them.

It is general knowledge here that the National Lead Company has invested considerable money and is prepared to invest considerable more in the Titanium Pigment Com-

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pany and is going at the business in a very serious and earnest manner.

(In my letter of April 28th., I made reference to the National Lead Company having bought up the Norwegian Titanium Company. By National Lead Company, I meant the Titanium Pigment Company).

By a coincidence, I happened to see Mr. S. (of R. & H.) this morning, who again urged me to inform Mr. C. that his Company was ready to discuss a titanium affiliation with Mr. C.'s syndicate, and asked me to take the matter up with Mr. C. for him. I informed Mr. S. that it would be useless for any one to attempt to interest Mr. C. in a affiliation unless he had something else to offer besides money, as this group had all the capital behind it, it could use. The R. & H. people have nothing to offer except a keen desire to go into the business. Mr. S. also said that his company would be ready to put their almost inactive St. Albans, W. Va. plant into a combination. I have reason to believe, however, that even this would not make a proposal from R. & H. of any special interest to Mr. C.

I wish to confirm again, my previous advice to you that Mr. C. group is ready to make a corporate or other affiliation with any company having something of value to offer it,—such as good sales and propaganda, position or patents. I advise you to take this group very seriously. They will be a very important, if not the most important factor, in the American or world Titanium Oxide situation.

Our mutual friend, Mr. Litter, has been authorized by the oldest established and one of the best known white lead producers in the country, to act for it and attempt to make an affiliation between it and Mr. C. group. The assumption is that the repitation and name of this firm would help

introduce Titanium Oxide. This particular producer went so far as to offer to throw his entire business into a titanium oxide Company in return for stock participation and a reasonable amount of cash.

I am arranging to see Mr. C. next week on this particular proposal. If you, however, are interested in this angle, Mr. Litter instructs me to inform you he is ready to hold matters in abeyance until you have been given an opportunity to study this matter also.

I am holding off cabling you until later today in the hope that I may be able to locate Mr. C. or Mr. Silsby to as certain whether or not this syndicate has formed itself into a company.

Yours very truly,

sign. R.

APR:EJ.

P.S.:—Since dictating the above letter I have been informed that Mr. C. titanium oxide syndicate has not as yet been formed into a company or corporation. I was also definitely informed that this group is not the Titanium Pigment Company, or any connection with it. National Lead Company bought out this company about a year or two ago. Prior to then it appeared to have a status independent from the National Lead Company. Note enclosed advertisement.

"I cabled you as follows:—

"C. organized and heads syndicate men financially prominent in Commercial Solvents Corporation apparently acting as individuals and not yet incorpodated stop Syndicate is not connected with Titanium Pigment Company which is National Lead Company subsidiary".

Exhibit 124

November 4, 1927

Dr. G. Jebsen
Societe Industrielle du Titane
23 Rue Ballu, Paris, France

Dear Dr. Jebsen:

I have your letter of October 19th with reference to the Blumenfeld Process as carried out in the Montecatini factory, and have sent copies of your letter to those of our people who are interested.

I have also your further letter of the same date enclosing copies of two letters addressed to the I. G., and referring to the activities of Mr. Chase. Mr. Chase, whom I have known for some years, lunched with me a short time ago, and gave me a complete account of the new enterprise which I presume was an accurate one.

He informed me that a company called the Commercial Pigment Company had been formed by a group of men who originally financed the Commercial Solvents Company, and had engaged him to investigate the subject of titanium and erect for them a factory in Baltimore for the production of titanium oxide. He mentioned the names of the several gentlemen connected with the enterprise some of whom I recognized. I did not, however, recognize the names of any of the R & H people so that I think they have no connection with the venture. The Glidden Company, I understand, hold an interest of about 10%.

Mr. Chase told me that a factory was under construction in Baltimore, and should be ready for operation about the first of the year. It is intended to use the Blumenfeld Process which Mr. Chase investigated carefully in Europe visiting the plants of Montecatini and others. He seemed

quite confident of the Process, and stated that the reason that those using the Process in Europe had been so long in getting their product on the market was that they had worked out every detail of the process carefully before attempting actual manufacturing operations. He stated that when he was in Europe Montecatini was producing about two tons of TiO_2 a day, but that they had a capacity for producing approximately ten tons.

He stated to me that the problems connected with the recovery of the iron as ferrous sulphate and of the concentration of the free acid had all been satisfactorily solved by various people in Europe who had been working with Blumenfeld.

The initial capacity of the Baltimore plant is stated to be ten tons of TiO_2 per day. It is my understanding that they do not at present contemplate the manufacture of composite pigments, but principally to sell their TiO_2 either pure or reduced by mechanical mixture of other materials.

I was further informed by Mr. Chase that his company had made a contract with Travancore Minerals, Ltd., for their supply of ilmenite. This statement has been confirmed by information given to us through European representatives of American railroads. We have reason to think that the Commercial Pigments Co., tried to obtain some ilmenite deposits in Virginia which the Titanium Pigment Co., acquired during the spring.

I asked Mr. Chase if his company were prepared for patent litigation, and he told me that their counsel had assured them that they were secure on that point. Mr. Chase went on to say, however, that he personally had no connection with the patents having been engaged simply as an engineer.

This is evidently a serious undertaking, and brings us face to face with a problem that will have to be dealt with as soon as the production of the company is on the market.

I cannot quite make up my mind whether Mr. Chase's object in telling me all this was to let me have first-hand instead of hearsay information, or whether he was building up a background for a proposal to sell the plant to us a little later on. We have no information that the Commercial Pigment Company is connected in any way with any of the American white lead manufacturers with the exception of the Glidden Company who manufacture white lead in a small way by a precipitation process.

If Mr. Chase's report of the European situation is correct you will have the Blumenfeld companies to deal with in Europe next year, and we will appreciate it if you will keep us informed of any developments that come to your knowledge.

Yours very truly,

McCarty
Vice President

Exhibit 125

Letterhead of

TITAN CO. A/S

GJ/AK

p.t. 23 Rue Ballu.
Paris, November 25th 1927.

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New-York City
U.S.A.

Dear Mr. McCarty,

Your favours of November 4th and 9th at hand.

I have noted with much interest the conversation with Mr. Chase.

Mr. Gilbert informs me that he is meeting offers of Mr. Blumenfeld's concern here rather often now. They ask a price of Frs: 8.00 per Kilo for a pigment which they say is practically 100%; it seems to vary from 97% and upwards. The quality as to colour and hiding power varies, but seems to be improving. Mr. Gilbert's people find it difficult to keep the position with our present prices; they are now more than 25% above white zinc—the maximum difference we agreed upon last summer. If the price should be reduced to corresponding with 25% difference, it will mean a loss of nearly 80.000 Frs. for the French company on their present stock. I have agreed to a proposal from Mr. Gilbert to keep the price officially the same, as it was, but make reductions in special cases where it cannot be avoided.

Exhibit 125

The amount of sales has declined compared with last year as to quantities. According to reports from Mr. Gilbert's inspector of sales, it is a matter of price to reach an increase,—the quality is acknowledged. Mr. Gilbert further informs me that the tendency of the market is going more and more in the direction of adulterated pigments.

Montecatini.

In the newspapers it has recently been published that the Company let know that they produce now Titan White, Lithophone and White Zinc for the requirements in Italy and also for the export; also that negotiations are going on between Montecatini and some American groups, re licenses for the production in Italy of chemical products which are imported at present.

Yours very truly,

G. JEBSEN

846

Exhibit 126

December 14, 1927

Dr. G. Jebsen
Societe Industrielle du Titane
23 Rue Ballu, Paris, France

Dear Dr. Jebsen:

I have your letter No. 18 dated November 25th with reference to the activities of the companies operating under Mr. Blumenfeld's patents.

It is expected that the plant of the Commercial Pigment Company at Baltimore will be in operation early in the new year, and we may expect some active competition.

The question of the attitude we should take toward these Blumenfeld patents is one of the subjects that we would like to discuss with you if you find it convenient to visit us this winter.

Yours very truly,

Vice President

847

Exhibit 127

Letterhead of

PHILIP C. PECK

December 19th, 1927.

Mr. William F. Meredith, President,
Titanium Pigment Company, Inc.,
94 Fulton Street, New York City.

Re: Commercial Pigments Corporation

Dear Mr. Meredith:—

You and Mr. McCarty have instructed me to study the various U. S. patents issued to your Company as well as to the Titan Co., in order to determine, at least preliminarily, what patent-protection would be afforded you as against the use by Commercial Pigments Corporation of the so-called Blumenfeld processes for production of titanic acid at Baltimore, and the subsequent sale of the resulting titanium compounds for use by others in the manufacture of paints, etc.

Mr. Barton has furnished me with a list containing 51 patents owned by your Company and also 21 patents issued to the Titan Company involving this subject matter, all of which I have carefully examined with regard to their various claims for processes, products and for uses of titanium compounds in the arts and their possible infringement by the above Company and its customers.

The only information as to what comprises the Blumenfeld procedure in the manufacture of the sample product is obtained from recent letters of Mr. Jebsen as to what a Dr.

Raspe told him regarding the operations used at the Montecatini plant in Italy, such information coming from a man of the "I.G." who had visited this plant. Hence the vagueness and uncertainty as to what detailed procedure was actually employed, and the hearsay character of the proof is manifest.

Such Blumenfeld-Montecatini methods may be summarized as follows:—

Finely ground ilmenite is mixed with sulphuric acid and heated in flat iron pans while the mass is stirred by rotary stirrers. The stiffened cake obtained from this decomposition is in the form of lumps which are then cooled.

The titanic sulphate lumps are then dissolved and the solution drawn off to a clearing tank where the clear solution is treated with copper sulphide which settles and takes with it the finest sludge. What chemical reactions take place are not disclosed.

The titanium iron sulphate clear solution so obtained is then cooled on revolving cylinders at about 0° C., which artificial refrigeration causes the sulphate of iron to crystallise without combining with the titanium salts. The iron sulphate crystals are then removed, and then the titanium oxide is precipitated by hydrolysis, washed and calcined.

The sample product so obtained has been analysed by Mr. Barton as follows:—

Titanium Oxide	96.75%
Sulphuric Anhydride	.48%
Phosphoric Anhydride	.50%
Loss on Calcination	.51%
	98.24%

Exhibit 127

Mr. Barton has informed me that the particles are not amorphous, but exhibit a crystalline structure under the microscope and that the product has a specific gravity of 3.92.

In the process as above outlined, the treatment of the solution with copper sulphide and the subsequent artificial refrigeration of the titanium iron sulphate solution to crystallize the sulphate of iron appear to be novel features. The other steps employed have long been common practice in this art with different intermediate steps to attain various titanium compounds and products.

The Blumenfeld patents do not aid in explaining the details of their plant procedure to any great extent, though British patent No. 253,550 appears to disclose that intermediate step in which artificial cold is used for crystallising the sulphate of iron accompanying the sulphuric solutions of titanium oxide. No U. S. patent on this feature has been granted so far as my information goes.

Of course we have no assurance that Commercial Pigments Corporation will actually use the Montecatini processes as above outlined, or any of those methods described in the Blumenfeld patents which it is supposed to own or control. Hence the inherent difficulties of positively determining infringement.

Three main questions arise viz:—

1) Does the Blumenfeld procedure at the Montecatini plant infringe any process claim or claims contained in your patents and/or in those of the Titan Co?

2) Does the sample product obtained by the use of these Blumenfeld processes and having the characteristics which I have given infringe any article or product claim of these patents?

3) What protection would be afforded you as against uses of the Commercial Pigments Corporation's titanium products and sold to their customers for making paints etc?

I will discuss theese questions 1 and 2 together since many of the patents have both process and product claims phrased in similar language. As to the process or method, your patents may have certain claims embracing the entire procedure, and other claims covering only an intermediate step or steps less than the entire process used.

In regard to the article or product, your patents may have claims covering the final product, or any intermediate compound or solution which is patentably new.

Processes and products are regarded as separate inventions though often combined in a single patent, since normally a new process may result in several products besides that one which is new and patented; and likewise a new product may be made as well by some old process, or even by some new method different from the one patented. Hence each patent and its several groups of claims must be analysed and studied from two different view-points to determine whether the Blumenfeld methods and resulting product are covered by the claim-language defining the respective improvements in order to make out a *prima facie* case of infringement.

Process and Product Patents

I will first consider the patents owned by your Titanium Pigment Company and then those of the Titan Company.

I do not find that your Pigment Company has any patent or patents which have claims covering the Blumenfeld process either in its entirety or in any step or combination

of steps as a sub-feature of the process. Most of your patents for extracting TiO_2 from ilmenite ores prescribe their fusion with alkali compounds as the preliminary step. However some of your patents have article or product claims that might be infringed.

Rossi & Barton No. 1,106,406 (claims 18-21) specify the "amorphous" character of the calcined product which shall also contain some iron. These claims would not be infringed by the Blumenfeld product as analyzed by Mr. Barton.

Rossi & Barton No. 1,171,542 (claim 2) covers broadly a titanic acid product "by analysis as consisting principally of titanic oxid and as containing also sulfuric anhydrid". The Blumenfeld product by analysis contains such constitutents and would infringe such claim 2.

Barton No. 1,189,229 (claim 14) covers substantially pure TiO^2 since the product must contain "titanic oxid not less than 99.75%". Claim 14 does not specify that the particles are "amorphous" as in claims 11-13. However the Blumenfeld product by analysis contains only 96.7% titanic oxid and so is outside the prescribed purity of claim 14.

Other Pigment Company patents having article claims are Rossi & Barton No. 1,166,547 (claim 10) limited to amorphous titanic oxid not less than 90% and as also containing soda; Rossi & Barton No. 1,196,031 for a basic titanium sulphate; and Rossi No. 1,272,855 (claim 7) specifying a powder consisting essentially of titanic oxid and "as containing constitutents of organic origin". None of these patents appears to be infringed by the Blumenfeld product so far as we know of its characteristics chemical and otherwise. However the basic titanium sulphate claim for a titanium compound (No. 1,196,031) comprising a pre-

ponderance of TiO_2, less combined water and less sulfuric anhydrid than combined water may be infringed when further data is obtainable as to the procedure to be employed by Commercial Pigments Corporation.

Several of the Titan Co. patents *may* ultimately be infringed when we learn more in detail just how the Blumenfeld methods are to be used industrially at Baltimore.

Goldschmidt No. 1,348,127 has claims for effecting crystallization in a titanium oxygen compound by heating such compound (temperature range 900°-1000° C.) "until the particles (TiO_2) constituting the structure exhibit a crystalline interior structure and a smooth exterior surface" (claim 1). Claim 19 covers the article in like terms. Goldschmidt states that his invention broadly consists in changing amorphous titanium dioxid or compounds containing titanium and oxygen into a "crypto-crystalline modification" by heating above the usual temperatures required to produce amorphous TiO^2 (p 3 lines 5-7). Assuming that the Blumenfeld product is in crystalline form as stated by Mr. Barton, was this super-heating feature of the Goldschmidt process actually used to produce such claimed crypto-crystalline structure? At present we do not know what temperatures were employed at Montecatini in calcining. But irrespective of the process, claim 19 covers the resulting final product and reads as follows:—

> "As a new and useful article of manufacture, a substance comprising titanium oxid, the particles of which exhibit a crystalline interior structure and *a smooth exterior surface.*"

Farup No. 1,360,737 (claim 8) covers broadly a new step in the manufacture of white pigment by the introduc-

tion of a small amount (2½%) of phosphoric acid into the mixing vat containing crude titanium oxygen compound and sulphuric acid as a decomposing agent. The Blumenfeld procedure does not state that any phosphoric acid is added in the ilmenite decomposition, but the sample product contains .50% phosphoric anhydride which comes within the scope of claim 12:

> "As a new and improved article of manufacture, a white or light colored pigment containing *an oxygen compound of titanium and combined phosphorus.*".

This constituent may have been derived from the titaniferous material. Assuming, however, that some phosphoric acid was added in the mixing vat, Farup's claim 8 would likewise be infringed for it covers the single step of "intimately mixing a titanium hydrate with a relatively small amount of phosphoric acid". Mr. Barton thinks that this phosphoric constituent was derived from the ores used as starting material.

Washburn No. 1,412,027 discloses the idea of mixing a compound comprising essentially titanic oxide with a phosphate and calcining the mixture at a sufficiently high temperature (950° C.) to convert TiO^2 into the cryptocrystalline modification as per Goldschmidt patent No. 1,348,129. Such patent combines in a new way some of the features of Farup No. 1,360,737 and Goldschmidt No. 1,348,129. Infringement of Washburn's claims would have to be predicated upon mixing phosporic acid or a phosphate with titanium hydrates followed by "super-calcination" to convert TiO^2 into a crystalline form with some phosphoric compound persisting in the final product. Washburn's

claim 15 broadly covers the new product and reads as follows:—

> "As a new and useful article of manufacture a pigment comprising TiO_2 *in the crystalline form and combined phosphorus.*"

Such claim would be infringed by the Blumenfeld sample product as analyzed by Mr. Barton provided the particles of titanium oxide are "in the crystalline form" and the combined phosphorus was added to the mass before calcination.

Summarizing, I am of the opinion that the only Pigment Company patent which might be infringed is Rossi & Barton No. 1,171,542 (claim 2), while several of the Titan Co. patents appear to be infringed by the Blumenfeld processes and product obtained thereby both as to process claims and resulting article claims.

Should the addition of phosphoric acid or a phosphate be not established in the Blumenfeld procedure, I think that infringement of the Farup and Washburn patents is very questionable, since these patents are based upon the addition of some phosphorus compound to the charge before calcination. Our main reliance would then have to be placed on Goldschmidt No. 1,348,129 covering TiO_2 having a crypto-crystalline structure obtained by prolonged calcination at high temperatures (900° C 1000° C.).

Mr. Barton was of the opinion that the Blumenfeld crystalline product might have been obtained by employing the usual calcining temperatures. If this be established it is questionable whether Goldschmidt's broad crypto-crystalline claims would be infringed. I do not know what prior art was cited against the claims finally granted, but

it would appear that should the Commercial Pigments use old and well known calcining temperatures to produce crystalline titanium oxide, Goldschmidt's claims may not be construed to cover same without destroying their validity. Hence in the absence of clear information as to the temperatures used for calcination at the Montecatini plant, it is difficult, if not impossible, to render a definite pronouncement respecting the Goldschmidt patent. Goldschmidt seems to be committed to the theory that all water of hydration is removed at lower temperatures (say about 700° C.), but that the TiO_2 is then in amorphous form (p 2 line 121—p 3 line 34); then upon further heating to a temperature ranging from 900° C. to 1000° C., the desired degree of crystallization which is the subject matter of his invention is thereby produced viz: the particles of TiO_2 exhibit a crystalline interior structure and a smooth exterior surface (claim 19), and diagrammatically shown in Fig. 5 of the drawings. Microscopic examination is the only test required for validity as well as for infringement with respect to the article claim 19, while the calcining temperatures (900°-1000° C.) are the essence of the process claims for effecting his crystalline modification having the structural characteristics set forth in claims 18 and 19,

COMMERCIAL PIGMENTS CUSTOMERS' INFRINGEMENT

Both your Company and the Titan Company have a number of patents covering the use of titanium oxide compounds in other products, such as a pigment in paints etc., and the patent-protection afforded your own trade is one phase in this general subject matter that merits careful consideration. As a rule such patents enforceable against a manufacturer's trade are an effective weapon against the

manufacturer himself who is bound more or less to defend his trade's use of his products.

Taking the Pigment Company's patents in order, I will summarize as follows:

Rossi & Schroeder No. 1,205,267 covers a paint comprising a pigment containing "amorphous" TiO_2 uncombined chemically with other substances, and would not be infringed by the Blumenfeld crystalline product, the use of crystalline titanic oxid being disclaimed (lines 95-100). The same disclaimer is carried into patents Nos. 1,205,268 and 1,205,269.

Rossi & Schroeder No. 1,205,268 includes white lead and "amorphous" TiO_2 in a paint as to claims 1-5. Claim 6 is not limited to amorphous titanic oxid but reads as follows:

> "Paint containing white lead and more titanic oxid (TiO_2) uncombined chemically with other substances."

Such claim 6 might be infringed if the paint manufacturer used more TiO_2 than white lead in producing his paint.

Rossi & Schroeder No. 1,205,269 is substantially the same as to its six claims as No. 1,205,268, except that "zinc oxid" is substituted for white lead. And this claim 6 might be infringed if the paint manufacturer proportioned his ingredients so as to use more TiO_2 than zinc oxid.

Barton & Gardner No. 1,236,367 covers broadly the method of making improved linoleum products by incorporating therewith a titanic material and also claims the resulting product.

Barton No. 1,251,170 (claim 4) covers a pigment comprising titanic oxid and thereto unadherent barytes. Such

claim might be infringed by paint manufacturers using the Blumenfeld product.

Barton & Gardner No. 1,283,455 covers broadly the method of incorporating in printers' ink and colors titanic oxid (claim 8) and also the resulting ink containing titanic oxid (claim 4).

Barton & Gardner No. 1,286,916 covers the method of producing a lake pigment which consists in adding to the solution a white base containing a substantial amount of TiO_2, and also the resulting lake.

Barton & Gardner No. 1,317,854 covers "filled fabric goods". Claims 1, 2, 5 and 7 are limited to the use of "amorphous" titanic oxid, while claims 3, 4 and 6 are restricted to the use of "composite titanic oxid pigments". Hence this patent would not be infringed by use of the crystalline TiO_2 produced from the Blumenfeld processes.

Barton No. 1,322,518 covers broadly the method of incorporating titanic oxid in rubber and the resulting rubber article, while Barton & Gardner No. 1,326,319 (claim 2) covers rubber having therewith incorporated titanic oxid and zinc oxid.

Barton & Gardner No. 1,362,917 covers the method of introducing not less than 25% TiO_2 in the batch to form glass-ware including the resulting product.

Barton & Gardner No. 1,365,882 covers "plastics" in which titanic oxid is incorporated in the constituents before formation, claim 14 broadly covering a nitro-cellulose composition containing titanic oxid.

These patents, or at least some of them, would furnish considerable protection to your trade as against purchasers of the Commercial Pigments' products for subsequent use

and embodiment in the various articles that they might manufacture and sell in competition with your customers.

Not one of the Titan Co. patents that I have examined contains claims which would be infringed by buyers of the Commercial Pigments' products, except as users and in contributory infringement.

Conclusions.

I regret that the absence of definite and detailed information as to the Blumenfeld procedure and also as to the characteristics and functional capabilities of the resulting sample product forces me to render an opinion that is based largely on assumptions and embraces only potential infringements of your patents, particularly as the Commercial Pigments processes at Baltimore and the titanium products made and sold by them may differ materially from the Blumenfeld-Montecatini methods and product in the very earmarks which I have relied on to predicate infringement. For example, other patents not now infringed may be used by the Commercial Pigments and *vice versa*. I believe you will realize how it is impossible to be explicit, but I hope that this Report may serve to clear the atmosphere, at least to some extent, as to the likelihood of prospective infringements by Commercial Pigments Corporation and its customers. I shall be glad to advise you further regarding any specific inquiries that may occur to you.

I am sending a duplicate of this Report to Mr. McCarty.

Very truly yours,

Philip C. Peck.

PCP/VP

Exhibit 128

January 17, 1928.

Mr. Evans McCarty, Vice President,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. McCarty:

I have been studying the O'Brien (Glidden) patents, relating to lithopone-titanium oxide pigments, as to possible infringement of our patents.

The O'Brien patent 1,600,773 claims only methods of preparing lithopone in the presence of titanium compounds such as the oxide and I doubt if their process infringes any of our patents.

The O'Brien patent 1,600,772 refers to methods of mechanically mixing (either wet or dry) lithopone and titanium oxide and a pigment comprising lithopone and titanium oxide is claimed as a new article. The public has for a number of years been making all kinds of mechanical mixtures of our pigments containing titanium oxide with other pigments including lithopone; for example, where titanium pigment is added to lithopone in flat wall paints to improve the hiding. It would seem that this patent would be invalid in view of the Rules of Practice of the United States Patent Office which state: "A patent may be obtained by any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, not known or used by others in this country before his inven-

tion or discovery thereof,—and not in public use or on sale in the United States for more than *two years* prior to his application."

Even though the O'Brien patents are held to be valid, I believe the use of their products would be an infringement of our Rossi & Schroeder patent 1,205,267, which covers, as a new article, white paint containing titanium oxide. For example, Claim 4, "White paint containing a plurality of pigments, one of which contains amorphous, white, titanic oxide (TiO_2) uncombined chemically with other substances."

I guess this is about all I can offer in regard to our telephone conversation this morning and hope it may be helpful in connection with the subject in hand. At the moment it seems as if it might be a happy solution of the problem, if the Glidden Company could see the advantage of using our titanium oxide in making their products. In all probability we can manufacture titanium oxide cheaper than they can, quality considered.

Very truly yours,

Dict. L. E. Barton
FE CC W.F.M.

Exhibit 129

Dr. G. Jebsen
Societe Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

April 13, 1928.

Dear Dr. Jebsen:

The New York papers this morning published the news of the formation by the Imperial Chemical Industries and certain American financiers of an Anglo-American corporation with a capital of $10,000,000—which has been formed for the purpose of developing and exploiting new enterprises, chemical and otherwise, in the United States and Great Britain.

Sir Harry McGowan is named as one of the officers in the new company, and it is quite likely that his recent visit to New York was in connection with this business.

I am also informed that Mr. Tichnor, President of the Commercial Pigments Company, sailed for Europe a short time ago. I do not know whether his trip has anything to do with titanium or not.

In any event, I think that it will be well to watch developments in England closely as we know that Mr. Weisman has been in fairly close contact with Sir Alfred Mond and with important financiers in this country.

Cookson no doubt has some connections with these people, but it does not at the moment seem to me that the white lead manufacturers would add any strength to the group unless patents that may be owned or acquired by them should have either an actual or a nuisance value.

As stated above it is a situation which should be watched closely, and we will be interested in any news you may pick up.

With kind regards, I am,

Yours sincerely,

Vice President.

Exhibit 130

GJ/HS.

Letterhead of
TITAN CO. A/S
No. 83.

Paris, May 8th, 1928.
Sté Industrielle du Titane,
26 Rue de la Pépinière,
Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York, N. Y., U.S.A.

Dear Mr. McCarty:

Regarding your information of April 11th, as to the P. Schüller & Son of Hannover, Germany, offering Titanium Oxide said to be manufactured by themselves at 16 cents per lb. I beg to inform you, that this firm, as far as we know, is a merchant who probably is offering the Montecatini product. He has offered I. Schoen & Coos a Titanium Oxide; 98-99%, at a price of Gülden 87.—per 100 kilos for deliveries of 1000 kilos, with reductions Gülden 84 for contracts of 10.000 kilos. Deliveries to be C.I.F. Rotterdam.—An investigation of a 5 grammes sample made in Fredriksstad gave the following result:

Colour K 00
Tinting strength 700
Oil absorp, about 30;
Fineness satisfactory.
TiO_2 95.80%

Exhibit 130

As a comparison the Extra "X" has K O and a Tinting strength of 600, Titanox K 00, and Tinting strength 450.

We are under the impression, but have no evidence as yet, that Montecatini is selling the TiO_2 product to various firms in various countries, and these firms are mixing it with extenders and Zinc Oxide making various compositions and selling under various brands and names, which results in a confusing quantity of various Titanium products.

It seems that there is very little co-operation between the various Blumenfeld factories as to bringing Standard qualities on the market.

Mr. Ravner has made the enclosed tabular on the basis of the latest investigations made in Fredriksstad as to products from the "Verein", Aussig, and from the firm Münz in Berlin. The last firm is no manufacturer but receives the TiO_2 either from Aussig or from Montecatini. You will see, that although these two firms are partly using the same designations, these apply to quite different qualities.

I enclose a translation of a report from the Tefa A. G. in Tschecoslovakia, which is the selling corporation of the I. G. in that country, and which has taken over the sale of Titanium White in that country.

As you probably will reihember all the representatives of the I. G. in the territory of the Titangesellschaft outside of Germany are now acting as our agents, and are working in direct communication with the Titan CO. in Fredriksstad until the Leverkusen factory can produce. This arrangement gives our organisation quite a considerable work, but has the advantage that the various representatives can be direct informed by us regarding our experiences.

Exhibit 130

I enclose a propaganda circular which an Austrian firm has printed on their own initiative and expenses, and without our knowledge, sent us from the I. G.'s Austrian representation.

We have sold small quantities in Austria for some years, but I did not know that our reputation there was such that it would give an advantage justifying a propaganda of this kind. If it is the case—so much the better.

3 encl.

Your very truly

G. JEBSEN

Copy to: Mr. Moses
Mr. Hallett

Exhibit 131

May 28, 1928

Dr. G. Jebsen
Societe Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

We are much interested in your letter No. 83 dated May 8th with enclosures, and note your account of the activities of the various companies in Europe that are using the Blumenfeld process.

The Commercial Pigments Company in Baltimore are making some quotations, but so far we have not heard of any sales.

Yours very truly,

McCarty
Vice President

Exhibit 132

Letterhead of

TITAN CO. A/S

GJ/HS.

Paris, October 18th, 1928.

Dr. G. Jebsen,
c/o Sté Industrielle du Titane,
26 Rue de la Pépinière, Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York, N. Y., U. S. A.

Dear Mr. McCarty:

Many thanks for your letter of October 10th.

There is so much work to do for Mr. Ravner here in connection with the organisation of next years sales, that it will not be possible to send him to the United States this winter. I am also inclined to think that more benefit may be arrived at when one of your salesmen can work together with Mr. Ravner and Mr. Noel Heaton here, as the European problems will be put more into foreground when compared with the American experience with which your salesmen are thoroughly familiar. I will therefore much appreciate it you can spare Mr. Hagar, and have cabled you today as follows:

"Will appreciate Hagar visit Europe this year."

I much appreciate your efforts to secure more favourable freight rates for Titanox. Although the results will be too late for the shipments this year, it may have an

effect for the future and for the Pure TiO_2, which we probably will not be able to produce on this side yet for some time to come.

The examination of the Pure Titanium Oxide from Thann & Mulhouse was very interesting. The low Tinting Strength which these products show have made me doubt whether they really calcine at the temperature covered by the Goldschmidt patent. We are under the impression that the Auer Company products lately do not show an increase in the Tinting Strength, but rather the opposite, and they may have taken fear of a patent litigation. You will remember we consulted early in the year a prominent patent expert in Berlin, Mr. Isay, who expressed himself in our favour with regard to certain questions in connection with the Goldschmidt patent, and afterwards it was found that he was the Auer company's adviser.

I talked with Mr. Washburn over the telephone last week, who told me that they were regularly making two digestions every day with more than 97% recovery of the TiO_2. He expected the precipitation to start this week and the first products to go through the furnaces in the middle or the end of next week.

I intend to go to Leverkusen Sunday night and will meet Mr. Knudsen there on his way to Paris in order to talk over certain arrangements regarding deliveries from Leverkusen.

Mr. Ley was very happy to have our cashier Mr. Hanssen from Fredriksstad come to Leverkusen. You will remember he shall look after our shipments and our stocks in Leverkusen for some months until matters are going smoothly. I suppose he will have some free time which Mr. Ley can make use of.

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I am very glad to hear that your financial loss from the robbery in your apartment will be mostly covered and hope that the silverware, which has been traced, is that which Mrs. McCarty and you are most fond of. It is a very unpleasant experience to come home to anyhow, and I suppose it has given you both besides the anxiety a lot of trouble. I also presume that you have had your time fully occupied with all the work waiting for you, so your letter is so much more appreciated.

Mrs. Jebsen and the children are well.

Hoping the same is the case with Mrs. McCarty and yourself, I am, with kindest regards for you both,

Yours very truly

G. JEBSEN

1 encl.

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October 31, 1928.

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I am much interested in your letter of October 18th, No. 143, which is just at hand.

The Commercial Pigments Company is becoming increasingly active, and the question as to the best method of meeting this competition is engaging the minds of all of us that are connected with the business.

We are contemplating a reduction of 1¢ per pound in the price of Titanox and a possible reduction in the price of pure titanium oxide. Should we carry out this policy our salesmen will be very active until the business is established on the new price basis, and we may not be able to spare Mr. Hagar until some time in the new year. As soon as we can advise you definitely on this point I will do so.

I note your comments with respect to the low tinting strength of the pure titanium oxide from Thann & Mulhouse. In Baltimore, however the Commercial Pigments Company are producing a titanium oxide of high tinting power and probably crypto crystalline structure indicating that the product is calcined at temperatures covered by the Goldschmidt patents.

The information that Mr. Washburn is regularly obtaining a recovery of 97% in the digestion tank is interesting. Our reports indicate that in regular factory practice an 85% recovery is obtained at St. Louis although I think that Mr. Washburn has obtained better results in individual cases.

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I am glad to know that Mrs. Jebsen is well, and hope that the boys are happier in their school than they were last year.

With kindest regards for you all, I am,

Yours very truly,

Vice President

P. S. The following extract from the trade report of the visit of one of the Titanium Pigment Company's salesmen to the United States Navy Yard at Portsmouth, Virginia, will interest Mr. Ravner:

"The full use of Titanox is being gradually worked into all the formulas where such a pigment is possible. Up to the present, only the whites (paints and enamels) have contained it, but they are now ready to enter into the manufacture of battleship gray with Titanox, which is the reason for a larger recent order by Mr. Adamson (200,000 lbs). He expects that by June the use of Titanox will be at the rate of 1,000,000 lbs. per year and that the increase from then on will be very gradual. Incidentally, he estimates that within a year to 18 months, the Mare Island Yard will require 500,000 lbs. per year.

Everyone connected with the paint plant is very enthusiastic about the results obtained with Titanox and all of their exposure tests, (which we inspected today), show up decidedly in favor of Titanox as compared to all other combinations under test."

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Exhibit 134

Letterhead of

TITAN CO. A/S.

GJ/HS

Paris, November 9th, 1928.
Dr. G. Jebsen,
c/o Sté Industrielle du Titane,
26 Rue de la Pépinière, Paris 82.

Evans McCarty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York, N. Y., U. S. A.

Dear Mr. McCarty:

RE: DORSEY & COLES REPORT ON ROSSI & SCHROEDER, PATENT NO. 1,205,267 AND GOLDSCHMIDT PATENT NO. 1,348,129.

From Dorsey & Coles' report I understand that the T. P. Co. proposes to contend that the Rossi & Schroeder patent No. 1,205,267 shall cover the use of the product from the Goldschmidt patent, this eventually giving us the advantage of a broader protection.

The contention should be based on an interpretation of the designation "amorphous" to cover also the crypto-crystalline state, as the art at the time R. & S. applied for their patent should only know the "amorphous" and "crystalline" states of material.

If such a broad interpretation of the R. & S. patent—that it covers products which had not been made at the time of the invention—can and will be accepted by the court, then there is a chance.

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Whether, however, a court will range the crypto-crystalline form to belong to the amorphous or the crystalline group I think is very difficult to know, and a legal proceeding on such basis involves a considerable risk.

It must be kept in mind, that Rossi & Schroeder at the time of their application, November 19th, 1912 had not had the Goldschmidt products in their hands.

The 21st of March 1916 in a patent application (granted under No. 1,313,874), Mr. Barton on lines 40-58 says:

> "It is only quite recently that methods have been invented resulting in purer concentrates, the titanic oxide (TiO_2) of which is in amorphous state and chemically uncombined with other substances, such methods being those, for instance, claimed in Letters Patent Nos. 1,106,406, 1,106,407, 1,106,108, 1,106,409 and 1,106,410 granted to Auguste J. Rossi and myself on August 14th, 1914. While such last mentioned titanic oxide concentrates are very useful for many purposes, including pigments in paints, their hiding power in the latter has been surpassed by the above referred to "composite titanic oxide pigments", the which are as per the claims of said patent No. 1,155,462 distinguished from prior products as comprising titanic oxide and a sulfate, . . ."

The composite pigments referred to are the pigments with 25% TiO_2, and as everybody knows, these composite pigments have a tinting strength of 350 to 400, whereas the Goldschmidt products have 600 to 1000 and more.

With other words, at the time of the application for the serie of patents mentioned above,—which was November 29th, 1912—ten days after the application date of the

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Rossi & Schroeder patent—, the inventors had not been able to make a product of a tinting strength of 350 to 400. It must have been considerably lower, as the 25% pigment did surpass it, and it is only during the last eight years that this has been developed to the present tinting strength.

This means that the inventors at that time calcined the TiO_2 only in a very moderate way compared with our later practise—and Goldschmidt's prescriptions.

It is also from patents applied for during years thereafter evident, that the inventors did not know to make use of temperature and time during the calcination in order to obtain products of the high hiding power, which Goldschmidt's products show.

In the later patents, where some directions for the calcinations have been given, the description limits the calcination to the point where dehydration has taken place, or all volatile matters are driven off.

It appears from many of the patents, that the inventors do not want crystalline products—these being gritty and unsuitable for pigment purposes—hence the pointed way in which the products are characterized as amorphous, soft, chalklike, etc.

At the same time they *had*, however, to calcine in order to dehydrate and drive off the volatile matters (acid). Consequently they calcined to these last purposes and are careful not to go further in order to prevent the creation of a crystalline product.

In July 1914 (Patent No. 1,236,655) they calcine "at red heat until free from volatile matters (i.e. combined water)".

In September, 1914 (Patent No. 1,189,229) the calcination is done "at 700° until all volatile matters expelled, thus converting titanic acid into oxid."

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In April 1915 (Patent No. 1,205,144) Mr. Barton calcines "at 6 to 800° to such complete expulsion of volatile matters to result in decomposition of basic sulfate".

On July 19th. 1915 (Patent No. 1,234,260 and 1,240,405) Mr. Barton calcines "at 6 to 800°, thus obtaining my final composite product."

On July 27th. 1915 (Patent No. 1,223,356) Mr. Barton says: "I have, however, by resort to exceptionally pure materials, and the most thorough calcination possible been able to exceptionally produce some specimens of my final product, which on analysis showed no sulfuric anhydrid and only traces of chlorin."

This description of the calcination it is to be feared could be held as evidence of prior art to the Goldschmidt patent.

His purpose is evidently though to drive off acid matters, and the words "thorough calcination" to be seen in relation with this.

Mr. Barton has given a rather elaborate description of this pigment, and I agree with Mr. Cole, that this product should be made a matter of comparison with the Goldschmidt products.

The characteristics of the pigment, the high oil absorption, the bluish tint, and the specific gravity indicates, that the product is amorphous and not of the Goldschmidt quality.

It is to be hoped that this is the case, as this patent does not influence the question of the R. & S. patent, it being of a several years later date.

A further indication that Mr. Barton has not also this time had the G. products in his hands is his directions for calcination in his later patents.

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With regard to the patent No. 1,155,462 Mr. Barton applied for a reissue on August 3rd. 1916, and the patent describes the calcination to be made "at red heat until free from volatile matter (i.e. combined water)."

On August 29th. 1916 (Patent No. 1,223,358) he calcines "to substantially complete dehydration about 750°C."

As late as March 30th. 1917 (Patent No. 1,235,638) he prescribes calcination "at about 750°C. to complete dehydration."

If Mr. Barton had known about the possibilities of the use of higher temperatures and time by the calcination, it must be assumed that these descriptions would have been different.

Mr. Goldschmidt's patent has the priority date of October 14th. 1916.

I hope no offence will be taken of the pointed way I have put my arguments. I have done so, because I think something similar could be the defense which the Commercial Pigment Co. may make for their product, which you told me has a tinting strength of 1000 or more, and therefore according to our knowledge must have been made according to G.'s way of calcination.

It should be interesting to have TiO_2 pigments made according to the most explicit directions given by Mr. Barton and compare the qualities with products made after the G. patent.

I think the difference in tinting strength will be conclusive.

I have found Mr. Cole's report to be very interesting and good, and I believe his view as to the character of the Goldschmidt patent is right.

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The pointed discussion of the question crypto-crystalline contra amorphous, which evidently has taken place, is apt, however, to take the mind away from the most important practical point in the question, namely that the products obtained by Goldschmidt way of working distinguish themselves from the previously obtained products by their much higher tinting strength.

The difference is such, that in practise one is apt to see in the tinting strength the criterium for the product being either crypto-crystalline or amorphous.

Mr. Cole would probably have brought this more in the foreground, if he had been familiar with the great difference there is in the tinting strength (between the pigments).

I beg though to make the following observation.

The theory which Goldschmidt has developed in his patent description as to the structure of pigments giving the highest hiding power (complex pigments)—the application of which forms the basis for his invention—is of such a nature, that it will give Goldschmidt's patent the widest scope.

I suppose this is the reason why Mr. Cole lays so much stress upon the crypto-crystalline nature of the pigment not being had by Mr. Barton.

I think in this he is right, although it looks to me he is going too far in the consequences he draws; this is, however, a legal question, on which I can not venture a definite opinion. But from a practical point of view—in these particular cases of Mr. Barton—I am of the opinion that there must be such a difference as to the tinting strength of Barton's pigments compared with Goldschmidt's, that it is conclusive with regard to the novelty of Goldschmidt's patent as to the use he makes of temperature and time.

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It can be said, that Goldschmidt does not give any definite data as to the time of calcination.

It is obvious though from his description, that time is of great importance, namely the time necessary to obtain—at the temperature chosen—the effect he is working for, which is the highest degree of development of the structure of the pigment to give the highest tinting strength—and not merely to expell all volatile matters,—which does not come to the same end and from our experience will not give the same pigment.

I beg to insert the reservation, that we have in our experiments not started from exactly the same raw material, but it is not likely that the raw material used by Mr. Barton should show such a difference from ours as to the elimination of volatile matters, that the result should be principally different.

It looks to me, that the Commercial Pigment Co.'s pigment infringes anyhow G.'s patent, unless they have been able to make their pigment without applying the means of G. (temperature and time) in the way he does.

The only indication that this could be the case is the effect of the peptisation, which is their new feature.

I believe, however, that such a fine division of the particles, which they should obtain, will probably lead to a pigment of a much higher oil absorption than it has, unless they transform the particles in the precipitate to a cryptocrystalline state by calcination at the temperature used by Goldschmidt. If not, their pigment must be amorphous and should then, I suppose, fall under the Rossi & Schroeder patent.

In short, and a little inaccurate, one may say to have the choice: Either keep to the Goldschmidt patent as inter-

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preted by Cole—that is use the structure of the pigment as criterium for an infringement and as basis for protection—or keep to the temperatures employed, in which latter case I should be interested to know if legal opinion would give the patent the scope of protecting all titanium pigments calcined at that temperature, or only those of crypto-crystalline character.

The first alternative gives the broadest scope, but I understand that Mr. Cole thinks, that if anybody previous to the Goldschmidt application unknowingly has produced a pigment of a crypto-crystalline structure, it will be a serious blow to the value of the patent.

This is an interpretation of the law, on which I will not venture a definite opinion.

What Mr. Goldschmidt has done, is to apply in the art the theory he describes so well in his patent.

Its application has led to new and unexpected results of great economical importance, and this I believe is the chief condition for the acknowledgment of an invention.

It looks to me therefore, that even if Barton's product was crypto-crystalline, Mr. Goldschmidt's patent will have a wide—although not so well defined—scope; as Mr. Barton's product anyhow can not by far have had the same tinting strength.

I beg to add, that my remarks above do not tend to minimise or imply any criticism as to the very good work of Mr. Barton and the other inventors of the T. P. Co. They were in the same situation as we in the Titan Co.

A considerable work was done to develop the Titanium White industry, and the pigments we had got were already so remarkable compared with White Lead and White Zinc —as to hiding power—that we of that reason had no special

inducement to go further in that direction. Then as often is the case—a fresh mind entering the field combining his experience with ours is able to reach a new high peak.

I beg to add, that due to much other work the search through the patents to the purpose of substantiating my view has been made by Mr. Ravnestad

I further beg to draw your attention to the following:

Mr. Barton in all his patents concerning the production of pigments does, as far as I know, limit his claims concerning the calcination to—a calcination of the precipitates produced according to the description given in the respective patents.

This limits the scope of the protection by his patents quite considerably.—

Mr. Goldschmidt, whose invention is confined to the calcination and products obtained through this specific calcination, starts from Titanium compounds independent of the manner in which they are produced, and is very broad as to the chemical composition of the raw material as well as the final products.

Consequently his patent provides for a very broad protection as long as it is necessary to make use of calcination.

In some of our European patents though the raw material is limited to be an *amorphous* titanium compound, but according to Mr. Cole's letter of March 20th, 1928 (preliminary report), this is not the case with our position in U. S.

It is there accepted that the raw material can also be only partly amorphous, and most likely this will be accepted also for our other patents.

We have feared that the Auer Co. may start their calcination from a crystalline product and obtain interesting

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results, and I have had Mr. Farup and Ravnestad working with this question.

Previous experiments have indicated, that precipitation under pressure and/or from solutions of higher acid content than used in St. Louis and by us show a certain resistance against a transformation by calcination.

Experiments to this purpose precipitating under the conditions mentioned—especially as described by the Auer patents, confirm this.

The precipitates subjected to calcination at 900° during 1 hour have shown comparatively low tinting strength—below 500—except thrice, in which cases the circumstances were not so satisfactory that the result forms the basis for any conclusion to the opposite.

The very limited assistance Mr. Farup and Ravnestad has, has not enabled them to go further with the experiments, and it would be interesting if this question can be followed up further in U.S.A., where more laboratory help is at disposal.

It is near to think, that a product, which from precipitation is already crystalline, shows more inertia than an amorphous product.

The U.S.A. patent may even be construed to cover a crystalline raw material, provided in this last case it can be shown, that the calcination effects a change of the interior structure of the crystalls in such a way, that a complex pigment is formed, and the exterior is sufficiently smooth to satisfy the demands for the use in paint.

Pigments thus made will, however, most probably not be of the highest tinting strength.

I beg further to mention the idea of having both companies proceeding against the Commercial Pigment Co.

As far as I understand, this is legally feasible, as both companies own their respective patents, and both may have an interest to prevent them from being infringed.

The contract of 1920 provides the T. P. Co. with the right to make use of the name of the T. Co. A/S.

It looks to me that the arguments used in one case are likely to drive them into the field of the other.

The danger in the most cases of the T. C. Co.'s patents is, as mentioned the limitation of their claims to the products derived from the methods described for the production of the precipitates, but if the court takes the broader view you mentioned was Mr. Edmundds', this would not be to fear I suppose.

There is further a possibility that they will claim that the crystallisation of TiO_2 by calcination was already done by a Frenchman, M. Hautefeuille.

Mr. Blumenfeld mentioned this to me the one time I met him in 1922.

We have, however, never been able to find Hautefeuille's work to represent any danger, quite apart from the fact, that he never had in view, and there is no proof that he produced a pigment.

The patent department in Leverkusen on my request has also looked through his work and did not find anything of importance in this respect.

With regard to the article in "Chemical & Metallurgical Engineering" (July 1928), the following remarks may be submitted:

The writer of the article characterizes the process of the T. Co. as an analytical method transferred to industrial application.

Although such a transfer mostly constitutes sufficient newness to form a basis for considerable patent protections,

and the author therefore by such a statement very likely will not achieve his purpose, it should be noted that he is entirely wrong.

The digestion of Ilmenite with Sulphuric Acid only—has not been used as analytical method, as far as we know, and seems to me unlikely ever to be used of reasons obvious to any chemist.

Further, in the literature at that time the only method known to precipitate TiO_2 from Sulphate Solution by mere boiling was by making use of very dilute solutions. The dilution necessary was so far, that the operation was considered by us uneconomical from an industrial point of view.

We made the discovery, that a precipitation also could be had from a concentrated solution, and this forms the basis for our U. S. patent No. 1,288,863 (Case T.-17).

According to the description in the article, the solution used by Blumenfeld is basic and concentrated, and he must consequently infringe this patent.

According to our opinion the said U. S. patent cover the precipitation by boiling of Titanium Oxide in concentrated solution—this being basic and also "normal".

Claim 1., U. S. patent No. 1,288,863, contains no limitation as to basic solutions, and claim 2. is "characterized by containing acid in substantially no greater quantities than is required to form normal salts with the base forming material present."

By increasing the contents of free Sulphuric Acid of Titanium-Ferros-Sulphate Solution (say above 10% free acid), the precipitation output will decrease. If, however, long time of boiling is used, and especially in combination with the use of high pressure, it is also possible to obtain a high output by precipitating in a strong acid solution.

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In this connection it should though be remeinbered, that as above mentioned, our investigations have indicated, that precipitation carried out in strong acid solution under pressure have given products more or less crystalline, which show a certain resistance by calcination against transformation to products of high tinting strength.

When I arrive in Leverkusen I will put the present letter before Mr. W. in order to have his opinion, as I last time only had a few words with him about my views in general on the G. patent, without having seen any of the T. P. Co.'s patents.

Mr. Washburn co-operated very closely with Mr. Cole on our patents at the time they went through the U. S. patent office, and is more familiar with the details and the points raised by the examiner at that time.

I regret to say, that I have not yet had time to study Mr. Coles "Report on infringement of Titan Co.'s patents by Blumenfeld" and must postpone to write about this for the present.

With kindest regards,

Yours very truly

G. JEBSEN.

P. S.—Mr. Cole's suggestion to use the specific gravities as a proof of the pigments' amorphous or crystalline character may prove very good.

I can though not agree, that it will be a proof against the Goldschmidt's patents, if his product also could be made with the specific gravities mentioned by Barton.

Although it is likely that there is a difference, it does not follow that a fault of such in specific gravity makes the products identical in structure.

c/c Dr. Thompson

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Dr. G. Jebsen November 23, 1928.
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

Please accept our thanks for your very interesting letter of the 9th instant, No. 156, commenting upon Messrs. Dorsey & Cole's report on the Rossi & Schroeder and Goldschmidt patents. I am arranging to have copies sent to those of our people that are dealing with the patent situation.

I think you have perhaps drawn from Messrs. Dorsey & Cole's report a wrong impression as to the position of the Pigment Company with respect to these two patents. As a matter of fact, the Titanium Pigment Company has taken no definite position, but is seeking by discussion and exchange of views the wisest course to follow.

One of the reasons urged in favor of taking a broad view of the word "amorphous" as used in the Rossi & Schroeder patent is that the American patents covering the use of titanium oxide in the various arts refer to titanium oxide in an amorphous form, and it is feared that these patents may not cover the use of titanium oxide in a crypto-crystalline form.

I am enclosing for your information copies of letters addressed to me by Mr. Hallett under date of October 25th and 29th giving the results of examinations by Dr. Posnjak and Dr. Merwin of samples of titanium oxide manufactured by the Commercial Pigments Corporation and the Titanium Pigment Company respectively.

Yours very truly,

Vice President.

Exhibit 138

Letterhead of

TITAN CO. A/S

GJ/HS.

No. 161

Paris, November 27th. 1928.

Dr. G. Jebsen,
Sté Industrielle du Titane,
26 Rue de la Pépinière, Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York, N. Y., U.S.A.

Dear Mr. McCarty:

RE: MR. COLE'S "REPORT ON INFRINGEMENT OF TITAN CO.'S PATENTS BY BLUMENFELD".

Mr. Cole's report seems to me to cover the field very well.

I may though make the remark, that I believe it would have been an advantage if he had had the assistance of a chemist of your organisation who has more knowledge of the practical industrial and chemical side of the questions involved, than a patent lawyer can be expected to have.

I may mention one instance:

Mr. Cole on the basis of the article in the "Chemical and Metallurgical Engineering" assumes, that the Commercial Pigment Co. infringes our patents Case—1, Jebsen, and Case—17 Fladmark concerning the formation and the

use of concentrated solutions with an acid contents forming basic or normal salts.

This need not be assumed, as it is quite evident from the description giving the contents of their solution.

It should though be remembered that we actually in St. Louis and Leverkusen use solutions containing 2 to 3% H_2SO_4 more than necessary to form normal salts.

These solutions are probably included in Case—17, but not in Case—1, which unfortunately has not been so well formed.

I agree with Mr. Cole, that (although we have no evidence of infringement at present) attention should be given to a possible infringement of the Titan Co.'s patents concerning reduction, neutralization of the acid contents of the precipitates and the effect of P_2O_5.

I see from Mr. Cole's report, that the possibility of the P_2O_5 originating from the ore may free the Commercial Pigment Co. from infringement of our respective patents.

As I am not a lawyer, I will not venture a definite opinion upon this, but will only mention, that in case Mr. Blumenfeld can not prove that the P_2O_5 is of no effect, he has got a very cheap way of going around a patent protection, so cheap that it represents a danger to the basic principle of the patent institution.

Mr. Blumenfeld's process seems to me so near a copy of our process as anyone can make, who has not actually had entrance to our works.

If he can get through with it without the court acknowledging an infringement, it seems to me that it will be on the basis of legal interpretations and hairsplitting discussions and not on the basis of work and improvements in the art worth acknowledgment.

I make this remark on the basis of the information on broad lines I have of the Blumenfeld method of operation and exclude the peptisation, the effect of which is unclear to me, but which I have been informed from several sources to be of no value.

I do not think, however, that my opinion is of much value, as only a patent expert thoroughly familiar with and experienced in the practise of American patent law can form a competent opinion as to the outcome of a litigation.

With kind regards,

Yours very truly

G. JEBSEN

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December 5, 1928.

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

We are glad to have your letter of November 27th, No. 161, commenting on Mr. Cole's report on the infringement of the Titan Co.'s patents by the users of the Blumenfeld process.

A report of the examination of the Commercial Pigment Company's produce by Dr. Merwin and others was sent to Mr. Cole, and he has been preparing a supplementary report which should be in our hands in a day or two.

With this report at hand we hope to be able to reach an intelligent decision as to the best course for us to pursue in bringing an action for infringement.

We will keep you informed as to developments, and will appreciate your comments and advice.

Yours very truly,

McCarty
Vice President.

Exhibit 138

Letterhead of

PHILIP C. PECK

September 18th, 1929.

Mr. Louis E. Barton,
Titanium Pigment Company, Inc.,
Niagara Falls, New York,

Dear Mr. Barton:

Re: Commercial Pigments Corporation
Blumenfeld Reissues Nos. 17429 and 17430

On September 10, 1929, Commercial Pigments Corporation procured two reissued patents Nos. 17429 and 17430 based on Blumenfeld's original patent No. 1,504,672 of August 12, 1924.

I procured copies of these Reissues to determine the subject matter of any new claims embodied in such patents:

Reissue No. 17429 shows that the specification is the same as that of the original patent No. 1,504,672 with an additional paragraph on page 2 (lines 60-68) to explain the use of a diluent in certain new claims in the nature of a solution of lesser concentration. Claims 1-4 of this reissue are the same as claims 1, 2, 4 and 5 of the original patent (claim 3 having been omitted). New claims 5-12 have been added covering in rather broad terms the gradual mixing or diffusion of a titanium sulphate solution with a solution of lesser concentration, preferably at an elevated temperature. Claim 5 reads as follows:—

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5. A process for the preparation of titanium dioxide or hydroxide by hydrolytic precipitation, which comprises bringing together a solution of titanium sulfate with a solution of lesser concentration and retarding the rate of admixture so that the titanium sulfate solution is gradually diluted.

Reissue No. 17430 has the same specification as original patent No. 1,504,672, and four new claims covering the same general subject matter of claims 5-12 of Reissue No. 17429, except that the gradual admixture of the two titanium solutions is so retarded that the composite liquid first becomes gradually turbid and then throws down the titanium oxide precipitate. Claim 1 reads as follows:—

1. The preparation of titanium dioxide or hydroxide by hydrolytic precipitation which comprises bringing together a solution of titanium sulfate with a solution of lesser concentration, and retarding the rate of admixture so that the composite liquid first becomes gradually turbid and thereafter throws down the desired precipitate.

I should think it advisable for me to procure digests of the file-records of these two Reissues which may throw some light on the activities of Commercial Pigments Corporation. I will await the instructions of the Patent Committee to whom copies of this letter are forwarded.

Very truly yours,

PHILIP C. PECK

PCP/VP

Exhibit 139

February 11, 1930

Mr. George A. Martin, President
The Sherwin-Williams Co.
Cleveland, Ohio

Dear Mr. Martin:

Since your last visit I have been giving a good deal of thought to your suggestions with respect to titanium pigments.

In order to avoid complications with our other customers it seems to me that the best plan would be for you to join the Titanium Pigment Company in the formation of a new company to manufacture titanium pigments for your own use only. The shares in this company could be owned one-half by the Sherwin-Williams Company and one-half by the Titanium Pigment Company.

The factory could be built at the most desirable point, and operate under a license from the Titanium Pigment Company. This form of operation will be necessary as we have partners in the enterprise, and have definite agreements with others with respect to the patents.

My thought is that the capital should be supplied one-half by your company and one-half by the Titanium Pigment Company. Your company would contribute the market and the Titanium Pigment Company the patents and manufacturing experience.

To preserve the mutuality of the enterprise the product should be sold to the Sherwin-Williams Company at the Titanium Pigment Company's lowest ruling prices to the paint manufacturing trade, profits to be divided equally be-

tween the Sherwin-Williams Company and the Titanium Pigment Company.

I will appreciate an expression of your own views in the matter, and will be glad to discuss the subject with you or others in your company at a convenient time.

I am leaving for California today to be gone for about a month, but in the meantime our engineers will prepare some tentative plans and estimates for a factory.

We are very hopeful that as a result of Mr. Carter's visit to Cleveland our business with your company may continue to grow not only in white lead but in other pigments also.

Yours very truly,

EVANS MCCARTY (signed)
Vice President

Exhibit 140

Letterhead of

TITAN CO. A/S

No. 314.
GJ/AK

Paris, April 1st 1930

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Re the remittance of the 18.000 shares of the Commercial Solvent Co to Sté des Terres Rares.

In receipt of your favour of March 21st, I beg to say that the information in the clipping is somewhat unclear as most informations emanating from Nord et Alpes and Sté des Terres Rares. The information intends though, I believe, to make the reader think that Sté des Terres Rares has received those 18.000 shares of a value of $30.—per share, in part or full compensation for the right to use the processes of Sté des Terres Rares for the manufacture of Titanium Oxide. Nothing is said about the territory involved.

Mr. Thompson told me from a visit in Genoa, that a business connection there, had mentioned that the titanium enterprise of Montecatini was a failure. It was said in such a manner as if it was a common knowledge.

Exhibit 140

On my inquiry, Dr. Kühne told me that his impression of Mr. Donegani was not that the titanium enterprise was a success, but only that it went better now, compared with previously, when he was very dissatisfied.

With kind regards,

Yours very truly,

G. JEBSEN

Exhibit 141

PETER SPENCE & SONS, LIMITED
Farnworth
Mr. IDN

Ref.
Ours: BPL./AS
Yours: WFM:M.

April 12th, 1930.

Attention of Mr. B. F. Meredith, President.

The Titanium Pigment Coy., Inc.
60 John Street,
New York, N.Y.
USA

Dear Sirs,

We have pleasure in enclosing herewith the United States Letter Patent No. 1338473, and also the form of assignment of the patent to yourselves which was sent by you and has been duly executed.

We are glad it has been possible to effect the transfer of this patent to you, and hope you will find it of value in your operation.

With best personal regards,

Sincerely yours,

for PETER SPENCE & SONS, LTD.,
Director

Registered Post.

CC: L. N.
G. T.
P.C.P.

Exhibit 141

UNITED STATES PATENT OFFICE.

HERBERT WRIGLEY AND HOWARD SPENCE, OF MANCHESTER, ENGLAND, ASSIGNORS TO PETER SPENCE & SONS, LIMITED, OF MANCHESTER, LANCASTER, ENGLAND.

PREPARATION OF TITANIUM COMPOUNDS.

1,338,473 Specification of Letters Patent.
PATENTED APRIL 27, 1920.

No Drawing. Application filed February 4, 1919.
Serial No. 275,014.

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Exhibit 142

April 15, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your letter of April 1st, No. 314.

There is every indication that the Commercial Solvents Company is taking a very active interest in titanium and the manufacture of titanium products, and we will appreciate it if you will keep us informed of anything that comes to your attention regarding their activities in Europe.

I note the comments of Mr. Thompson and Dr. Kuhne with respect to the Montecatini business.

Yours very truly,

McCarty
Vice President

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Exhibit 143

Mr. L. E. Barton,
Titanium Pigment Co., Inc., April 26, 1930.
Niagara Falls, N.Y.

Dear Mr. Barton:

My recollection is that we recently received definite advice that the Spence United States Patent #1,338,473 has been acquired by the Titanium Pigment Company. This patent covered two distinct features which may prove advantageous to us. One is the use of steam for promoting the reaction between sulphuric acid and ilmenite, and the other, which is the immediate occasion of my writing you, covers the crystallization of ferrous sulfate out of the solution prior to hydrolysis. As far as we have gone it appears that this crystallization feature was first covered by Spence and that there are no prior patents thereon.

I spoke to Mr. McCarty yesterday about this. I suggested that if after careful search we found that Spence's patent was good, in the sense that there was nothing prior to it, we should after due consideration send a letter to the Commercial Pigments Corporation advising them of our ownership of this patent and warning them against infraction.

If agreeable to you, I shall ask Mr. Peck to get the file wrapper on this patent and make a search to determine our position. The whole matter can then be considered and action taken if desired.

Yours very truly,

C. W. THOMPSON

CWT:EA
c.c.—J.F.W.
P.C.P.

Exhibit 144

Letterhead of
TITAN CO. A/S

No. 329.
GJ/HS.

Paris, August 4th. 1930.
Dr. G. Jebsen,
26 Rue de la Pépinière, Paris 8e.

Evans Mc.Carty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York, N.Y., U.S.A.

Dear Mr. McCarty :

I saw Mr. Burton Monday the 21st. of July, and during the conversation I asked him what kind of a man Mr. Blumenfeld was. He told me he was a Russian jew with many of the characteristics of this kind. He was a very occupied man undertaking a lot of work, very interested in science, philosophie, pictures—well introduced in scientific circles, a friend of many prominent scientists like Mr. Einstein—very clever, and thought himself to be so. He also considered himself a clever business man, although Mr. Burton did not agree to this. He was not surprised that Mr. Blumenfeld had been taken away from the "Berr" enterprise (the petroleum raffinery). Mr. Burton would never have dreamed of putting Mr. Blumenfeld at the head of a commercial and industrial enterprise of that importance.

Mr. Blumenfeld had lately been checked on several occasions in his industrial and commercial activities, so he thought he would be quite willing to follow any reasonable suggestions re the arrangements we had discussed.

Exhibit 144

Mr. Burton seemed to be quite hopeful that something would come out of the various talks and indicated, that probably the arrangement could be done on the basis of a compromise of our views and his suggestions. He expected to hear from the United States as soon as you had had a talk with the Commercial Pigment Co.'s people, and that we then could carry on our conversations on this side and you on your side.

He intended to leave for the United States in the end of September.

I did not send my letter to Dr. Kühne—preferring after nearer consideration to talk it over verbally with him.—Kühne did not appear very much inclined to make any arrangements at the present of the same reasons as already mentioned by him.

Dr. Kühne received a letter from Dr. Meyer of the Aussig, who asked him to arrange for a meeting of these two and myself. It appears though, due to the plans of Dr. Meyer and Dr. Kühne, that this probably can only take place between the 9th. and the 14th. of September.

Dr. Kühne did not consider the competition of Aussig as very serious and was also of the opinion, that Blumenfeld would have difficulties in finding any financial support in France after the checks he had had. They were interested with Blumenfeld in the exploitation of certain patents for active carbon, and both of them had shares in certain companies. Kühne had seen, that in the Blumenfeld company these shares had been entered in the Balance Sheet at a value far above what the I.G. considered it to be, and he characterized it as "Börsenmanöver". Dr. Kühne had not much confidence in Blumenfeld's reliability in technical matters.

Exhibit 744

My personal thoughts regarding an arrangement with Blumenfeld's group are still the same as when you left.

I remained in London after your departure until Wednesday evening and had two long talks with L.B. Robinson, who had not had much opportunity to talk with his father about Titanium matters.— I gave him a tabula of the production cost figures from St. Louis, and the production costs for Widnes based on the St. Louis figures and English prices, as worked out by Mr. Henrikssen—the same figures as you have in the tabula showing the comparison between St.Louis, Germany, France and England.

I told him, that you and his father had agreed on the proportion in which his company and we should be interested in the British company 25% and 75%—as well as the principle on which the Sulphuric acid should be delivered. I mentioned, that we would have to find an adequate expression for this principle which can be used in the agreement and suggested further that we now should go ahead with the matter as soon as possible.

I developed for him the various advantages and assets, which were brought in from both sides, and asked him to consider what should be a reasonable valuation of this.

I understood, that he had been thinking that the above mentioned division of the interests also solved this question, wherefore I told him, that you on my question answered, that you on talking with his father only had dealt with the principle of division of interest and a basis for the delivery of Sulphuric acid. He asked me, if we wanted "cash", to which I answered him, that personally I would have liked this, but I did not think that the National Lead Co. would put any importance to that, and I would of course be guided by the National Lead Co.'s interest.— Later I understood

that with "cash" he possibly meant proportional shares given to us without cash payment from our side. He mentioned that the Imperial Smelting Company may bring in a site for the factory, to which I remarked, that the value of this could easily be estimated.— He asked my opinion, but I suggested, that he should think over the matter and let me know his views.— He hoped to have an opportunity to talk it over with his father and would then let me know.

He further told me, that he had tried to register the name "British Titan Company", but was prevented from this, as the A.L.M. already had registered this name. He thought we perhaps could take over this name, but suggested we should register "British Titan Products Company", and I have now received a letter from him, that they have registered a private company with a nominal capital of £25.000 under the above title, with for the time being Mr. Robson and L.B. Robinson as directors. He adds: "I have thought a good deal of the points we discussed since you left, but have not yet had a moment in which to talk with my father. I hope, however, to be able to write you fully immediately after the holidays at the end of this week".

In Leverkusen I did find Dr. Raspe very satisfied with the Extra "T" he is now making, which is calcined at a higher temperature than previously, and at the same time is somewhat softer than the previous material, although it has the same tinting strength.

I enclose copy of a letter to Mr. Washburn dealing with some technical questions which may interest you.

Dr Raspe told me, that Dr. Kühne was expecting an answer to his question regarding an alteration for the time being of the licence conditions.—I told Dr. Kühne, that I

could not see this matter in the same light as he—not only because the agreement did not specify anything in this line, but especially because the whole spirit in which the I.G. had started this matter with us was on the basis of co-operation. If it had been clearly pointed out from the beginning, that such responsibility should rest upon us, as he now wanted, there were changes from the St. Louis factory, partly made on the responsibility of both parties, partly solely on the advice of the I.G., which we then would not have done, and instead strictly copied St. Louis.

I further told him your point of view, that in case they insisted upon an alteration, we will ask to run the factory under our management for a certain time.—I pointed out to him at the same time, that we had no desire to do so, and felt that they will be able to reach a satisfactory product themselves, and we would of course very much prefer this.—Dr. Kühne then pointed out, that Mr. Washburn had been there 4 months without being able to show them how to make a satisfactory product.—I tried to explain to him the difference in acting as an advicer, and having the management.—Dr. Raspe pointed out, that they had followed Mr. Washburn's advices in every respect.

At last Dr. Kühne mentioned, that he was aware that the contract did not allow them to demand an alteration, but as the enterprise had not developed according to expectations, we might find it reasonable to make an alteration and facilitate matters for them.

When I told him, that we, were carrying by far the greatest part of the burden of the disappointment, Brüggemann thought, that we had got the material from Leverkusen cheaper than when it was manufactured in Norway. —I told him, that the production costs in Norway had been

rapidly sinking during the last year of its run, and the prices we had to pay for the products from Leverkusen last year were therefore in my opinion higher than they would have been in Fredriksstad.—We had further in the expectation of lower prices arranged our sales prices accordingly—as also was done in Germany—and consequently the results were a great disappointment. Kühne asked me, if the I.G. had promised these production prices, to which I answered, that I had no intention of making them solely responsible for our disappointment in the latter respect.

I further told them confidentially, that comparing the results of the Titangesellschaft with the results of our interests, Titangesellschaft had come better off than we, and mentioned to them some figures in this respect.—This seemed to have a certain effect upon Dr. Kühne and alter his views.

The next day I did find in the Minutes of one of the scientific conferences, at which were present several chemists from various departments of the I.G., that Kühne had mentioned his conversation with you and myself regarding this licence matter. This caused me to ask for another conference with Dr. Kühne and Brüggemann, in which I tried to explain more broadly my view and read to them several of Mr. Washburn's letters to me (of which you have copies) of last December regarding the situation and pointed out to them, that Washburn's advices had not always been followed, as Dr. Raspe had said. I especially pointed out one of Mr. Washburn's recommendations with regard to the addition of Sulphuric acid after Oliver filter No. 1. (see my letter to Mr. Washburn of the 1st. inst.). Dr. Raspe meant that Washburn and he had been discussing hundreds of suggestions, and Dr. Raspe had not been under the impression

that Washburn considered this one to be of such importance. Now after he had learned about the Auer Company's investigations the matter was clear as to what they had to do in this respect.

I thought that was one of the difficulties in the situation that the Germans in most cases wanted scientific explanation and theory for everything and would not be guided only by practical experience.—Of course science has its great value, but practical experience must not be disregarded—theories change often—and in developing an industry of this kind there has not been time for a scientific investigation of every experience.

I mentioned an advice of Mr. Ravnestad, which they only were going to follow now, although it could have been followed long ago. Dr. Raspe: "I do not agree with Mr. Ravnestad's theory in this matter". I told him that whether this theory was right or wrong—the point was the effect. Dr. Kühne agreed with me.

I pointed out again, that there was too much nervousness with regard to the management.

Dr. Raspe had told me, that he lately had been able to reduce the addition of Phosphoric acid to 0.2% P_2O_5—the same as in Titanox—and he now wanted to try without Phosphoric acid. It was my opinion that he should not go further in the reduction of P_2O_5 at the time being, but be content with what he had, which was satisfactory, and concentrate upon the other questions. Dr. Kühne agreed with me.

I told Dr. Kühne, that the reason for this interview was his remark in the scientific conference. If Dr. Kühne's opinion was to be conveyed to the whole organisation of the I.G., which I feared might happen when it was mentioned

in such a conference, then the matter will have to be regarded by us in a different light. I could not accept his view being broadcasted—leaving an impression in the I.G. that the National Lead Company leaves undone an obligation because the I.G. has omitted to put it into the contract.—

Dr. Kühne did not answer this, but he looked rather uncomfortable, and I hope I have stopped further development of that kind.—Dr. Kühne told me, that he had said to Brüggemann, that in case the difficulty with regard to the wetting power was due to watersoluble salts and the method of precipitation, he did not see that I.G. had any basis for an alteration in the license conditions.

I also took up another matter of recent date in which Dr. Raspe had not followed my advice of making certain investigations before he took a certain step. It may turn out all right, but anyhow he had been running a risk of contaminating more than 100 tons of the new Extra "T", and I referred to a letter from me to Dr. Raspe. Dr. Kühne expressed the wish to have a copy of such letters sent him.

Saturday Dr. Raspe informed me by telephone from Dr. Kühne, that Dr. Schütz of Sachtleben had told Dr. Kühne, that the works manager of Thann & Mulhouse had mentioned to one of Sachtleben's men, that Blumenfeld was on the point of closing an agreement with Pisart, and it would probably be done within a month. Dr. Raspe made the suggestion, that I should immediately go to Thann & Mulhouse and see Blumenfeld, who would be there with Dr. Meyer on the 4th. of August. I told Dr. Raspe, that I could not run after Blumenfeld in such a manner and asked to be switched over to Kühne. I found Kühne in agreement with me. The suggestion did not come from him. He would, however,

try to arrange a conference with Dr. Meyer in this week, and I am looking forward to hear from him.

I suggested that the information given to Sachtleben by Blumenfeld's man was intended to be forwarded to Dr. Kühne.

August 5th. 1930.

Dr. Meyer has informed Kühne, that he must go direct from Thann to Aussig and can not pass Leverkusen.—Kühne is going to London next week, and as he is taking his holidays from the middle of September, he had informed Dr. Meyer, that thus a meeting could only take place at the end of October.—I told Dr. Kühne, that I would arrange myself according to him and Dr. Meyer, and on going through his programme for the future he returned to the before mentioned possibility of a meeting on the 11th. or 12th. of September, and will suggest this to Dr. Meyer, which he evidently had not done yet.

A possible arrangement between Pisart and Blumenfeld was evidently not much to Kühne's liking. I told him, that if we did not arrange with Blumenfeld, we must reckon with the possibility of Blumenfeld falling into the arms of Pisart. On the other hand one should expect that Blumenfeld will await the results of your conversations with the Commercial Solvent Company's people, although I do not know what is to be expected from Mr. Blumenfeld.

Dr. Kühne told me, that Mr. Chase had said to him, that the Commercial Solvent could exercise sufficient influence on Blumenfeld.

I am asking myself if Dr. Kühne intentionally is retarding his conversations with Dr. Meyer to the purpose,

Exhibit 144

that in case all the other parties have come to an understanding, he will make use of his position that a settlement will be dependent upon the I.G. In such a case the possibility of Pisart making an arrangement with Blumenfeld may influence him.

Dr. Kühne told me, that he would like to meet W. S. Robinson regarding Lithopone, and asked if you were still in London. Pisart had taken the attitude, that they should let Robinson alone for the time being, as Pisart considered him not of such importance.

L. B. Robinson told me in London, that Pisart had wanted to bind Ctr for a long period of years, which they had declined.

I told Dr. Kühne to-day, that if I could be of any service to him in the matter, I should be glad, and he said he was meeting Dr. Schütz and Director Holm to-day, and if they agreed, he w[illegible] letter of introduction to Mr. Robinson.

If the lette[illegible] L. B. Robinson should not make it advisable for me to go to London, I will go to Norway at the end of this week in order to go through matters there, and if possible take a week off for holidays, although I am afraid there will be no time for it, as I may have to go to Sogndal, which alone requires a week.

With my kindest regards to Mrs. McCarty and yourself, and hoping you had a good passage.

Yours Sincerely

G. JEBSEN.

Exhibit 145

August 5, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Mr. Chase came in here yesterday with a cable presumably from Mr. Burton telling him that a company called the British Titan Products Company had been registered in Great Britain.

They were puzzled and somewhat alarmed by this new development, but I told Mr. Chase that the company had been registered by interests friendly to us which reassured him somewhat.

There have been no new developments here, and will not be until next week when Mr. Ticknor returns.

Yours very truly,

McCarty
Vice President

Exhibit 146

August 13, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I have your very interesting letter of the 4th, but have time today for only a brief reply.

With respect to the British situation I have nothing to add to my letter of the 8th. Mr. W. S. Robinson expects to make us a visit in September, and I hope that by that time you and Mr. L.B. Robinson may be able to work out some tentative plans.

There is nothing new with respect to the negotiations with the Commercial Solvents Company. I have had two talks with Mr. Ticknor, but cannot say that any progress has been made. He is very anxious for a consolidation, but we have not reached a definite conclusion as to where our best interest lies. I hope to have an opportunity to discuss the subject with Mr. Cornish tomorrow, and we may reach some conclusion.

I am surprised to learn that Blumenfeld has been negotiating with Pisart while the negotiations with us were in progress. I do not think that this news will please Mr. Ticknor as he has stated that they will have no difficulty in controlling Blumenfeld. I will speak to him about it at the first opportunity.

Reports made to me since my return by Mr. Hagar lead me to have less concern with respect to the progress of titanium lithopones than I had at one time.

Exhibit 146

I note your account of your conversations with Dr. Kuhne and Dr. Raspe.

I had an opportunity for a long talk with Mr. Washburn last week, and he emphatically sustained the position I took in Leverkusen that as a matter of practical procedure the thing to do was to install immediately another evaporator for evaporating sodium sulphide solutions. He further stated that neither the cost of installation nor of operating such an evaporator was prohibitive. I asked Mr. Washburn to write me his views on this subject so I could pass the letter along to you, but so far he has not done so.

The whole situation is very interesting at the moment, and I will keep you advised of further developments.

Yours very truly,

McCarty
Vice President

Exhibit 147

August 20, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Since writing you on the 13th I have had another talk with Mr. Ticknor, as a result of which I think that our ideas with respect to a possible consolidation of the two companies are a little more definite. If Mr. Ticknor is willing to form a consolidation on the basis of present position and value of the two companies I think something can be done, but if he adheres to his present position of insisting upon a half interest in the business contributing in cash what is necessary to make up the difference in value of the two companies, there is I think little probability of our getting together. He is away from the city on a holiday with his family, but will probably return before the end of the month when no doubt discussions will again be renewed.

I called Mr. Ticknor's attention to the report that has reached you through Dr. Schutz and Dr. Kuhne that Blumenfeld was on the point of closing an agreement with Pisart and pointed out that we did not think Blumenfeld should approach Pisart during the progress of present negotiations with the Commercial Solvent Company. Mr. Ticknor expressed the opinion that the report was probably incorrect but promised however to cable Mr. Burton and ask for information regarding it.

Exhibit 147

In my letter of the 13th I stated that I now had less concern with respect to the progress of titanium lithopones than I had at one time. This opinion was confirmed by a conversation I had yesterday with Mr. Thompson of E. I. duPont de Nemours & Company who told me that they did not consider that titanium lithopones had an important future.

I will keep you advised of further developments.

Yours very truly,

McCARTY
Vice President

Exhibit 148

September 3, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la pepiniere, Paris, France

Dear Dr. Jebsen:

I have just returned from an interview with Mr. Ticknor and Mr. Chase in which the positions of the Commercial Pigments Company and the Titanium Pigment Company were again discussed at some length.

The differences of opinion mentioned in my letter to you of August 20th still exist, and an actual merger of the two companies does not seem close at hand. There is no doubt, however, that these continuing conversations are bringing us closer together in many ways, and the atmosphere may at some time clear very quickly.

We have been discussing the purchase of a portion of our ilmenite supply from Travancore Minerals Ltd., which as you know is largely owned by the Commercial Pigments Company, and Mr. Burton has suggested a pooling of patents which may be an advantageous thing to do. At any rate we are exploring the possibilities of the suggestion.

Arrangements in Europe must, of course, depend upon whether or not the American companies can come to any satisfactory arrangements, but as the atmosphere over here is still a friendly one I would suggest that you keep the negotiations alive with Mr. Burton in as near to the same spirit as possible.

In the meantime, I believe that it is desirable for us to get the English project under way as soon as possible.

Exhibit 148

In a previous letter I wrote you that Mr. W. S. Robinson expected to visit us in September. I now learn that he expects to sail on or about the fifteenth. I do not know what progress you and Mr. L. B. Robinson have made, but have no doubt you will have something definite to suggest by the time Mr. W. S. Robinson leaves.

At my request Mr. Ticknor cabled Mr. Burton the report contained in your letter to me of August 4th that Blumenfeld was about to close an agreement with Pisart, and I am now enclosing copy of a telegram sent you today giving the gist of Mr. Burton's reply.

With kind regards, I am,

Your very truly,

McCARTY
Vice President

P. S. Mr. Robinson cabled about a week ago that Cramer of Du Pont was taking an active interest in the possibility of securing the Tilden-Smith interests in titanium. This for your information.

Exhibit 149

No. 333.

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, September 13th 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

I have just received your very interesting letter of September 3rd.

I did not get time to see Mr. Burton in London and leave tonight for Zurich to meet Dr. Kühne and Dr. Mayer of Aussig, who have a meeting there regarding other interests they have together.

I believe with you that it is desirable for us to get the English project on the way as soon as possible, and hope that Mr. L.B. Robinson's visit here will give an opportunity to get the license agreement settled. With regard to the other questions, I presume that they will be settled by you and W.S. over there. It is somewhat difficult to go ahead on this side, as long as the attitude of the Robinsons has been as you will have understood from my two previous letters.

Mr. L.B. Robinson asked me during my stay in London, if it was not so, that you considered the Tilden Smith patents and methods to be of no or very little interest. I told him that the methods seemed to infringe many of our pat-

euts and that I understood that you considered that Tilden Smith's interest in titanium has very little to bring us.

Mr. L.B. Robinson did, though, not inform me that Cramer of Du Pont was taking an active interest in Tilden Smith's process. Under such circumstances, they may have a nuisance value.

Apart from that—the only one of their patents which may have a small interest for us, is, as far as I know, only the one which covers the addition of a small amount of Boric Acid to the TiO2 before calcination. Mr. Ryan has made investigations regarding this matter, so you have the information in this respect nearest at hand.

Their practical operations which were rather crude, had, though, the advantage of not using Dorr-vats for the washing of the wet pigment. Our experience in Leverkusen with Dorr-vats is, as you know, not very satisfactory because of the very heavy repairs in the first year or two, an experience which, I understand, you also have had in U.S.A. and which therefore may be considered unavoidable. We need, however, not acquire Tilden Smith's interest in order to make use of filters or the apparatus which Mr. Moses has worked out, to replace the Dorr vats—for the washing of the wet pigment.

I am writing you this in haste, that it may reach you before Mr. W.S. Robinson leaves New York.

I cannot help the feeling that a purchase by you of Ilmenite from Travancore Minerals, enabling them to reduce their production costs by obtaining a larger production, may handicap the development of the Sogndal mine, the production costs of which also are dependent upon larger tonnages. I feel confident that the question of reddening of the product from the Norwegian ore has been overcome and that you ought to get thoroughly investigated the pos-

sibility of the Norwegian ore also for use in U.S.A., before an arrangement is done by which a supply from Norway to U.S.A. would be excluded and you help Travancore to a larger outlet.

I may recall our conversation a year or two back, when you told me that it had not been possible to obtain from Mr. Washburn or anybody else, an exact comparison between the sand ore and the Norwegian ore as to economy. We have now a certain ambunt of experience in Leverkusen, and from this I think the process as it works does not make full use of the advantages of the Norwegian ore. Mr. Ravnestad is working also on this matter in Leverkusen and interesting experiments are on the way in this respect, the results of which, it seems, that we will have in the course of this year, and we may then in the first quarter of next year be able to adjust the process in Leverkusen in this respect, so that we will get a basis for a comparison between the two ores.

In the spring next year we will also have the production of an ore with 47% TiO_2.

Dr. Gardner is now in Paris. He was, the day before yesterday, together with Mr. Ravner who has shown him a little of Paris, and he is just calling in this moment. I invited him for lunch and we are now going to Rochambeau.

With kind regards,

Yours very truly,

G. JEBSEN

P.S.—Dr. Gardner asks me to send you his kind regards and tell you that he enjoyed very much his visit to the Leverkusen factory with Dr. Raspe.

Exhibit 150

September 26, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I have your letter of September 13, No. 333, and note your comment with respect to the purchase of ore from Travancore Minerals.

This question is more or less involved in my negotiations with Mr. Ticknor, but so far the price suggested has not been tempting. In fact, it is about the same as that we have been paying Hopkins & Williams.

With St. Louis operating on Indian ore and Leverkusen operating on Norwegian ore we should before long be able to determine the question of relative values.

Mr. Washburn has sent me a copy of his letter to you of September 19th in which he gives you some figures as to actual recoveries when operating on Indian ilmenite and also some figures as to the quantity of acid employed. I presume that similar figures can be obtained from Leverkusen as soon as their operations are on a regular basis.

I note also your comments with respect to the patents belonging to the Tilden Smith Estate. We are negotiating with Mr. Magennis, one of the trustees of Mr. Tilden Smith's estate, for the purchase of some of the securities belonging to the estate, and have suggested that if we make the purchase the titanium patents be thrown in without extra compensation. I do not know how this will be received by Mr. Magennis. Much depends upon his view of

the prices offered for the shares in Associated Lead Manufacturers Ltd., and other companies.

The negotiations are being conducted by Mr. W. S. Robinson, and we shall probably have something definite before he leaves for Australia.

I have not seen Dr. Gardner since his return, but have received a note from him in which he expresses great appreciation of the courtesies shown him in Paris and Leverkusen.

With kind regards, I am,

Yours very truly,

McCARTY
Vice President

Exhibit 151

September 26, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

Many thanks for your interesting letter of September 16th from Zurich telling of your conference with Dr. Mayer, Dr. Kulme and Mr. Andre.

I have not written you regarding the negotiations with Mr. Ticknor since September 3rd as there have really been no developments of importance. As the differences of opinion between Mr. Ticknor and myself which were mentioned in my previous correspondence seem to stand in the way of an actual merger of the two companies, Mr. Ticknor proposed a pooling of the patents belonging to both companies by whatever method our patent lawyers thought would be best suited to the particular circumstances.

As a result of this suggestion the matter was referred to the counsel for the Commercial Pigments Company and Mr. Peck counsel for the Titanium Pigment Company. These gentlemen have not yet made a report.

Personally, I think there is very little probability of our coming to any arrangement with respect to the patents as I think that the Titanium Pigment Company would surrender far more than they would gain. I am quite willing, however, to explore the position as a matter of courtesy to Mr. Ticknor if for no other reason.

It may be that finding an agreement as to patents impossible Mr. Ticknor may accept my views with respect to

an actual merger of the two companies or he may drop the matter entirely for the present. It is difficult to tell just now what turn the negotiations will take, but the outlook for a merger of the two companies does not seem very bright to me at the moment.

If we are unable to come to any terms with the Commercial Pigments Company in America any agreement in Europe will naturally be out of the question.

I will keep you advised of further developments.

Yours very truly,

Vice President

Exhibit 152

October 1, 1930.

Mr. Evans McCarty, Vice President,
National Lead Company, —
111 Broadway,
New York City, N.Y.

Dear Mr. McCarty:

With this you will find a copy of a letter from Mr. Barton together with a copy of a letter from Peter Spence & Sons, Limited, dated August 21, 1930.

The question of obtaining the proof referred to in these two letters can be attended to by Mr. Barton and me. I am simply sending these to you with the thought that you might like to advise Mr. Tichenor, President of the Commercial Solvents Corporation, of the fact that we own this Spence patent and ask him if he has any comments to make. However, perhaps you would have some other way of handling the matter.

Very truly yours,

G. W. THOMPSON

GWT-EA
Enclosures

Exhibit 153

October 3, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

You will remember my telling you earlier in the year that the Titanium Pigment Company had acquired from Messrs. Peter Spence & Sons Ltd., their American patent covering the removal of iron by crystallization from titanium sulphate solutions.

This patent is believed to antedate all others on this subject. If valid it is being infringed by the Commercial Pigments Company, and it is possible that some consideration may have to be given to the corresponding European patent although as I remember it you thought that your work in Norway was at least as early as that of Messrs. Peter Spence & Sons.

In this connection you will be interested in the enclosed copy of a letter addressed to the Titanium Pigment Company by Messrs. Peter Spence & Sons Ltd., under date of August 21, 1930 referring to the proof they are prepared to furnish of the priority of the invention.

Will appreciate your comments with respect to this.

Yours very truly,

McCarty
Vice President

Letter referred to
in Dr. Thompson's file.

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Exhibit 154

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, October 8th 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your various letters of September 26th.

I have read with much interest your comments as to your negotiations with Mr. Ticknor.

I am still, I may say, counting my buttons as to the advisability of the proposed merger. Awaiting the developments in U.S.A. there is, I suppose, not much to be done on this side, except occasionally exploring the matter further and keeping the connections going.

I shall look forward with much interest to your further information.

I have noted what you say about the ore question and beg to refer to my previous letters in which I mention that the more or less final data from Leverkusen will presumably not be available before the spring.

Many thanks for your information as to the patents belonging to the Tilden Smith estate.

Regarding Mr. Ravnestad's process there is no special news of interest. Mr. Ravnestad arrived the day before

yesterday from Leverkusen to work here for a fortnight with the patents. In the meantime Mr. Oppegaard will carry out the work outlined by him. The preliminary experiment in the Pilot plant has given promising results.

Dr. Specht has, early in the year, applied to the Titan Co for a position. Dr. Raspe informed me that they had not taken him in Leverkusen. Dr. Kühne knew him, as he once has been working under him. I do not remember, for which reasons Dr. Raspe thought it was not advisable neither for Titangesellschaft nor for Titan Co A/S to employ him, and I shall, on my next visit to Leverkusen, inquire about it and inform you correspondingly.

With regard to the negotiations with the Imperial Smelting Corporation, I beg to refer to my other letter of today.

With kind regards,

Yours very truly,

G. JEBSEN.

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Exhibit 155

NATIONAL LEAD COMPANY

111 Broadway, New York, N. Y.

The following is carbon copy of telegram sent this day

NOVEMBER 21, 1930

JEBSEN
SOCITITANE
PARIS

MERGER WISAZCULOH PIGMENTS
LAHZOPYOHM OJTEKHYENF FILEKIMYZA
BOAHZAFHEV TUGMYULTAD FILEKANYOH
LAHZOOGAHJ MCCARTY

MERGER WITH COMMERCIAL PIGMENTS NOW SEEMS PROBABLE IF EUROPEAN INTERESTS CAN BE ADJUSTED STOP DO YOU THINK EUROPEAN ARRANGEMENT NOW PRACTICABLE

Exhibit 156

November 25, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Many thanks for your confidential letter of November 14th, No. 360, which partially answers the question asked in my cable of the 21st a copy of which is enclosed.

My conversations with Mr. Ticknor and Mr. Chase have continued with the result that our ideas now seem so close together that an understanding may be quite possible if the European interests can be adjusted.

If an agreement is reached here I think Mr. Chase intends to go over to your side, and deal with the European questions himself. This will be advantageous for you as he will speak with considerable authority.

I do not know what would be the best form for the European arrangement to take, and will naturally be guided by your suggestions. My purpose in sending you a cable last week was to give you as much time as possible to consider the matter.

Mr. Pisart made his usual visit to New York this autumn, and sailed for home on the Majestic last week. He called on us before sailing, and we had a short talk about the titanium position. He seemed to be familiar with the fact that we were planning to develop the British business in connection with Mr. Robinson. He stated moreover that his interest in titanium continues, but that as a practical

matter the problem of the disposal of the ferrous sulphate seemed to him quite a serious one in France.

I told him that we had given some thought to the south of France as a possible location for the manufacture of titanium oxide owing to the market that exists there for ferrous sulphate. This seemed to be a new thought to him, and he raised the objection that Marseilles was far from the centers of distribution for the finished product, and that labor conditions in the south of France were unsatisfactory.

The Blumenfeld people have recently perfected a method of making composite pigments that would seem to permit the shipment of the pure uncalcined oxide in the form of filter cake and the completion of the process at a point better located with the supply of barytes and the distribution of the finished product. I do not know whether you are familiar with this development or not, but it has seemed to me it might have possibilities in France.

The Blumenfeld people over here realize that nothing can be done with this idea until our own composite pigment patents expire.

Yours very truly,

McCARTY
Vice President

Exhibit 157

Letterhead of

TITAN CO. A/S

No. 370.
GJ/AK

Paris, December 10th 1930

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your letter of November 25th, which I have read with much interest.

I am glad to hear that Mr. Chase intends to come over to Europe, as, from your characteristic of him last summer, I presume this will facilitate matters considerably.

I much appreciate your information with regard to Mr. Pisart's visit. Is his talk with you to be understood in such a way that he still entertains the idea of coming to an arrangement with us, or do you think it was merely in order to try to gather information?

In Brussels at the Superphosphate Meeting, I told Mr. Berr that I had telephoned him but he had been away. (He regretted he had not been informed of this). I only had intended to pay him a visit of courtesy; the report of Mr. Geschwind had not shown satisfactory results; there were, though, some points in the report with which I did not agree, but I thought the matter anyhow was not ripe for decision,

as it would be better to await the results of our developments with pure TiO2. Mr. Berr mentioned that anyhow this was not the time to take up new enterprises.

I am told by Mr. Gilbert that Mr. Berr has his hands full up this autumn, being somewhat disturbed by the market decline.

Mr. Pisart has, to my knowledge, no facilities to offer in the South of France (except his barytes mine).

I have been wondering lately, if we should not try to make Pisart our customer, by giving him favourable conditions. This matter will, though, not be ripe before we are manufacturing satisfactory TiO2, and it may even then be of less interest if titanated Lithopone has no future.

I was told by Mr. L.B. Robinson that the acquisition of the Tilden Smith interest had not been consummated and that the estate was offering the process, more or less on the open market. If we make an arrangement with Blumenfeld, Pisart's mind may be directed on this process, but I wonder if it is likely that he will be interested, in view of his hesitation to take up Blumenfeld—or his non-activity in this direction is due to Blumenfeld keeping back or Pisart having had his hands full with the metal situation?

The method of the Blumenfeld people to make a filter cake of TiO2 in one spot and calcine it with a mixture of Barytes in another place, was mentioned during our interviews with Blumenfeld last summer. It is, though, difficult to form an opinion of the real value of this, without examining the resulting products. From a theoretical point of view it seems to give little or no advantages compared with the mechanical mixture.

Dr. Kühne writes me today that he has now received a sample from Dr. Mayer, of the new Aussig product. A preliminary investigation has given the following results:

Exhibit 157.

Tinting strength: 930
Colour: Somewhat less good than American TiO2
Oil Abs.: 19.

A more complete analysis will be sent me as soon as possible. I have written to Dr. Kühne that I am much interested to know the wetting power and dispersion qualities. The tinting strength is of course very low, but, with the low oil absorption, it may still be a competitive product for certain purposes, if the wetting and dispersion are good.

With kindest regards,

Yours very truly,

G. JEBSEN

9333

Exhibit 158

WESTERN UNION
CABLEGRAM

1930 DEC 2 PM 7 09

DW352A KOELN 36 3 0020

LCD MEEARTY LEADCO NEWYORK,

MEEARTY C/O NATIONAL LEAD CO,

111 BWAY

CONSIDER WE OUGHT TRY MAKE ARRANGE-
MENT EUROPE BLUMENFELD STOP KUEHNE
ALSO AGREE THIS STOP BURTON EXPECTED
HEAR FROM TICKNOR SHORTLY PLEASE
CABLE WHEN YOU CONSIDER I SHALL
START AGAIN WITH BURTON JEBSEN.

Exhibit 159

December 16, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Your telegram of the 2nd instant was received in due course, and this morning I have your letter of December 5th from Paris.

Negotiations with the Commercial Pigments Company proceed slowly probably because we are doing nothing to bring them to a quick conclusion. Each time we meet, however, we seem to get closer together.

If arrangements are made between the Titanium Pigment Company and the Commercial Pigments Company they will probably take the form either of an actual consolidation of the two businesses or of a cross licensing agreement which will omit the Titanium Pigment Company's composite pigment patents. These patents have only a few years to run, and we wish the Titanium Pigment Company to have the full advantage of them.

In my letter to you of yesterday I outlined what was in my mind with respect to the English position. I have no definite thought with respect to the French business.

Last summer you will remember we considered a French company that could do the business in France, Belgium and Holland. It was also our thought that Dr. Kuhne and Dr. Mayer could come to some arrangement with respect to central Europe. We will have to depend largely upon you to guide us in these matters.

Exhibit 159

Perhaps the problems will be simplified if in dealing with the Continental European business we retain for ourselves and the I. G. the composite igment business, and include only the patents and processes for pure TiO2 in our arrangements with the Blumenfeld group.

Time does not permit me to write more today, but I thought time might be saved by making these suggestions for your consideration.

With best wishes for Christmas and the New Year, I am with kind regards,

Yours very truly,

Vice President

Exhibit 160

Letterhead of

TITAN CO. A/S

GJ/AK.

Paris, December 10th 1930

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

CONFIDENTIAL.

Dear Mr. McCarty,

The question of an arrangement with Blumenfeld on this side is so involved, that I do not hope to be able to deal with it in one letter and at once.

Permit me today to mention one point regarding which I hope you could help me somewhat.

The question is, what position we will have to reserve for Blumenfeld. I presume that he will not be satisfied if he is put entirely out of the Titanium enterprise in the future.

In a talk with Dr. Kühne, he expressed that we ought only to employ Blumenfeld as scientific adviser or cooperator, although he did not seem to regard him highly even as such. I think he is right in so far as Blumenfeld is quite well known in chemical and industrial circles on the Continent, and also partly in England and his reputation is not such, as far as I understand, that it would be to the credit of the future companies if he should have any position on the Board or otherwise, of an official character.

Some of the prominent men of his group have also been qualified in the same manner to me. According to a conversation with Mr. Burton of which I wrote you, it may be that Mr. Burton is aware of this.

Presuming that the Blumenfeld group, with a 20% interest, will request a representation on the Board, we ought to take care that such representation is of a desirable character.

It will be rather difficult for me, who may have to meet Blumenfeld quite considerably in the future, in connection with these matters, to approach the above subject, and I may ask you, if you are on such terms with Mr. Chase, that you could bring it forward.

I had a talk with Mr. Gilbert the other day and, although he may be somewhat prejudiced, I think his attitude is worth to be considered. He thought the effect of having Blumenfeld or some of the other gentlemen of Sté Nord & Alpes or Sté des Terres Rares, on the Board, would be very bad and impair the reputation of the Company, especially considering that he has been practically thrown out by St. Gobain from the Berr enterprise. You will also remember that the Berr enterprise was the cause of a very stormy meeting of St. Gobain.

If we let the Blumenfeld group have a 20% interest in a French and English company, there also ought to be some restrictions as to the sale of those shares. Sté Nord & Alpes have, as you know, made a considerable use of the name of St. Gobain and of their American associations, in order to boom the price of their shares here in France, and also in this connection we ought to try to protect ourselves. This last may, though, be somewhat difficult. Mr.

Gilbert even compared the manipulations which have been done with the shares or Nord & Alpes, with the affairs of the Banque Oustric and those of Mme Hanau, as to their character.

With kindest regards,

Yours very truly,

G. JEBSEN.

Exhibit 161

December 24, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I have your letters of December 10th, Nos. 370 and 371, dealing with the subject of the possible consolidation of our European interests with those of the Blumenfeld group. In the meantime you will have received my letter of December 16th making such suggestions as occurred to me at that time.

I do not know what arrangements can be made with Blumenfeld, but do not think it will be necessary to have him as a director in either of the two companies we have in mind. I have an idea, however, that the Commercial Solvents people contemplate giving him shares in these companies as payment for his patents.

The next time I see Mr. Chase I will show him your letters, and he may have some suggestions. In any event, I think you can depend upon Mr. Burton to deal with Blumenfeld. Mr. Chase is, I think, writing Mr. Burton with respect to the progress that has been made up to date, and it will probably be of interest for you to keep in touch with him and exchange views as to the best plan to be followed.

As matters stand at present all arrangements must be made subject to the conditions of the License Agreement of July 1920. This presents some difficulties particularly with

respect to the royalties to be paid on account of excess production. As far as the National Lead Company itself is concerned these payments are simply made from one pocket into the other, but that is not true with respect to our partners in the Titanium Pigment Company and the Titan Co. Inc.

It now seems to me that the easiest way to adjust the American position will be by a cross-licensing agreement with the Commercial Pigments Co. We would not want to do this, however, until some arrangement had been made to adjust the European position. I have no very definite thought as to how this European adjustment can best be made.

If you can work out a definite scheme for proposal to Mr. Chase and Mr. Burton the whole matter can be expedited.

I think that for the moment we can look upon Mr. Pisart purely as a prospective customer.

With kind regards and best wishes for the New Year, I am,

Yours very truly,

Vice President.

Exhibit 162

January 7, 1931

Mr. Evans McCarty, Vice President,
National Lead Company,
111 Broadway, New York.

Dear Mr. McCarty:

Dr. Thompson suggested that I write you concerning the status of the Wrigley & Spence U. S. patent 1,338,473 covering the removal of iron by crystallization from ilmenite solutions, which we now own and which does not expire until April 27, 1937.

The only prior publication anticipating Wrigley & Spence which we know of was that of the Norwegian patent 27,619 issued February 5, 1917. Mr. Peck has explained that according to our patent law a U. S. patent is good if applied for not more than two years subsequent to a printed publication describing the same, in this or any foreign country, provided that the discovery or invention was made prior to such publication. The Wrigley & Spence U. S. application was filed February 4, 1919, lacking one day of being two years after the issue of the Norwegian patent.

We have recently received from Howard Spence, one of the inventors, his sworn statement, legalized by the United States Consul, to the effect that their invention was put into practise during the year 1916 and that copperas produced according to the invention was sold during the period June to November 1916. Extracts from the notes of Herbert Wrigley, now deceased, and from the sales book of the Spence Company are included in his statement.

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There appears therefore to be no doubt concerning the validity of the Wrigley & Spence patent, which we believe the Commercial Pigments Corporation is infringing.

I am enclosing a copy of my letter of January 6, 1931 to Mr. Washburn concerning the Blumenfeld U.S. patents.

Respectfully,

L. W. RYAN

cc: Dr. Thompson

Exhibit 163

Feb. 18, 1931.

Dr. G. Jebsen,
Paris, France.

Dear Doctor Jebsen:

You will no doubt be surprised to receive a letter from me on the stationery of the Gundersen Clinic. I came up here from St. Louis to be looked over by the physicians before going to California with the expectation that I would be here only a few days. The physicians have recommended, however, that I stay here a while for treatment, so that I have abandoned my trip to California and will take a little holiday later on somewhere nearer to New York.

I brought your letter of January 16, #385, with me as I have wanted to write you at the first opportunity regarding my conversation with Mr. Chase and the present position of the negotiations. As you of course realize, we have two partially distinct matters to deal with in Europe; first, the formation of the English Company, and second, the proposed merger with the Blumfeld interests.

With respect to the English Company I think that we can now go ahead along the lines discussed in my last letters and in yours of January 16. The two important things to decide with respect to the English Company are, first, the location of the works, and second, the sulphuric acid contract. A letter received from Mr. L. B. Robinson under date of February 6 states that the results from the first well put down in Avonmouth are very encouraging, but that as yet no analysis of the water had been made nor had the amount of flow been estimated. While at the

beginning it is intended that the British Titan Products Company shall manufacture only pure titanium oxide, I think we should contemplate that it will in the future manufacture all titanium products in which we are interested. For the present, of course, we will reserve to the Titan Company, Incorporated the sale of composite pigments. I note your comment with respect to the purchases of pure titanium oxide by the British Titan Products Company. It will, of course, be more interesting to procure this material from Leverkussen until such time as the English factory is in operation, but in the event that a merger is arranged with the Blumfeld interest it may be necessary to take a certain quantity from Montecatini until such time as market can be found elsewhere for the Italian product.

With respect to the merger with the Blumfeld interest I really have not very definite view, but I am at the moment inclined of the opinion that merger arrangement on equitable terms would be an advantage. In this connection I am sending you a copy of a letter addressed to me by Mr. Marsh Chase of the Commercial Pigment Company under date of February 2 and a copy of my reply. These letters, I think, give a very fair statement of the position as it is at present. You, of course, will have only an indirect interest in the Ward Leonard options and the Bush property, both of which are located in Virginia, but the remainder of the letter deals with matters in which you have a direct interest. You will note from Mr. Chase's letter that tentative basis has been established for dealing with the English position, although as yet no agreement has been reached as to the form in which each of the parties shall contribute their share of the capital. It is a little difficult to account for the interest shown by the Commercial Solvents Company in the

Exhibit 163

European business as only a portion of the twenty-four percent allotted to the Blumfeld interest in the English Company would go to their subsidiary, the Commercial Pigment Company. Apparently they consider that it will be helpful to their American interest if they can bring about a satisfactory merger of the European interest, and in negotiating the merger their influence, of course, will be very helpful.

Mr. L. B. Robinson is agreeable to the plan in so far as it has been developed and Mr. W. S. Robinson, who left Australia on February 12, will be back in London before negotiations are completed. If the Imperial Chemical Corporation should come into the picture in any way Mr. W. S. Robinson would be very helpful in dealing with them.

You will notice on the correspondence between Mr. Chase and myself that in the event that a satisfactory merger of European interest can be made it is proposed to deal with the American situation by means of a cross-licensing agreement or an actual merger of the two companies. Now that Mr. Washburn's process for the manufacture of pure titanium oxide seems to be a demonstrated success the advantages to us in an arrangement with the Commercial Pigment Company do not appear quite so great as they did at first. In an exchange of patents we will probably give more than we shall receive but at the same time the Commercial Solvents Company is in a strong position financially and is ably managed, so that it may be to our interest to come to some arrangement with them. As the matter now stands, therefore, I think that if European arrangements can be made that meet with your approval and which you can recommend to us that it will be possible to deal with the American situation successfully. As I

stated in my last letter to Mr. Chase we are trying to keep an open mind as long as possible.

This letter should reach you a short time before the arrival of Mr. Tichnor and Mr. Chase and thus give you some opportunity to formulate your own ideas as to the best policy to be pursued.

With kind regards, I am

Yours very truly,

EM
MT

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Exhibit 164

COPY

COMMERCIAL PIGMENTS CORPORATION
230 Park Avenue
New York

February 2, 1931

Mr. Evans McCarty
Park Plaza Hotel
St. Louis, Mo.

Dear Mr. McCarty:

Referring to our talk on Friday, I am writing you this letter so that it can serve as an outline of the conclusions we came to at that time, and I will be glad if you will write me a note saying whether this covers the situation or not.

Ward Leonard Option

That you were not interested in these properties except possibly the Burleigh and are willing to hand back the remaining options to Mr. Burns. Our position is the same. We will attempt to obtain a year option on the Burleigh farm, so that the question of drilling on this property can be considered.

Bush Property

We have obtained from Hutchins an option on the Bush lease. A copy of the option will be sent to Mr. Hallett and the arrangement will be the same with this as with the Ward Leonard options. If we both desire to go ahead with development it will be done by each owning a half interest.

But each shall have the privilege of proceeding alone if the other does not want to join.

Ilmenite for 1931 and 1932 Shipping Season

This shipping season starts in October of 1931. The sand gathering program for this shipping season should be planned in March or April of this year. We are desirous of including your requirements and in general you are disposed to purchase from Travancore at equal cost to yourself. We are open to considering an arrangement covering a period of years for supplying you ilmenite from Travancore at the same price as we pay. We understand that you have arranged for part of your requirements for 1931-1932 and 1932-1933. It is also understood that the greater the quantity taken from Travancore the lower the price. You will endeavor to let us know as soon as possible your decision in regard to ilmenite, if possible some time in March.

English and Continental TiO2

We are in agreement as to the advisability of a cooperative effort in development abroad. We are in agreement in regard to England on the following basis:

24% — Blumenfeld Interest
51% — Yourselves
25% — Imperial Smelting

The above, of course, subject to our associates approval, which we expect to obtain. It is understood the Imperial Smelting have agreed in principle. The Continental situation is to be worked out between Meyer, Kuhne, Jebsen, Blumenfeld and Montecatini. We are to use our best en-

deavors to reach a workable arrangement—and we understand that Dr. Jebsen is thoroughly acquainted with your views.

We are in agreement that the English plant, if built, should incorporate all the best features of the various processes. To do this, will necessitate an arrangement to take care of the several existing obligations in regard to exchange of technical information. Any cooperative effort in which the technical knowledge of both sides is used will result in both sides knowing what the other is doing. In order to meet this situation in the U. S. we are in general agreement that an arrangement of cross-licensing on existing patents exclusive of composite pigment patents is desirable. This cross-licensing not to include inventions hereafter patented. However, generally speaking there is a willingness on the part of both of us to license each other for such new invention on a royalty basis to be determined.

Unfortunately our several plans for being in New York are such that there will not be an opportunity to reduce our discussions to a more definite basis until some time in May. However, we believe that the foreign situation should be dealt with in the very near future. As I told you, Mr. Ticknor and I expect to go to France about the first of March, and we think that during our stay there this situation can be definitely settled especially since I understand from you that Dr. Kuhne and Dr. Jebsen are now in a position to discuss a definite plan.

Our present understanding can probably best be expressed as one in which we are both sufficiently favorably disposed to enter into the above arrangement in regard to the U. S. so negotiations between Drs. Kuhne and Jebsen and the Blumenfeld licensees can now be undertaken, looking to a settled foreign program.

Exhibit 164

I think it might be well if you would advise Messrs. Kuhne and Jebsen as to our plans and we will write to Mr. Burton asking him to get in touch with them and to arrange for a meeting in Paris.

In regard to the English situation, there seems to be nothing more to be done at present except for us to get our associates' approval of the tentative arrangement which we have discussed. As agreed upon, any other British interests will be considered only after the present plan is put into effect.

Yours very sincerely,

M. F. CHASE (signed)
Vice President

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Exhibit 165

COPY

National Lead Co. St. Louis Branch
(AT)

February 5th. 1931.

Mr. March Chase, Vice President,
Commercial Pigments Corporation,
230 Park Avenue,
New York.

Dear Mr. Chase:—

Your letter of February 2nd. covers the present situation about as well as possible when we consider that neither of us is actually committed to anything. We are entirely in accord with you with respect to the Ward Leonard options and the Bush property.

With respect to Ilmenite for 1931 and 1932 shipping season, it now seems likely that the Titanium Pigment Company can take from you about five to ten thousand tons during the 1931-32 shipping season and an equal quantity during the 1932-33 season, but I will let you know definitely regarding this matter before you leave London if you will let Miss von Lengerke have your London address.

With respect to co-operative efforts, I think that if you and Dr. Jebsen can work out something definite that will meet the European conditions, the situation in the United States can be dealt with either by cross-licensing agreement or by an actual consolidation of the two companies as may appear best at the time. I find that our people have

a good many different points of view with respect to the whole situation and I think it well for us to keep an open-mind as long as possible.

With kind regards to Mr. Tichnor and yourself, and with best wishes for a comfortable and successful journey, I am

Respectfully,

Vice President.

EM/MM

592

Exhibit 166

April
Ninth,
Ninteen
Thirty-one.

Mr. A. S. Moses, General Manager,
Titanium Pigment Company,
1 Sidney Street,
St. Louis, Missouri.

Dear Mr. Moses:

You will remember our conversation in St. Louis with respect to our supply of ilmenite and the possibility of further purchases from the Commercial Pigments Company. About a month ago I wrote to Mr. Meredith regarding this matter and I am now enclosing for your information a copy of his reply together with a copy of a further letter which is going to him today.

Our negotiations with the Commercial Pigments Company are in abeyance pending the result of the conversations between Dr. Jebsen, Mr. Chase, and Mr. Tichnor. in London and Paris. Of these I have heard nothing since the arrival of Mr. Chase and Mr. Tichnor on the other side. No matter what becomes of these negotiations Mr. Chase seems quite anxious to sell us ilmenite in order to increase the production of their property in Travencora. Whether or not it is wise to continue purchases from the Commercial Pigments Company indefinitely is a matter of policy that can be decided later on, but it may be wise to keep some ore coming from them until we have demon-

strated the possibilities of the Virginia ore and have developed some way to use the Senegal ore without add mixtur with other ores. We always have the mine in Norway to fall back upon but our experience in Germany indicates that the Norway ore requires slightly different treatment from the Travencore ore. I have no fixed opinions on the subject but will be glad to have you give the matter consideration and keep in touch with Mr. Meredith regarding it.

At your convenience I will be glad to learn the result of your trip to California and also to know what decisions were reached with respect to the acid recovery, etc., when you were recently in New York.

I hope that both you and Mrs. Moses were much benefited by your trip.

I am very comfortable here in La Crosse and the weather has been delightful, but my improvement is not so rapid as I might wish.

With kindest regards, I am

Yours very truly,

EM-MT

Exhibit 167

Letterhead of

COMMERCIAL PIGMENTS CORPORATION

Executive Offices

NEW YORK CENTRAL BUILDING,
230 Park Avenue
New York

April 20, 1931.

Mr. Evans McCarty,
Gunderseñ Clinic,
La Crosse, Wisconsin.

Dear Mr. McCarty:

I was glad to receive your letter of the 14th and to learn that your health was improving. I hope that soon you will be feeling as fit as ever. Dr. Jebsen told us in Paris that you had had to give up your western trip.

There is nothing at present in the titanium situation that you need to take up. We had numerous conferences in Paris with Messrs. Jebsen, Kuhne, Holman, Mayer, Donegani and Blumenfeld. Very considerable progress was made and a fairly detailed tentative plan was drawn up which is to be discussed here some time in May, when Dr. Jebsen expects to come over.

When I heard that you were still away I called up Mr. Cornish as I thought he might like to have the story of our talks in Paris. I am to see him tomorrow. Both Dr. Jebsen and ourselves thought that, considering the various interests that had to be dealt with, we had made considerable progress.

Exhibit 167

We found Dr. Jebsen an exceedingly satisfactory man to talk to. He quite came up to the recommendation you gave him.

I hope that you will continue to gain, and don't let business interfere with your return to good health.

Mr. Ticknor joins me in wishing you a most speedy recovery, and hoping to see you back here before long.

Most sincerely yours,

MARCH F. CHASE
Vice-President.

MFC:K

957

Exhibit 168

April
Fourteenth,
Nineteen
Thirty-one.

Mr. March Chase, Vice-President,
Commercial Pigments Corporation,
230 Park Avenue,
New York City.

Dear Mr. Chase:

A recent letter from Mr. Cornish states that you and Mr. Tichnor have returned from Europe, but I have no information as to what took place during your stay on the other side.

As a matter of fact, I have been here at the Gundersen Clinic practically continuously since I left St. Louis and have been in touch with the office in New York only in a general way.

While there has been a marked improvement in my general condition and I am much stronger than I was, I would not like to undertake any active business until my return to New York, which will not be for several weeks at least. If, however, should any of the matters we were discussing become urgent, Mr. Cornish will be glad to deal with them.

With kindest regards to Mr. Tichnor and yourself, believe me,

Yours very truly,

McCarty

EM-MT

Exhibit 169

EXTRACT TAKEN FROM MINUTES OF MEETING BETWEEN REPRESENTATIVES OF IMPERIAL CHEMICAL INDUSTRIES LTD., E. I. DU PONT DE NEMOURS & CO. AND CANADIAN INDUSTRIES LTD. WILMINGTON, FRIDAY, OCTOBER 12, 1928.

VII. CANADA.

(1) C.I.L.—POLICY OF PRINCIPALS RELATIVE TO NEW PRODUCTS:

It was agreed in principle that I.C.I. and duPont desire to cooperate to the maximum degree in so far as practicable in any venture involving the manufacture and/or sale of a product in which either or both principals are interested in so far as such venture wholly involves Canada and in so far as the products manufactured and/or sold are destined for Canadian consumption, and recognize Canadian Industries Ltd. as the proper vehicle for such cooperation. On the other hand, they also recognize that there may be individual cases where the interests of the principals may be better served by other procedure. To provide for such contingencies it was agreed that neither principal is obligated to turn over its business in any individual product against its best interests nor will either principal turn over any venture to C.I.L. contrary to the wishes of the other.

Both principals agree to inform C.I.L. in advance of any plans made by either relative to the manufacture and/or sale of a product in Canada so that C.I.L. may have an opportunity to convince the principal in

question that it is practicable for C.I.L. to undertake the venture.

This Minute supercedes the Minute on this subject of April 7th, 1919 excepting that the principle that the transfer of each such business is to be effected on terms to be arranged and is to have regard to the good will existing therein continues to be recognized.

Exhibit 170.

EXTRACT TAKEN FROM MINUTES OF MEETING IN WILMINGTON ON MARCH 2nd, 1929.

1. CANADIAN RIGHTS TO PROCESSES OWNED BY I.C.I. AND/OR DU PONT.

It was agreed in the case of Canadian rights to any patent or processes owned by either DuPont or I.C.I. that such rights shall be granted free to C.I.L. provided they are wholly owned without prior commitment to an outside party by the principal in question.

In cases where there is a minority interest to be considered, as is the case where the rights are owned by a subsidiary not 100% owned by I.C.I. and/or DuPont but where the principal in question is otherwise free with respect to Canada a fair royalty or lump sum payment shall be established and C.I.L. required to pay only such proportion of such payment as would revert to the minority interests involved. Mr. Purvis pointed out that this arrangement was only needed to apply to Canadian rights now owned as it had been arranged at the DuPont-I.C.I.-C.I.L. meeting held October 12, 1928, to advise C.I.L. in advance of any negotiations undertaken by either principal involving Canadian rights so that C.I.L. might have the opportunity of expressing its interest. In such cases C.I.L. would bear the expense applicable to the Canadian rights.

The question of reciprocity by C.I.L. on the rights for patented and secret inventions developed by it for territory outside of Canada was brought up. It was agreed that C.I.L. was bound to freely give all such rights to both DuPont and I.C.I. with the reservation that in the case of industries in which only one principal is engaged C.I.L. is obligated only to the principal so interested.

Exhibit 171

To: EXECUTIVE COMMITTEE SERIAL No: S-2279

FROM: DEVELOPMENT DEPARTMENT March 25, 1929.

THE KREBS PIGMENT & CHEMICAL COMPANY.

In view of discussions which have taken place between Mr. Lammot du Pont, President and Mr. Krebs, the following information is supplied to your Committee:

Exhibits "A" and "B" are copies of statements supplied by Mr. A. S. Krebs showing status and earnings of their lithopone business, their product being sold under the trade-name "Ponolith".

Exhibit "O" gives above data in comparison with du Pont lithopone data.

The country's lithopone business is about as follows:

	Tons Per Annum		
New Jersey Zinc Company	60,000		
Glidden	40,000		
Mangin (United Color & Pigment Co.)	15,000		
Eagle Picher	12,000		
Sherwin-Williams	10,000		
Du Pont	30,000		
Grasselli	22,000	52,000	
Krebs	33,000		85,000 or 36.6%
Importations	10,000		
Total	232,000		

It will be seen that acquisition of the Krebs business would probably prevent acquiring any other lithopone business. However, it is not indicated that any other business would be attractive and obtainable.

Glidden and Eagle Picher are probably obtainable but the former's plants are apparently not in good shape, the business obtained largely by price-cutting and therefore with little good-will, The Eagle Picher lithopone business can probably only be obtained through purchase of the whole company which is not desired.

Altogether the Krebs business is the most attractive of those available because of the definite good-will of the business and good quality of product. Krebs has certain class of business which du Pont has not been able to obtain especially in the paint business for obvious competitive reasons.

Some doubt has been expressed as to du Pont ability to maintain the Krebs sales in such trade. The best opinion appears to be that the business can be held if du Pont management is not too obvious, i.e., Krebs should be operated as a subsidiary company and not combined with du Pont or Grasselli. Furthermore, the Krebs organization must be kept and Mr. A. S. Krebs' good-will secured for some time, probably by payment of a substantial but fair part-time salary.

The Krebs plant has been inspected by du Pont representatives who gave a favorable report. The location at Newport, Delaware, seems not especially good, but convenient for du Pont management.

The Krebs business since the war has developed very much as has the country's lithopone business. They have had some ups and downs but the business is sound and the management progressive.

Their development of lithopone of high strength containing titanium oxide appears very promising and assists them in ranking among the leaders. However, this is a

development which is not exclusive in any sense and will be followed by other makers whenever desirable.

Their pyrites contract for zinc supply with by-product possibilities is extremely interesting and under favorable conditions will be quite valuable. Its value may be nullified by the new tariff but the probabilities are that the contract will give substantial profits.

As to the future of the lithopone business, the prospects are for expansion and profits as heretofore as a sound and stable industry, progressing with the country's growth. There is no reason to expect unusual increases in lithopone consumption. Therefore future profits cannot be expected to show much more than normal growth. Titanium or other new pigments may cut into lithopone sales and past earnings have not shown an upward trend though presumably 1928 earnings are better than 1927.

Assuming the Krebs business to be acquired on a basis of capitalized earnings, the reasons for earnings under du Pont management in excess of such basis, would be:

1. A normal growth appears probable.

2. Du Pont would become the largest producer in the country and would be able to assume a position due our Company.

3. The pyrites contract, while of speculative value, has nevertheless some value and may be quite profitable. Barring a prohibitive duty under the tariff to be enacted, it is quite within reason that this contract might lead to profits much in excess of $100,000 per year.

4. The larger volume for du Pont will give opportunity for increased profits due to the new lithopone process in course of perfection. In event of success

a $10 per ton saving is possible which applied to the Krebs capacity, would mean several hundred thousand dollars.

In considering these points, it must be admitted that the chances of large increases in profits are speculative and not susceptible of proof or demonstration at this time.

It is also possible that some of the Krebs business with the paint manufacturers cannot be held, thereby checking a growth of the business under du Pont management.

Summarizing the above, it is believed that acquisition of the Krebs business is distinctly desirable and with quite attractive possibilities. However, these possibilities are hardly sufficiently definite to justify the purchase on anything but a fair return on a basis of past performance.

It is the writer's opinion that we are not justified in purchasing the Krebs business on any less favorable basis than past earnings capitalized at 10% which assumes all assets, including the pyrites contract included in the purchase and du Pont stock taken at about market values.

Respectfully submitted,

FIN SPARRE
Director

Note: Exhibit "O" has already been forwarded to you under date of March 20, 1929.

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Exhibit 172

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

QUESTION OF PURCHASE OF THE ASSETS AND BUSINESS OF THE KREBS PIGMENT AND CHEMICAL COMPANY:

The following resolution was offered and unanimously adopted:—

RESOLVED THAT, subject to the approval of the Finance Committee, this Committee approves the purchase of the assets and business of the Krebs Pigment & Chemical Company, including their contract with the Pyrites Company, on a basis of capitalizing their earnings for the past five years, including 1928, at ten per cent. (10%), payment therefor to be made one-half in duPont Company Debenture Stock at $118, and one-half in du Pont Company Common Stock at $170. subject to the following conditions:—

1) No objections being made on the part of Governmental authorities.

2) Full and complete check of the Balance Sheet and earnings statements submitted to us, and the finding of no substantial differences, except the $80,000. commutation of license fees to the New Jersey Zinc Company.

3) It is understood that earnings subsequent to December 31, 1928, less normal dividends paid during that period, will flow to the duPont Com-

pany, and that no liabilities not disclosed on the Balance Sheet will be for du Pont account.

4) That Mr. Sonnin Krebs will agree to continue in a managerial position in the Company for a period of from one to three years at the option of the duPont Company at a salary of $1,250. per month.

This is to certify that the above is a true and correct copy of resolution which was unanimously adopted by the Executive Committee of E. I. duPont deNemours & Company at a regular meeting held on April 3, 1929.

M. D. FISHER
Assistant Secretary
E. I. duPont deNemours & Co.

2/11.

Exhibit 173

Copy to A. B. Echols
C. R. Mudge

To: EXECUTIVE COMMITTEE SERIAL NO. 8-2288

FROM: DEVELOPMENT DEPARTMENT April 8, 1929

THE KREBS PIGMENT & CHEMICAL COMPANY

In accordance with request made by the writer, Mr. Sennin Krebs has furnished us with auditor's reports which have been handed to Mr. A. B. Echols, Treasurer, who has arranged for Mr. B. L. Ward, Comptroller, to examine these in detail and be prepared to examine the books of the Krebs Company if that should be found necessary.

The important contracts of the Krebs Company have been received for inspection. Your Committee is familiar with the pyrites contract under which zinc is purchased under a ten-year contract which appears advantageous to the Krebs Company. It is further ascertained that the Krebs Company has made a five-year contract with Pearlman & Company handling the output of Superior Zinc Corporation. These were the people who attempted to have a tariff placed on the zinc contents in pyrites ore and Mr. Krebs made a five-year contract with them for zinc in order to have them drop their opposition to his pyrites proposition. It is indicated that under the pyrites contract and the Pearlman contract, Krebs might find themselves obligated to too large zinc purchases if their business should fall off or if their ideas about high strength lithopone should not materialize. This might become somewhat embarrassing for the Krebs Company but should not be embarrassing to the du Pont Company because with our lithopone manufacture, any excess zinc could be taken care of provided the Grasselli lithopone business does not also contract to pur-

chase on a long term period up to their maximum zinc requirements. It would seem that the Pearlman contract, while not desirable, is acceptable to our Company.

Krebs has a contract to obtain their sulphuric acid requirements from the Pennsylvania Salt Manufacturing Company, expiring December 31, 1931, at $12.25 delivered which should be satisfactory.

There is a special employment contract with lithopone experts involving a large retainer and a possible, but improbable, payment of a percentage of profit. However, an examination of the contract indicates that it should not be objected to as their should be no payment after fifteen months.

The examination of contracts indicates that there should be no objection to the Krebs proposition and it is further indicated that the examination of books and accounts will give satisfactory results. However, it is desirable to refer the following questions to your Committee.

1. Dividends. The normal dividend of the Krebs Company on their common stock is $2 per share, paid monthly. This dividend rate has been paid for several years. In addition, they paid $6 per share extra dividend last year, or a total of $30 per share. However, while the same regular dividend of $2 per share was paid in January, there has been paid only $1.50 per share for February and March. The reason for this is not that the earnings were less, but because they wanted to conserve their cash for construction purposes and did not want to go to the bank for accommodation. Mr. Krebs maintains that they should be allowed a payment of $2 per share as a regular dividend; if so, they should be allowed to pay out in dividends $0.5 per share for February, March and April, in addition to the

Exhibit 173

$1.50 per share dividend of these months, or a total of $1.50 per share up to April 30 from February 1. This amount would be about $24,000 inasmuch as there are 16,329 shares of stock. While no commitment was made to Mr. Krebs, it is recommended that this should be allowed on the basis of $2 per share as a normal dividend.

2. 1927 Capital Gain Profit. It has been ascertained that during the year 1927 a profit was shown on the sale of mining property and real estate of $125,815. This not being an operating profit, the question might be raised whether this profit should be allowed for capitalization purposes. If this profit is not allowed it would mean that on the average of a five-year basis, there will be a deduction of approximately $25,000 for the average period or $250,000 on the purchase price. This question was discussed with Mr. Krebs who maintained that while it had not been the subject of discussion during negotiations, he takes the position that no corrections were to be made to their earnings statements and that he does not want to make any concessions because he feels that the proposed deal is exceptionally favorable to the du Pont Company. While no commitment was made to Mr. Krebs, it is believed advisable to accept Mr. Krebs' position in the matter on the assumption that we are desirous of concluding the deal promptly. Otherwise, this question would be apt to lead to considerable argument and hard feelings.

3. Term of Employment. Your Committee's resolution relative to Mr. Krebs' employment is not quite satisfactory to Mr. Krebs and the following suggestion is made:

Mr. Sonnin Krebs would agree to continue in a managerial or advisory capacity for a period of from one to three years at the option of the duPont Company at a salary

of $1,250 per month, it being understood that the du Pont Company agrees to pay $45,000 under this arrangement but may at it own option employ Mr. Krebs either in a managerial or advisory capacity. It is further understood that in return for this compensation, Mr. Krebs will agree to give approximately one-half of his time to the Company, assuming the obligations and responsibilities of such employment.

Mr. Krebs made the two points that he had agreed only to give part of his time and that he was to be guaranteed a certain payment for certain length of time, but he admitted that this point had not been decided in discussion with the president.

Mr. C. R. Mudge has been requested to consult Washington in regard to the legal aspects of the case.

It is believed that it is now in order to submit an offer in writing to Mr. Krebs and which he again should accept in writing, so that these negotiations may be brought to a conclusion and the terms accepted. It is therefore suggested that your Committee should authorize the president or any vice-president to submit an offer in writing to Mr. Krebs in accordance with your Committee's resolution of April 3rd but with amplification of the terms of Mr. Krebs employment and compensation as explained above. It would not seem necessary to mention anything in regard to dividends and earnings except the statements already contained in your Committee's resolution unless you should take a different position from that taken in the present report and in which case, the offer to Mr. Krebs should so state.

Respectfully submitted,

FIN SPARRE.
Director

Exhibit 174

April 13, 1929.

To : Finance Committee

From : Executive Committee

QUESTION OF PURCHASE OF THE ASSETS AND BUSINESS OF THE KREBS PIGMENT & CHEMICAL COMPANY:

Supplementing our letter of April 5th (#619), advising of the Executive Committee's action of April 3rd, in connection with the above subject:

We are attaching hereto copy of Dr. Sparre's further report of April 8th, in which he requests advice on several points relating to these negotiations. After discussion with Dr. Sparre at meeting held on April 10th, the Executive Committee unanimously adopted the following resolution:—

RESOLVED, that Dr. Sparre be advised as follows, in response to his request for instructions on certain points relating to negotiations for purchase of the assets and business of the Krebs Pigment and Chemical Company:

1) The duPont Company will allow a monthly payment of $2.00 a share as a regular dividend on common stock of the Krebs Company;

2) The duPont Company will agree to pay Mr. Sonnin Krebs a salary of $15,000.00 a year for three years for approximately half-time employment in a managerial or advisory capacity;

3) The duPont Company does not agree to include the capital gain item of $123,815.00 for the year 1927 for the purpose of capitalizing earnings.

Exhibit 174

It was also the unanimous feeling of the Committee that there would be no objection to making payment for the assets and business of the Krebs Company on the basis of two-thirds in duPont common stock at $170 and one-third in duPont debenture stock at $118.

It was further moved and unanimously carried that Dr. Sparre be requested to ask if the Legal Department sees any objection to incorporating in the contract a provision that Mr. Sonnin Krebs will not engage in the lithopone business in a competitive way for a period of from five to ten years.

Under date of April 12th, Dr. Sparre advised as follows:—

"The purchase price in accordance with your Committee's resolutions is approximately $5,792,000. Mr. Sonnin Krebs, President, has admitted that this calculation is correct and he admits the other points to be satisfactory. However, he was very unhappy over the figure found by the calculation and has maintained consistently, while admittedly incorrectly by him, that the capital gain of 1927 should be capitalized. This item figures out to be $214,000 on the purchase price.

In a conference today with Mr. Lammot duPont and Mr. Krebs it was agreed to recommend to your Committee to split this difference and allow Mr. Krebs one-half of the amount or approximately $107,000. This was wholeheartedly accepted by Mr. Krebs.

It is believed that it is good business to add this amount of $107,000 because we need Mr. Krebs' goodwill and this is therefore recommended to be accepted by your Committee though there is no other argument in

favor of this recommendation except as a measure of good-will."

The foregoing recommendation has been informally approved by a majority of the members of the Executive Committee, and the matter is now presented to your Committee for consideration and approval.

M. D. FISHER
Sec'y Executive Committee.

H

89-enc.

Exhibit 175

AGREEMENT dated March 24, 1927 between COMMERCIAL PIGMENTS CORPORATION, a Delaware corporation, (herein called the Pigments Company), of the first part, JOSEPH BLUMENFELD (herein called the Inventor), of the second part, and SOCIETE de PRODUCTS CHEMIQUES DES TERRES RARES (herein called the French Company), of the third part,

Recitals

The Inventor entered into a contract in writing dated February 12, 1927 (herein called the February contract) with W. D. Tickner under the terms of which the Inventor agreed to make with the Company therein referred to as the New Company, when organized, the contract hereinafter contained. The Pigments Company is the company referred to as the New Company in the February contract and has been organized in accordance with the terms thereof. Prior to the execution of the February contract the Inventor agreed with said Tickner that he would procure the French Company to become a party to the contract, hereinafter contained and to join with him in the performance of the terms and conditions thereof to be performed by him.

NOW, THEREFORE, in consideration of the premises and of the sum of one dollar ($1.) by each to the other in hand paid and of other good and valuable consideration, the receipt of all of which is hereby acknowledged, it is agreed by the parties hereto as follows:

FIRST: If the Inventor and/or the French Company during the continuation of this contract shall invent or discover or become possessed of any inventions or improvements, whether patentable or not and which relate or are applicable in any way to titanium oxide or the production thereof, the Inventor and/or the French Company shall furnish forthwith, and without further payment, to the

Pigments Company all the information respecting such inventions or improvements so that the Pigments Company if the inventions or improvements are patentable may be placed in a position to apply in the name of the Inventor of any such invention or improvement for letters patent of the United States respecting such invention or improvement or at its option may require the Inventor and/or the French Company to take the necessary action to procure the issue and assignment of such letters patent to the Pigments Company. It is intended that the Inventor and/or the French Company make available to the Pigments Company ~~not only~~ all inventions and improvements relating to the production of titanium oxide which the Inventor and/or the French Company acquires ~~but~~ also ~~these~~ and all of the aforesaid inventions and improvements which he and/or it becomes possessed of by reason of his and/or its contracts or relations with the various corporations exploiting these patents in countries other than the United States. All expenses in connection with the application for and issue of such letters patent and their assignment shall be borne by the Pigments Company.

Reciprocally if the Pigments Company during the continuation of this contract shall invent or discover or become possessed of any inventions or improvements whether patentable or not and which relate to or are applicable in any way to titanium oxide or the production thereof it will furnish forthwith and without further payment to the Inventor and/or the French Company all the information respecting such inventions or improvements so that the Inventor and/or the French Company may apply for letters patent of any country other than the United States respecting such inventions or improvements, all expenses in connection with the application for the issue of such letters patent

in countries other than the United States shall be borne by the Inventor and/or the French Company. Should the Pigments Company grant any license or licenses respecting the letters patent owned by it relating to the production of titanium oxide it will require that the grantee of such licenses or licenses furnish to it without cost full information respecting all improvements whether patentable or not made or acquired by such licensee or licensees, and such information when received will be made available to the Inventor and/or the French Company for use in countries other than the United States on the same terms as in the case of improvements made by the Pigments Company.

Sec[illegible] contract shall continue until the termination of [illegible] contract in writing between the Pigments Company and Blumann Rare Earths Chemical Company dated March 24, 1927.

IN WITNESS WHEREOF the Pigments Company and the French Company have caused these presents to be duly executed in their respective corporate names, and the Inventor has hereunto placed his hand and seal, all as of the day and year first above written.

COMMERCIAL PIGMENTS CORPORATION

By W. D. TICKNOR
President.

SEAL

Attest:
A. R. BERGEN
.....

Exhibit 175

SOCIETE de PRODUCTS CHIMIQUES DES TERRES RARES

A. KHOUVINE

By .....

CORPORATE SEAL

Attest:

.....

CORPORATE SEAL

JOSEPH BLUMENFELD

.....(L.S.)

Exhibit 175

STATE OF NEW YORK :
: ss
COUNTY OF NEW YORK :

On the 24 day of March, 1927, before me personally came WILLIAM D. TICKNOR, to me known, who being by me duly sworn, did depose and say that he resides in the City of New York; that he is the President of Commercial Pigments Corporation, one of the corporations described in and which executed the above instrument, that he knows the seal of said corporation, that the seal affixed to said instrument is such corporate seal, and that it was so affixed, by order of the board of directors of said corporation, and that he signed his name thereto by like order.

H. N. JASPER
Notary Public

SEAL

Exhibit 175

UNITED STATES CONSULATE GENERAL :
CITY OF PARIS, REPUBLIC OF FRANCE : ss.

I, John R. Wood Vice-Consul of the United States of America, at Paris, France, duly commissioned and qualified, do certify that on this 19th day of May, 1927, before me personally appeared in said Paris, France, JOSEPH BLUMENFELD, to me known, and known to me to be the individual described in, whose name is subscribed to, and who executed the foregoing instrument, and being by me informed of the contents of said instrument he duly acknowledged to me that he executed the same freely and voluntarily for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

JOHN R. WOOD

.....

Vice Consul
of the United States of America
at Paris, France

SEAL

CONSULAR
STAMP

Exhibit 175

REPUBLIC OF FRANCE
CITY OF PARIS
AMERICAN CONSULATE GENERAL } ss.

On this....19th....day of....May....1927, before me personally came.....Abraham. Khouvine..... who being by me duly sworn did depose and say that he resides at...129. Avenue des Champs. Elysees, Paris, France .....

that he is administrator of The Societe des Produits Chimiques des Terres Rares, of Paris, France the corporation described in and which executed the foregoing instrument, that he signed his name thereto by order of the Board of Directors of said corporation and that said corporation has no seal.

Given under my hand and seal of office this...19th... day of.....May.....1927.

JOHN R. WOOD (Sgd.)
Vice Consul of the United States of America, at Paris, France.

SEAL

CONSULAR STAMP

620

Exhibit 176

COMMERCIAL PIGMENTS CORPORATION

and

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES

and

JOSEPH BLUMENFELD

AGREEMENT

Dated, December 17, 1929

Exhibit 176

COPY

AGREEMENT dated December 17, 1929 between COMMERCIAL PIGMENTS CORPORATION, a Delaware corporation (herein called Pigments), party of the first part, SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES, a French corporation (herein called Terres Rares), party of the second part, and JOSEPH BLUMENFELD (herein called Blumenfeld), party of the third part.

RECITALS

Under date of March 24, 1927 Pigments and Blumann Rare Earths Chemical Company, a Delaware corporation (herein called Blumann), entered into a certain contract in writing (herein called the Blumann Contract) which provided that Blumann transfer to Pigments certain United States patents and applications, that Pigments pay to Blumann amounts equal to certain percentages of the net earnings of Pigments for the years from 1927 through 1953, that Pigments guarantee that such payments to Blumann for the years from 1929 through 1943 equal certain amounts, and that Pigments issue certain stock to Blumann in certain events, and which contained also an Article reading as follows:

> "SEVENTH: The Pigments Company shall not export any products manufactured under the Patents to countries other than the territories and dependencies of the United States without first obtaining the consent of the Blumann Company. The Blumann Company will not permit the importation into the United States or its territories and dependencies of titanium oxide manufactured under any of the so-called Blumenfeld group processes without the consent of the Pigments Company."

Exhibit 176

Also under date of March 24, 1927 Pigments and Terres Rares and Blumenfeld entered into a certain contract in writing (herein called the Terres Rares Contract) which provided for an interchange between Pigments and Terres Rares and Blumenfeld of certain information and rights in respect to certain inventions and improvements, and which contained also an Article reading as follows:

> "SECOND: This contract shall continue until the termination of the contract in writing between the Pigments Company and Blumann Rare Earths Chemical Company dated March 24, 1927"

Blumann duly made the transfer of patents and applications to Pigments which it was required by the Blumann Contract to make, and Pigments has not yet been required by the Blumann contract to make any payment or issue any stock to Blumann. Terres Rares is, at or before the execution and delivery hereof, acquiring all rights of Blumann under the Blumann Contract and assuming all obligations of Blumann under the Blumann Contract.

Pigments is the owner of 5.55% shares of Common stock of Commercial Solvents Corporation, a Maryland corporation (herein called Solvents), and Solvents has declared a dividend of $1,389 on said shares payable to Pigments on January 1, 1930.

Solvents has recently acquired all of the outstanding stock of Pigments, and the parties hereto desire to arrange for the cancellation of the Blumann Contract and all obligations outstanding thereunder, the assumption by Pigments and Terres Rares of obligations corresponding to those assumed by Pigments and Blumann unde Article Seventh of the Blumann Contract, the amendment of the Terres Rares Contract in such manner that it shall remain

in effect throughout the period for which the Blumann Contract was originally expected to remain in effect, the transfer by Pigments to Terres Rares of said 5,556 shares of Common Stock of Solvents, and the transfer by Pigments to Terres Rares of said dividend of $1,389 on said shares.

NOW, THEREFORE, in consideration of the premises and of the mutual covenants hereinafter contained, it is agreed by the parties hereto as follows:

FIRST: The Blumann Contract and all obligations of every nature and description now outstanding thereunder are hereby cancelled and annulled.

SECOND: Pigments hereby agrees that until January 1, 1954, it will not, without having first obtained the consent of Terres Rares, export to any country other than the territories and dependencies of the United States any product manufactured under any patent or application acquired by Pigments under the Blumann Contract. Terres Rares hereby agrees that until January 1, 1954, it will not, without having first obtained the consent of Pigments, permit the importation into the United States or any territory or dependency thereof of any titanium oxidd manufactured under any of the so-called Blumenfeld group processes.

THIRD: The Terres Rares Contract is hereby amended by striking out the present Article Second thereof and substituting therefor a new Article reading as follows:

> SECOND: This contract shall continue in full force and effect until January 1, 1954".

FOURTH: Pigments hereby transfers, assigns and sets over unto Terres Rares said 5,556 shares of Common Stock

Exhibit 176

of Solvents owned by Pigments, and Pigments hereby agrees that it will forthwith cause said shares to be transferred to Terres Rares on the books of Solvents and deliver to Terres Rares certificates for said shares made out to Terres Rares.

FIFTH: Pigments hereby transfers, assigns and sets over unto Terres Rares said dividend of $1,389 payable on January 1, 1930 on said shares of stock, and Pigments hereby agrees that it will, on its receipt of a check in payment of said dividend, pay over the proceeds thereof to Terres Rares.

IN WITNESS WHEREOF Pigments has caused these presents to be executed in its name by its Chairman thereunto duly authorized and its seal to be hereunto affixed and attested by its Secretary, and Terres Rares has caused these presents to be executed in its name by two of its Managing Directors thereunto duly authorized and its seal to be hereunto affixed, and Blumenfeld has hereunto set his hand and seal, all as of the day and year first above written.

COMMERCIAL PIGMENTS CORPORATION

By W. D. TICKNOR

SEAL Chairman

Attest A. R. BERGEN

SOCIÉTE DE PRODUITS CHIMIQUES DES TERRES RARES

By Khouvine

Joseph Blumenfeld

Managing Directors

Joseph Blumenfeld (L. S.)

Exhibit 177

TO: EXECUTIVE COMMITTEE SERIAL NO: S-2402

FROM: DEVELOPMENT DEPARTMENT February 18, 1931

COMMERCIAL PIGMENTS CORPORATION

IMPORTANCE OF TITANIUM PIGMENTS:

It is estimated that in 1930 there was produced in the United States approximately 8000 tons of TiO_2 which, combined with extenders, replaced about 45,000 tons of other white pigments. This compares with lithopone production of about 160,000 tons. The use of titanium pigments is growing rapidly, and because of superior whiteness and hiding power, coupled with the probability of low manufacturing cost, titanium has great potentialities in the white pigment field. The position of titanium in comparison with other white pigments is shown graphically on Exhibits "S" and "T", Exhibit "S" showing comparative volume and Exhibit "T" showing comparative growth.

DU PONT POSITION re MANUFACTURE OF TiO_2:

Because the Grasselli Chemical Company is convinced of the necessity of getting into the production of TiO_2 as promptly as possible, the du Pont Company has already spent about $130,000 in developing a patent free process for manufacturing TiO_2. This work has now been carried through the laboratory stage and the next step, if the du Pont Company should continue an independent course, would be the erection of a semi-works plant at Krebs. Expenditures on this development are running at the rate of

$11,000 per month and if the du Pont Company continues to follow an independent course, experimental expenditures will probably total half a million dollars by the time the Company is ready to erect a commercial plant toward the end of 1932. Construction of a commercial plant would then call for a capital expenditure of one to two million dollars depending upon initial capacity.

POSSIBILITY OF CONSOLIDATION:

As an aternative to continuing this independent development, there is the possibility of consolidating with one of the existing manufacturers of titanium pigments. By following this alternative, the du Pont Company would avoid a costly development program followed by a large capital expenditure, and would enter immediately into the manufacture of titanium pigments instead of delaying such manufacture for nearly two years. The present manufacturers of TiO_2 are the Titanium Pigments Corporation, owned by the National Lead Company, and the Commercial Pigments Corporation, owned by the Commercial Solvents Corporation. The Titanium Pigments Corporation has a plant at St. Louis, and it is estimated that they produced in 1930 about 6000 tons of TiO_2, practically all of which was marketed as Titanox (TiO_2 extended with either barium or calcium sulphate). Titanox is a patented product, but the original barium extender patent expires in 1932 and the calcium extender patent expires in 1934. The Commercial Pigments Corporation has a plant at Baltimore where they produced in 1930 about 1800 tons of TiO_2, which was sold without extender to lithopone manufacturers for use in making titanated lithopone and to paint manufacturers for use as TiO_2. The history of this company is reviewed in Exhibit "N".

The Vanadium Corporation owns a deposit of ilmenite in Virginia and it is reported that they are already operating a pilot plant for the manufacture of TiO_2. This company may become an important factor in the situation when they attempt to find a market for their product.

The manufacture of titanium pigments has been discussed with the National Lead Company from time to time but that company has not shown recently any inclination to join with the du Pont Company in this development. The Commercial Pigments Corporation, on the other hand, believes that it would be desirable to consolidate their business with the pigment business of the Grasselli Chemical Company. Several discussions have been held with W. D. Ticknor, president of the Commercial Solvents Corporation, and Mr. M. F. Chase, vice-president of the Pigments Corporation, for the purpose of developing such a possibility.

BROAD BASIS FOR CONSOLIDATION:

Because the Commercial Solvents Corporation has such confidence in the potentiality of titanium pigments and because their pigment business is just getting established, it would be impossible at this time to agree on a price for outright purchase. It has been necessary, therefore, to proceed on the assumption that the Grasselli lithopone and dry color business would be consolidated with the business of the Commercial Pigments Corporation in a new pigment company in which the Commercial Solvents Corporation would have a minority interest.

It is recognized that such a set-up would lead ultimately to 100% ownership by du Pont, and it is believed that it would be possible to acquire the minority interest on some

equitable basis after a few years when the earning power of the business has become definitely established. The possibility of making this minority stock callable has been discussed, and, although a fixed price per share would not be acceptable to the Commercial Solvents Corporation, it is believed that it will be possible to set up an acceptable formula for basing call price on earnings. The charter might provide, for example, that this minority stock would be callable at any time after five years at a price per share equal to X times average annual earnings per share for the three calendar years immediately preceding the call. X might be set at say 12 or 15.

In order to determine an equitable basis for division of ownership in the consolidated company, a comparison was made of the assets and earnings to be contributed by each party.

ASSETS:

Exhibit "A" shows Commercial Pigments Corporation balance sheet for November 1930. Exhibit "C" shows a preliminary proforma balance sheet of the consolidated company, adjusted to March 31, 1931 as explained in detail in the exhibit. This shows consolidated assets of about $10,000,000 and consolidated net worth of about $8,000,000. Net worth is divided about 70% du Pont and 30% Commercial Pigments.

The fixed assets of the consolidated company include the Grasselli plant at Newark, the Krebs plant at Newport and Commercial Pigments plant at Baltimore. The Baltimore plant stands on the books at about $1,400,000 and it is said that all of this capital expenditure is visible in the plant. The plant site (about 3 acres) is leased from the U. S.

Industrial Alcohol Company under a lease running to 1934 with option to purchase for $105,000. A photograph of the plant is shown in Exhibit "O".

The Philadelphia lithopone plant (book value $401,410) is not included in the proposed set-up. This plant was shut-down in December 1930. It will not be needed in 1931 and it is questionable whether it will ever be used again for lithopone production. It is a non-earning asset located at a point remote from any of the operating plants of the proposed company, and for that reason it was felt both by Commercial Pigments representatives and by your representatives that it should not be included at this time. Commercial Solvents representatives are willing, however, that there should be a stipulation in the agreement providing that the Philadelphia plant can be acquired by the new corporation at book value whenever a majority of the directors feel that such acquisition should be made. Except for the Philadelphia plant, the assets contributed by Grasselli will include all of the assets now carried by the Grasselli lithopone and dry color division.

Assets set up for Commercial Pigments Corporation include an item of $192,500 for purchased patents. This includes $50,000 paid in cash to the Glidden Company for a group of patents under which Commercial Pigments Corporation licenses certain customers, including Grasselli and Krebs, to manufacture titanated lithopone. It includes also $142,500 paid in stock to Blumenfeld for the patented process under which Commercial Pigments manufactures TiO_2. Blumenfeld was given 10% of the stock of the original Commercial Pigments Corporation and the remaining 90% was issued for $1,282,500 in cash, thus placing a value of $142,500 on Blumenfeld's stock. The original un-

derstanding with Blumenfeld provided that he would receive this stock plus certain royalties. The stock was subsequently exchanged for Commercial Solvents stock in order to eliminate the minority interest in the Pigments Corporation and at the same time royalties were commuted for a cash payment of $128,600. This item for paid-up royalties was included in the November balance sheet as a deferred asset. The $192,500 cost of purchased patents was not shown by Commercial Pigments Corporation on their November balance sheet, but after considerable discussion it was felt that this portion of their development expense might be allowed in determining their share of ownership in the consolidated company.

Commercial Pigments Corporation has spent $372,483 in development expense and initial operating losses which is not capitalized in the proposed set-up. The effect of this is to allow the Grasselli Company, on a 70-30 basis, $870,000 for development expense and other intangibles which have not been capitalized, such as development of the "F" process.

Net worth as shown on Exhibit "C" excludes the Philadelphia plant and includes commercial pigments cost of purchase patents. These two factors have the following effect on division of ownership:

	Grasselli	Commercial	Total
Net worth as shown on Exhibit C	$5,655,373—70.1%	$2,414,232—29.9%	$8,069,605—100.0%
Deduct cost of purchased patents		192,500	192,500
	5,655,373—71.8	2,221,732—28.2	7,877,105—100.0
Or, add Philadelphia plant	401,410		401,410
	6,056,783 71.5	2,414,232 28.5	8,471,015 100.0

Exhibit 177

EARNINGS:

No. 1 forecast of the Grasselli Pigments Division shows $723,500 net profit for 1931 (Exhibit I). In order to set up a similar forecast of earnings for Commercial Pigments Corporation, it is necessary to examine both unit costs and sales possibilities.

UNIT COSTS OF COMMERCIAL PIGMENTS CORPORATION:

Commercial Pigments Corporation is just completing new construction which will improve its operations considerably and at the same time increase the plant capacity from 10 tons daily to about 21.5 tons daily. It is expected that the new plant will be operating completely by the end of February, but an analysis of actual costs in the new plant cannot be made until the March cost sheets are available. Commercial Pigments has made an estimate, however, of the costs they expect to attain in the new plant, based on their experience in operating the 10-ton plant and in pilot plant operation of some modifications which they are introducing in the larger plant. An outline of the process is given in Exhibit "L". The forecast of unit costs, as compared with actual results in October, is shown in detail in Exhibits E, F and G, showing respectively ingredients cost, conversion cost and total mill cost.

Total mill cost of 7.65¢ per lb. when operating at capacity (Exhibit G) appears to be reasonable in the light of Commercial Pigments experience. It compares conservatively with estimate made in February 1930 by du Pont Chemical Department and Grasselli Pigment Division (Dev. Dept. report D-790). The following comparison is of interest:

Exhibit 177

	Annual Production	% of Capacity	Mill Cost per Lb.
Titanium Dioxide:			
* Oct. 1930 operation (Exhibit G)	3,230 T	92%	13.66¢
# Cost required to compete with 3.25¢ cost of lithopone			11.37
* 1931 forecast (Exhibit I)	3,130	42	10.76
# Cost required to compete with 3.00¢ cost of lithopone			10.50
* Estimate for production at plant capacity (Exhibit G)	7,500	100	7.65
Du Pont estimate of (Max.	25,000	100	5.94
Feb. 1930 (D-790) (Min.	25,000	100	4.51
Lithopone:			
1931 forecast (Exhibit I)	58,560	96	3.25
1931 possible cost	58,560	96	3.00

* By Commercial Pigments Corporation

\# TiO2 has greater hiding power but lower bulking value than lithopone. Taking account of both of these factors, the du Pont Paint Division and the Grasselli Pigment Division estimate that 1 lb. of TiO2 is equivalent to about 3½ pounds of lithopone. This factor was used to compute break-even costs.

SALES BY COMMERCIAL PIGMENTS CORPORATION:

In 1930, Commercial Pigments Corporation sold about 1800 tons of TiO2. Sales are now running at the rate of about 2000 tons annually and it is expected that by the end of the year sales will be at the rate of about 4000 tons annually, or 53% of plant capacity. Commercial Pigments expects that sales for the calendar year 1931 will be about 3100 tons as shown in detail in Exhibit H.

Commercial Pigments Corporation sells directly to Grasselli, Glidden, United Color and Pigment Company and Sherwin-Williams Company; all other sales are handled

by R. T. Vanderbilt Company on a 10% commission basis under a year to year arrangement. Vanderbilt's sales have gone heretofore almost entirely to the paint industry, in which he has about 200 accounts. These accounts all buy in small quantities (one or two barrel lots), but it is said that they are all repeat customers. Vanderbilt has recently begun to sell TiO_2 to the glass industry for use as an ingredient in special grades of glass. This business amounted to about 5 tons in January and Vanderbilt has advised Commercial Pigments that he expects to build this business up to 100 or 200 tons per month by the end of the year. In order that Commercial Pigments may reach the forecasted sales of 3,130 tons for this year, as shown in Exhibit H, it will be necessary for Vanderbilt to increase his sales to the glass industry up to 115 tons per month by the end of the year. This forecast of sales for 1931 is rather speculative, but it seems to be a fair guess.

1931 FORECAST:

Based on sales and unit costs estimated by Commercial Pigments Corporation, a forecast has been prepared for 1931 as shown in Exhibit I. This shows net profit of $210,000 so that the forecast compares with Grasselli #1 forecast as follows:

	Grasselli	Commercial	Total
1931 Net Profit....	$ 723,500	$ 210,000	$ 933,500
% of Total.....	77.5%	22.5%	100.0%

It has been recognized in our conversation with Commercial Pigments that the earnings shown for Grasselli are proven earnings based on established business, whereas

the earnings indicated for Commercial Pigments are merely estimates. In this connection, Commercial Pigments' representatives have emphasized the fact that the du Pont Company had sufficient confidence in the future of titanium pigments to embark on a very expensive development program which can be discontinued if a merger is effected.

PATENT SITUATION:

Mr. Chase has stated definitely that they are not infringing any patents which their lawyers consider valid. This is contrary to the view heretofore held by the du Pont Chemical Department as explained in Exhibit "M". It will be necessary, with the aid of du Pont Chemical and Legal Departments, to examine the Commercial Pigments process very carefully for possible infringement. Also, in taking over the business of Commercial Pigments Corporation it will be necessary to limit the liabilities assumed by the new company to certain stated current liabilities so that any liability for past infringements will rest with the present company.

POTENTIAL EARNING POWER:

In order to get some idea of comparative future possibilities from an earnings standpoint, a computation of potential earning power of Grasselli Pigment Division was made as explained in Exhibit "P" and a similar calculation was made for Commercial Pigments Corporation as explained in Exhibit "Q". These two calculations are compared in Exhibit "R". This indicates that potential earnings stand in a relationship of approximately 70% Grasselli and 30% Commercial Pigments instead of 77.5—22.5 as forecasted for the current year.

This 70-30 division of potential earnings is based on 1931 prices and 1931 costs. Exhibit "I" shows that Grasselli, operating at 96% of capacity, forecasts earnings of 11% on sales; whereas Commercial Pigments, operating at only 42% of capacity, forecasts earnings of 20% on sales. Consequently a general cut in pigment prices would hurt Grasselli considerably more than it would Commercial Pigments, and would have the effect of reducing Grasselli's 70% and increasing Commercial Pigments 30%. A similar effect would result from a decrease in mill cost of TiO_2 which is to be expected wtih increased volume of production.* For these reasons a 70-30 division of earning power does not appear to give full credit to the potentialities of titanium pigments; nevertheless Commercial Pigments representatives have accepted 70-30 as representing a reasonable guess as to the comparative contribution of earnings to be made by the two companies over the next few years.

TRAVANCORE MINERALS CO., LTD.

This company mines ilmenite (about 52% TiO_2), zircon and monazite from beach sands in India. It has exclusive rights on a strip of beach 100 yards wide and 79 miles long, with preferential right to lease other properties. This concession was granted by the Maharani Regent of Travancore in the form of a 15 year lease beginning November 16, 1928, for which the consideration was a cash payment of £7500 plus certain royalties. In the same locality the Hopkins-Williams Company mines ilmenite from the sand dunes back of the beach.

*A similar effect would result also from an increase in mill cost of lithopone which may be expected in the next few years owing to the fact that zinc prices are probably now at a minimum.

997

Exhibit 177

This Indian beach sand is at present the cheapest source of ilmenite and probably will continue to be until ilmenite requirements increase one and a half or possibly two-fold. The Travancore Company is now mining 21,000 tons of ilmenite annually and it is claimed that it should be able to continue this indefinitely. Of this amount, 16,000 tons annually is shipped to the Commercial Pigments Corporation which is approximately the amount required to operate the Baltimore plant to capacity.

Balance sheet and earnings statement of the Travancore Company are shown in Exhibits J and K respectively. The Commercial Pigments Corporation owns £15,000 in 6% Prior Lien Debentures and also 17,490 shares of A stock. This A stock gives Commercial Pigments 50% of the earnings and 40% of the vote. This arrangement was made because control of a British company must by law be held by British subjects. The balance of the voting stock is held by two individuals: Mr. Hirst, of the British General Electric Company and another gentleman, both of whom are said to be very friendly to the Commercial Solvents Corporation.

SPECIFIC BASIS FOR CONSOLIDATION:

The foregoing figures as to net worth and earnings, all of which have been discussed with Commercial Pigments representatives, indicate the following division of ownership in the new company:

	Grasselli	Commercial	Total
Net Worth:			
Including purchased patents	70%	30%	100%
Excluding " "	72%	28	100
Earnings:			
1931 forecast	78	22	100
Potential earning power	70	30	100

Exhibit 177

It is recognized that it would be desirable to have du Pont participation as large as possible, even to the extent of putting up additional cash in order to buy a larger participation. On the other hand, Mr. Ticknor, after discussing the matter with his colleagues, has made the definite proposal that they be granted a 30% participation and in addition be permitted to put up sufficient cash, about $400,000, to bring their participation up to 35%. He advanced the following reasons why the du Pont Company should grant this request:

1. Du Pont gains the advantage of substantially controlling the Travancore ilmenite supply.
2. Commercial Solvents Corporation releases control of its pigment business.
3. Du Pont avoids necessity of continuing costly development program.
4. Du Pont gains the advantage of exchange of technical information with European companies manufacturing TiO_2 under Blumenfeld patents.

Your representatives took the position that this would amount to selling a portion of our lithopone business, which we are not interested in doing, and your representatives urged that percentage participation should be determined by the comparative capital requirements of the two businesses, with possibly some adjustment in cash to round out the figures.

It is believed that it would be possible to insist that Commercial Solvents accept a participation of less than 30%, possibly even as low as 25%, but such insistence would not tend to encourage good feeling on the part of our new partners. It is believed that the better procedure would

be to propose a 70-30 basis, permitting each partner to turn over to the new corporation substantially the assets and liabilities shown on Exhibit "C" with such adjustment in cash as may be necessary to round the figures out to 70-30, all of this of course subject to verification of assets, patent position and forecasted costs of Commercial Pigments Corporation. It is believed further that this 30% participation should be granted to Commercial Pigments Corporation only in case they agree to the proviso that their stock shall be callable at a price based on earnings to be computed in accordance with some formula agreed to in advance.

RECOMMENDATION:

It is recommended that the Development Department be authorized to advise the Commercial Solvents Corporation representatives as follows:

Subject to verification of Commercial Pigments Corporation assets, patent position and manufacturing cost, the du Pont Company is agreeable to consolidating the assets of the Grasselli Pigments Division with the assets of the Commercial Pigments Corporation in a new pigments company;

The du Pont Company is further willing that the Commercial Pigments Corporation should have a 30% participation in the new company with allowance for the cost of purchased patents and with the understanding that adjustment of net worth to 30% will be made in cash, provided Commercial Solvents Corporation accepts a stipulation that minority stock will be callable on the basis of some formula to be mutually agreed upon.

APPROVED BY:
FIN SPARRE

PREPARED BY:
W J BEADLE

Exhibit 177

INDEX OF EXHIBITS

A—Commercial Pigments Corporation—Condensed Balance Sheet November 30, 1930.

B—Commercial Pigments Corporation—Income and Expense Statement Month of November 1930

C—Preliminary Pro-Forma Balance Sheet—As of November 30, 1930

D—Market Value

E—Commercial Pigments Corporation—Estimated Ingredients Cost

F—Commercial Pigments Corporation—Estimated Conversion Cost

G—Commercial Pigments Corporation—Estimated Mill Cost

H—Commercial Pigments Corporation—Estimated Sales for 1931 at Present Prices

I—Comparative Income Statement—Year 1931

J—Travancore Minerals Company—Balance Sheet—Sept. 30, 1930

K—Travancore Minerals Company—Estimated Earnings for Year Ending March 31, 1931

L—Outline of Commercial Pigments' Process for Making TiO_2.

M—TiO_2 Patent Situation—Letter from Chemical Department dated January 21, 1931

N—History of Commercial Pigments Corporation

Exhibit 177

O—Commercial Pigments Corporation—Baltimore, Maryland plant

P—Potential Earning Power of Grasselli Pigment Business

Q—Potential Earning Power of Commercial Pigments Corporation

R—Comparison of Potential Earning Power

S—White Pigments—Comparative Volume

T—White Pigments—Comparative Growth

Exhibit 177

EXHIBIT "A"

COMMERCIAL PIGMENTS CORPORATION

CONDENSED BALANCE SHEET NOVEMBER 30, 1930

ASSETS:	
Cash	$ 76,871.65
Receivables	60,249.84
Inventories	284,661.46
Total Current Assets	421,782.95
Buildings & Equipment	1,139,235.99
Investments	78,895.66
Deferred Assets (Incl. Prepaid Royalties, Prepaid Insurance, Stores Inventory, Etc.)	155,502.61
Total	$1,795,417.21
LIABILITIES:	
Accounts Payable	$ 27,898.37
Accruals	7,502.02
Total Current Liabilities	$ 35,400.39
Due Commercial Solvents Corporation	900,000.00
CAPITAL	
Capital Stock	1,282,500.00
Surplus	422,483.18
Total	$1,795,417.21
Net Current Assets	$ 386,382.56

Exhibit 177

SCHEDULE "A"
COMPARATIVE BALANCE SHEET
COMMERCIAL PIGMENTS CORP. AND AMERICAN ILMENITE CORP. CONSOLIDATED
For Months Ending April 30 and May 31, 1931—
ASSETS

	COMMERCIAL PIGMENTS CORP.			AMERICAN ILMENITE CORP.			CONSOLIDATED		
	May 1931	April 1931	Increase or Decrease	May 1931	April 1931	Increase or Decrease	May 1931	April 1931	Increase or Decrease
Cash									
Guaranty Trust Company	208 459.52	77 579.15	130 880.37				208 459.52	77 579.15	130,880.37
Baltimore Trust Company	8 015.10	8 015.10	0				8 015.10	8 015.10	0
Chase National Bank	0	0	0	7 373.54	7 745.32	371.78	7 373.54	7 745.32	371.78
Petty Cash—Baltimore	100.00	100.00	0	0	0		100.00	100.00	0
TOTAL CASH	216 574.62	85 694.25	130 880.37	7 373.54	7 745.32	371.78	223 948.16	93 439.57	130 508.59
Accounts Receivable									
Chemical & Pigments Company	20 815.40	14 775.27	6 040.13				20 815.40	14 775.27	6 040.13
E. I. du Pont de Nemours & Co.	8 011.06	7 565.03	446.03				8 011.06	7 565.03	446.03
Grasselli Chemical Company	0	7 597.46	7 597.46				0	7 597.46	7 597.46
Krebs Pigment & Chemical Co.	6.57	11 009.91	11 016.48				6.57	11,009.91	11 016.48
R. T. Vanderbilt Co.	52 423.46	45 484.88	6 938.58				52 423.46	45 484.88	6 938.58
Sherwin Williams	13 918.42	2 292.37	11 626.05				13 918.42	2 292.37	11 626.05
Interest Receivable (Travancord Bonds)	1 413.43	1 130.94	282.49				1 413.43	1 130.94	282.49
Items less than $1 000.00	1 357.52	1 409.91	52.32	232.88	182.59	50.29	1 590.47	1 592.50	2.03
TOTAL ACCOUNTS RECEIVABLE	97 932.79	91 265.77	6 667.02	232.88	182.59	50.29	98 165.67	91 448.36	6 717.31

Inventories									
Raw Materials	210 499.20	223 474.22	12 975.02				210 499.20	223 474.22	12 975.02
In Process	22 502.15	20 255.43	2 246.72				22 502.15	20 255.43	2 246.72
Finished Product	69 373.64	63 257.81	6 115.83				69 373.64	63 257.81	6 115.83
TOTAL INVENTORIES	302 374.99	306 987.46	4 612.47				302 374.99	306 987.46	4 612.47
Stores & Tools	22 378.13	24 006.16	1 628.03				22 378.13	24 006.16	1 628.03
Deferred Charges									
Prepaid Insurance	9 659.39	4 659.54	4 999.85				9 659.39	4 659.54	4 999.85
Suspension (Advance a/c purchase of land)	5 272.59	49.21	5 321.80	14.58	0	14.58	5 258.01	49.21	5 307.22
TOTAL PREFERRED CHARGES	14 931.98	4 610.33	10 321.65	14.58	0	14.58	14 917.40	4 610.33	10 307.07
TOTAL CURRENT ASSETS	654 192.51	512 563.97	141 628.54	7 591.84	7 927.91	336.07	661 784.35	520 491.88	141 292.47
Furniture & Fixtures (New York Office)	415.30	415.30	0	0	0	0	415.30	415.30	0
Plant & Equipment (Baltimore)	1 429 941.72	1 426 011.82	3 929.90	0	0	0	1 429 941.72	1 426 011.82	3 929.90
Investment Stocks & Bonds									
2 Shares Titanuite Ltd. £1 each	9.70*	9.70*	0				9.70*	9.70*	0
Loan of £250 to Titanuite Ltd. carried as investment	1 213.59*	1 213.59*	0				1 213.59*	1 213.59*	0
150 Bonds Travancore Minerals Co. Ltd.	70 667.50	70 667.50	0				70 667.50	70 667.50	0
17 490 "A" Shares Travancore Minerals Co. Ltd.	4 241.35	4 241.35	0				4 241.35	4 241.35	0
4 500 Ordinary Shares Travancore Minerals Co. Ltd.	2 763.52	2 763.52	0				2 763.52	2 763.52	0
TOTAL INVESTMENT STOCKS & BONDS	78 895.66	78 895.66	0	0	0	0	78 895.66	78 895.66	0
Investigation of Ore Lands	0	0	0	1 134.17*	993.98*	140.19	1 134.17*	993.98*	140.19
Prepaid Royalties (Blumann Rare Earths Chemical Company	126 800.45	127 755.46	955.01	0	0	0	126 800.45	127 755.46	955.01
TOTAL FIXED & MISC'L. ASSETS	1 636 053.13	1 633 078.24	2 974.89	1 134.17	993.98	140.19	1 637 187.30	1 634 072.22	3 115.08
TOTAL ASSETS	2 290 245.64	2 145 642.21	144 603.43	8 726.01	8 921.89	195.88	2 298 971.65	2 154 564.10	144 407.55

*Items consisting of Investment in Titanuite, Ltd. and Investigation of Ore Lands will be retained by Commercial Pigments Corporation.

Exhibit 177

SCHEDULE "A"

COMPARATIVE BALANCE SHEET

COMMERCIAL PIGMENTS CORP. AND AMERICAN ILMENITE CORP. CONSOLIDATED

For Months Ending April 30 and May 31, 1931—

LIABILITIES

	COMMERCIAL PIGMENTS CORP.			AMERICAN ILMENITE CORP.			CONSOLIDATED		
	May 1931	April 1931	Increase or Decrease	May 1931	April 1931	Increase or Decrease	May 1931	April 1931	Increase or Decrease
Accounts Payable									
U. S. Industrial Alcohol Co.	5 000.00	0	5 000.00				5 000.00	0	5 000.00
Commercial Pigments—Payroll	4 208.17	0	4 208.17				4 208.17	0	4 208.17
General Chemical Co.	2 007.69	2 017.58	9.89				2 007.69	2 017.58	9.89
Mexican Petroleum Corp.	3 781.59	3 444.10	337.49				3 781.59	3 444.10	337.49
Standard Acid Works	7 955.91	20 524.82	12 568.91				7 955.91	20 524.82	12 568.91
Consolidated Gas Elec. Light & Power	5 848.47	5 219.80	628.67				5 848.47	5 219.80	628.67
Virginia Barrel Co. Inc.	1 801.55	1 793.88	7.67				1 801.55	1 793.88	7.67
Henry Kelly Brent	5 829.70	0	5 829.70				5 829.70	0	5 829.70
E. I. du Pont de Nemours & Co.	0	1 246.51	1 246.51				0	1 246.51	1 246.51
Travancore Minerals Co., Ltd.	40 721.76	40 535.96	185.80				40 721.76	40 535.96	185.80
Unclaimed Wages	15.10	15.10	0				15.10	15.10	0
Items less than $1 000.00	9 311.83	8 559.19	752.64	0	89.87	89.87	9 311.83	8 649.06	662.77
TOTAL ACCOUNTS PAYABLE	86 481.77	83 356.94	3 124.83	0	89.87	89.87	86 481.77	83 446.81	3 034.96
Deferred Liabilities									
Accrued Payroll	485.12	3 215.83	2 730.71				485.12	3 215.83	2 730.71
Accrued Insurance (Workmen's Compensation & Public Liability)	2 547.69	1 907.74	639.95				2 547.69	1 907.74	639.95
Accrued Taxes (Real Estate & Personal Property-Baltimore Plant)	1 564.18	1 264.18	300.00				1 564.18	1 264.18	300.00
Accrued Water Tax	1 009.08	1 756.49	747.41				1 009.08	1 756.49	747.41
Accrued Federal Income Tax	9 416.68*	4 734.67*	4,682.01	651.08*	663.80*	12.72	10 067.76*	5 398.47*	4 669.29
TOTAL DEFERRED LIABILITIES	15 022.75	12 878.91	2 143.84	651.08	663.80	12.72	15 673.83	13 542.71	2 131.12
TOTAL CURRENT LIABILITIES	101 504.52	96 235.85	5 268.67	651.08	753.67	102.59	102 155.60	96 989.52	5 166.08
NET WORTH	2 188 741.12	2 049 406.36	139,334.76	8 074.93	8 168.22	93.29	2 196 816.05	2 057 574.58	139 241.47
TOTAL LIABILITIES	2 290 245.64	2 145 642.21	144 603.43	8 726.01	8 921.89	195.88	2 298 971.65	2 154 564.10	144 407.55
NET WORKING CAPITAL	552 687.99	416 328.12	136 359.87	6 940.76	7 174.24	233.48	559 628.75	423 502.36	136 126.39
NET FIXED & MISCL. CAPITAL	1 636 053.13	1 633 078.24	2 974.89	1 134.17	993.98	140.19	1 637 187.30	1 634 072.22	3 115.08
NET WORTH	2 188 741.12	2 049 406.36	139 334.76	8 074.93	8 168.22	93.29	2 196 816.05	2 057 574.58	139 241.47

*Item of accrued Federal Income Tax will be retained by Commercial Pigments Corporation.

Exhibit 177

EXHIBIT "B"

COMMERCIAL PIGMENTS CORPORATION

INCOME AND EXPENSE STATEMENT

MONTH OF NOVEMBER 1930

Sales	$50,830.10	
Cost of Sales	39,547.91	
		($11,282.19
New York Expense	292.11	
London Office Expense	117.98	
Research & Development Expense	1,377.74	
Plant Office Expense	3,337.15	
Service Dept. Expense	2,807.15	
		7,932.13
Operating Profit		$ 3,350.06
Interest Earned	323.50	
Discount Earned	99.16	
Royalties Earned	—	
		422.66
		3,772.72
Discount Given		365.63
Net Profit		$3,407.09

Exhibit 177

SCHEDULE "B"

Comparison of Plant Inventories

For Months Ending April 30, and May 31, 1931

	MAY 31, 1931			APRIL 30, 1931		
	Quantity	Unit Price	Amount	Quantity	Unit Price	Amount
Raw Materials						
Ilmenite—new (TiO_2 Content)	20 187 578	.010103	203 955.10	21 487 692	.010099	217 004.20
Ilmenite—#2 (TiO_2 Content)	126 971			128 794	—	—
Sulphuric Acid—New	419 875	.006142	2 579.01	191 856	.006156	1 181.01
Sodium Silicate	220	.013034	2.87	1 980	.013146	26.03
Copper Sulphate	22 725	.041660	946.71	36 900	.042904	1 583.16
Iron Sulphide	43 463	.027411	1 191.38	58 000	.026888	1 559.50
Iron Filings	169 971	.005728	973.61	139 098	.005885	818.54
Potassium Carbonate	—	—	—	2 980	.056259	167.65
Zinc	—	—	—	1 800	.057840	104.11
Glauber Salts	4 800	.016300	78.24	4 800	.016300	78.24
Sodium Chlorate	500	.077160	38.58	500	.077160	38.58
Magnesium Sulphate	1 260	.020215	25.47	1 260	.020752	26.15
Containers (each)	5 008	—	445.75	10 612	—	620.51
Fuel Oil (gal.)	7 319	.024269	177.62	6 984	.026013	181.68
Coal	37 317	.002274	84.86	37 317	.002274	84.86
			210 499.20			223 474.22
	TiO_2 Content	Calc. Cont.		TiO_2 Content	Calc. Cont.	
In Process						
Mass Stock	39 480	24 478	.05072	1 241.52	38 094	22 095	.05666	1 251.90
Solution Stock	90 244	70 029	.05562	3 895.01	92 717	69 074	.06276	4 335.08
Hydrolysis Stock	10 466	9 419	.06282	591.70	4 738	4 084	.07126	291.03
Filtration Stock	43 073	40 618	.06872	2 791.27	44 216	39 971	.07806	3 120.14
Unpacked calcined	83 202	83 202	.07652	6 367.50	69 410	69 410	.08706	6 045.67
Grinding Stock		98 476	.07733	7 615.15		58 564	.08899	5 211.61
		326 222	.06898	22 502.15		263 198	.07696	20 255.43
Finished Product						
Ground—FFF (Dry ground material)		59 223	.120406	7 130.80		83 924	.120306	10 096.56
Ground—FF (Ground material thru Ball Mill —difference in tinting)		217 466	.093095	20 245.00		100 207	.111548	11 177.89
Ground—F (Same as FF—poorer quality)		144 050	.135802	19 562.28		153 300	.136023	20 852.33
Unground—LL (Unground material)		131 124	.099049	11 938.71		114 874	.098887	11 359.55
		551 863	.106687	58 876.79		452 305	.118253	53 486.33
Sweepings SS Packed—Plant		52 000	.039925	2 076.10		52 000	.039695	2 064.14
Sweepings SS Packed—Warehouse		210 914	.039925	8 420.75		194 164	.039695	7 707.34
Acid Cake		0	—	0		0	—	0
		814 777	.085144	69 373.64		698 469	.090566	63 257.81
Total				302 374.99	Total			306 987.46

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Exhibit 177

EXHIBIT "C"

PRELIMINARY PRO-FORMA BALANCE SHEET

	As of Nov. 30, 1930		Adjusted to March 31, 1931 to Reflect New Construction and Increased Working Capital	
	Grasselli Lithopone & Dry Colors	Commercial Pigments Corporation	Grasselli Lithopone & Dry Colors	Commercial Pigments Corporation
ASSETS:				
Working Cash	$ 555,300	$ 76,872	505,000(g)	58,000(g)
Ilmenite Inventory	—	119,700	—	298,000(h)
Other Inventory	1,593,694	164,961	1,463,000	182,000
Accounts Receivable	756,430	60,250	684,000	99,000
Deferred Assets	139,159	26,902	130,000	18,000
Current Assets	$3,044,583	$ 448,685	$2,782,000	655,000
Travancore Investment at Cost	—	78,896(b)	—	78,896
Purchased Patents at Cost	—	192,500(c)	—	192,500
Paid-up Royalties	—	128,600(d)	—	128,600
Plants (Newark	2,586,038	—	2,586,038	—
(Newport	2,273,045	—	2,273,045	—
(Baltimore	—	1,139,236	—	1,439,236(i)
Total Assets	$7,903,666(a)	$1,987,917	$7,641,083	$2,494,232
LIABILITIES:				
Accounts Payable	104,740	27,898	98,000	13,000
Deferred Liabilities	107,491	7,502	98,000	13,000
Current Liabilities	212,231	35,400	196,000	26,000
Reserve for Depreciation	1,698,910	30,000(e)	1,789,710(j)	54,000(k)
Total Liabilities	1,911,141	65,400	1,985,710	80,000
Net Worth	$5,992,525	$1,922,517(f)	$5,655,373	$2,414,232
			70.1%	29.9%

(a) Philadelphia lithopone plant (book value $401,410) is not included here for the reason that the plant was shut down in December 1930. It will not be needed during 1931 and it is questionable whether it will ever be used again for lithopone production. Commercial Solvents Corporation is willing to stipulate, however, that the directors of the consolidated company may authorize purchase of the Philadelphia plant at book value whenever they feel it is needed.

(b) Investment in Travancore Minerals Company, Ltd., which operates concession in India to recover ilmenite from beach sands, includes:

6% Prior Lien Debentures	$ 75,000
17,490 shares A stock (representing a 50% interest in earnings and a 40% interest in vote) carried at cost	3,896
	$ 78,896

Commercial Pigments lien and equity carried at $78,896, has a book value of $91,230 as shown on Exhibit J.

(c) Purchased patents include:

$ 50,000	Paid in cash to the Glidden Company for a group of patents under which Commercial Pigments Corp. licenses certain customers, including Grasselli and Krebs, to manufacture titanated lithopone.
142,500	Paid in stock to Blumenfeld for the patented process under which Commercial Pigments manufactures TiO_2. Blumenfeld was given 10% of the stock of the original Commercial Pigments Corp. and the remaining 90% was issued for $1,282,500 in cash, thus placing a value of $142,500 on Blumenfeld's stock. This stock was subsequently exchanged for Commercial Solvents stock in order to eliminate the minority interest in the Pigments Corporation.
$192,500	

(d) Blumenfeld process was purchased for stock, as explained in (c), plus certain royalties. These royalties were subsequently commuted for a cash payment of $128,600. This item for paid-up royalties is included in deferred assets on Commercial Pigments balance sheet (Exhibit A)

(e) Commercial Pigments has not yet set aside any depreciation reserve. Of the $1,139,236 in buildings and equipment on Nov. 30, 1930, about 500,000 had been erected subsequent to acquisition by Commercial Solvents in October 1929, and only about $600,000 had been in existence more than one year. For the present purpose, depreciation reserve was arbitrarily set up at 5% of $600,000, or $30,000.

(f) Net worth of $1,922,517 shown here for Commercial Pigments as of Nov. 30, 1931, compares with Commercial Pigments statement for that date (Exhibit A) as follows:

Due Commercial Solvents Corp.		$ 900,000
Capital Stock		1,282,500
Total cash investment		$ 2,182,500
Cash paid for Glidden patents	$ 50,000	
Development expense, initial operating losses, etc.	372,483	
Deficit Nov. 30, 1930		422,483
Net worth per Exhibit A		$ 1,760,017
Cash paid for Glidden patents		50,000
Cash value of stock paid for Blumenfeld patents		142,500
		152,917
Depreciation reserve		30,000
Net worth per Exhibit C		$ 1,922,517

(g) Cash set up to equal cost of sales for one month as forecasted for 1931.

(h) Ilmenite can be shipped from Travancore only during U.S. winter months. Ilmenite inventory will be increased from about 9000 tons to about 25,000 tons by deliveries made from Dec. 1930 to March 1931.

(i) $1,139,236 as of Nov. 30, 1930, plus $300,000 subsequently expended to bring plant capacity up to 21.5 tons daily.

(j) $80,800 increase in Grasselli depreciation reserve from Nov. 30 to March 31 is based on a credit of $20,200 per month (5% annually on $4,859,083)

(k) $24,000 increase in Commercial Pigments depreciation reserve from Nov. 30 to March 31 is based on a credit of $6,000 per month (5% annually on $1,439,236).

Exhibit 177

EXHIBIT "D"

MARKET VALUE

I. Market value du Pont common (1930 High 145¼ (Apr.10)
(" Low 80½ (Dec.17)
(" Last 86¾ (Dec.31)

Total market value
(11,013,985 sh. as of 11/30/30) (1930 High $1,600,000,000
(" Low 887,000,000
(" Last 956,000,000

Portion of market value assignable to Grasselli lithopone and dry color business:

Basis	Total du Pont	Lithopone & Dry Colors	Ratio
Net asset value as of 11/30/30	$418,000,729	$6,566,985	1.571%
Earnings, 11 mos. 1930 adjusted to annual basis.....	50,248,996*	746,808	1.486%

(*Including equity in General Motors earnings rather than dividends received from General Motors)

Market value of Grasselli lithopone and dry color business, assumed to be 1.5% of total market value, works out as follows:

(1930 High 1.5% of $1,600,000,000 = $24,000,000
(" Low " " 887,000,000 = 13,310,000
(" Last " " 956,000,000 = 14,340,000

II. Market value Commercial Solvents common 1930 (High 38 (Apr.11)
(Low 14 (Dec.17)
(Last 15½ (Dec.31)

Portion of market value assignable to Commercial Pigments Corp.

Basis	Commercial Solvents (Consolidated)	Commercial Pigments Corp.	Ratio
Net asset value.....	$11,685,343 (11/30/30)	$2,030,017 (11/30/30)	17.37%
Earnings, 9 mos. 1930 x 12/9	2,840,000	None	zero

Exhibit 177

Because of the newness of Commercial Pigments business, neither assets nor earnings appears to offer a satisfactory basis for allocating market value to the pigments business, and it is therefore necessary to ascertain market value by a different method. In October 1929, Commercial Solvents issued 124,440 shares to acquire capital stock of Commercial Pigments. This has subsequently been increased to 127,929 shares by a 2% stock dividend in March 1930, and to 130,487 shares by a 2% stock dividend in September 1930. In addition to the interest represented by these shares, Commercial Solvents has loaned Commercial Pigments $1,200,000 of new money (which is included in the $2,030,017 net asset value shown above). On this basis, market value of Commercial Pigments business might be viewed as follows:

	Value Acquired			New Money	Total Commercial Pigments
(1930 High	124,440 sh. @ 38	=	$4,730,000	$1,200,000	$5,930,000
(" Low	127,929 " " 14	=	1,790,000	1,200,000	2,990,000
(" Last	130,487 " " 15½	=	2,020,000	1,200,000	3,220,000

III. Consolidated market value:

	Grasselli Lithopone & Dry Colors	Commercial Pigments Corporation	Consolidated
(1930 High	$24,000,000	$5,930,000	$29,930,000
(" Low	13,310,000	2,990,000	16,300,000
(" Last	14,340,000	3,220,000	17,560,000
(1930 High	80.2%	19.8%	100.0%
(" Low	81.6	18.4	100.0
(" Last	81.7	18.3	100.0

Exhibit 177

EXHIBIT "E"

COMMERCIAL PIGMENTS CORPORATION

Estimated Ingredients Cost

	Actual Oct. 1930	Avg. Inventory Value 1931 (a)	Delivered in 1931 (b)	Delivered in 1932 (c)
Cost of Ilmenite				
Cost of ilmenite f.a.s. India	30 sh.		25 sh.	20 sh.
Freight to Baltimore	24		20	22
Total per 2240 lbs. (shillings)	54		45	42
" " " " (dollars)	$13.11		$10.95	$10.20
Switching charge in Baltimore	.15		.15	.15
Unloading charge at plant	.05		.05	.05
Cost per 2240 lbs. ilmenite in stock pile	$13.31	$11.92	$11.15	$10.40
Cost per 1165 lbs. TiO_2 (52%) in stock pile	13.31	11.92	11.15	10.40
Cost per 1000 lbs. TiO_2 (52%) in stock pile	11.42	10.24	9.57	8.93
Overall yield*	78.9%	86.4%	86.4%	86.4%
Cost of ilmenite per 1000 lbs. of product	$14.45	$11.87	$11.08	$10.33
Cost of ilmenite per lb. of product	1.448¢	1.187¢	1.108¢	1.033¢

*Details of overall yield:

	Approx. Actual Oct. 1930	Estimated Mar. 1931
Conversion on attack of new ore	77.5% (d)	80.0% (d)
Additional conversion on re-attack	17.4	16.0
Total conversion on attack	94.9	96.0
Conversion on hydrolysis	94.5	94.5
" " filtering	90.6 (e)	98.0 (e)
" " calcining	97.5	97.5
" " grinding	99.7	99.7
Conversion subsequent to attack	83.2	90.0
Overall yield	78.9%	86.4%

EXHIBIT "E"—Continued

(a) Average inventory value obtained as follows:

9,000 tons ilmenite on hand	@	$13.31 =	$119,700
16,000 " " delivered	@	11.15 =	178,300
25,000 tons total inventory	@	11.92 =	$298,000

(b) This column refers to ilmenite mined by Travancore during fiscal year ende March 31, 1931 and delivered at Baltimore from Dec. 1930 to April 1931.

(c) This column refers to ilmenite to be mined by Travancore during fiscal ye ending March 31, 1932 and to be delivered at Baltimore from Dec. 19 to April 1932.

(d) Low conversion in October was due to difficulty with old attack pans. Ne attack pans, subsequently installed, show 80% conversion in December.

(e) Filtering in October was without preliminary settling and with unsatisfacto filtering medium. It is expected that preliminary settling in Dorr equipme followed by filtration thru asbestos cloth will give considerably better co version.

II. Cost of Acid

20% fuming acid is purchased from Standard Acid & Phosphate Wor at the following cost:

$9.50 per T of 60° Be =	$12.23 per T of 100% H_2SO_4
Add freight	.15 per T
Cost delivered	12.38 per T .619¢

		Actual Oct. 1930	Estimated Mar. 1931
Cost of acid per lb. acid		.619¢	.619¢
Acid used per lb. TiO_2 attacked		2.66 lb.	2.66 lb.
Conversion	On attack	77.5%	80.0%
	Subsequent to attack	83.2	90.0
	Overall	64.4	72.0
Acid used per lb. of product		4.13 lb.	3.70 lb.
Recovery (38° acid)	To be re-used	—	0.36 lb.
	To be sold @ 0.3¢	—	1.36
	Total 38° recovered	—	1.72

Exhibit 177

EXHIBIT "E"—Continued

Cost of acid per lb. of product:

	Actual Oct. 1930 Lbs.	¢	Estimated Mar. 1931 Lbs.	¢
Acid used in attack, 0.62¢ per lb.	4.13	2.56	3.70	2.29
Recovered acid (38°) re-used	—	—	.36	.22
New acid (20% fuming) required	4.13	2.56	3.34	2.07
Credit for acid (38°) sold @ 0.3¢	—	—	1.36	.41
Net cost for acid		2.56¢		1.66¢

. Cost of Ingredients Other than Ilmenite and Acid

	Actual Oct. 1930	Estimated Mar. 1931	
Copper sulphate	0.324¢	0.100¢	(a)
Iron filings	.111	.081	(b)
Iron sulphide, potassium sulphide, etc.	.184	.184	
Total per lb. of product	0.619¢	0.365¢	

(a) Reduction due to proposed recovery of copper from mud, made possible by fact that mud now contains 8-10% copper whereas it formerly contained only 2% copper.

(b) Saving due to proposal to reduce mud liquor with iron *before* dissolving mass instead of reducing *after* dissolving mass.

. Summary of Ingredients Cost.

	Actual Oct. 1930	Estimated Mar. 1931
Ilmenite	1.45¢	1.19¢
Acid	2.56	1.66
Other Ingredients	0.62	0.37
Total per lb. of product	4.63¢	3.22¢

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Exhibit 177

EXHIBIT "F"

COMMERCIAL PIGMENTS CORPORATION

Estimated Conversion Cost

	Actual Oct. 1930	Estimated Mar. 1931
Production	280 T	650 T
Plant supervision	$ 1,500	
" laboratory	1,300	
Insurance (fire & liability)	1,200	
Plant Office	1,100	
Miscellaneous	2,700	
Total plant overhead	$ 7,700	$ 8,000
Labor (operating and maintenance)	18,600	18,000
Supplies (" " ")	9,700	7,600
Gas (for calcining)	1,600	3,000
Coal (for boilers for steam drying)	2,800	—
Oil (" " " " ")	—	2,800
" (" direct drying)	—	1,200
Water (for washing)	1,000	1,500
Electric power	2,500	3,500
Total conversion cost	$43,900	$45,600
Conversion cost per lb.	7.53¢	3.51¢
Total conversion cost		$45,600
Fixed: Portion assumed to be fixed per month, regardless of production		30,000
Variable: Portion assumed to vary directly with production (1.20¢ per lb. of product)		$15,600

(a) In October there were 150 men on the plant payroll, and it has been estimated that only 127 men will be required for new plant in spite of greater production.

Exhibit 177

EXHIBIT "G"

COMMERCIAL PIGMENTS CORPORATION

ESTIMATED MILL COST

	Actual October 1930 280 tons		Estimated March 1931 650 tons (g)	
	Amount	Per Lb.	Amount	Per Lb.
Ilmenite		1.45¢		1.19¢
Acid		2.56		1.66
Other Ingredients		0.62		0.37
Total Ingredients (a)	$25,900	4.63¢	$41,800	3.22¢
Barrels	1,800	0.32	4,200	0.32
Conversion (b) Variable	13,900	2.48	15,600	1.20
Conversion (b) Fixed	30,000	5.35	30,000	2.31
Research (Terre Haute)	2,000	0.36	2,000	.15
Depreciation	2,900(c)	0.52	5,800(d)	.45
Total Mill Cost	76,500	13.66¢	99,400	7.65
Variable Cost (e)	41,600	7.43	61,600	4.74
Fixed Cost (f)	34,900	6.23	37,800	2.91
Total Mill Cost	$76,500	13.66¢	$99,400	7.65¢

(a) For details of ingredients cost see Exhibit "E"
(b) " " " conversion " " " "F"
(c) Depreciation 5% per annum on $ 700,000
(d) " " " " " 1,400,000
(e) Portion of mill cost assumed to *vary* directly with production
(f) Portion of mill cost assumed to be *fixed* per month regardless of production
(g) 650 tons per month is based on estimated capacity of 21.5 tons per day with continuous operation

Exhibit 177

EXHIBIT "H"

COMMERCIAL PIGMENTS CORPORATION

ESTIMATED SALES for 1931
at Present Prices

		1931 Sales now in Sight		
		Tons of TiO_2	Net Price per Lb.	Dollar Sales
For Re-sale:				
R. T. Vanderbilt*		1,700	17.67¢	$ 601,000
For Titanated Lithopone:				
du Pont	500 T			
Glidden	300			
United	130			
		930	15.50¢	288,000
For Paint & Misc:				
du Pont	250 T			
Glidden	50			
Sherwin-Williams	200			
		500	16.25¢	163,000
Total Sales		3,130	16.80¢	$1,052,000

* R. T. Vanderbilt has contract running to the spring of 1932 to handle sale of TiO_2 to all customers except lithopone manufacturers and the Sherwin-Williams Company. 17.67¢ is average price before deducting 10% commission.

Vanderbilt sold 90 tons in January 1931 and forecast of 1,700 tons (142 tons per month) is based on increasing sales up to 200 tons in December 1931 as follows:

	Jan. Actual	Avg. Month 1931	Dec. Estimated
Paint industry	85 T	85 T	85 T
Glass & ceramic industry	5	60	115
	90 T	145 T	200 T

Sale to glass and ceramic industry is just beginning, and Vanderbilt has advised Commercial Pigments Corp. that he expects these sales to reach 100 to 200 tons per month by the end of the year.

EXHIBIT "I"

COMMERCIAL PIGMENTS CORPORATION

STATEMENT OF SALES OF TITANIUM DIOXIDE
IN POUNDS, FOR THE FIRST SIX MONTHS OF 1931.

	R.T.V.	Dupont	Krebs	Grasselli	Glidden	SW	United Color & Pig.	Total
January	177,034	47,000	72,000	40,000	36,000	10,500	—	382,534
February	166,438	44,750	36,000	50,000	40,000	10,250	12,000	359,428
March	242,824	42,750	74,000	50,000	50,000	57,250	10,000	526,824
April	273,800	93,250	72,000	50,000	90,000	50,500	—	629,550
May	333,453	145,750	40,000	—	128,000	79,000	20,000	746,203
June	130,085	135,250	80,000	50,000	40,000	59,500	36,500	531,335
6 Months Total	1,323,634	508,750	374,000	240,000	384,000	267,000	78,500	3,175,884

ACTUAL VS. FORECAST

	Actual 6 Mos.	Year 1931 6 Mos. x 1.19	Forecast
R. T. Vanderbilt	662 Tons	1257 Tons	1700 Tons
DuPont, Krebs & Grasselli	561	1066	750
Glidden Co.	192	365	350
Sherwin-Williams	133	253	200
United Color & Pigment	39	74	130
Total	1587 Tons	3015 Tons	3130 Tons

*—Forecast made in Feb. 1931 and shown as Exhibit "H" in Development Dept. report S—2402.

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EXHIBIT "I"

COMPARATIVE INCOME STATEMENT

YEAR 1931—ESTIMATED

	Lithopone			Dry Colors		Total Grasselli, Lithopone & DryColors		Commercial Pigments Corporation			Consolidated	
	Amount	Per Lb.	% of Sales	Amount	% of Sales	Amount	% of Sales	Amount	Per Lb.	% of Sales	Amount	% of Sales
Net Sales:												
Pounds	118,000,000#							6,260,000#				
Dollars	$5,068,600[c]	4.30¢	100.0	$1,772,800	100.0	$6,841,400	100.0	$1,052,000	16.80¢	100.0	$7,893,400	100.0
Mill Cost	3,948,900	3.35	77.9	1,477,000	83.3	5,425,900	79.3	729,600[b]	11.65¢	69.4	6,155,500	78.0
Profit over Mill Cost	$1,119,700	0.95¢	22.1	$ 295,800	16.7	$1,415,500	20.7	$. 322,400	5.15¢	30.6	1,737,900	22.0
Selling Expense						336,000	4.9	64.500[c]		6.1	400,500	5.1
Admin. Expense						300,000	4.4	46,300		4.4	346,300	4.4
Total Sell. & Admin.						636,000	9.3	110,800		10.5	746,800	9.5
Net Receipts:						779,500	11.4	211 600		20.1	991,100	12.5
Interest on Cash 2%						11,100		1,300			12,600	
Misc. Income						31,600[a]		25,600[d]			57,200	
Total Income						822,200		238,700			1,060,900	
Federal Tax (12%)						98,700		28,700			127,400	
Net Income						$ 723,500		$ 210,000			$ 933,500	
						77.5%		22.5%			100.0%	

(a) $31,600 represents 5% selling commission on sale of alumina hydrate and zinc oxide manufactured by Grasselli at East Chicago and sold by Pigment Division. 1931 sales are estimated at $632,000.

(b) Mill cost for Commercial Pigments is estimated on basis that plant is shut down during January and February at an expense of $27,800 per month and that the 6,260,000 lbs. of TiO_2 is to be produced in the last ten months of the year at the rate of 626,000 lbs. per month. Mill cost (Exhibit G) for each month the plant is operated will be $37,800 plus $29,600 (626,000 lbs. @ 4.74¢), or $67,400. Mill cost for the year will be:

(2 months @	$27,800 =	$ 55,600 =	.89¢ idle mill expense
(10 " "	67,400 =	674,000	10.76¢ per lb. when producing 313 T per month (48% of capacity)
	729,600		11.65¢ per lb. for calendar year

(c) Selling expense for Commercial Pigments includes:
(a) $60,000 (10% commission) on $601,000 sold by R. T. Vanderbilt; and (b) $4,500 (1%) on $451,000 sold direct to du Pont, Glidden, United and S-W, which are already under contract for 1931 but are not yet under contract for 1932.

(d) $25,600 represents equity in earnings of Travancore Minerals Co., Ltd., for fiscal year ending March 31, 1931. (Exhibit K)

(e) Lithopone sales include

{Lithopone	112,100,000 lbs.	$4,693,700	4.18¢ per lb.
{Titanated Lithopone	5,900,000	374,900	6.16
	118,000,000	5,068,600	4.30¢

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EXHIBIT "J"

TRAVANCORE MINERALS COMPANY

BALANCE SHEET—SEPT. 30, 1930

	Cash	£ 9935/11/6				
(1)	Accounts Receivable	6617/7/9				
(2)	Stocks of Ore	15241/19/2				
	Stores	1955/1/7				
	Trade Investments	605/11/11				
	Patents	1/0/0				
(3)	Plant Investment	7679/14/11				
	Furniture & Fixtures	1/0/0				
(4)	Lease & Good Will	7500/0/0				
(5)	Accounts Payable		£ 1792/2/6			
	Income Tax Reserve		750/7/2			
	Reserve for Allowances		500/0/0			
(6)	Special Reserve		1727/19/1			
	5% Debentures		13989/0/0	Value at Par		Com. Pigments Lien & Equity
	Accrued Interest		135/10/3			
(7)	6% Prior Lien Debentures		20000/0/0	$97,330	¾	72,998
	Accrued Interest		232/10/0			
	35,000 shares 7% Preferred		1750/0/0			
	35,000 Ordinary Shares (voting)		1750/0/0			
(8)	23,320 A Shares (voting)		1166/0/0	5,674	¾	4,255
(9)	Surplus		5743/17/10	27,953	⅔ x ¾	13,977
		£49537/6/10	£49537/6/10			$91,230

(1) £5600 of this due from S. T. R. and Commercial Pigments for ilmenite sales

(2) Ilmenite 15,000 tons since sold carried at 9 shillings
Monazite 3,800 tons carried at £2
Balance sundry ores carried at cost which is less than selling value

(3) Depreciated value

(4) Amount paid for lease

(5) Royalties and sales commissions largely

(6) For moving plant if present plant site cannot be leased for further term of years.

(7) Commercial Pigments owns ¾ of the 6% debentures, or £15,000

(8) These shares entitled to ⅔ of profit after interest on 5% and 6% debentures and sinking fund and 6% debentures. They represent ⅔ of the vote. Commercial Pigments owns ¾ of these shares, or 17,490 shares.

(9) (⅓ of surplus is applicable to ordinary shares
(⅔ " " " " " A shares

1020

Exhibit 177

Stock Ilmenite Sept. 30, 1930	15,000 tons	@ 9 S
Produced Sept. 30 to March 31	8,800 "	@ 6 S
Stock at start of shipping season	23,800 "	@ 7.93 S
Stock zircon Sept. 30, 1930	30 "	@ 38.5 S
Produced Sept. 30 to March 31	700 "	@ 20 S
Stock at start of shipping season	730 "	@ 20.61 S
Monazite stock (no production last 6 mos.)	3,803 "	@ 40 S

All figures long tons

660

Exhibit 177

EXHIBIT "K"

TRAVANCORE MINERALS COMPANY

ESTIMATED EARNINGS FOR YEAR ENDING MARCH 31, 1931

	Sales Actually Made		Adjusted to Reflect Com. Pig. Corp. Requirements Rather Than Purchases	
	Tons	£	Tons	£
Sales—Last 6 months of year				
Ilmenite to Comm. Pig. Corp. @ 25 S	16,000	20,000	7,000	8,750
" " Natl. Lead Co. @ 25 S	5,000	6,250	5,000	6,250
" " Europe @ 30 S	1,300	1,975	1,300	1,975
Zircon @ 200 S	500	5,000	300	3,000
Monazite @ 190 S	500	4,750	500	4,750
Total Sales		£37,975		£24,725
Deductions				
Loading ilmenite @ 2 S per ton		2,230		1,330
Loading & Bagging zircon @ 6 S per ton		150		90
Loading & Bagging monazite @ 6 S per ton		150		150
Sales Commission (chiefly to Com. Pig. Corp)		1,662		1,662
Freight on 1000 tons @ 22½ S		1,125		1,125
Total charges against sales		5,317		4,357
Net Sales		32,658		20,368
Cost of Sales				
Ilmenite @ 7.93 S per ton		8,843		5,270
Zircon @ 20.61 S " "		515		309
Monazite @ 40 S " "		1,000		1,000
		10,358		6,579
Gross Profits last 6 months		22,300		13,789

Exhibit 177

Deductions			
Royalty	750		
India Expense	600		
London expense	1,250		
Debenture interest	950		
Travancore tax	355		
	3,905	3,905	3,905
Profits before British Income Tax—Last 6 Mos.		18,395	9,884
Loss 1st half year		3,000	3,000
Profit for year before Income Tax		15,395	6,884
British Income Tax		3,464	1,547
Net Profits for Year		11,931	5,337
Sinking Fund Requirement		1,400	1,400
Amount available for dividends & development		10,531	3,937
Commercial Pigments Corp. equity in earnings			
	(⅔ x ¾)	£ 5,266	£ 1,969
		$25,625	$ 9,600

Exhibit 177

EXHIBIT "L"

OUTLINE OF COMMERCIAL PIGMENTS PROCESS FOR MAKING TiO_2

1. Ilmenite ore is attacked with sulphuric acid in an iron attack pan at a temperature of 170 to 180°. This results in a brown granular mass which is slightly acid.

2. The mass is put into solution with wash water coming from a later step in the process.—

   a. The undissolved ilmenite separates out and is sent back for a second attack but it is attacked separately instead of being mixed with new ore.

   b. The remaining solution is clarified with copper and a mud settles out.

3. After separation and clarification the solution is refrigerated to precipitate iron sulphate.

4. Iron sulphate is removed in a centrifuge.

5. An acid cake, which is the crude TiO_2 pigment, separates by gravity from the liquid and the excess liquid is drawn off.

6. The acid cake is washed and filtered. Asbestos is now being used as a filtering medium and it is the only one which has proved satisfactory because of the fineness of the material.

7. The cake is calcined and some soluble salts are added to take up excess acid.

8. The calcined material is ground, although a considerable portion of the product is now sold before grinding.

In this process the impurities come out in the mud, step #2 (b), and in the iron sulphate, step #4.

Exhibit 177.

EXHIBIT "M"

COPY

CHEMICAL DEPARTMENT

January 21, 1931

DR. FIN SPARRE, DIRECTOR
DEVELOPMENT DEPARTMENT

TiO_2 PATENT SITUATION

National Lead Patents Infringed by Commercial Pigments:

With our limited knowledge of the procedure followed by the Commercial Pigments Corporation, we have assumed that they infringe several patents owned by National Lead. In view of their recent statements as contained in Mr. Beadle's letter of January 9th, you may be interested in a statement of the possibilities in this matter. The four patents which we have thought must be infringed by Commercial Pigments are as follows:

1. Jebsen 1,333,819, March 16, 1920. See Claim 3 covering attack with less acid than is required to form normal salts of iron and titanium.

2. Wrigley & Spence 1,338,473, April 27, 1920. See Claim 6 covering subjecting solutions to a low temperature to remove iron as ferrous sulfate.

3. Fladmark 1,288,863, Dec. 24, 1918. See Claim 1 covering hydrolysis of a concentrated solution by heating.

4. Goldschmidt 1,348,129, July 27, 1920. This is the calcination patent. See Claims 1 and 3.

Mr. Chase denied infringement of the Jebsen patent. The above is not the only Jebsen patent, but it is presumably the one he meant. We agree that it is feasible to avoid infringement by using more sulfuric acid, and that is our procedure. We cannot understand how they can avoid infringement of the three other patents if their process is at all as we have understood it to be. Probably they consider them to be invalid, and we agree that there is reason for such confidence.

We have avoided infringement of Wrigley & Spence but are afraid this will be very difficult in the use of Canadian ore, which contains a higher ratio of iron to titanium. We have asked Mr. Biesterfeld whether we should be stopped by the patent (See Claim 4) from removing the iron sulfate which unavoidably crystallizes unless the solutions are kept hot. Our situation is somewhat different, however, from Commercial Pigments' because they must infringe the claims which mention "low temperature", whereas we should infringe only the very broad claim 4.

In regard to Eladmark, covering broadly concentrated hydrolysis, we have never asked for an opinion on its validity because we have thought it is essential to avoid concentrated hydrolysis as being the foundation of the processes of both National Lead and Commercial Pigments, and tied up in one way or another with many of the patents. We are now asking Mr. Biesterfeld for an opinion based on the article by Blondel published in 1899. It contains the following paragraph:

"A solution of 0.5 parts titanium dioxide in one part of concentrated sulfuric acid, diluted with 1.5 parts

of its weight of water, precipitates sulfates of titanium dioxide with compositions varying with the temperature and corresponding, for 100° to the formula $2TiO_2 \cdot SO_3$ † Aq., for 130° to the formula $7TiO_2 \cdot 2SO_3$ † Aq.."

The solution described by Blondel would contain 16⅔% of TiO_2 or about 200 grams per liter, well within Fladmark's range. Blondel hydrolyzed it by heating at 100° and at 130°. We think this reference is a good one.

In regard to Goldschmidt, Mr. Biesterfeld has already told us that this patent is probably invalid, and he is giving it further study. We expect to infringe it and we cannot see how Commercial Pigments can avoid it.

It is interesting to note that Commercial Pigments is probably infringing two patents which we have been very careful to avoid, namely, Wrigley & Spence and Fladmark. We think our preferred process infringes only one National Lead patent (Goldschmidt), unless we include the unimportant patent 1,196,030, which is probably also infringed by Commercial Pigments. It expires in 1933.

Commercial Pigments' Patents Infringed by Our Process.

The relation of our present process to Commercial Pigments' patents is more complicated, but practically is reduced to one existing patent and one in the Patent Office. The situation is as follows:

1. We infringe Claim 6 of 1,504,671 which is almost certainly invalid over Coffelt. It reads as follows: Claim 6 "In the treatment of ilmenite ore, the step of heating to about 160°C. by extraneous heat application, a mix-

ture of ilmenite ore and sulfuric acid of about 80% strength, until the reaction is substantially complete."

2. We may infringe Claim 2 of 1,504,669 which relates to hydrolysis of a solution substantially devoid of Tyndall effect. We have not regarded this patent as of much importance, but it deserves further study.

3. Reissues 17,429 and 17,430, relating to hydrolysis. In order to get good results with dilute hydrolysis, we have had to develop a procedure which involves gradual addition to water at 75° C., followed by boiling which precipitates the titanium compound. The details are important. The reissue patents cover a "diffusion" process, but the claims also cover broadly "gradual admixture". Weber in 1863 described "gradual addition", thereby certainly invalidating the broad claims of 17,429 if we infringe them. Claims 1 and 2 of 17,430 are the claims which bother us, but we are by no means at the end of our resources for invalidating these claims or avoiding them. Claim 2 reads: "The preparation of titanium dioxide or hydroxide by hydrolytic precipitation which comprises bringing together a solution of titanium sulfate with water, and retarding the rate of admixture so that the composite liquid first becomes gradually turbid and thereafter throws down the desired precipitate."

There is a British Patent 225,672 which covers "gradual addition" very definitely and a corresponding patent may be issued in this country. In view of the Weber disclosure, such a patent is not likely to be any more dangerous than the existing patents. Altogether, we are confident of solving this problem.

Exhibit 177

4. We treat our precipitate with a potassium or sodium salt before calcination, and preferably with potassium sulfate. This is similar to the procedure which we know is followed by Commercial Pigments. There are two foreign patents, French and Canadian, and two German applications, which cover calcining titanium hydrate in the presence of substances which liberate sulfuric acid, particularly alkaline metal acid sulfates, and specifically potassium acid sulfate. We already have a good prior art reference in a Rossi & Barton patent on calcining in the presence of alkaline metal acid sulfate through the addition of sodium sulfate. We may find it desirable to neutralize before adding the alkaline metal sulfate, and we have therefore started an investigation of the validity of a National Lead patent on neutralization. We think it is invalid. We may summarize the situation as follows:

   1. No U.S. patent has as yet been issued on this procedure.
   2. We think the only valid claim will be one on calcining in presence of $KHSO_4$.
   3. We may avoid by using a *sodium* salt or by using a *neutral* sulfate.

Summary of our Patent Situation

According to our present point of view, the important patents which we infringe are:

1. Goldschmidt calcination patent
3. Blumenfeld hydrolysis patent

Exhibit 177.

3. Patent not yet issued on salt treatment before calcination.

We feel reasonably confident of being able to avoid these patents or to prove them almost certainly invalid. Details of our process will be modified from time to time as our study of these patents may suggest, but we think it is safe to go ahead along the lines of the present process, and expect a gradual clarification of the patent situation.

(S) HAMILTON BRADSHAW
ASSISTANT CHEMICAL DIRECTOR

Exhibit 177

Dec. 30, 1930

EXHIBIT "N"

COMMERCIAL PIGMENTS CORPORATION

This Company owns and operates a plant at Curtis Bay, Baltimore, for the manufacture of titanium dioxide under a process developed by Dr. Joseph Blumenfeld, a French chemical engineer. It owns the U. S. patents covering this process and also patents in respect to the manufacture of titanium lithopone, of which titanium dioxide is a [illegible] part.

The developments leading up to the acquisition of Commercial Pigments by Commercial Solvents have been briefly as follows:—In 1923, the Blumenfeld process was brought to the attention of a group of individuals which included some who were then and are now officers and directors of Commercial Solvents. This group acquired an informal option on the U. S. rights to the process and offered this option to Commercial Solvents without profit to the group. The Directors of Commercial Solvents decided on May 21, 1924 that the company was not interested in acquiring these rights. The group continued, however, to investigate the process until 1927 at which time, and in association with others, it caused the Commercial Pigments Corporation to be organized. The U. S. patent rights to the Blumenfeld process were turned over to the company, subject to royalty payments to the original owners, and stock was issued for these rights and for upwards of $1,250,000 cash paid into the company's treasury.

In September, 1929, acquisition of Commercial Pigments was proposed to Commercial Solvents, but this time,

as half the directors and some of the officers of Commercial Solvents were also directors and officers of Commercial Pigments and a majority of the directors and some of the officers of Commercial Solvents were among the 72 owners of Commercial Pigments Class B stock and stood to profit personally by the deal, a special meeting of Commercial Solvents stockholders was called for October 3rd, to act upon the proposal. Apparently the outcome was not very much in doubt as the notice to the Commercial Solvents stockholders calling the special meeting stated that the directors believed at least 84,000 of the total of 111,996 shares of Commercial Pigments Class B stock could be obtained on the proposed basis (10 shares commercial Solvents common for each 9 shares Commercial Pigments Class B stock) and it is presumed that the owners of this stock also controlled Commercial Solvents. The entire outstanding capital stock of Commercial Pigments Corporation was therefore acquired for 124,440 shares of Commercial Solvents common.

Earlier in the year (1929) Mr. Ticknor, President of Commercial Pigments as well as of Commercial Solvents, had been approached regarding possibility of the du Pont Company acquiring Commercial Pigments and it developed then that a deal could be made only on the basis of an unreasonably high valuation. Mr. Ticknor was not willing to propose to Commercial Pigments that they sell out for less than $5,000,000 although their total paid in capital was only $1,250,000. Mr. Ticknor explained that the owners of Commercial Pigments were all very wealthy men who engaged in the venture with the idea that the investment might prove to be a total loss or that they might profit handsomely. Therefore, unless the stockholders saw they were profiting by a few million dollars they would be unwilling

to sell out when prospects were good and Mr. Ticknor felt he would be in an embarrassing position if he proposed sale on any basis that would not net a large profit.

Of the $1,250,000 cash paid in by the stockholders, we understood that about $600,000 had been expended for plant, $250,000 was charged to patents, processes, etc., and $400,000 represented working assets.

The above facts are set forth here to throw some light on the acquisition of Commercial Pigments by Commercial Solvents after Mr Ticknor learned that the du Pont Company was not interested on the high valuation basis he suggested. Commercial Solvents bought all outstanding Commercial Pigments stock but paid, on the basis of the market value of Commercial Solvents stock the day the sale was approved by the Commercial Solvents stockholders, over 50% more than the figure discussed with du Pont representatives.

In other words, the good will figure of $3,750,000 that appeared in the $5,000,000 price to du Pont was, in effect, increased about two-thirds in selling to Commercial Solvents for stock having at that time a market value of over $7,500,000.

However, at today's deflated market value of about $15.00 per share for Commercial Solvents stock, the 124,440 shares issued for Commercial Pigments has a market value (after reflecting two 2% stock dividends paid during 1930) of $1,942,000, leaving under present conditions a good-will-figure of only $692,000. Commercial Solvents stock issued for Commercial Pigments is about 5.1% of the total outstanding but the net worth of Commercial Pigments is about 15% of the total net worth of Commercial Solvents.

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Considering that Commercial Solvents has represented its subsidiary Commercial Pigments Corporation, by the sum of $933,567 in the 1929 consolidated balance sheet, which checks very well with our understanding of the investment in plant and working assets, it is probable that, in conformity with the practice to not attribute on its books any value for intangibles, this figure does not include any valuation for the interest owned by Commercial Pigments in the Travancore Minerals Company, Ltd., a British corporation owning in India concessions (renewed in 1929 for 15 years with an additional 15 years option) to recover ilmenite and other minerals from the beach sands near Muttan, Travancore, India.

These sands consist of between 70% and 80% ilmenite (a natural combination of iron and titanium oxides that is the principal material entering into the production of titanium dioxide), the balance being monazite, zircon, garnet, quartz, etc. The ilmenite is concentrated to a commercially pure product containing about 52% TiO_2, the balance being iron oxide, and shipped to Baltimore and to the European plants that also operate under the Blumenfeld process, these being located in France, Italy and Czecho-Slovakia, although Commercial Pigments will sell the Travancore product to any buyer. These European plants have now been in successful operation five years or more.

The 52% TiO_2 content of ilmenite is as high as that of any known source of TiO_2 except rutile which is about 96% TiO_2 but cannot be utilized economically.

During August last, Dr. Gillson had an interview with Mr. Priestly, manager of the Travancore Minerals Company's property in India, who was in this country for a brief business visit, and amongst other information ob-

tained (See Dr. Gillson's letter of 8/18/30 to Dr. Sparre, file 463-C) learned that they have been producing an average of about 1300 tons of ilmenite per month since March 1928. We do not know, however, the maximum rate at which ilmenite could be supplied to Commercial Pigments from this source as Travancore Minerals is under certain obligations to supply the European plants that operate under the Blumenfeld process and of superior importance is the fact that continuous recovery of ilmenite from the beach sand is dependent upon the supply of this sand being continuously, or almost continuously, replenished by wave action. Mr. Priestly insists that this occurs at a rate sufficient to assure, without question, the production of at least 100,000 tons of ilmenite concentrates annually in a plant of adequate capacity.

During a visit here on September 29th, Mr. Ticknor stated that Travancore Minerals now sells ilmenite to Commercial Pigments at 25 shillings per ton F.A.S. ship in India, the price having been reduced from 30 shillings about a year previously. The cost of loading in India plus ocean freight and other expenses to Baltimore was stated to be about 23 shillings per ton, making the delivered cost in Baltimore 48 shillings or about $12 per ton. Mr. Ticknor stated further that as there is a growing demand for zircon, Travancore Minerals can sell all of this mineral that it produces, the present price being about $45 per ton, and can also sell its production of monazite at a profit although this market is not so promising as that for zircon. He claims that the combined sales of zircon and monazite pay all the expenses of Travancore Minerals so that the return from sales of ilmenite represents clear profit.

Commercial Pigments investment in Travancore Minerals consists of $75,000 in 6% debenture stock and of

junior stock (representing a 50% interest in earnings and a 40% interest in vote) carried at cost of $3896.

We understand that under the laws of India, only an Indian company can engage in the development of natural resources and that it is unlawful for such a company to be controlled through stock ownership by a foreign corporation or individual. India grants a license to companies operating to develop natural resources and if a company holding such a license is found to be controlled by foreign capital the license may be revoked.

Pending a clearer understanding of the situation which we will later have relative to the above and some other features, we are not sufficiently informed regarding the financial set-up of the Travancore Minerals Company, Limited, to estimate their earnings with any reasonable degree of satisfaction.

Commercial Pigments titanium dioxide plant at Curtis Bay is located on a water front tract of about 3½ acres that was purchased from the U. S. Industrial Alcohol Company. The buildings on the property at time of purchase were of hollow-tile and frame construction and have been utilized after converting by changes and additions to better meet the new requirements. The plant was designed by and constructed under the supervision of the Bedford Construction Co.—the engineering and construction division of the Corn Products Refining Co.—on the basis of information and assistance obtained at the European plants operating the Blumenfeld process, by a delegation headed by Mr. Chase, Vice President of Commercial Pigments, who is a consulting chemical engineer and was placed in charge of starting and operating the plant at Curtis Bay.

The plant was supposed to be capable of producing 10 tons of titanium dioxide per day but the original installation developed an actual capacity of only about 3 or 4 tons per day. Various changes were made, including considerable replacement of equipment with that of more suitable design and some changes in the process were also introduced, with the result that capacity was gradually stepped up to about 7 tons per day and it was stated by Mr. Ticknor at the end of September that they were then producing 10 tons daily; also that completion of the $500,000 plant expansion project previously announced would enable them to produce 22 tons of TiO_2 daily by the end of the year, at a cost which he intimated might make that of extended pigment as low as 4¢ per pound, stating very definitely that the TiO_2 could be sold at 12¢ per pound and yield satisfactory profit. Under our contract that expires December 1st, this year, we are paying Commercial Pigments for ground TiO_2 17¢, for unground 16¼¢, carload quantities delivered at our eastern plants.

Mr. Ticknor also said that by the end of 1930 Commercial Pigments would have put $2,250,000 cash into the business and when the new plant is operating they will be glad to show us what they have.

The plant has been visited by several du Pont men during the last three years and we therefore have on file considerable detailed information regarding equipment, operation, etc. One general impression resulting from these inspections has been that the plant was rather extravagantly equipped and could be duplicated for considerably less money or at least a duplication of the expense should provide a plant better and more suitably equipped.

Exhibit 177

The Blumenfeld process, under which Commercial Pigments operates, is based on the treatment of ilmenite with sulphuric acid, these being the only essential materials required. With several manufacturers of sulphuric acid located at Curtis Bay, an adequate supply of this raw material at relatively low cost is assured.

Upon decomposition of the ilmenite by the acid, the titanium and iron sulphates are leached out and the solution is purified by refrigerating to crystallize out the ferrous sulphate which is then removed by centrifuging. The resulting purified titanium sulphate solution is evaporated under vacuum and then diluted which precipitates TiO_2. This is filtered out, washed, dried, calcined and ground, this final product being TiO_2 of about 97% purity.

Commercial Pigments originally purchased the exclusive American rights to the Blumenfeld process, including nine patents covering the various manufacturing operations, and at that time a contract was entered into with Mr. Blumenfeld giving Commercial Pigments the sole American rights to any new developments or improvements in the process that might be worked out by him or his associates. Subsequently, applications were filed for sixteen additional patents of which some have been granted and still additional applications have been filed.

Most of the various steps of the process operated by Commercial Pigments are thus covered by patents which they own or under which they are licensed but the validity of these patents or the extent to which they are subordinate to other more basic patents still remains to be determined.

To round out their patent situation, Commercial Pigments also purchased from the Glidden Company several U. S. patents and patent applications covering the mixture

of TiO_2 and lithopone for the manufacture of titanium lithopone combination pigments, this resulting in Glidden becoming interested in the company. These are known as the O'Brien patents and are considered by our Patent Division to be of questionable value. Commercial Pigments has licensed Krebs, Grasselli, Glidden and United Color and Pigment Co. under these patents and applications until expiration of the last issued patent (the earliest patent expires September 21, 1943) but the license agreement may be terminated by either party any time after 1931.

It is to the above licensees that Commercial Pigments sells most of its TiO_2, which is furnished in the pure form (about 97% purity) to be blended with lithopone by these buyers.

Commercial Pigments also has an outlet for some TiO_2 to small paint and varnish companies that use it as an ingredient in their products. This business is handled through the R. T. Vanderbilt Co., their exclusive agent for the sale of TiO_2 directly to the paint industry.

Commercial Pigments is therefore concerned at present in the manufacture and sale of only pure TiO_2 as they make neither titanium lithopone pigments, which would bring them into competition with their licensees under the O'Brien patents, nor do they produce extended titanium pigments, which would bring them more directly in competition with the Titanium Pigments Company, subsidiary of National Lead and their only U. S. competitor in the manufacture of TiO_2.

The officers of National Lead have indicated considerable feeling against Commercial Pigments on account of alleged infringement of some of their patents covering steps in the manufacture of TiO_2 but this situation is apparently

being met by more aggressive sales competition on the part of Titanium Pigments, rather than through patent infringement suits.

While, like Commercial Pigments, Titanium Pigments also sells a limited quantity of TiO_2 to paint and varnish manufacturers who mix in a small way, their volume business is in the form of extended TiO_2 pigments, to which they have given the trade name "Titanox", produced by making a combination between barium sulphate or calcium sulphate and titanium dioxide as a part of the process by precipitating the TiO_2 on one of these materials. These compositions contain from 25% to 30% TiO_2.

Titanox is sold to the paint, varnish, linoleum and other trades that use white pigments and its manufacture is at present protected by patents owned by National Lead or Titanium Pigments covering the use of non-pigment extenders for TiO_2 such as those mentioned above.

Commercial Pigments is endeavoring to develop a process for making extended TiO_2 pigments that will not infringe the National Lead patents on Titanox and other extended titanium pigments. The basic Titanox patents will expire, however, in 1932 and 1934 so even if Commercial Pigments does not succeed in developing a non-infringing process they will, within a relatively short time, be in position to compete in the extended TiO_2 pigment field, which offers the best opportunity for development and expansion of demand for titanium dioxide.

With the interest of lithopone and other white pigments manufacturers already affected by the severe trade rivalry existing between the two U. S. producers of titanium dioxide and certainty of still keener competition with lithopone on the part of these companies resulting from the

lower costs for their products that will obtain after the TiO_2 industry is established on a larger volume basis by plant increases recently completed and now under way, the du Pont Company will be obliged to engage in the TiO_2 business to meet the growing demand for TiO_2 pigments and protect its position in the pigment industry.

Studies are now being made of all phases of the titanium pigments situation by the Chemical and Development departments, specially regarding patents, processes and ilmenite supply. The results of these investigations will determine how we are to proceed to expand our field of activity in titanium pigments beyond present production of titanium lithopone combinations under the O'Brien patents.

The Titanium Pigments Company appears to have the stronger patent position from a TiO_2 manufacturing standpoint and for the next few years they will probably dominate the important field of extended titanium pigment manufacture. We believe that Commercial Pigments is infringing some important manufacturing patents owned by Titanium Pigments that still have considerable time to run. Commercial Pigments has also had relatively short manufacturing experience with small tonnage production and sales principally to lithopone manufacturers, added to which is the probability that, in view of the price paid for Commercial Pigments by Commercial Solvents, they would want almost prohibitive terms.

Should, however, some basis for purchase or consolidation be worked out with Commercial Pigments that was attractive from an economic standpoint, it would be necessary to have very definite assurance of a sound patent position and to investigate further the situation regarding their

interest in Travancore Minerals Company before reaching a final conclusion as to our interest in their plant and process.

On the other hand, if the research work now being conducted by the du Pont Company results in the development of a TiO_2 process than can be operated in our lithopone plants without infringing existing valid patents, purchase of or consolidation with Commercial Pigments or Titanium Pigments might not be desired but some working arrangement that would supplement our knowledge with the know-how and experience of one or both of these concerns might be preferred.

Research work to date indicates that, in developing a process for the manufacture of TiO_2, we have avoided all valid patents excepting two. One of these, belonging to National Lead, has been held by our Patent Division to be probably invalid and is now being reviewed in the light of more recent developments. Apparently Commercial Pigments also considers this patent to be invalid as we believe they have been infringing it for some time. The other patent is owned by Commercial Pigments. It is probably valid but is very specific and there is a fair possibility that an avoidance may be accomplished by some variation in procedure.

For further details regarding processes, patents and other essentials of the TiO_2 situation, reference is made to D. W. Jayne's report of February 17, 1930, Serial D-790, Titanium Oxide and Titanium Pigments, and the results of current studies of various features of the industry.

W. W. RICHARDS

Exhibit 177

EXHIBIT "P"

POTENTIAL EARNING POWER OF GRASSELLI PIGMENT BUSINESS

	Actual		Forecast	Potential#	
	1929	1930	1931	1932	1933
Net Sales:					
Titanated Lithopone	$ 304,957	$ 407,580	$ 374,900	$ 476,000	$ 488,000
Lithopone	7,109,549	5,233,812	4,693,700	5,900,000	6,140,000
Dry Colors	2,009,900	1,630,738	1,772,800	2,200,000	2,460,000
Titanium Dioxide	—	—	—	—	775,000
Total Sales	9,424,406	7,272,130	6,841,400	8,601,000	9,863,000
Mill Cost	7,294,312	5,776,943	5,425,900	6,512,000	7,306,000
Selling & Admin. Expense	688,738	711,693	636,000	636,000	636,000
Net Receipts	1,441,356	783,484	779,500	1,453,000	1,921,000
Interest on Cash	11,100	11,100	11,100	11,100	11,100
5% Commission on Sale of Alumina Hydrate & Zinc Oxide	44,450	26,028	31,600	31,600	31,600
Total Income	1,496,906	820,612*	822,200	1,495,700	1,963,700
Federal Tax 12%	176,600	98,500	98,700	179,500	236,000
Net Income	$1,317,306	$ 722,112	$ 723,500	$1,316,200	$1,727,700

*Before inventory write-down of $97,652.

#Last two columns show two successive hypothetical years which are labeled "1932" and "1933" for convenience only. "1932" is based on 1929 volume and "1933" is based on increases over 1932 of 4% in lithopone volume and 10% in dry color volume. Both "1932" and "1933" are based on 1931 prices and 1931 unit costs. Also "1933" assumes that Grasselli will independently begin the manufacture of TiO_2 and will accomplish in the first year substantially what Commercial Pigments expects to accomplish in 1931.

Columns labeled "1932" and "1933" give some indication of the potential earning power of the Grasselli pigment business but they are *not* submitted as a forecast for those calendar years.

Exhibit 177

EXHIBIT "Q"

POTENTIAL EARNING POWER OF COMMERCIAL PIGMENTS CORPORATION

	Actual	Forecast	Potential#	
	1930	1931	1932	1933
Net Sales				
Tons	1,800	3,130	5,050	5,760*
Dollars	$600,000	$1,052,000	$1,722,000	$2,003,000
Mill Cost	—	729,600	933,000	1,000,000
Sell. & Admin. Expense.	—	110,800	172,400	223,000
Net Receipts	—	211,600	616,600	780,000
Interest on Cash	—	1,500	1,500	1,500
Equity in Earnings of Travancore Minerals Co.	—	25,600	25,600	25,600
Total Income	—	238,700	643,700	807,100
Federal Tax 12%	—	28,700	77,200	96,900
Net Income	$ 52,000	$ 210,000	$ 566,500	$ 710,200

*This compares with plant capacity of 7,500 tons.

#Last two columns show two successive hypothetical years which are labeled "1932" and "1933" for convenience only. "1932" and "1933" reflect a substantial growth which might be expected with a return of the white pigments industry to 1929 levels. Both "1932" and "1933" are based on 1931 prices and 1931 unit costs. Also "1933" assumes that Commercial Pigments will lose du Pont business because of Grasselli entrance independently into the manufacture of TiO_2.

Columns labeled "1932" and "1933" give some indication of the potential earning power of the Commercial Pigments Corp., but they are *not* submitted as a forecast for those calendar years.

Exhibit 177

EXHIBIT "R"

Comparison of Potential Earning Power

Based on 1931 Prices and 1931 Unit Costs

		Grasselli Pigment Business		Commercial Pigments Corporation	Total
		Lithopone & Dry Colors	Titanium		
Net Income	(1931*	$ 723,500	—	$210,000	$ 933,500
	(1932#	1,316,200	—	566,500	1,882,700
	(1933#	1,517,700	$210,000	710,200	2,437,900
Percent of Total	(1931*	77.5%	—	22.5%	100.0
	(1932#	69.9	—	30.1	100.0
	(1933#	62.3	8.6	29.1	100.0

* Figures labeled 1931 are based on 1931 forecast.

#Figures labeled 1932 and 1933 are for two successive hypothetical years which are labeled "1932" and "1933" solely for convenience. These figures give some indication of comparative potential earning power, but they are *not* intended as a forecast for those calendar years.

It should be noted that this 70-30 division of potential earning power is based on present prices. Exhibit I shows that Grasselli, operating at 96% of capacity, forecasts earnings of 11% on sales; whereas Commercial Pigments, operating at only 42% of capacity, forecasts earnings of 20% on sales. Consequently a general cut in pigment prices would hurt Grasselli considerably more than it would Commercial Pigments, and would have the effect of reducing Grasselli's 70% and increasing Commercial Pigments 30%.

Exhibit 178

COPY

ARTHUR YOUNG, BROADS, PATERSON & CO.

1 Walbrook, London,

E. C. 4

17th February, 1931

Messrs. Arthur Young & Co.,
1 Cedar Street,
New York,
U. S. A.

Dear Sirs:—

As requested in your cable of the 11th inst., we attended at the offices of Commercial Solvents Corporation for the purpose of examining the Securities belonging to the Commercial Pigments Corporation and have cabled you as hereunder:—

12th February 1931

"Arthyoung, New York. Examined Twenty Thousand Pounds par value Prior Lien Debentures and Seventeen Thousand Four Hundred and Ninety "A" Shares of Shilling each and Four Thousand Five Hundred Ordinary Shares of Shilling each all Travancore Minerals Company. Rosebelle."

13th Febr. ary 1931

"Arthyoung, New York. Travancore Securities in names of Nominees stop Articles provide Foreign Corporation cannot be registered Burton consulting Lawyers Pigments Validity of Title stop No Declaration of Trust Inspected. Rosebelle."

Exhibit 178

The Securities were inspected by us at the Kingsway (London) Office of the Guaranty Trust Company of New York, and details are as follows:—

(1) *Travancore Minerals Co., Ltd. Prior Lien Debentures*

Debentures Nos. 1-150 representing one hundred and fifty £100 Debentures of a total par value of £15,000 registered in the joint names of William A. Burton and Major Denis J. Burke.

These bonds are the property of Commercial Pigments Corp.

Debentures Nos. 151-200 representing fifty £100 Debentures of a total par value of £5,000 registered in the name of Societe de Produits Chimiques des Terres Rares.

(2) *Travancore Minerals Co. Ltd. "A" Shares of 1/- each fully paid*

Certificate No. 1	representing	11,660 shares	Nos. 1-11660
" No. 2	"	5,830 "	Nos. 11661-17490
Total —		17,490	

Registered in joint names of William A. Burton and Denis J. Burke.

(3) *Travancore Minerals Co. Ltd. Ordinary Shares of 1/- each fully paid*

Certificate No. 41 representing 4,500 shares Nos. 54501 to 59000 registered in joint names of William A. Burton and Major Denis J. Burke.

It will be observed that the foregoing Securities are registered in the names of Nominees and it is usual in such cases for the nominees to execute Blank Transfers and Declarations of Trust in favor of the Benefi-

cial Owners. Upon enquiry we are informed that such Transfers and Declarations have not been executed, and after perusing the Articles of Association of Travancore Minerals Company Limited we find that there are restrictions regarding the transfer of Shares. We have drawn the attention of Mr. W. A. Burton to the matter, and he has decided to consult the Company's Lawyers thereon with a view to having the Articles amended if necessary.

For your information we append a copy of the Clauses dealing with the "Transfer of Shares".

Yours faithfully,

ARTHUR YOUNG, BROADS, PATERSON & CO.

Exhibit 179

COPY TO T. S. GRASELLI
WM. RICHTER
E. K. BOLTON
J. B. ELIASON
C. H. RUPPRECHT
H. C. HASKELL

To: EXECUTIVE COMMITTEE SERIAL NO: S-2402

FROM: DEVELOPMENT DEPARTMENT February 18, 1931

COMMERCIAL PIGMENTS CORPORATION

Herewith report is submitted to your Committee of proposed consolidation of the lithopone and dry color business of the Grasselli Chemical Company with the Commercial Pigments Corporation now engaged solely in the manufacture of titanium pigments and owned by the Commercial Solvents Corporation. This report has been submitted also to the Grasselli Chemical Company but unfortunately it has been found advisable to submit the proposition direct to your Committee without first obtaining the action by the Board of Directors of the Grasselli Chemical Company. However, we have already discussed the subject orally with Messrs. T. S. Grasselli, E. W. Furst and E. C. Thompson and ascertained their considerable interest in the proposition submitted.

The reason for placing this report before your Committee at this time is that Mr. W. D. Ticknor, President of the Commercial Solvents Corporation, is going abroad on February 27th and is not expected to return until about the first of April and it is most desirable that we be able to

advise Mr. Ticknor, before his departure, whether du Pont Company is agreeable to the consolidation proposed in this report subject to certain reservations and verifications which can be taken care of on Mr. Ticknor's return to this country. We are desirous of obtaining such answer as early as practicable on account of the very large research expenditures which can be saved to a very great extent in case of consolidation and the fact that the longer the consolidation is deferred, the greater Mr. Ticknor's expectation of participation in the new company to be organized to undertake the consolidated business. If it should be found inadvisable to take any action on or before the 27th of February, it will be necessary to defer consideration of the subject until April and presumably the negotiations would have to be started all over again on the basis of the situation then existing.

It is the clearly expressed opinion by all interested divisions of the Company that titanium pigments are of increasing importance whereas lithopone has apparently reached its maximum and a decline in lithopone business is indicated, with a tendency toward reduction in profits. The proposed consolidation is predicated on such advice and which has caused the large expenditures for the development of a titanium pigment process.

During the past years the subject has been discussed several times with both officers of the National Lead Company, owning the Titanium Pigments Corporation, and the Commercial Solvents Corporation, but only the latter has been inclined to consider a closer affiliation; particularly since the du Pont Company commenced its own development work in this connection, Mr. Ticknor has shown further inclination to such affiliation until finally a proposition is submitted in the appended report.

Exhibit 179

No examination has been made of the Commercial Pigments Corporation's plant and property, operating processes and their accounts nor has the patent situation been discussed except in a general way. However, it is definitely understood that in the event du Pont Company signifies its desire to go into the proposed consolidation, all information supplied will be subject to investigation and verification such as examination of books, plant inspection and disclosure of patent situation, with the right to withdraw from the proposition if, in our opinion, claims made by the Commercial Pigments Corporation are not verified.

It should be understood that last year the Commercial Pigments Corporation operated a small plant not producing more than a maximum of 10 tons per day of titanium oxide but they are now putting the finishing touches to an enlargement of the plant which will enable them to make over 20 tons per day and their business is definitely increasing rapidly, whereas the lithopone business does not show any such indication. It is therefore clear that any possible consolidation in the future on the basis of either comparative assets or comparative earnings will show an increasingly larger percentage participation for Commercial Pigments as compared to du Pont. Therefore, if consolidation is to be effected, it ought to be done as soon as practicable.

It must also be kept in mind that the Chemical Department is now spending approximately $11,100 per month in process experiments which probably could be largely, if not entirely, saved in the case of consolidation. Further, the Chemical Department has arrived at the point in their study where they should by all means construct and operate a pilot plant at a cost of $50,000 or more and which would involve a monthly expenditure of several thousand dollars if consolidation is not effected. This important development

is held in abeyance pending these negotiations and considerably to the detriment of the development of a du Pont process. Either these plans should be abandoned or put in execution promptly in accordance with decision relative to consolidation.

It should further be mentioned that there is a monthly expenditure of about $4,000 for the development of commercial titanium pigments so that the total monthly expenditure is then $15,000 to $16,000. If the pilot plant is constructed and operated, the total monthly expenditure would probably be at least $20,000 and would continue for the balance of the year, as well as most likely a considerable portion thereof during next year. The forecast is that if no consolidation is effected, we would be faced with very large research and development expenses followed by a large capital expenditure for the construction of a plant. When such commercial plant might be finished in 1933, it would mean a capital expenditure of probably two and a half million dollars in research development, pilot plant, commercial plant, ore deposit, etc. By that time, both the Commercial Pigments Corporation and the National Lead Company would be firmly in the saddle with established business so that the entrance of the du Pont Company in the field with a large plant could only mean lower prices and our plant operated at only part capacity for some time. It is my conviction that if we do not obtain control of the Commercial Pigments Corporation, the only logical conclusion would be to discontinue our research and development expenses and be satisfied to purchase titanium oxide for use in our business because the large capital expenditure could not be expected to show satisfactory earnings.

As a result of a careful study of the whole situation for a considerbale length of time, I have arrived at the

conclusion that if we desire to go into the titanium pigment business, the best way to do so is to acquire the going business of the Commercial Pigments Corporation and that the terms of acquisition are better now than they will be at any later time this year or next year. However, if the proposed consolidation is not viewed with favor, it is then recommended that the present expenditure of about $15,000 to $16,000 per month on titanium pigments should be discontinued, as well as other plans to spend money on this subject.

The Commercial Pigments Corporation cannot be bought outright except at a price which could not be recommended by this Department or which would be accepted by your Committee. A divided interest is of course undesirable but the best which can be proposed under the circumstances. There are several features such as, for instance, the patent situation which are not clear but everything of this nature will be checked before a definite plan for consolidation is submitted to your Committee for final approval. The patent situation would seem to be one of the most questionable features but certainly if the combined patents and information of Commercial Pigments and du Pont would leave the proposed new company too exposed to attack, then it is obvious that the du Pont Company alone could not hope to carry out this work so that the inescapable conclusion would be that our development work would have to be discontinued. It is my expectation that the new company would be sufficiently protected in this regard to be able to go ahead safely particularly inasmuch as we are here dealing with an acquisition of assets and not of capital stock so that there should be no liability for previous acts.

The following recommendation is submitted for your Committee's consideration:

Exhibit 179

WHEREAS, a consolidation of the assets and business of the Grasselli Chemical Company's lithopone and dry color business and the Commercial Pigments Corporation is indicated to be desirable, in accordance with Development Department's report S-2402, dated Feb. 18, 1931, and forecast of net worth of Grasselli and Commercial Pigments' businesses indicates, on or about April 1st, a ratio of approximately 70-30, and forecasted earning power, a ratio of 77½ to 22½ for 1931, but thereafter approximately 70 to 30;

RESOLVED, that it is the sense of this Committee that consolidation on such basis is justified, for which reason the Development Department is authorized to so advise the Commercial Pigments Corporation and proceed with conclusion of negotiations on this basis, with the understanding that they will endeavor to obtain the following stipulations in the consolidation agreement to be submitted at a later date to this Committee for further consideration and approval—

1. The present idle Philadelphia lithopone plant will not be included among the assets of the new company to be organized but it is to be agreed by the owners of Commercial Pigments Corporation that the majority of the Board of Directors of the new company will have the right, without question, at any time they so desire, to order purchase from du Pont

Company, for cash, of the Philadelphia lithopone plant at its book value.

2. While the consolidation will be on the basis of 30% of the capital stock of the new company for the present owners of the Commercial Pigments Corporation, it is understood that if the net worth of that company, on the date of consolidation, does not equal 30% of the total net worth of the new company, they will add sufficient cash to bring the value up to this percentage.

3. The owners of the Commercial Pigments Corp. should further agree that du Pont should have the right to acquire the 30% minority interest in the new company at its option any time after five years from the date of consolidation on the payment of a sum in cash equal to 30% of the average net earnings of the new company during the preceding three years, multiplied by a factor not more than 15, it being understood that the Development Department will attempt to have this factor not greater than 12.

RESOLVED, That this Committee does not approve any plan for the Commercial Solvents Corporation or any other interest to acquire a greater interest than 30% in such new company for cash or otherwise, and it being further understood that the Development Department, if

Exhibit 179

this plan is acceptable to the Commercial Pigments Corporation, will proceed with a further study for the inspection of plant and processes, verification of books, figures, examination of patent situation, and in the event of reasonable verification, proceed with the preparation of a definite plan and agreement to be submitted to this Committee for approval.

Respectfully submitted,

Fin Sparre
Director

Exhibit 180

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

February 19, 1931.

Mr. Lammot du Pont,
Building.

Dear Mots:

I find that I will not see you before I leave. A month or so ago I thought that your plans brought you back here about this time or this week-end and so Mary and I arranged with the Russells to sail Saturday for Havana where Irenee is expecting to meet us. As a change in our plans would now upset both the Russells and Irenee and as there seems to be no particular reason for me to see you before leaving, we are planning to go through with our arrangements. I understand too that all of the members of the executive Committee now in town are planning to be here next week.

Yesterday we had before the Executive Committee the tabulation of our Administrative Expense for last year and it seems to me quite a disappointment that we did not make more headway in the reduction of this expense. I suggested that I thought it would be wise to have a committee of two members of the Executive Committee appointed who would make a serious study of all of the items entering in the Administrative Expense and endeavor by the use of proper means to bring down this expense. As this is matter in which I know you are very much interested I did not feel like urging any definite action on this during your absence though I think; except for this, that I would have appointed a committee, composed of Ruly and Angus, to go into this

in a real aggressive way, carefully examining all items of every description entering this expense with a view of reducing it. Next year we will, of course, have the added portion of the rent of the new building to compensate for.

I gathered from what you said before you left that you thought we should consider very actively the question of the reduction of salaries and wages and this may come up for some action during my absence.

The decline in the commodity price level and to a lesser extent the decline in the cost of living together with the lower profits, do seem to urge every possible means to bring about lower cost of production and it is very difficult to conclude that this is not the step to take. However, there do seem to be some reasons to feel that business will pick up gradually from now on and if I were positive in my feeling that this improvement will continue I would be more firm in my conviction that any attempt to reduce salaries and wages at this time would be a mistake.

I think that a step on our part in this direction might precipitate action on the part of a number of others though I feel that it would probably be some time, perhaps many months, before the country generally would reach a lower salary and wage level. This lingering process would be a severe shock to business. It would increase the feeling of insecurity of a great many as to their income and for this reason might even further reduce buying. Also, people contemplating expenditures would defer their purchases in anticipation of lower prices.

I have given a good deal of thought to the beneficial effects which might result from a continuation of the high salary and wage level in the face of the lower commodity price level and while the problem is so complicated that I

Exhibit 180

do not feel I have a firm grasp of the essentials entering into it, I am inclined to the belief that this combination of high salaries and wages with lower commodity price levels would bring about a very sound stimulation to business beneficial to the national economy. In any event, it would seem to me to be worth trying, recognizing that if it develops to have been a mistake it can perhaps be remedied at some time later, because if this is a mistake business and employment will not pick up which will make the reduction possible and if the reduction then is not possible it will be only because business and employment have picked up, in which case we will have no regrets.

I have discussed with Sparre the two questions which may come up during my absence, at least in a preliminary way, one, that of titanium and the other Remington. If, as I understand to be the case, the titanium pigments are going to occupy an important position in the pigment field, it seems to me that the proposed set-up with Commercial Solvents is a good one. It is my understanding that they have the source of raw materials and processes for producing the product and they also have a strong patent position. Under the circumstances, if I were here, I would favor this deal.

* * * * *

Yours sincerely,

W. S. CARPENTER

WSC:W

Exhibit 181

February 19, 1931.

To: T. S. Grasselli, President
Grasselli Chemical Company

From: Development Department
Du Pont Company

Commercial Pigments Corporation

Herewith I am forwarding several copies of this Department's report on a proposed consolidation of the lithopone and dry color business of the Grasselli Chemical Company and the titanium pigments business of the Commercial Pigments Corporation which subject we discussed with you orally when you visited Wilmington on the 16th instant. I wish we could have taken more time to discuss this important subject but Mr. W. D. Ticknor, President of the Commercial Solvents Corporation, which is the sole owner of the Commercial Pigments Corporation, is going abroad on February 27th and it is most desirable that we be able to advise Mr. Ticknor, before he leaves, whether the du Pont Company is agreeable to a proposition such as outlined in this report. For the same reason, I have found it necessary to submit this report direct to the Executive Committee of the du Pont Company for their consideration whereas if conditions had permitted, I would first have given the Board of Directors of your company full opportunity to consider the proposition before having it submitted to the Executive Committee.

With this explanation, I hope you will present the proposition before your Board of Directors.

Respectfully submitted,

Fin Sparre
Director

Exhibit 182

Copy to—Mr. T. S. Grasselli,
Mr. J. B. Eliason,
Mr. W. Richter.

April 18, 1931.
SERIAL No. 8-2408

TO: EXECUTIVE COMMITTEE

FROM: DEVELOPMENT DEPARTMENT

COMMERCIAL PIGMENTS CORPORATION

There have been no developments in connection with the titanium pigments situation since your Committee's resolution of March 4, 1931, until I had an interview yesterday with Mr. Ticknor, President of the above corporation. Mr. Ticknor was abroad during March and only returned to his office a few days ago.

I explained to Mr. Ticknor that our proposition, as tentatively agreed upon in our previous negotiations, had been approved by your Committee with the exception of three points which had to be further discussed.

The first point was in regard to the present idle Philadelphia lithopone plant and our interpretation of this was in accord with Mr. Ticknor's understanding.

The second point which had not been entirely settled in the previous negotiations with Mr. Ticknor was that duPont made a definite proposition that the stock ownership of the proposed new company would be 70% du Pont and 30% for the owners of the Commercial Pigments Corporation. After some little discussion this was accepted by Mr. Ticknor. Inasmuch as the assets involved in this trans-

action are constantly changing due to fluctuations in business it was agreed that there would be an adjustment in cash to bring the contributions of assets of both parties up to the 70-30 division. It has beretofore been assumed that the Commercial Pigments Corporation would have to contribute a fairly substantial amount of cash for this proposition but Mr. Ticknor showed me a chart of sales showing that their sales recently have increased very substantially so that it is possible that it would not require much cash to equalize their 30% participation. While it is still expected that they would have to supply some cash it was thought only fair to agree with Mr. Ticknor that cash would be supplied by either party as required for this purpose. It is of course understood that everything in this connection is subject to plant inspection, examination of accounts, conferences on patents, etc.

The third point for discussion was in connection with the stipulation that du Pont should have the opportunity at some time in the future to acquire the Commercial Pigments Corporation's 30% interest in the new company on some predetermined basis. This subject had been discussed before but this was the first time that a definite suggestion was submitted. Mr. Ticknor stated he had, during our previous negotiations, given careful thought to the matter and he had also at the time discussed it with the principal stockholders and the directors but they had not seen any way then to accept our suggestion and the latest suggestion did not look any better to him than anything which had heretofore been considered. He stated that they did not want to sell out and did not think that five years was long enough time to determine the value of this industrial development, that if the solvent business turned out to be unsatisfactory in the future they might have to rely upon the

pigments business as one of their chief sources of income. Mr. Ticknor's position is that if the time comes in the future that du Pont would want to buy them out and we can show reasons for this there must always be a way to accomplish this but in any event he could not see his way clear now to accept the proposition. After some further discussion I asked Mr. Ticknor to think it over and again talk it over with his associates so that we could discuss it finally at the first opportunity. Mr. Ticknor stated that he would do this, that he had other urgent business to attend to at this time, had to go west for a business trip, and that he would be in Wilmington for several days around the 10th of May in connection with the law suit which they have started against an infringer of their solvents patents. Inasmuch as he would have to be in Wilmington for a considerable length of time and would have very little time to spare in the meantime, he suggested that we defer the discussion until then, which offer I accepted.

It was understood between Mr. Ticknor and myself that we had for all practical purposes agreed on a deal provided we could get together on this one remaining issue, Mr. Ticknor expressed himself as very much pleased with the progress of the negotiations and I am confident that he wants to complete this deal though there is going to be a good deal of difficulty about the stipulation giving duPont the right to acquire their minority interest.

This subject will therefore have to be held in abeyance until around the 10th of May but it would appear that for all practical purposes an agreement has been reached.

Respectfully submitted,

FIN SPARRE
Director

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EXHIBIT "A"

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

COMMERCIAL PIGMENTS CORPORATION:

The following resolution was offered and unanimously adopted:—

WHEREAS, a consolidation of the assets and business of the Grasselli Chemical Company's lithopone and dry color business, including Krebs Pigment & Chemical Company, and the Commercial Pigments Corporation is indicated to be desirable, in accordance with Development Department's report S-2402, dated February 18, 1931 and February 21, 1931, and forecast of net worth of Grasselli and Commercial Pigment's businesses indicates, on or about April 1st, a ratio of approximately 70-30, and forecasted earning power, a ratio of 77½ to 22½ for 1931, 70 to 30 for 1932, and 62.3 to 37.7 for the year 1933;

RESOLVED, that it is the sense of this Committee that consolidation on such basis is justified, for which reason the Development Department is authorized to so advise the Commercial Pigments Corporation and proceed with conclusion of negotiations on this basis, with the understanding that they will endeavor to obtain the following stipulations in the consolidation agreement to be submitted at a later date to this Committee for further consideration and approval:—

1. The present idle Philadelphia lithopone plant will not be included among the assets of the new

company to be organized but it is to be agreed by the owners of Commercial Pigments Corporation that the majority of the Board of Directors of the new company will have the right, without question, at any time they so desire, to order purchase from duPont, for cash, of the Philadelphia lithopone plant at its book value or appraised depreciated value, if acceptable to duPont.

2. While the consolidation will be on the basis of 30% of the capital stock of the new company for the present owners of the Commercial Pigments Corporation, it is understood that if the net worth of that company, on the date of consolidation, does not equal 30% of the total net worth of the new company, they will add sufficient cash to bring the value up to this percentage.

3. The owners of the Commercial Pigments Corporation should further agree that duPont should have the right to acquire the 30% minority interest in the new company at its option any time after five years from the date of consolidation on the payment of a sum in cash equal to 30% of the average net earnings of the new company during the preceding three years, multiplied by a factor not more than 15, it being understood that the Development Department will attempt to have this factor not greater than 12.

RESOLVED, that this Committee does not approve any plan for the Commercial Solvents Corporation or any other interest to acquire a greater interest than 30% in such new company for cash or otherwise, and it

being further understood that the Development Department, if this plan is acceptable to the Commercial Pigments Corporation, will proceed with a further study of the inspection of plant and processes, verification of books, figures, examination of patent situation, and in the event of reasonable verification, proceed with the preparation of a definite plan and agreement to be submitted to this Committee for approval.

This is to certify that the foregoing is a true and correct copy of resolution unanimously adopted by the EXECUTIVE COMMITTEE OF E. I. DU PONT DE NEMOURS & COMPANY at a meeting held on March 4, 1931.

(S) M. D. FISHER
Assistant Secretary

E. I. duPont de Nemours & Company

Exhibit 183

April 22, 1931.

Dr. G. Jebsen
c/o Societe Industrielle de Titane
24 Rue de la Pepiniere
Paris, France

My dear Dr. Jebsen:

Your letter of April 10th and cablegram of the 21st instant are before me. I regret to report that Mr. McCarty's condition has not improved enough to justify our calling upon him for a solution of important matters that heretofore have had his attention. He is now in the care of Dr. Rowntree, reported to be the most capable doctor in the world for ailments similar to Mr. McCarty's. Mr. McCarty and the younger Dr. Gundersen (who has been constantly with him) are hopeful of every speedy and complete recovery under the personal care of Dr. Rowntree. However, it seems ill-advised to delay attention to the European affairs in which you are engaged. I am therefore cabling you to come over, with such others as you deem necessary, at your earliest conveniences. Probably Mr. McCarty will at that time be well enough to assist us.

It is one of the handicaps of having a man of Mr. McCarty's talents and character in a company. Everybody has so much faith in whatever he does or advises that no one deems it necessary to know the necessary details. However, I had an interesting interview with Mr. Chase yesterday and expect to have some more. I took up with him your letter of the 10th instant, with the details of which he seemed to be familiar.

I was seriously impressed with one fact, that perhaps I knew but to which I had never attached any importance

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A few weeks ago, the representatives of the Du Pont de Nemours Company and the New Jersey Zinc Company (the two largest manufacturers of lithopone in the United States) came to me and stated that they had made tests and ascertained that our titanox was worth two cents a pound more than lithopone, and that they had to keep at least a two cents a pound margin between the price of titanox and lithopone and, therefore, if we reduced the price of our titanox, they would have to reduce the price of lithopone. I did not take their statement seriously, although they appeared to be quite earnest. I did not think that they would reduce the price of the 200,000 tons of lithopone they were selling in order to prevent us from increasing our sales of titanox, which were relatively insignificant. But when we reduced the price of titanox $16. a ton, the very next morning the price of lithopone was reduced $16. a ton; thereby preserving the same differential between the price of lithopone and titanox.

This made a great impression upon me because, when the great producers of lithopone were willing to take a loss at the rate of two million dollars a year to prevent our titanox being more widely used, it was an authoritative indication that the greatest experts in the world on lithopone appreciated the menace of titanox.

In my conversation with Mr. Chase yesterday, I found that our partner, the I. G. Company, is a large manufacturer of lithopone as well as of our product. That all of the profits from the sale of lithopone belong to them, whereas half of the profits from the sale of titanium pigments would belong to us. This recalled that fact that the advertising which the I. G. Company contemplated putting up in public places in Germany mentioned the poisonous nature of white lead and lead pigments, and seemed to go

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upon the theory that the great competitors of titanium pigments were lead pigments.

In canvassing the various people that are making a pure titanium oxide under the Blumenfeld patents, I find that Aussig is a great chemical industry engaged in the manufacture of lithopone and, in a small way, of TiO_2. That Montecatini and every other concern with whom we are dealing in connection with the Blumenfeld patents are manufacturers of lithopone. That even our proposed connection in England probably contemplates the manufacture of lithopone and zinc pigments of other kinds. So far as I could see from my interview with Mr. Chase, every proposed connection you have in mind is more interested in lithopone than they will be in our products. All of the profits they make on lithopone belong to them, but the profits made on titanium pigments must be shared with us.

May I call the proposed combination, for simplicity, a cartel? The whole purpose of the cartel is to obtain a monopoly of patents so that no one can manufacture it excepting the members of the cartel, and so can raise the prices by reason of such monopoly to a point that would give us much more profit on our present tonnage, but also prevent a growth in tonnage that would interfere with their greater profits in lithopone. If there were a fully developed demand for titanium pigments, that might be very desirable. But, in this connection, it is interesting to note that with our present low price for titanox, our sales of titanox are showing a substantial increase over the sales of last year; whereas the sales of every other pigment used in the manufacture of paints are showing declines of from 22% in the case of white lead, and from 20-40% in the sales of all other pigments. Our reduced cost is rendered possible by increasing tonnage.

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The comparatively small sales of the pure TiO2 by the Commercial Pigments Company are not interfering with our earnings; for the reason that the growth in the use of titanium pigments in the manufacture of paints is so great, that the little loss (and possibly increasing loss in sales through the competition of the Commercial Pigments Company) is but a small fraction of the increasing growth in the use of such pigments by the trade. If decreasing prices result in increasing consumption of titanium pigments, we would gain much more than we could possibly lose from the competition of anyone who is manufacturing the pure TiO2. In fact, if there should become a competition between the composite titanium pigments and the manufacturers of the pure TiO2, every one of the last industries would be a promoter of increased consumption of the titanium pigments in the manufacture of paints, and in that way would assist us in increasing sales of our products.

I think it is already demonstrated that a large tonnage at a low price and small margin of profit is much more desirable than the same profits made by a combination with others, whose permanent interest is to decrease the consumption of titanium pigments insofar as they conflict with their interest in the sale of lithopone.

I note that you are preserving to us the control of the cartel. But, even so, a minority interest has a voice and should be considered. Inasmuch as our patent protection is shortlived at the best, it is not to our permanent interest to build up a permanent demand (even at a sacrifice of present profits) in order to create a situation where, with large tonnage and low costs, we can permanently eliminate competitors?

The three largest paint manufacturers in the United States are contemplating the manufacture of titanium pig-

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ments for their own use and, to this end, negotiating with the Commercial Pigments Company and ourselves. If we can increase our tonnage to, say, 100,000 tons a year in the United States, at the expense of lithopone, we will be able to make prices (after the expiration of our patents) so low that no paint grinder would find it advantageous to himself become a manufacturer of our products.

I hope, Dr. Jebsen, that you will consider what I have written as a suggestion for your consideration, and not a fixed conclusion in my mind that is not easily subject to change when I have an interview with you and, I hope, with Mr. McCarty. It may be that your plans contemplate an aggressive sales campaign in all of the countries where you are forming alliances, which shall be understood and approved by our new associates, with perhaps independent sales force. This has not been suggested, but is probably something that you have in mind.

As stated above, I have only given two days' consideration to this matter—one to your very interesting letter; the other to the very interesting conversation with Mr. Chase. I shall look forward to meeting you at an early date and discussing not only what I have suggested in this letter, but all of the matters that you wish to discuss in order to bring me up to date.

With kindest regards to Mrs. Jebsen, I am

Sincerely yours,

(Signed) E. J. CORNISH.
President.

(Enclosure).

Exhibit 183

WESTERN UNION

PARIS
APRIL 21, 1931

COPY

MCCARTY
LEADCO NEWYORK

MET DONEGANI BLUMENFELD BURTON SATURDAY STOP DONEGANI CLAIMED YEARLY SALE 1800 TONS TiO2 REPRESENTING FACTORY CAPACITY AND EXPORT CONTINUED AFTER FIVE YEARS DECREASING AS ITALIAN CONSUMPTION DEVELOPS STOP I MAINTAINED BASIS OF MEMO LETTER APRIL 10 STOP DONEGANI SUGGESTED MEETING IN THREE WEEKS IN ITALY WITH KUEHNE STOP I TOLD BLUMENFELD THAT DONEGANIS CLAIMS MEAN WE BUY BLUMENFELDS GOODS TWICE STOP BURTON WILL TRY CONCILIATE BLUMENFELDS AND DONEGANIS INTEREST

JEBSEN

Exhibit 184

Copy to T. S. Grasselli
J. B. Eliason
Wm. Richter

To: EXECUTIVE COMMITTEE

FROM: DEVELOPMENT DEPARTMENT

SERIAL NO: S-2410
April 22, 1931

COMMERCIAL PIGMENTS CORPORATION

In view of communication just sent to your Committee on the above subject under date of April 18, it is necessary to also report to your Committee the results of a conversation which I had in New York yesterday with Mr. W. D. Ticknor, President of the Commercial Solvents Corporation. I called on Mr. Ticknor without an appointment merely in order to clear up a couple of minor points which had not been covered in the previous conversation but found Mr. Ticknor in a rather excitable frame of mind and he insisted on doing a great deal of talking about the solvent situation, as well as the titanium pigment situation.

Mr. Ticknor felt very bitter against the Union Carbide Company on account of their activities in connection with their synthetic butyl alcohol development, objecting vigorously to their sales methods and propaganda. Apparently it had come to Mr. Ticknor's attention that representatives of the Carbide Company, in soliciting business, had made statements about the Commercial Solvents Corporation to which he took violent objection and, in his opinion, they had used unfair methods in attempting to get business. In

Mr. Ticknor's excited state of mind, I did not attempt to find out details because it seemed inadvisable to dwell on this subject longer than necessary.

Mr. Ticknor made the statement that he would not sell his titanium pigment business to the Carbide Company at any price nor would he want to be in partnership with them, on account of their activities in the solvent field,—whereupon he went on to say that he would want assurance from the du Pont Company that we would not use the same tactics in the du Pont Ammonia Corporation's higher alcohol business because, in his opinion, it would be an impossible situation for him to be in partnership with the du Pont Company in the titanium business but be on unfriendly terms in another business. Unless we could be on friendly terms in the solvent business, it seemed impossible to him to become partners in the titanium business. I asked whether he meant that the titanium deal would be predicated on another deal in regard to solvents but this he disclaimed and stated that he would be satisfied with an informal understanding and an expression of opinion from representatives of the du Pont Company that we did not intend to deliberately go out and hurt the Commercial Solvents Corporation's position. More specifically, Mr. Ticknor further stated that he would want an expression from the du Pont Company that his company would have reasonable expectation to obtain the du Pont Company's butyl alcohol business to the extent not produced by du Pont provided they would meet competitive prices and other conditions. This would apparently not be in the nature of a commitment but only an oral understanding and expression of friendly attitude.

With respect to the Commercial Pigments Corporation, Mr. Ticknor stated that it was his wish to go on with this

as previously discussed but he had to assure himself of du Pont Company's friendly attitude on the solvent situation before his company could conclude a deal on pigments. He then went on to say that we had to understand that his Board of Directors had not as yet acted officially on the terms and conditions which we had discussed heretofore so that he wouldn't want us to feel that this was settled. Thereupon he further went on to say that we hadn't yet examined into the details of the business and it of course had to be understood that a further and detailed examination might change our views on the subject, meaning that he didn't consider discussions as to their participation being limited to 30% as being concluded, but he would want me to inspect their Baltimore plant and take this matter up for final discussion as soon as he could arrange a meeting for that purpose.

I asked Mr. Ticknor whether it was understood that if we became partners in this business, neither one could sell or hypothecate the stockholdings in the jointly owned company without first offering the stock to the partner and to this he readily agreed, but we did not discuss further the question of an option on the stock.

In Mr. Ticknor's rather excitable state of mind, I found it inadvisable to do much more than listen to what he had to say and in fact it appears that too much weight should not be given to his statements. Undoubtedly something or other had just happened which had ruffled his temper considerably. There is no doubt, however, that the solvent situation does enter into the pigment situation to a certain extent and he has always maintained that a reasonably friendly, though competitive, attitude in the solvent situation would be necessary in order to make it possible to

conclude the final arrangement. If that relationship can be taken care of, then I feel that the terms and conditions of the pigment proposition can be arranged.

Under the circumstances, it would seem to be the best plan to express orally to Mr. Ticknor the du Pont Company's attitude towards his company and with respect to the solvent situation in general, whereupon the final negotiations could be concluded with Mr. Ticknor in regard to the Commercial Pigments Corporation. It is believed that this can be done substantially as previously reported with the exception of the option to acquire stock which may have to be dropped.

This has been explained orally to your Committee and submitted for record only.

Respectfully submitted,

FIN SPARRE
Director

Exhibit 185

COPY

ADVICE OF ACTION

June 11, 1931.

Dr. Fin Sparre, Director
Development Department

SUBJECT: PROPOSED CONSOLIDATION OF PIGMENTS BUSINESS OF THE GRASSELLI CHEMICAL COMPANY (INCLUDING KREBS) WITH THAT OF COMMERCIAL PIGMENTS CORPORATION:

Action Taken By Executive Committee

At Meeting June 10, 1931

Remarks

Dr. Fin Sparre, Director, Development Department, appeared before the Committee for the purpose of obtaining an expression of opinion from the members on several matters pertaining to the formation and handling of the new company to be formed to take over the pigments business of The Grasselli Chemical Company (including Krebs) and the Commercial Pigments Corporation, an informal agreement having been reached with Mr. Ticknor, President of Commercial Solvents Corporation, as to the general basis for consolidation. Vice-President R. R. M. Carpenter also joined the meeting during the consideration of this matter.

After a general discussion as to the name of the new company, personnel, management, etc., it was moved and

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unanimously carried that the Development Department be advised it is the sense of this Committee that it is desirable that our portion of the stock of the new company should be owned by The Grasselli Chemical Company, and that the Development Department be instructed to continue negotiations with that in mind.

(S) M. D. FISHER
Sec'y Executive Committee

Exhibit 186

Copies to:—J. T. Brown, Vice Pres.,
J. E. Crane, Vice Pres.,
H. G. Haskell, Vice Pres.,
F. W. Pickard, Vice Pres.

June 16, 1931.

CONFIDENTIAL

DR. FIN SPARRE, DIRECTOR,
DEVELOPMENT DEPARTMENT.

OBLIGATIONS TO CANADIAN INDUSTRIES LIMITED—
COMMERCIAL PIGMENTS COMPANY CONTRACT.

With respect to our conversation on the above subject, I attach herewith extracts from Minutes of Meeting between the Presidents of DuPont and I. C. I., dated October 12, 1928, March 2, 1929, also Annex "A" of October 1928 Minutes, "Memorandum to be sent to Department Heads of I. C. I., DuPont and C. I. L." The status of the matter concerning our Pigments and Dry Color business in Canada appears to me to be—

1. According to minutes attached, we are obligated to grant free rights to our own processes for Canada to C. I. L. when and if that Company requests them.

2. However, we are not precluded from making arrangements with outside parties, which, incidentally involve Canada, if to omit Canada would be detrimental to our own major interests. The President and other officers of the DuPont Company have always had very definitely in mind that there may

be cases where our best interests would not be served by turning over our business in a particular industry to C. I. L., and that our only obligation is to discuss the matter with C. I. L. before making arrangements with the third party. This is very clearly reflected in Mr. Lammot duPont's letters to Heads of Departments and Subsidiaries, dated December 3rd and December 10th, copies of which are also attached.

3. As per Minute of October, 1928, we are obligated to discuss our plans with Mr. Purvis and point out to him that we are acquiring rights and information on Titanium Pigments owned by Commercial Pigments Company through the medium of organizing a new Company to take over these rights and also the business of the Grasselli Pigments Division and Krebs, which Company will be owned 70% by duPont.

4. I presume that we can assure Mr. Purvis that the present arrangements with C. I. L. by which they handle the resale of these products in Canada on behalf of the Grasselli Company can be continued. Further, when and if C. I. L. desire to acquire manufacturing rights, the position will be exactly the same as at present, except that C. I. L. will have to compensate the minority interest of the new Company as provided in the Minute of March, 1929. As against this, C. I. L. will secure a 70% free equity in the Titanium rights. In effect, therefore, we are making a deal on behalf of C. I. L., similar to the deal we are making for ourselves for

the rest of the North American Continent, and Mr. Purvis will have to accept our judgment that the trade is a good one.

5. It would be a wise precaution to ascertain that the Commercial Solvents Group has no tie-up in Canada which might affect the future relationship of the new Company with C. I. L.

FOREIGN RELATIONS DEPARTMENT,

J. K. JENNEY, ASST. DIRECTOR.

JKJ/EMS

Exhibit 187

June 16, 1931

To: BOARD OF DIRECTORS
GRASSELLI CHEMICAL COMPANY

FROM: DEVELOPMENT DEPARTMENT
E. I. DU PONT DE NEMOURS & COMPANY

COMMERCIAL PIGMENTS CORPORATION

We are submitting to you herewith proposed form of agreement between Grasselli Chemical Company, E. I. du Pont de Nemours & Company and Commercial Solvents Corporation relative to organization of a new company to take over the pigments and color business of the companies named. It is considered that negotiations with the Commercial Solvents Corporation have been, for all practical purposes, concluded and that the proposition submitted herewith is substantially acceptable to the Grasselli Company's management but it is understood that some minor changes, chiefly a matter of phraseology, will have to be made before the form of agreement will be acceptable for execution by the parties thereto.

It is suggested that a resolution by your Board about as follows would be satisfactory:

WHEREAS, it is the sense of this Board that the consolidation of the pigment business of the Grasselli Chemical Company, inclusive of the Krebs Chemical Company and the Commercial Pigments Corp., is desirable, in accordance with the terms negotiated by the Development Department of E. I. du Pont de Nemours & Company with Commercial Solvents

Corp., owners of Commercial Pigments Corporation, as contained in form of agreement submitted today to this Board;

BE IT RESOLVED, that the President or any Vice-President of this company be and is hereby authorized to execute, on behalf of this company, an agreement substantially as now submitted to this Board.

Respectfully submitted,

FIN SPARRE
Director

Exhibit 188

Copy to C. R. Mudge
W. R. Swint
J. B. Eliason

SERIAL NO: S-2413

TO: EXECUTIVE COMMITTEE

FROM: DEVELOPMENT DEPARTMENT

June 16, 1931

COMMERCIAL PIGMENTS CORPORATION

Proposed form of agreement relative to the organization of the new pigment company which will take over the pigments and color business of the Grasselli Chemical Company, inclusive of Krebs Pigment & Chemical Company and the Commercial Pigments Corporation, has been submitted to the Board of Directors of the Grasselli Chemical Company with the expectation that it will be approved by that company at today's meeting. Assurance has been received from Mr. Ticknor, President of the Commercial Solvents Corporation, owners of Commercial Pigments Corporation, that this form of agreement, substantially as submitted herewith, is satisfactory to him and that he has full authority from his Board of Directors.

It is desirable to obtain your Committee's approval at your regular meeting tomorrow inasmuch as plans have been made for examinations of assets, business, etc., to commence on the 18th instant. It is hoped that it will be possible to conclude examinations and proceed with the organization of the new company within the next few weeks in order to avoid publicity until official notice can be given to the organizations involved as well as to the public press, and to the trade.

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It is called especially to your Committee's attention that we are in a somewhat embarrassing position with respect to the Canadian rights. The Commercial Pigments Corporation owns the Canadian rights to their titanium pigment business and are desirous of including these rights with the assets to be turned over to the new company. On the other hand, du Pont Company and Grasselli Chemical Company are not in a position to convey the corresponding Canadian rights to the new company on account of the stipulation that all such Canadian rights should be given to Canadian Industries Limited. It would be very unfortunate if it should be found necessary to exclude the Canadian rights from the new company because the rights of the Commercial Pigments Corporation are now available without cost to the new company. It is therefore recommended that Canadian Industries Limited should be advised of the situation and they be made to agree to waive their rights to obtain the du Pont and Grasselli titanium pigment information for Canada. As a matter of fact, the du Pont and Grasselli information in regard to titanium pigments is at this time of very little commercial value. Canadian Industries Limited should also waive their rights to obtain the titanium pigment information for Canada free of cost from the new company if they have any such rights. If Canadian Industries Limited should not be willing to waive such rights the only result would be that the new pigment company would not acquire the Canadian rights for Commercial Pigments Corporation and consequently C. I. L. would have to purchase their rights for Canada if they want them from the Commercial Solvents Corporation.

It is to be expected that within a comparatively few years du Pont Company will purchase the 30% minority

interest in the new pigment company and at such time du Pont would be in a position to turn over the Canadian rights to Canadian Industries Limited so that a waiver from Canadian Industries Limited at this time will no doubt result in the Canadian rights being available without further expense for Canada a few years hence whereas if such waiver is not obtained at this time, the Canadian rights will be excluded from the new pigment company.

It is also called to your Committees' attention with regard to the ilmenite deposit in India, that while it is looked upon as very valuable there is some uncertainty about it inasmuch as the political situation in India may be considered as doubtful and possibly some time interfering with shipments and, furthermore, only a minority interest is acquired in the Travancore Minerals Company. However, this uncertainty seems rather remote and the Commercial Pigments Corporation now has on hand more than two years' stock of ore at the Baltimore plant. With respect to the future supply, the new pigment company will be further protected by Canadian ore deposits which are now under option and investigation and which look quite promising, though it is expected that the Indian ore will be somewhat cheaper.

Inasmuch as E. I. du Pont de Nemours & Company is a party to the agreement, as well as the Grasselli Chemical Company, it is now recommended that your Committee approve the agreement and that the president or any vice-president be authorized to execute it on behalf of the du Pont Company substantially as submitted herewith, assuming that this agreement is also approved by the Board of Directors of the Grasselli Chemical Company. It is further recommended that the Canadian rights to manufacture and

Exhibit 188

sell be conveyed to the new pigment company by du Pont Company, Grasselli Chemical Company and the Commercial Pigments Corporation and that waiver be obtained from C. I. L. with respect to their obtaining manufacturing and selling rights in Canada free of cost from the new pigment company.

Respectfully submitted,

FIN SPARRE
Director

Exhibit 189

COMMERCIAL SOLVENTS CORPORATION

Excerpt from Minutes of Meeting Held by Directors on June 24, 1931

After discussion it was, on motion duly seconded and unanimously adopted.

Resolved that this Board hereby approves the proposed agreement between The Grasselli Chemical Company and this Corporation and E. I. du Pont de Nemours & Company which has been presented to this meeting for consideration and which provides for a consolidation of the businesses of Krebs Pigment and Chemical Company and the Pigment Division of said Grasselli Company and the businesses of Commercial Pigments Corporation and American Ilmenite Corporation, and that the President or a Vice-President and the Secretary or an Assistant Secretary of this Corporation be, and they hereby are, authorized and directed to execute and deliver on behalf of this Corporation an agreement in substantially the form so presented.

Further resolved that the officers of this Corporation be, and they hereby are, authorized and directed to cause to be conducted the investigation by this Corporation provided for in said Agreement, and that the President or a Vice-President of this Corporation be, and he hereby is, authorized and directed, in the event that the results of said investigation are satisfactory to him, to notify said Grasselli Company that this Corporation desires to proceed with the plan of reorganization set forth in said agreement.

Further resolved that the officers of this Corporation be, and they hereby are, authorized and directed, in the

event that said agreement is duly executed and said Grasseli Company and this Corporation notify each other that they desire to proceed with said plan of reorganization, to take or cause to be taken such steps as they or any of them may deem to be necessary or advisable for the complete performance by this Corporation of its obligations under said agreement.

I, T. F. CARTY, Assistant Secretary of Commercial Solvents Corporation, a Maryland corporation having an office at No. 230 Park Avenue, New York City, DO HEREBY CERTIFY that the foregoing is a true and complete copy of certain resolutions duly adopted at a meeting of the Board of Directors of said Corporation duly held on June 24, 1931, and at which a quorum was present and voting throughout, and that said resolutions are now in all respects in full force and effect.

IN WITNESS WHEREOF I have hereunto set my hand and affixed the corporate seal of the corporation this 14th day of July, 1931.

T. F. CARTY
Assistant Secretary

Subscribed and sworn to before me this 14th day of July, 1931.

J. SHELDON
Notary Public

Notary Public, New York County Clerk's No. 552, Register's No. 2 S 409. Commission Expires March 30, 1932.

Exhibit 190

Experimental Station

E. I. du Pont de Nemours & Co.,

June 24, 1931

MEMORANDUM

FROM H. BRADSHAW

COMMERCIAL PIGMENTS PATENT SITUATION

A separate memorandum prepared by Dr. Keats describes in detail the process of the Commercial Pigments Company for the manufacture of titanium oxide from ilmenite. The process seems to infringe six patents, five of which are owned by the National Lead Company. These patents are as follows:

Coffelt 1,357,690
Jebsen 1,333,819
Olsen & Forland 1,333,849
Wrigley & Spence 1,338,473
Fladmark 1,288,863
Goldschmidt 1,348,129

Inasmuch as the Coffelt patent is under option to the Du Pont Company, we shall not discuss it in the present memorandum but in regard to the other patents we shall try to present the situation as to infringement and the possibility of some changes in the process to avoid infringement.

1—Jebsen 1,333,819—Expires March 16, 1937

This patent contains three separate sets of claims which may be infringed by the Commercial Pigments process, but

only one of these groups of claims is of real importance. These are the claims which cover using in the attack less acid than would be required to form normal salts with the base-forming materials present in the resultant solution. Claim 5 is typical. Commercial Pigments uses 2.56 parts of sulfuric acid (figured as 100%) per pound of TiO_2 in the ore and they obtain about 80% efficiency in the conversion of the bases in the ore to soluble sulfates. Under these conditions the so-called free acid in the resultant solution is about 65 to 75%, according to their method of calculation. Their figures are actually about 15% too high due to the assumption that all soluble iron is in the ferrous form, whereas part of it is in the ferric form. This is immaterial, however, because as long as the free acid figures are under 100% they are within the Jebsen patent. Earlier in the year they were using a much higher acid ratio, namely 2.8 pounds per pound of TiO in the ore. They were then much closer to the upper limit of Jebsen but still definitely within the Jebsen patent.

If it becomes necessary to avoid Jebsen by raising the acid ratio in the attack, we were told by Mr. Rhodes that there should be no particular difficulty in handling the attack mass from the pan to the dissolvers. The present practice is to store the material in a pit to allow it to age for 24 hours, but he expressed the opinion that this would not be necessary if an excess of acid is used. He anticipated difficulty in the evaporation stage because if there is too much acid present during evaporation titanyl sulfate will be precipitated. Finally, he told us that the details of the hydrolysis procedure would have to be modified if more acid were present and that these details would have to be worked out. We are not at all sure that there would be

difficulty in the evaporation stage and, at any rate, we are convinced that it should be possible to develop a hydrolysis procedure that would not require concentration of the liquor and which could be carried out in the presence of more free acid. It should be noted that practically all of our experimental work at the station has been done with acid ratios outside of Jebsen or just slightly under the upper limit, so that we have a good deal of experience on hydrolysis of liquors of this type.

To summarize the situation, we should say that avoiding this part of Jebsen should not be particularly difficult, and, in the long run, would mean only the extra cost of the additional acid, which would amount to about .35¢ per lb. —TiO_2.

Claim 18 of Jebsen covers decomposition by steps and is probably infringed by the Commercial Pigments' process which involves reattacking the residual material from the first attack. If it should become necessary to avoid this claim, it could be done by using ground ore, thereby raising the recovery to such a point that reattack would be unnecessary.

Claim 9 and other claims such as 10 and 13 cover a counter-current leaching process, and in the latter claims it is tied up with obtaining a concentrated solution and with the low acid ratio respectively. Mr. Chase contends that the patent is not infringed because their process does not involve counter-current leaching but only counter-current washing after the leaching has been accomplished. He suggests that if necessary the process could be modified by using no fresh water on the Dorr classifier and by evaporating the solution from the filtration of the mud. The residue from the Dorr classifier goes back for reattack so that

any titanium solution that it retains would not be lost. If ground ore were used, I presume there would be very little material coming out of the Dorr classifier. In regard to the filtrate from the mud, he made the point that even now it might be more economical to evaporate it, because it is filtered solution and amounts to about 15% of the titanium extracted from the ore.

In regard to these two latter sets of claims in the Iebsen patent, we think they are of extremely doubtful validity and it is hardly worth while to make any effort to avoid them, although it can be done if necessary.

2—Olsen & Forland 1,333,849—Expires Mar. 16, 1937.

This patent covers reducing not only the iron but also "so much of the tetravalent titanium salts to titanium salts of a lower valence as will prevent a reoxidation of the iron during subsequent precipitation of the titanium hydrates". This patent seems to be infringed by the Commercial Pigments process. They make it a practice to reduce some of the titanium and this usually amounts to at least 3-4 grams (per liter) of titanium oxide present as titanous salts. This is done in order to prevent precipitation of colloidal sulfur from hydrogen sulfide by ferric iron during the clarification step, and to facilitate settling. They are not at all worried about the presence of a little ferric iron during the hydrolysis step. Even if the hydrolysis is conducted in the presence of a little ferric iron the iron can be washed out subsequent to hydrolysis. It is better, however, after hydrolysis to add a little zinc to the slurry before filtration, thereby reducing the ferric iron to ferrous iron. We should propose, then, either that the amount of over-reduction be so controlled that there would be no titanous salts present at

the beginning of hydrolysis, or that the over-reduction be neutralized at this stage by the addition of an oxidizing agent such as ferric sulfate.

3—Wrigley & Spence 1,338,473—Expires April 27, 1937.

The claims of this patent which cover removal of ferrous sulfate by crystallization are infringed by the Commercial Pigments process. Their operation is conducted at such a concentration of liquors that ferrous sulfate must be removed at some point. They cool to +15°C. and Mr. Rhodes told us that he had once operated at 20°C. when he could not reach a lower temperature. If it becomes necessary to adopt dilute hydrolysis in order to avoid the Fladmark patent, very few additional changes should be necessary to avoid infringing Wrigley & Spence. It should be possible to keep the liquors hot during the two clarifications, and either make use of this heat for the hydrolysis step or dilute for storage prior to hydrolysis.

An alternative would be to remove only that amount of ferrous sulfate which would crystallise out if the liquors were allowed to cool to room temperature. For example, we might use the present refrigerating equipment but cool the liquors only to +25°C. This might make necessary a little dilution after hydrolysis, or a more prolonged washing and perhaps a reslurring of the filter cake, but it would obviate any difficulty in keeping the liquors hot before the hydrolysis step. This procedure probably would infringe only Claim 4, which is certainly less likely to be held valid than the remaining claims.

4—Fladmark 1,288,863—Expires Dec. 24, 1935.

This patent covers hydrolysis of a concentrated solution by heating. If the process must be altered to avoid it,

we should have to run the liquor into a much larger amount of water, or prepare a seed separately according to one of the Commercial Pigments patents, and hydrolyze the dilute solution. According to our experience, which has been largely with dilute hydrolysis but has included enough concentrated hydrolysis to inform us of the difference, there is more difficulty in obtaining satisfactory pigment quality with dilute hydrolysis than with concentrated hydrolysis. We have never obtained the maximum quality necessary, the deficiency being chiefly in color, but we are confident it can be done, especially with the combined knowledge of the two companies.

No very expensive changes would be required in the plant in order to practice dilute hydrolysis (either with or without avoidance of Wrigley & Spence). The evaporation step prior to hydrolysis would be omitted, but it is probable that no additional storage tanks would be required. The present hydrolysis equipment seems to be ample for handling the more dilute liquors. The only additional equipment required should be a couple of cooling tanks prior to filtration and a little more filtering capacity, the total not exceeding $25,000.

The principal difficulty with dilute hydrolysis would be the disposal of waste acid. Mr. Chase stated that in the present process of 72 tons of H_2SO_4 are required per day to produce 20 tons of TiO_2. Of this amount 27 tons is available for return to the fertilizer company, and 7 tons for reuse in the attack. About 31 tons are combined as ferrous sulfate and the balance is carried into the bay as wash waters or into the air during calcination. The concentration of the acid in the liquors after hydrolysis is about 35%, but the recovered acid is usually only 24-25%.

Mr. Chase explained this drop as being partly due to deliberate dilution before filtration, in order to prevent contamination of filter cake with ferrous sulfate crystals. He claimed that a very sharp division can be obtained between the residual acid and the wash waters.

At any rate, in dilute hydrolysis the acid concentration in the liquors after hydrolysis should be 13-14%, and we figure that about 30 tons H_2SO_4 per day should be recovered at this concentration. Mr. Phelps decided that he was willing to accept the conclusion that the neighboring fertilizer companies would be glad to get this acid if delivered to them free of charge, and possibly if they had to pay for hauling. On this basis, the extra cost of dilute hydrolysis would be the loss of any credit for acid returned to the fertilizer company. This was negligible in May, but Mr. Chase forecasts an ultimate credit of 0.7¢ per lb. TiO_2. It is likely that the additional cost of steam for dilute hydrolysis would be compensated by the saving of steam for evaporation.

To summarize the situation, it seems to be very desirable to retain the concentrated hydrolysis procedure; but there is a way out without undue additional expense either for equipment or for operation.

5—Goldschmidt 1,348,129—Expires July 27, 1937.

This patent covers specifically the calcination of titanium hydrate at 900-1000°C. and more broadly the calcination "until the particles constituting the structure exhibit a crystalline interior structure and a smooth exterior surface". The Commercial Pigments process undoubtedly infringes this patent and must continue to infringe at least the broad claims. Mr. Rhodes told us that they calcined for several

months at a temperature not over 800°C. and obtained just as satisfactory a product as is now obtained at 900-950°C. He told us that the only objection to the lower temperature is the longer time required for calcination, and this did not seem to be very serious. Calcination at this lower temperature would be less objectionable from the patent point of view because it is disclosed in U. S. patent 1,205,144 which describes the calcination of an extended pigment. This patent states "I calcine it at, say, 600° to 800°C. with such complete expulsion of volatile matter as to result in decomposition of basic titanic sulfate; whereby I obtain my final pigment product consisting of amorphous titanic oxide on a sulfate base". It should be noted that this earlier patent of Barton's describes the product as being amorphous, but this is an error. Calcining at 800°C., as described, is bound to give crystallinity of the type described by Goldschmidt. It is of interest that in the Commercial Pigments calcination process the control point is neutrality of the pigment, which means complete removal of the volatile material, namely, sulfuric acid. This is practically the same procedure as is described by Barton. We are somewhat concerned about the probability that calcining at 800° would give us too high an oil absorption and it might be difficult to cure this by other treatments. According to our own experience on material from dilute hydrolysis, calcining at 850°C. for a longer time gives practically the same strength as calcining at 950°C. but the oil absorption is somewhat higher.

Summary

Of the patents which have been discussed above, we feel that it should be most easy to avoid Olsen & Forland and

next in order Jebsen. We think there should be no great difficulty in avoiding the narrower and more likely valid claims of Wrigley & Spence, and that we can avoid Claim 4 which broadly covers the removal of ferrous sulfate by crystallization, if at the same time we adopt dilute hydrolysis in order to avoid Fladmark. We are reluctant to avoid Fladmark because of the advantages of concentrated hydrolysis, including the disposal of waste acid, but it can be done without undue expense. We are uncertain about avoiding Goldschmidt, but based on Commercial Pigments statement, it seems probable that the narrower and more likely valid claims can be avoided.

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c/c—W. J. Beadle,
Development Dept.

June 25, 1931.

To: J. B. Eliason,
Treasurer

From: Assistant Comptroller

AGREEMENT OF REORGANIZATION BY AND BETWEEN THE GRASSELLI CHEMICAL COMPANY, COMMERCIAL SOLVENTS CORPORATION AND E. I. DU PONT DE NEMOURS & COMPANY

Investigation of the books and records of the Commercial Pigments Corp. and American Ilmenite Corp. (Subsidiaries of Commercial Solvents Corp.) was made June 18th and 19th at the New York office of these Companies for the purpose of verifying representations made by these Companies appearing on pages two and three of above mentioned agreement, paragraphs A, B, C and D. The following records the results of our investigation. Mr. E. L. Pangborn, Comptroller of Commercial Solvents Corp. and Vice-President and Treasurer of Commercial Pigments Corp., was the representative of Commercial Solvents Corp. through which we contacted on accounting matters.

Representation "A"

"That the assets and liabilities of Commercial Pigments Corporation and American Ilmenite Corporation are substantially the same as those shown on the consolidated balance sheet of April 30, 1931, attached hereto and marked Exhibit "B", except as such assets and liabilities

may have been or may be increased or decreased in the ordinary course of business since April 30, 1931."

There follows a brief comment on each item appearing on consolidated balance sheet (April 30, 1931) shown as Exhibit "B" in above mentioned agreement.

Schedule "A", attached, shows a comparative balance sheet as of April 30 and May 31, 1931 of Commercial Pigments Corp. and American Ilmenite Corp. consolidated.

CASH—$93,439.57

The records indicate that this amount of cash is in bank in New York and Baltimore. As of May 31, 1931 Cash appears as $223,948.16 and the increase is practically all represented by an amount advanced by Solvents to Commercial Pigments Corp. to enable the latter Company to purchase the land at Baltimore on which the plant now stands.

ACCOUNTS RECEIVABLE—$91,448.36

Inasmuch as the agreement stipulates that all parties are responsible for the collection of Accounts Receivable turned over to the new Company, it was agreed (between Mr. E. L. Pangborn and the writer) that no detailed check of these assets would be made. However, as a matter of information, the detail of the April 30th and May 31st balance is shown on Schedule "A" attached. A Bad Debt Reserve is not maintained but as of December 31, 1930, surplus account was charged with bad debts amounting to $1,494.41.

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INVENTORIES—$306,987.46

The detail of April 30th inventory is shown as well as May 31st position.

	April 30, 1931	May 31, 1931
Raw Materials	$223,474.22	$210,499.20
In Process or Semi Finished	20,255.43	22,502.15
Finished Product	63,257.81	69,373.64
Total—	$306,987.46	$302,374.99

A perpetual inventory record is maintained and costing monthly is done on a to date average price basis, which includes current month production and purchases. As and when Raw Material book figures appear out of line with current prices, adjustment is made to the current figure. The records indicate that as of December 31, 1930, Surplus Account was charged with a reduction in inventory value of Screened Sweepings amounting to $12,489.08.

Schedule "B" attached, shows the inventory in complete detail for the months of April and May, 1931. It will be necessary to have an actual count made of the Finished and Semi Finished stock and certain Raw materials located at Baltimore, and this is being arranged for.

The Engineering Department have informed us that a general survey of the stock of Ilmenite on hand at Baltimore Plant (book cost as of May 31, 1931 $203,955.10) has been made (without taking actual measurement) and they believe the quantity shown on Commercial Pigments Corp. records to be approximately correct. A report to this effect is being made to Dr. Sparre by the Engineering Department.

The stock of ground titanium oxide on hand May 31, 1931 (420,739 pounds) is shown at a book value of $.112

per pound compared to a current cost in May, 1931 of $.09064.

STORES & TOOLS—$24,006.16

A detailed check of this account will be made when physical check is made of other inventory items at the Baltimore Plant.

PREPAID INSURANCE—$4,659.54

Represents the unexpired portion of insurance premiums paid in advance. These premiums are charged to Operations monthly on the basis of the life of the insurance. Considerable rearrangement of insurance took place in May, 1931 as the result of pro rata cancellation of old policies, which were rewritten for a larger amount at reduced rates. Prepaid Insurance as of May 31, 1931 amounted to $9,659.39. Both the April and May figures were found to be correct. A complete record of all insurance presently in force is in our possession for reference and for information of our Insurance Department in event the reorganization is actually consumated.

NEW YORK MISCELLANEOUS (SUSPENSION)—$49.21

This amount represents an item in Suspension which disappeared during the month of May. However, May 31st shows a debit balance of $5,258.01 representing a deposit made in May toward the purchase of land on which the Baltimore Plant is located. At the present time, the land is leased with an option to purchase same and this option is now being exercised.

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NEW YORK OFFICE—$415.30

This item represents a small amount of furniture and fixtures contained in one room in the New York Office, the majority of the furniture of the New York Office being the property of Commercial Solvents Corp.

BALTIMORE PLANT—$1,426,011.82

Plant account was built up in the following manner:

Commercial Pigments Corp. appro. (May 1927 to Dec. 1928)	$ 117,378.44
Bedford Construction Co. (Last 3 months 1928 & Jan., February 1929)	482,772.48*
Commercial Pigments Corp. appro. (Jan. 1929—May 1931)	92,730.05
United Engineers & Construction Co. (New plant recently completed)	699,535.57**
Commercial Pigments Corp. (Recent additional charges to Old Plant)	33,595.28
	$1,426,011.82

*Includes Engineering Fee of $14,000
**Includes Engineering Fee of $44,000

The books indicate the above amounts were actually expended. Mr. Pangborn explained that the item shown above amounting to $33,595.28 represents expense of rounding out old and new investment and connecting up the two during the months of January and February, 1931 when the Plant was temporarily idle. Plant operating men were used on this work and it is admitted by Mr. Pangborn that perhaps 10% of this amount should have gone to Operations,

representing idle time. This appears unimportant however. The Engineering Department is making a detailed check of this investment and they have informed us that in their opinion equipment amounting to approximately $109,000 is obsolete.

Depreciation of Plant investment has never been provided for but as of December 31, 1930 Surplus account was charged in the amount of $73,614.33 covering dismantled, scrapped and obsolete equipment written off. This charge off is equivalent to 5% Depreciation on the old investment of approximately $700,000.00 for a period of two years and appears to partly offset the Company's failure to set up Depreciation. The new Company should, however, depreciate its entire Plant investment immediately.

INVESTMENT IN TITANUITE, LTD.—$1,215.39

This amount representing a loan to Titanuite, Ltd. should be increased by $9.70 representing the value of two shares of Titanuite Ltd. stock which has been erroneously included in the value shown for Travancore investment in Exhibit "B" of agreement. This asset is, however, to be retained by Commercial Pigments Corp. and hence, is of no interest to us.

INVESTMENT IN TRAVANCORE, LTD.—$77,682.07

Investment should be reduced by $9.70 as indicated above, making the investment $77,672.37. These securities (detail shown below) are located at the London Office of Guaranty Trust Company and there is attached copy of letter dated February 17, 1931 from the London Office of

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Arthur Young & Co. (a certified public accounting firm in New York City) certifying that these securities are actually on deposit in London. Apparently there is some doubt (as is indicated in attached letter of February 17, 1931) as to the legality of the manner in which these securities have been handled and this point will be brought to the attention of our Legal Department.

150 Bonds Travancore Minerals Co. Ltd.	$70,667.50
17490 "A" Shares Travancore Minerals Co. Ltd.	4,241.35
4500 Ordinary Shares Travancore Minerals Co. Ltd.	2,763.52
	$77,672.37

INVESTMENT OF ORE LANDS—$993.98

This item is not to be transferred to the new company and, hence, is of no interest to us.

PREPAID ROYALTIES—$127,755.46

This amount covers unamortized portion of an original payment of $128,561.90 representing the cost of 5,556 shares of common stock of Commercial Solvents Corp. (purchased in open market by Solvents) turned over to French interests in payment for certain United States patents (Titanium Oxide). The original agreement with the French, dated March 24, 1927, provided for a minimum total Royalty payment of $670,000.00 over a period of fifteen years, but in December 1929 a supplementary agreement was drawn providing for the cancellation of said minimum payment and all other payments and the acceptance by

the French of 5,556 shares of Commercial Solvents Corp. common stock in lieu of all payments due under the first agreement. This appears to have been a most advantageous settlement. Amortization of the original payment was recently started on the basis of 1/10 of a cent per pound of Titanium Oxide produced monthly. It is our opinion that the new Company (for Federal Tax purposes) should amortize the balance of this payment on the basis of the life of the patents rather than on a production basis.

ACCOUNTS PAYABLE—$83,446.81

As of April 30th the Accounts Payable were divided as Follows:

Due Travancore Minerals Co., Ltd.	$40,535.96
Due All Other Vendors	42,895.75
Unclaimed Wages	15.10
Total—	$83,446.81

The Accounts Payable shown above as "Due All Other Venders" were paid during May, 1931. As of May 31st the Accounts Payable appeared as follows:

Due Travancore Minerals Co., Ltd.	$40,721.76
Due All Other Venders	45,744.91
Unclaimed Wages	15.10
Total—	$86,481.77

The amount shown as "Due Travancore Minerals Co., Ltd." in both April and May represents purchases of Ilmenite, which will be paid for shortly. It is the general practice of Commercial Pigments Corp. to pay all current

months' bills on the 10th of the succeeding month and arrangements have been made with most venders to allow discount on this basis.

ACCRUALS—$8,144.24

The detail of this amount as well as the May 31, 1931 balance of $5,606.07 is shown below:

	April 30, 1931	*May 31, 1931*	
Payroll	$3,215.83	$ 485.12	Amount due at close of month covering period in between pay days.
Insurance	1,907.74	2,547.69	Workmens' Comp. and Public Liab. Ins. set up on Total Payroll.
Property Taxes (Baltimore Plant)	1,264.18	1,564.18	Real Estate and Personal Property.
Water Rent	1,756.49	1,009.08	Payable quarterly.
	$8,144.24	$5,606.07	

All of the above items are proper accruals.

ACCRUED FEDERAL INCOME TAXES—$5,398.47

Inasmuch as these taxes will be payable by Commercial Solvents Corp. as a result of Consolidated Federal Income Tax Return filed by said Company, which will include the income of Commercial Pigments Corp. and American Ilmenite Corp. to date of formation of the new Company, it appears inconsistent to transfer this liability to the new Company. Mr. Pangborn agreed on this point and these reserves will therefore be retained and not transferred to the new Company.

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Representation "B" Appearing on Page 3 of Agreement

"That for the four (4) months ending April 30, 1931, the net sales of Titanium Oxide was approximately $303,000."

Our examination shows the actual sales of Titanium Oxide for the first four months of 1931 to be:—

January	$60,338.28
February	56,525.79
March	83,645.61
April	100,363.08
Total—	$300,872.76

This total is slightly less than the amount noted in the agreement and the difference represents small sales of Copperas, Acid Cake and Titanium Sulphate included in error in figures shown in agreement.

Representation "C"

"That for the month of April 1931, the total mill cost of sales of Titanium Oxide was approximately $70,270 with sales of approximately 629,300 pounds."

Our examination discloses the total Cost of Sales of Titanium Oxide in April 1931 to be $69,126.25 and sales to be 628,367 pounds. These slight differences represent small sales of Acid Cake and Cost of Acide Cake Sales which were included in error in figures contained in the agreement.

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Representation "D"

"That in the opinion of Solvents, its Baltimore Plant has an annual capacity of approximately 7200 tons of titanium dioxide and can produce titanium dioxide, when operating at capacity, at a total mill cost not exceeding eight (8) cents per pound based on average cost of ilmenite for the first five (5) months of 1931."

The annual capacity of the Baltimore Plant can be verified only by our Operating and Engineering Departments and it is our understanding that this check has been made.

In regard to obtaining a Cost of Titanium Oxide not to exceed $.08 per pound, when operating at capacity with ilmenite at the average cost of the first five months of 1931, we have the following comments to make.

The records show the following production of Titanium Oxide and cost of same before grinding:

	Pounds Produced	*Cost per Pound*
March	298,777	.10890
April	806,330	.08706
May	929,097	.07652

The Quantity ground and the cost including grinding and packing follows:

	Pounds Produced	*Cost per Pound*
March	217,168	.13616
April	593,919	.10976
May	753,709	.09064

Inasmuch as the May figures show that over 80% of the month's production was ground, and as the demand for

the ground product appears to be on the increase, it is assumed that the $.08 cost figure mentioned on Page 3, Representation "D", applies to the Finished Ground Product.

On the basis of the Cost Accounting methods employed by Commercial Pigments Corporation and accepting the statement that practically no additional labor will be necessary to produce the unground product up to Plant capacity, then the labor and overhead of $30,233 shown on the May Cost report, if spread on the capacity production of 1,200,000 pounds per month, will amount to $.0252 per pound as against $.03165 per pound shown for the May yield production of 955,011 pounds. Monthly labor and overhead expense is distributed on yield production (955,011 pounds in May) which includes "materials in process" and hence this figure differs from the unground production figure shown above for May of 929,097 pounds. Deducting the difference between $.0252 per pound and $.03165 per pound from May ground cost $.09064 per pound leaves a cost of $.08419 per pound. It seems probable that the discontinuance of 5% commission paid to American Ilmenite Corp. by Commercial Pigments Corporation on all ilmenite purchased by the latter Company from the former (commission amounted to $680 in May) plus expected operating efficiency and better yields would further reduce the cost shown above of $.08419 per pound to approximately $.08 per pound.

The Commercial Pigments Corporation however has made no provision for Depreciation and in addition has omitted from cost a number of important items of expense (which they charge direct to Profit & Loss) but which under the du Pont system of Cost Accounting and under generally accepted Cost practice, are considered proper elements of Cost. These items are as follows:

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Plant Office Expense—Includes expense of Plant Manager's Offices, Purchasing Department, Plant Accounting and Engineering Department.

Service Department—Includes expense of chemical control, Receiving and Storage Room Shipping Room, Tank Cars and Yard Expense.

Research and Development—Represents chemical research on Titanium Oxide.

In discussing Depareciation of Plant with Zack Phelps of the Grasselli Chemical Company, he stated that as a result of a careful inspection of the Baltimore Plant, a depreciation rate of from 8% to 10% per annum should be used because of the high obsoleseence factor in this particular (new) branch of the chemical industry. Mr. Phelps has made a recommendation acsordingly in a separate operating report to Dr. Sparre. The rates recommended by Mr. Phelps appear high.

Assuming a depreciation rate of 6% per annum, the following items are being added to May Cost to determine a Cost in accordance with du Pont practice.

1/12 of 6% depreciation on investment of $1,426,000 equals monthly depreciation of	$7,130.
(May) Plant Office Expense	3,477.
(May) Service Department Expense	3,615.
(May) Research and Development Expense	720.
Total —	$14,942.
Total brought forward —	$14,942.

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DEDUCT:

Credit for monthly rent of land which rent has been discontinued during the current month owing to the purchase of said land. The rent per annum was $6,300.	$525.	
Credit representing discontinuance of payment of 5% commission of ilmenite purchases (based on May consumption)	660.	1,185.
Total Charges to be added to Cost—		$13,757.

No part of New York Office Expense ($630 in May) is included in Commercial Pigments Corporation Costs and we have also ignored the same. Research Expense shown above does not include Research work carried on at Terre Haute on Titanium Oxide, this expense being absorbed by Commercial Solvents Corporation.

Applying this additional monthly charge of $13,757 to the May Unground Yield Production of 955,011 pounds creates an additional cost per pound of $.01440, increasing the May Unground cost from $.07652 to $.09092. This additional cost of $.01440 added to the May Ground cost of $.09064 shows a corrected Ground cost of $.10504.

Assuming that Plant capacity of 1,200,000 pounds per month can be reached, then a redistribution of the May overhead and labor costs of $30,233 plus the additional cost items shown above of $13,757 (total $43,990) over the maximum production of 1,200,000 pounds as against the pounds produced in May, will reduce the Ground Cost from $.10504 to $.09564. Comparing the revised Ground Cost of $.09564 with the expected Cost of not more than $.08 per pound (as stated in agreement) shows an excess Cost,

which in the opinion expressed to us by Mr. Zack Phelps, would be difficult to offset by increased efficiency in plant operation and/or in improved yields.

Mr. Zack Phelps is of the opinion that while the Baltimore Plant may be able to produce 1,200,000 pounds a month, it cannot grind this amount without adding to the present equipment at a cost of approximately $50,000.

Annual Audit of Commercial Solvents Corp. and Subsidiary Companies by Arthur Young & Co. (New York Firm of Certified Public Accountants)

The annual audit for the year 1930 was covered by a consolidated report and because of certain confidential Cost information of the Parent Company contained in this report, it could not be expected that said report would be given us for our inspection.

The pertinent paragraphs relating to Commercial Pigments Corp. and American Ilmenite Corp. were shown us and copies made thereof. These paragraphs disclosed verification of the following items as of December 31, 1930:

1. Assets and liabilities (in general)
2. Stocks and bonds (Specific verification)
3. Prepaid Royalties (Specific verification)
4. Charges to Surplus Account—$87,597.80 (Specific verification) covering reduction in value of inventory of Screened Sweepings $12,489.06, Accounts Receivable written off $1,494.41, and dismantled, scrapped and obsolete equipment written off $73,614.33.

The last paragraph of the audit report contains certification and bears the signatures of Arthur Young & Co., reading as follows:

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"We have made what is generally known as a Balance Sheet Audit, embracing the verification of Assets and Liabilities appearing on the books of your Corporation and its subsidiaries at December 31, 1930, together with a verification of movement of cash between Terre Haute, Peoria, Baltimore and New York, during the year.

All of the operating accounts have been scrutinized including the inspection of pay-rolls for portions of the year.

Yours truly,

(s) ARTHUR YOUNG & Co."

General

With the exception of Cost Accounting procedure, which has been commented on above, the general accounting methods employed appear to be conservative and follow established practice. Spot checks were made to verify that Sales, Cost of Sales, Payrolls, Materials and other accounting details properly handled and this check revealed no irregularities. The accounting organization appears capable and efficient and the management of these Companies afforded us every opportunity to obtain full and complete information regarding the general conduct of the affairs of these Companies.

s/ A. C. NIELSEN
Assistant Comptroller

This investigation was conducted by A. C. Nielsen, A. B. Underwood and T. J. Ross

Exhibit 192

Copy to J. B. Eliason
C. R. Mudge
E. K. Bolton
C. H. Rupprecht

To: EXECUTIVE COMMITTEE
and
BOARD OF DIRECTORS
GRASSELLI CHEMICAL COMPANY

SERIAL NO: S-2418

July 3, 1931

FROM: DEVELOPMENT DEPARTMENT

COMMERCIAL PIGMENTS CORPORATION

You are advised that detailed examinations have been made by representatives of the Grasselli Chemical Company, Legal Department, Treasurer's Department, Chemical Department and Engineering Department, as well as by this Department, of books, plant and assets in general, patent situation, etc., of the above company. There have also been conferences with representatives of Commercial Solvents Corporation, who, to-date, have made only preliminary investigation of the Grasselli pigment and color industry.

Mr. W. D. Ticknor, President of the Commercial Solvents Corporation, has stated to the writer that if du Pont and Grasselli are now ready to accept the proposition he will, on behalf of his company, accept it without further investigation on their part, but if we raise the question of any adjustments they will have to proceed with their detailed study of our assets, etc.

From our standpoint, everybody is satisfied that the Commercial Pigments' business is practically as represented

and satisfactory. However, it is proper to call attention to a few questions which have come up for special discussion.

1. The patent situation is shown to be about as expected, not altogether clear or satisfactory, but, if anything, better than anticipated. Infringed patents are of doubtful validity and in all cases avoidable if necessary, though some capital and operating expense would be required under the most unfavorable circumstances. To the writer the risk seems to be only a fair business risk and unlikely to happen.

2. The plant value has been established except as to a comparatively small amount, say $70,000 worth of equipment which appears obsolete. Some additional construction work will be required such as sprinklers but of no great consequence and no more than the case with operating plants in general.

3. There has been considerable discussion of established plant cost inasmuch as some items of cost and credit are not in accordance with our views. However, this does not substantially change the forecast of future costs and earnings.

4. There has been considerable discussion of capacity of the Baltimore plant alleged to be 20 tons per day. It was found that the limiting factor is principally drier capacity and of 13 tons and it might cost $50,000 to $60,000 to take care of this situation. However, the Pigment Corporation maintain that they have not been pushed to capacity because some material sold does not require this operation and they can, if required, make some inexpensive changes with steam coils, extruders, etc., to obtain the capacity. This difference of opinion is hardly worth further discussion.

Exhibit 192

It will be seen that some claims might be made for adjustment on account of the above items. On the other hand, the Newark acid plant is not an asset and in case of controversy relative to adjustment Mr. Ticknor would claim this to be written off as obsolete. It is also clear that in old plants such as Newark and Krebs there must be some equipment to which exception could be taken as to value.

It must be understood in this connection that as a matter of fact no substantial claims can actually be made on account of possible additional construction work for additional drier capacity, sprinklers, etc., because if this extra addition to capital is made by the Commercial Pigments Corporation, it would simply act to increase their capital account and correspondingly decrease the amount of cash which they will have to contribute in order to obtain their 30% interest in the new company. It seems better not to raise this point but have the new company make such additional capital expenditures as may seem justified as business develops. The only actual adjustments which could be requested would be on account of obsolete equipment but which would appear probably to be offset substantially by old equipment in our own plants such as mentioned.

Considering the magnitude of the transaction and the general satisfaction it seems a waste of time and effort to reopen negotiations in order to submit claim for adjustment in settlement which could not amount to very much net and which would force Mr. Ticknor to order a detailed examination of our plants with subsequent drawn out arguments about valuation, depreciation, etc. It is the writer's belief that inclusive of the acid plan, there would be enough question about our values to offset approximately our claims.

Exhibit 192

Detailed reports are in the course of preparation.

It is important to save time because costly research work, drilling of ore bodies in Canada, etc., is in progress for which du Pont will receive no credit until consolidation takes effect and the opinion is unanimous that this consolidation is desirable.

It is this Department's opinion that the results of examination are in accord with the statements on which negotiations were based and that there is no substantial reason for rejection of agreement and reopening of negotiations.

It is recommended that the Development Department be authorized to make the necessary arrangements for consolidation of the Grasselli, Krebs and Commercial Pigments Corporation pigment and color business in accordance with the previously approved plan and advise Mr. Ticknor to this effect.

Respectfully submitted,

FIN SPARRE
Director

Exhibit 193

COPY

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

PROPOSED CONSOLIDATION OF PIGMENTS BUSINESS OF THE GRASSELLI CHEMICAL COMPANY (INCLUDING KREBS) WITH THAT OF THE COMMERCIAL PIGMENTS CORPORATION:

It was moved and unanimously carried that the Development Department's report of July 3rd be received and ordered filed, and that, pursuant to the recommendation contained therein (which has been informally approved by a majority of the members of the Board of Directors of The Grasselli Chemical Company) the Development Department be authorized to make the necessary arrangements for consolidation of the Grasselli, Krebs, and Commercial Pigments Corporation pigment and color business in accordance with the previously approved plan, and advise Mr. Ticknor to this effect.

This is to certify that the above is a true and correct copy of action taken by the Executive Committee of E. I. du Pont de Nemours & Company, at a meeting held on July 8, 1931.

(S) M. D. FISHER
Assistant Secretary

1119

Exhibit 193

COPY

E. I. DU PONT DE NEMOURS & COMPANY

FINANCE COMMITTEE

PROPOSED CONSOLIDATION OF PIGMENTS BUSINESS OF THE GRASSELLI CHEMICAL COMPANY (INCLUDING KREBS) WITH THAT OF COMMERCIAL PIGMENTS CORPORATION:

The following resolution was offered and unanimously adopted:

RESOLVED, that the President or any Vice-President of this Company, together with the Secretary or an Assistant Secretary, be and they hereby are authorized to execute an agreement between The Grasselli Chemical Company, Commercial Solvents Corporation and E. I. du Pont de Nemours & Company, with reference to a consolidation of the pigments business of The Grasselli Chemical Company (including Krebs) with that of Commercial Pigments Corporation, substantially as per copy attached to report from the Development Department to the Executive Committee, dated June 16, 1931.

This is to certify that the foregoing is a true and correct copy of resolution unanimously adopted by the FINANCE COMMITTEE of E. I. DU PONT DE NEMOURS & COMPANY at a meeting held on July 6, 1931.

(S) M. D. FISHER
Ass't. Secretary

E. I. DU PONT DE NEMOURS & COMPANY

Exhibit 193

SUBJECT: Proposed Consolidation of Pigments Business of The Grasselli Chemical Company (Including Krebs) With That of Commercial Pigments Corporation.

WHEREAS, it is the sense of this Board that the consolidation of the pigment business of The Grasselli Chemical Company, inclusive of the Krebs Chemical Company and the Commercial Pigments Corporation, is desirable, in accordance with the terms negotiated by the Development Department of E. I. duPont de Nemours & Company with Commercial Solvents Corporation, owners of Commercial Pigments Corporation, substantially as contained in form of agreement submitted today to this Board;

BE IT RESOLVED, that the President or any Vice President of this Company be and is hereby authorized to execute, on behalf of this Company, an agreement substantially as now submitted to this Board.

The importance of the name of the new corporation to be formed as a result of the foregoing agreement was given due consideration, and on account of the good-will value of the Krebs name as related to the pigment industry, it was, on motion, duly made and seconded:

RESOLVED, that this Board recommend to the Executive Committee of the DuPont Company the adoption of the name "Krebs Pigment & Color Company".

After careful consideration, it was, on motion duly made and seconded:

RESOLVED, that it is the sense of this Board that the Board of Directors of the new corporation should be composed of seven members, and it is recommended that the following men represent The Grasselli Chemical Company on the Board:

Exhibit 193

T. S. Grasselli
E. W. Furst
E. C. Thompson
Wm. Richter

it being understood that Commercial Solvents Corporation will be represented by W. D. Ticknor and T. P. Walker.

FURTHER RESOLVED, that it is the sense of this Board that the seventh member of the Board of Directors of the new corporation should be the President of that Company, and for President we recommend Carl H. Rupprecht.

* * * * * * *

I, O. M. Hook, Secretary of The Grasselli Chemical Company, a corporation of Delaware, do hereby certify that the foregoing is a true and correct copy of a resolution adopted at a regular meeting of the Board of Directors of The Grasselli Chemical Company, duly called and convened on the 16th day of June, 1931, with a quorum present, and that the same is not inconsistent with the articles of incorporation of said company or with the by-laws of said company or with any rule, law or resolution adopted by the Board of Directors, and that said resolution is now in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of the corporation this 9th day of July, 1931.

O. M. HOOK,
Secretary

Subscribed and sworn to before me this 9th day of July, 1931.

M. J. COLLINS
Notary Public

Exhibit 193

SUBJECT: Proposed Consolidation of Pigments Business of The Grasselli Chemical Company (Including Krebs Pigment & Chemical Company) with Commercial Pigments Corporation.

Executive Committee Resolution No. 4026, July 9th, 1931 was submitted, approving and recommending to this Board the authorization of all acts necessary to carry into effect the consolidation of the pigments business of The Grasselli Chemical Company, including Krebs Pigment & Chemical Company, with Commercial Pigments Corporation, and further recommending that the President be authorized to notify Commercial Solvents Corporation that this Company desires to proceed with the plan as set forth in the Agreement of Reorganization of July 7th, 1931.

The Executive Committee Resolution above referred to also calls the attention of this Board to modifications necessary in Board of Directors Resolution No. 357, June 16th, 1931, in that the name of the new company is to be "Krebs Pigment & Color Corporation", and further that the Board of Directors of the new company is to consist of eight (8) members instead of seven (7); three (3) to be named by Commercial Solvents Corporation; four (4) by Grasselli; and the eighth to be the President of the new company.

On motion, duly made, seconded and carried, it was

RESOLVED, subject to the approval of the Parent Company Executive Committee, that the recommendations covered by Grasselli Executive Committee Resolution No. 4026, July 9th, 1931, as above stated be and they hereby are approved.

FURTHER RESOLVED, that the name of the new company is to be "Krebs Pigment & Color Corporation" and that the

Board of Directors of said company is to consist of eight (8) members instead of seven (7); three (3) to be named by Commercial Solvents Corporation; four (4) by Grasselli, and the eighth to be the President of the new company.

BE IT FURTHER RESOLVED, that the President of this Company be and he hereby is authorized to advise Commercial Solvents Corporation of the intention of this Company to proceed with the reorganization as set forth in the Agreement of Reorganization of July 7th, 1931.

* * * * * * *

I, O. M. Hook, Secretary of The Grasselli Chemical Company, a corporation of Delaware, do hereby certify that the foregoing is a true and correct copy of a resolution adopted at a special meeting of the Board of Directors of The Grasselli Chemical Company, duly called and convened on the 9th day of July, 1931, with a quorum present, and that the same is not inconsistent with the articles of incorporation of said company or with the by-laws of said company or with any rule, law or resolution adopted by the Board of Directors, and that said resolution is now in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of the corporation this 9th day of July, 1931.

O. M. HOOK,
Secretary

M. J. COLLINS
Notary Public

Exhibit 194

COPY

COMMERCIAL SOLVENTS CORPORATION
230 PARK AVENUE
NEW YORK

July 7, 1931

Grasselli Chemical Company,
Guardian Building
Cleveland, Ohio

Gentlemen:

GRASSELLI, SOLVENTS & DU PONT
REORGANIZATION AGREEMENT

In accordance with Article IV of the Agreement between Grasselli Chemical Company, E. I. du Pont deNemours & Company and this Company, we hereby give you notice that this Company desires to proceed with the plan of reorganization as set forth in said Agreement.

Yours very truly,

(S) W. D. Ticknor
President

Exhibit 195

AGREEMENT OF REORGANIZATION

THIS AGREEMENT entered into on the 7 day of July, 1931, by and between THE GRASSELLI CHEMICAL COMPANY, a corporation of the State of Delaware, hereinafter called GRASSELLI, and COMMERCIAL SOLVENTS CORPORATION, a corporation of the State of Maryland, hereinafter called SOLVENTS and E. I. DU PONT DE NEMOURS AND COMPANY, a corporation of the State of Delaware, hereinafter called DUPONT.

WITNESSETH:

WHEREAS, Grasselli is engaged, among other things, in the manufacture and sale at Newark, New Jersey, of Lithopone and Dry Colors; and

WHEREAS, Grasselli owns all of the outstanding capital stock of KREBS PIGMENT & CHEMICAL COMPANY, a corporation of the State of Delaware, which is engaged in the manufacture and sale of Lithopone; and

WHEREAS, DuPont owns all of the outstanding capital stock of Grasselli and desires to grant to the Corporation to be organized, as hereinafter set forth, certain rights and privileges; and

WHEREAS, Grasselli represents:

(a) That the assets and liabilities of Krebs Pigment & Chemical Company and Grasselli Pigment Division are substantially the same as

those shown on the consolidated balance sheet of April 30, 1931, attached hereto and marked Exhibit "A", except as such assets and liabilities may have been or may be increased or decreased in the ordinary course of business since April 30, 1931.

(b) That for the four (4) months ending April 30, 1931, the net sales of Lithopone was approximately $1,816,197 and the net sales of Dry Colors, was approximately $635,513.

(c) That for the month of April 1931, the total mill cost of sales of Lithopone was approximately $394,892 with sales of approximately 12,385,753 pounds and the total mill cost of sales of Dry Colors was approximately $172,860.

(d) That the processes of Krebs Pigment & Chemical Company and Grasselli Pigment Division do not infringe any outstanding patents, which in Grasselli's opinion would be held valid, if litigated; and

WHEREAS, Solvents owns all of the outstanding capital stock of COMMERCIAL PIGMENTS CORPORATION, a corporation of the State of Delaware, which is engaged in the manufacture and sale of Titanium Pigments; and

WHEREAS, Solvents owns all of the outstanding capital stock of AMERICAN ILMENITE CORPORATION, a corporation of the State of Delaware, which is engaged in the sale of Ilmenite and other minerals in the United States of America; and

Exhibit 195

WHEREAS, Solvents represents:

(a) That the assets and liabilities of Commercial Pigments Corporation and American Ilmenite Corporation are substantially the same as those shown on the consolidated balance sheet of April 30, 1931, attached hereto and marked Exhibit "B", except as such assets and liabilities may have been or may be increased or decreased in the ordinary course of business since April 30, 1931.

(b) That for the four (4) months ending April 30, 1931, the net sales of Titanium Oxide was approximately $303,000.

(c) That for the month of April 1931, the total mill cost of sales of Titanium Oxide was approximately $70,270 with sales of approximately 629,300 pounds.

(d) That the processes of Commercial Pigments Corporation do not infringe any outstanding patents, which in Solvents' opinion, would be held valid, if litigated; and

WHEREAS, it is the view of the parties hereto that the advantages to be gained from the combined knowledge and experience of said subsidiary companies and the parties hereto will result in the advancement and development of the Pigment and Dry Color industry and will assure greater economies, and that it is mutually desirable for said parties to enter into a plan of reorganization, in order to bring under one organization and management the said Pigment and Dry Color businesses of the parties hereto; and

WHEREAS, in order to bring about such a plan of reorganization, the parties hereto have agreed to severally transfer and convey and/or cause to be transferred and conveyed certain properties and other assets to a corporation hereafter to be organized, upon the terms and conditions hereinafter set forth;

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and conditions hereinafter set forth, to be kept and performed, the parties have agreed as follows:

I.

For the purposes of this Agreement, the phrase "Pigments and Dry Colors", subject to the additions and exceptions hereinafter set forth, shall mean:

a. Any inorganic coloring matter including white pigments; and

b. Any organic coloring matter made by forming insoluble metallic or weak acid salts of water soluble dyestuffs.

It is the intention of the parties hereto that the meaning of pigments and dry colors, as above stated, shall be interpreted with any additions and exceptions which may be necessary to continue substantially the present division of business between the Krebs Pigment & Chemical Company and the Grasselli Pigment Division on the one hand and other divisions of Grasselli and DuPont and/or its subsidiaries on the other hand, and shall be subject to such further additions and exceptions from time to time as may reasonably be necessary to provide for the manufacture and sale

of additional products to best advantage from a broad business standpoint.

Among such present exceptions are the following:

1. Alumina hydrate, zinc oxide and blanc fixe, now manufactured and/or sold by Grasselli, outside of its Pigment Division, incidental to its general chemical business;
2. Ceramic colors, now manufactured and/or sold by Roessler & Hasslacher Chemical Company, a wholly owned subsidiary of DuPont;
3. Certain dry colors, now manufactured and/or sold by the Dyestuffs Department of DuPont incidental to its manufacture and sale of organic dyestuffs;

Among such present additions are:

1. Certain organic dyestuffs, now manufactured and/or sold by the Grasselli Pigment Division incidental to its manufacture of pigments and dry colors.

II.

Grasselli, as hereinafter set forth, for a period of thirty (30) days from and after the date of this Agreement, shall have the right and privilege of investigating the assets, processes, patents, applications for patents in the course of preparation or filed, contracts and earnings of Commercial Pigments Corporation and American Ilmenite Corporation. Representatives of Grasselli shall be permitted to examine the processes as conducted in the plants of Commercial Pigments Corporation and Solvents shall place at the disposal of such representatives competent technical men to

fully advise Grasselli on all questions which may arise regarding said processes. Solvents shall furnish all information requested by Grasselli in the course of such investigation and Grasselli shall be given the opportunity to collect and check such information in all plants of Commercial Pigments Corporation and American Ilmenite Corporation.

III.

Solvents, as hereinafter set forth, for a period of thirty (30) days from and after the date of this Agreement, shall have the right and privilege of investigating the assets, processes, patents, Applications for Patents in the course of preparation or filed, contracts and earnings of Krebs Pigment & Chemical Company and Grasselli Pigment Division. Representatives of Solvents shall be permitted to examine the processes as conducted in the plants of Krebs Pigment & Chemical Company and Grasselli Pigment Division and Grasselli shall place at the disposal of such representatives competent technical men to fully advise Solvents on all questions which may arise regarding the said processes. Grasselli shall furnish all information requested by Solvents in the course of such investigation and Solvents shall be given the opportunity to collect and check such information in all plants of Krebs Pigment & Chemical Company and Grasselli Pigment Division.

IV.

Upon the completion of Grasselli's and Solvents' investigation, as aforesaid, or in any event not later than thirty (30) days from the date hereof, Grasselli and Solvents shall notify each other in writing either—

(a) that the assets and/or sales and/or mill costs are not substantially as represented herein and above set forth, or that the processes of the company so investigated infringe outstanding patents which, in the opinion of the party hereto making the investigation, would be held valid in the event of litigation, and that for that reason it does not desire to proceed with said plan of reorganization, or

(b) that they desire to proceed with the plan of reorganization hereinafter set forth.

If either party hereto notifies the other that it does not desire to proceed with said plan of reorganization for any reason set forth in (a) hereof, then this Agreement shall forthwith terminate, anything in this Agreement to the contrary notwithstanding.

V.

In the event Grasselli and Solvents notify each other, in writing, as aforesaid, that they desire to consummate said plan of reorganization in accordance with the provisions of this Agreement, then Grasselli and Solvents shall forthwith proceed to incorporate under the Laws of the State of Delaware, a corporation, the corporate name of which shall be ..... Company and which shall have a total authorized capital stock of Ten Thousand (10,000) shares without par value.

The Certificate of Incorporation of said ..... Company shall provide:

1. That at all election of Directors, each holder of Common Shares shall be entitled to as many votes as shall

equal the number of shares of stock owned or held by him multiplied by the number of Directors to be elected and any such stockholder may cast all of said votes for a single Director or may distribute the same among two or more Directors. It is agreed that the Board of Directors of said ..... Company shall consist of not less than seven (7) members. It is agreed, however, that the initial Board of Directors of said ..... Company shall consist of ten (10) members of which three (3) members shall be selected by Solvents.

2. That each stockholder shall have the preemptive right to subscribe to its proportionate share of any or all additional issues of stock of ..... Company, and of any and all securities convertible into such stock.

3. Any profit or loss, after allowance for all charges, including Federal taxes and such provisions for depreciation and other proper reserves as are allowed by the Federal income tax law of said ..... Company, shall be transferred to earned surplus account at the end of each month and any credit balance in this account shall be distributed quarterly in the form of dividends; it being the intent of the parties hereto that any additional capital required shall be provided by means other than the reinvestment of earnings.

4. That the foregoing provisions of the Certificate of Incorporation shall not be changed without the affirmative vote of at least 75% of the outstanding stock of said Company.

Exhibit 195

The By-laws of said..... Company, among other matters, shall provide that a majority of the Board of Directors shall constitute a quorum for the transaction of business.

All other provisions of the Certificate of Incorporation and By-laws of said..... Company shall be subject to the approval of Grasselli and Solvents.

It is agreed by the parties hereto that..... .....Company shall not borrow money from any stockholder without giving all stockholders a right to participate pro-rata.

VI.

Not later than fifteen (15) days after the date of incorporation of said..... Company Solvents agrees to cause American Ilmenite Corporation to transfer, convey and set over all its assets unto Commercial Pigments Corporation and thereupon Solvents shall cause Commercial Pigments Corporation to transfer, convey and set over unto said..... Company, subject to the provisions of Article VIII hereof, all its assets substantially the same as those shown on consolidated balance sheet of April 30, 1931, attached hereto marked Exhibit "B", except as such assets may have been or may be increased or decreased in the ordinary course of business since April 30, 1931, together with all inventions, improvements, Letters Patent, Applications for Letters Patent, secret methods and processes, trademarks, and goodwill of said Commercial Pigments Corporation.

Concurrently with the aforesaid transfer and conveyance by Commercial Pigments Corporation, Grasselli agrees

to transfer, convey and set over to said ..... Company, subject to the provisions of Article VIII hereof, all the assets belonging to Grasselli Pigment Division, and to cause Krebs Pigment & Chemical Company to transfer, convey and set over to said ..... Company all the assets belonging to said Krebs Pigment & Chemical Company, substantially the same as shown on consolidated balance sheet of April 30, 1931, attached hereto marked Exhibit "A" except as such assets may have been or may be increased or decreased in the ordinary course of business since April 30, 1931, together with all inventions, improvements, Letters Patent, Applications for Letters Patent, secret methods and processes, trademarks and goodwill of said Grasselli Pigment Division and Krebs Pigment & Chemical Company.

Each party hereto guarantees the payment of all accounts receivable transferred and assigned by it to ..... Company.

VII.

Upon the transfer to ..... Company of the properties, assets and business of Grasselli and Krebs Pigment & Chemical Company, as aforesaid, ... Company shall assume the liabilities of Grasselli Pigment Division and Krebs Pigment & Chemical Company, substantially the same as disclosed on the consolidated balance sheet of Grasselli Pigment Division and Krebs Pigment & Chemical Company, as of April 30, 1931, attached hereto marked Exhibit "A", except as such liabilities may have been or may be increased or decreased in the ordinary course of business since April 30, 1931; and

Exhibit 195

upon the transfer to said ..... Company of the properties, assets and business of Commercial Pigments Corporation, as aforesaid, ... Company shall assume the liabilities of Commercial Pigments Corporation, substantially the same as disclosed on the consolidated balance sheet of April 30, 1931, of Commercial Pigments Corporation and American Ilmenite Corporation, attached hereto marked Exhibit "B", except as such liabilities may have been or may be increased or decreased in the ordinary course of business since April 30, 1931.

It is understood and agreed that ..... Company shall not assume any liability for patent infringement incurred by Grasselli Pigment Division and/or Krebs Pigment & Chemical Company and/or Commercial Pigments Corporation prior to the date of transfer to said ..... Company, or any other liability not specifically provided for herein, anything in this Agreement to the contrary notwithstanding.

DuPont hereby agrees to hold and save said ..... Company free and harmless from all liabilities of said Grasselli Pigment Division and/or Krebs Pigment & Chemical Company not specifically assumed by said ..... Company, as provided for in this Article.

Solvents hereby agrees to hold and save said ..... Company free and harmless from all liabilities of said Commercial Pigments Corporation and/or American Ilmenite Corporation not specifically assumed by said ..... Company, as provided for in this Article.

VIII.

It is the intent and purpose of this Agreement to so adjust the contributions of Commercial Pigments Corporation on the one hand, and Grasselli and Krebs Pigment & Chemical Company, on the other hand, to .... Company, that Commercial Pigments Corporation shall contribute thirty per cent. (30%) and Grasselli and Krebs Pigment & Chemical Company seventy per cent. (70%) of the net worth of ..... Company and that the net working capital, i.e., the difference between current assets and current liabilities in accordance with the attached balance sheets marked Exhibits "A" and "B", of said ..... Company shall equal Three Million Dollars ($3,000,000.00). It is therefore agreed that the parties hereto shall compare balance sheets as of July 1, 1931, and adjust working capital to accomplish such result.

It is agreed that from the consolidated assets of Commercial Pigments Corporation there shall first be deducted any sums appearing thereon for investigation of ore land and any sums appearing thereon for investment in Titanuite, Ltd., which shall be retained by Commercial Pigments Corporation, and there shall then be added the sums of One Hundred and Ninety-two Thousand, Five Hundred Dollars ($192,500.00) for purchased patents and Eighty Thousand Dollars ($80,000.00) allowance for Travancore investment over and above cost at which said investment is carried on the books of Commercial Pigments Corporation.

TRANSCRIPT OF RECORD

Vol. II

EXHIBITS
TRANSCRIPT OF RECORD

(Pages 1137 to 2330)

Supreme Court of the United States

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT,

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

No. 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC., APPELLANTS,

vs.

THE UNITED STATES OF AMERICA

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY, INC., APPELLANT,

vs.

THE UNITED STATES OF AMERICA

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

FILED APRIL 18, 1946.

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT,

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

No. 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC., APPELLANTS,

vs.

THE UNITED STATES OF AMERICA

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY, INC., APPELLANT,

vs.

THE UNITED STATES OF AMERICA

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

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JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., AUG. 21, 1946.

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537	Letter from March F. Chase to W. C. Beschorman.	Aug. 18, 1933	2067
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598	Telegram from Stopford to Jebsen.	Nov. 6, 1934	2253
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615	Letter from G. Jebsen to Evans McCarty.	Oct. 13, 1928	2313
616	Letter from G. Jebsen to Evans McCarty.	Oct. 18, 1928	2316
617	Letter from G. Jebsen to William C. Beschorman.	Feb. 15, 1934	2317
618	Letter from G. Jebsen to W. C. Beschorman.	Aug. 8, 1934	2324

It is further agreed that from the assets of Grasselli Pigment Division there shall first be deducted any inventory of Alumina Hydrate and Zinc Oxide, which shall be retained by Grasselli.

IX.

In consideration of and immediately upon the transfer and assignment by Commercial Pigments Corporation to ..... Company, of the properties referred to in Articles VI and VIII hereof, ... Company shall issue and deliver to Commercial Pigments Corporation Three Thousand (3000) fully paid and non-assessable shares of its Common Stock, without par value.

X.

In consideration of and immediately upon the transfer and assignment by Grasselli to ..... Company of the property referred to in Articles VI and VIII hereof, ... Company shall issue and deliver to Grasselli Four Thousand, Four Hundred and Ten (4410) fully paid and non-assessable shares of its Common Stock, without par value.

XI.

In consideration of and immediately upon the transfer and assignment by Krebs Pigment & Chemical Company to ..... Company of the property referred to in Articles VI and VIII hereof, ... Company shall issue and deliver to Krebs Pigment & Chemical Company, Two Thousand, Five Hundred and Ninety (2,590) fully paid and non-assessable shares of its Common Stock, without par value.

Exhibit 195

XII.

In the event ..... Company shall find it necessary to have additional instruments of conveyance or transfer in order more fully to assure its title to any of the properties to be conveyed to it as aforesaid, Grasselli, Krebs Pigment & Chemical Company and Commercial Pigments Corporation will, upon request, execute such instruments.

XIII.

Grasselli agrees within twelve (12) months after the date of transfer by Krebs Pigment & Chemical Company of its assets to said .....Company to cause the legal dissolution of said Krebs Pigment & Chemical Company.

Solvents agrees within twelve (12) months after the date of transfer by Commercial Pigments Corporation of its assets to said .....Company to cause the legal dissolution of said Commercial Pigments Corporation and American Ilmenite Corporation.

XIV.

DuPont and Grasselli each agrees to grant to said ..... Company so long as DuPont and/or any corporation owing or controlling, or owned or controlled by DuPont shall remain a stockholder in said ..... Company, and Solvents agrees to grant to said ..... Company, so long as Solvents and/or any corporation owing or controlling, or owned or controlled by Solvents shall remain a stockholder in said .....Company,

Exhibit 195

(a) the irrevocable, exclusive right and license, without payment of royalty or other consideration, to manufacture and sell, in the countries of North America (exclusive of Canada), Central America, West Indies and present possessions of the United States of America, Pigments and Dry Colors under any and all inventions, improvements, Letters Patent, Applications for Letters Patent, secret methods or processes which it now owns or may hereafter develop during said period or under which it now has a right to grant a license, directly or indirectly relating or pertaining to Pigments and Dry Colors; provided however, that such right and license shall be subject to any commitments made prior to the date hereof;

(b) the irrevocable, exclusive right and license, upon payment of a proportionate share of the purchase price or royalty, to manufacture and sell, in the countries of North America (exclusive of Canada), Central America, West Indies and all present possessions of the United States of America; Pigments and Dry Colors under any and all inventions, improvements, Letters Patent, Applications for Letters Patent, secret methods or processes which it may hereafter acquire by purchase, during said period or under which, during said period, it may hereafter acquire the right to grant a license, directly or indirectly relating or pertaining to Pigments and Dry Colors; provided, however, that such right and license shall be subject to any limitations imposed prior to date of acquisition.

It is agreed that said .....Company shall not manufacture or deal in any products or businesses other than Pigments and Dry Colors without the consent of all of its stockholders.

XV.

DuPont and Solvents agree, upon request of said ..... Company, to transfer and assign to said .....Company or its assigns, without cost, any or all interest, which it or they, or any of their wholly-owned subsidiaries now have in ilmenite ore-bearing lands.

XVI.

.....Company shall have the right, at any time, to request of any party hereto and/or its wholly-owned subsidiaries, specific services which, if furnished, shall be charged to said .....Company at actual cost plus appropriate Departmental overhead applicable thereto. It is understood and agreed that said ..... Company shall have the right to general advice and counsel of the officials and executives of the parties hereto and/or their wholly-owned subsidiaries without charge therefor.

XVII.

The parties hereto agree that ..... Company shall not purchase any material which it shall need, require or use in its business from Solvents and/or DuPont and/or its or their subsidiaries unless such materials to purchased shall be sold and delivered to .....Company at a price which shall not be greater than the price which either Solvents or DuPont and or its or their subsidiaries shall offer or receive from its or their most favored customers for similar quantities; it is further agreed by the parties hereto that .....Company shall sell the products and/or materials manufactured or produced by it to Solvents and/or DuPont and/or its or their subsidiaries at a price not less than that offered to its most favored customers for similar quantities.

Exhibit 195

XVIII.

Pigments may at any time transfer all or any part of its holdings of capital stock of the .....Company to Solvents or any corporation owned or controlled by Solvents, and Grasselli and/or Krebs Pigment & Chemical Company may at any time transfer all or any part of their holdings of such stock to DuPont or any corporation owned or controlled by DuPont.

Except as hereinabove provided, neither Solvents nor any corporation owned or controlled by it shall, so long as any such stock is held by DuPont or a corporation owned or controlled by it, sell or transfer any such stock without first giving DuPont, by notice in writing, a period of thirty (30) days in which to purchase or acquire such stock at a price not greater and on terms not less favorable than those fixed by a bona fide offer from another, or pledge any such stock to secure a loan without first giving DuPont by notice in writing a period of thirty (30) days in which to make a loan secured by such stock of an amount not greater and on terms not less favorable than those fixed by a bona fide offer from another; provided, however, that any such pledge shall always be subject to the right of DuPont to purchase such stock in the manner herein provided.

Except as hereinabove provided, neither DuPont nor any corporation owned or controlled by it shall, so long as any such stock is held by Solvents or a corporation owned or controlled by it, sell or transfer any such stock without first giving Solvents, by notice in writing, a period of thirty (30) days in which to purchase or acquire such stock at a price not greater and on terms not less favorable than those fixed by a bona fide offer from another, or pledge

any such stock to secure a loan without first giving Solvents, by notice in writing, a period of thirty days in which to make a loan secured by such stock of an amount not greater and on terms not less favorable than those fixed by a bona fide offer from another; provided, however, that any such pledge shall always be subject to the right of Solvents to purchase such stock in the manner herein provided.

All certificates for said stock shall have endorsed thereon a statement or notice setting forth or summarizing the foregoing provisions of this Article XVIII.

XIX.

In the event that the plan of reorganization aforesaid shall be consummated by the parties hereto then, in such event, neither Solvents nor DuPont nor any corporation owned or controlled by either of them shall, prior to July 1, 1946, directly or indirectly engage, except through ..... Company or its successors and assigns, in the manufacture and/or sale of Pigments and Dry Colors, in the countries of North America and Central America, West Indies and within all present possessions of the United States of America.

XX.

The benefits and obligations of this Agreement shall extend to and be binding upon the respective successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed, in triplicate, by their respective officers thereunto duly authorized and their corporate

seals to be affixed, duly attested by their secretaries, the day and year first above written.

THE GRASSELLI CHEMICAL COMPANY

By T. S. GRASSELLI
President

Attest:
O. M. HOOK
Secretary

COMMERCIAL SOLVENTS CORPORATION

By W. D. TIGHNOR
President

T. F. CARTY
Asst. Secretary

E. I. DU PONT DE NEMOURS & COMPANY

By W. F. HARRINGTON
Vice Pres.

M. D. FISHER
Asst. Secretary

Exhibit 196

Copy to T. S. Grasselli
C. H. Rupprecht

To: F. Sparre, Director — Serial No: D-850

From: W. J. Beadle — July 8, 1931

Commercial Pigments Corporation

In accordance with Agreement of Reorganization entered into between Grasselli Chemical Company, Commercial Solvents Corporation and E. I. du Pont de Nemours & Company, dated July 7, 1931, examination has been made of the assets and business of the Commercial Pigments Corporation and the findings of the various investigating groups are presented in the following reports attached hereto as exhibits.

Exhibit	Date of Report	Author of Report	Subject Matter of Report
A	June 25	A. C. Nielsen	Verification of assets, liabilities, net sales and cost of sales.
B	July 1	E. G. Ackart	Plant appraisal
C	June 24	Z. Phelps J. E. Booge L. A. Haupt	Plant capacity and operating conditions
	July 2	Z. Phelps	Mill Cost
D	June 30	C. H. Biesterfeld	Patent situation with respect to validity of patents infringed.
	July 3	D. W. Jayne	Summary of above opinion
E	June 24	H. Bradshaw	Patent situation with respect to cost of avoiding valid patents
F	June 22 June 29	T. R. Hanley	Legality of contracts
G	July 2	C. H. Rupprecht	Contracts
H	June 30	T. R. Hanley	Travancore investment

Exhibit 196

The purpose of this report is to review the above findings to determine whether they modify to an appreciable extent the equities which were considered in negotiating the Agreement of Reorganization.

ASSETS:

Solvents represented in the Agreement of Reorganization—

"(a) That the assets and liabilities of Commercial Pigments Corporation and American Ilmenite Corporation are substantially the same as those shown on the consolidated balance sheet of April 30, 1931, attached hereto and marked Exhibit "B", except as such assets and liabilities may have been or may be increased or decreased in the ordinary course of business since April 30, 1931."

Plant investment has been checked by the Engineering Department as reported in Exhibit "B" and all other assets have been verified by the Treasurer's Department as reported in Exhibit "A". Assets have been found to be substantially as represented, except that the plant account includes, as pointed out by the Engineering Department, approximately $63,000 for obsolete Lee attack equipment and obsolete Oliver filter. Mr. Phelps (Exhibit "C") mentions several additional items which he considers obsolete but only two of these are carried on Commercial Pigments' books, namely, an ilmenite drier and a small Manning boiler which have a combined value of approximately $11,000. This makes a total of $74,000 which is probably the maximum amount which can be claimed for obsolete equipment in the Baltimore plant. On a 70-30 basis, the Grasselli Com-

pany would be entitled to $173,000 for obsolete equipment to offset these Baltimore items. The chamber acid plant at Newark, which is not operating at the present time, is carried on the Grasselli books at about $213,000 and representatives of the Commercial Pigments Corporation have taken the position that this should also be considered as an obsolete unit. It is quite likely that an independent appraisal of the Newark and Newport plants would reduce the net value at which these plants are carried on our books by an amount more than sufficient to offset, on a 70-30 basis, the obsolete equipment at the Baltimore plant.

NET SALES & COST OF SALES:

Solvents represented in the Agreement of Reorganization—

"(b) That for the four (4) months ending April 30, 1931, the net sales of titanium oxide was approximately $303,000"

"(c) That for the month of April 1931, the total mill cost of sales of titanium oxide was approximately $70,270 with sales of approximately 629,300 pounds."

Mr. Nielsen found these figures to be substantially correct as reported on pages 5 and 6 of Exhibit "A".

Development Department report S-2402, submitted on February 18, 1931, showed in Exhibit "H" estimated sales for the year 1931 of 3,130 tons of TiO_2. Actual sales for the first six months of 1931 were 1,587 tons as shown in Exhibit "I" attached hereto.

Exhibit 196

PLANT CAPACITY:

Solvents represented in the Agreement of Reorganization—

"(d) That, in the opinion of Solvents, its Baltimore plant has an annual capacity of approximately 7200 tons of titanium dioxide—"

Our representatives found that the Baltimore plant has at various times produced 20 tons of calcined product daily and the maximum daily production thus far has been 21.5 tons of calcined product. It is Mr. Phelps' opinion, page 2 of Exhibit "C", that in order to produce continually at the rate of 20 tons of calcined product per day, it would be necessary to increase the capacity of the raw pigment filter at a cost of about $5000 and to add two spare centrifuges at a cost of about $7000. Representatives of Commercial Pigments do not agree with Mr. Phelps that this $12,000 expenditure would be needed for continuous production. The amount of money involved is so small that this point can probably be ignored, particularly since the additional equipment would not be needed for some time.

While the plant has been operated at the rate of 20 tons of calcined product per day, it cannot produce this amount of finished pigment because the finishing driers do not have sufficient capacity. It is Mr. Phelps' opinion, page 2 of Exhibit "C", that these driers have a capacity in continuous production of only 11 to 13 tons per day and that an expenditure of approximately $40,000 would be required to remove one drier unit and install a larger one to give the 20 ton capacity. Representatives of Commercial Pigments agree that the driers do not at present have a capacity of 20 tons but it is their opinion that this capacity can be reached by making alterations in the present driers and by

changing the drying procedure without going to the expense of tearing out a complete unit and installing a new one. It is agreed that the Baltimore plant cannot produce 7200 tons of finished titanium oxide annually, without some expenditure for additional equipment which is estimated by Mr. Phelps at $52,000. There is obviously no reason for making any of this expenditure until the additional capacity is needed and from the standpoint of 70-30 participation in ownership, it makes no difference whether the expenditure is made before or after consolidation.

MILL COST:

Solvents represented in the Agreement of Reorganization—

> "(d) That, in the opinion of Solvents, its Baltimore plant.....can produce titanium dioxide, when operating at capacity, at a total mill cost not exceeding eight (8) cents per pound based on average cost of ilmenite for the first five (5) months of 1931".

Mr. Phelps states in his supplementary report, Exhibit "C", that when the Baltimore plant is operated at the rate of 20 tons daily, it should be possible to produce ground TiO_2 in packages at approximately 9¢ per pound as compared to 8¢ per pound cited in the representation.

Development Department report S-2402, submitted on February 18, 1931, showed in Exhibit "G" an estimated mill cost of 7.65¢ when operating at the rate of 21.5 tons daily. This corresponds to a cost of 8¢ when operating at the rate of 20 tons daily. Estimate of potential earning power of Commercial Pigments Corporation (Exhibit "Q"

of S-2402) was based on a mill cost of 9.24¢ per pound when operating at the rate of 14 tons daily.

The primary reason for fixing participation in the new company at 70-30 was that a forecast of potential earning power showed that earnings would divide approximately on this basis. Exhibit "H" of Development Department report S-2402 showed potential earnings as follows:

Grasselli and Krebs	$ 1,316,200	69.9%
Commercial Pigments	566,500	30.1
	$ 1,882,700	100.0%

The above earnings for Grasselli were based on a lithopone production of 73,800 tons annually and a mill cost of 3.05¢ per pound. The Philadelphia plant has subsequently been declared idle and the lithopone capacity remaining at Newark and Krebs is only 65,000 tons annually; at the same time, however, mill cost has been reduced to 2.55¢. If Grasselli earnings are re-figured on the basis of producing 65,000 tons of lithopone at a mill cost of 2.55¢, the forecast of earnings for Grasselli is increased from $1,316,200 to $1,721,000. The forecast of earnings for Commercial Pigments Corporation was based on producing 5,050 tons of TiO_2 (14 tons daily) at a mill cost of 9.24¢ per pound. If this is refigured on the basis of producing 7200 tons of TiO_2 at a mill cost of 9.0¢ per pound, Commercial Pigments earnings are increased from $566,500 to $849,000. On this new basis, potential earning power would divide as follows:

Grasselli and Krebs	$ 1,721,000	67.0%
Commercial Pigments	849,000	33.0%
	$ 2,570,000	100.0%

This 67-33 division of earnings is based on operating all three plants at capacity. It is very questionable whether the lithopone plants will be operated at capacity when it becomes necessary to operate the Baltimore plant at capacity, and the future tendency will undoubtedly be to decrease Grasselli's contribution of earnings to something less than 67% and to increase Commercial Pigments' contribution to something more than 33%. Consequently a 70% participation in future earnings appears to be very favorable to Grasselli.

PATENT SITUATION:

Solvents represented in the Agreement of Re-organization—

> "(e) That the processes of Commercial Pigments Corporation do not infringe any outstanding patents, which in Solvents' opinion, would be held valid, if litigated."

It is the opinion of the du Pont Legal Department, Exhibit "D", that the Commercial Solvents Corporation is infringing the following patents;

Fladmark	1,288,863	Valid
Jebsen	1,333,819	"
Wrigley & Spence	1,338,473	Validity doubtful
Olsen & Forland	1,333,849	Invalid
Goldschmidt	1,348,129	"

All of the above patents are owned by the National Lead Company.

Fladmark covers hydrolysis of a concentrated solution by heating. The Central Chemical Department estimates, Exhibit "E", that if it should become necessary to avoid this patent by hydrolyzing in a dilute solution, there would be required additional cooling tanks prior to filtration and some additional filtering capacity at a total cost of not exceeding $25,000. The only effect on mill cost would be the possible loss of acid credit which at present is negligible and which has been estimated as being ultimately 7 tents of a cent per pound of TiO_2. The Chemical Department summarizes the situation—"it seems to be very desirable to retain the concentrated hydrolysis procedure but there is a way out without undue additional expense either for equipment or for operation".

Jebsen covers the amount of acid used in attack. The Chemical Department states, Exhibit "E", that it should not be particularly difficult to avoid Jebsen and, in the long run, it would mean only the extra cost of the additional acid which would amount to about one-third of a cent per pound of TiO_2.

The cost of avoiding valid patents might therefore be about 1¢ per pound of product but there seems to be no reason for changing the present procedure unless notice is first served on the new company by the National Lead Company.

CONTRACTS:

In addition to checking the foregoing representation by Solvents, the Development, Legal and Operating Departments have reviewed the following Commercial Pigments contracts which would be assumed by the new company:

Exhibit 196

Dated	Expires	Agreement With	Subject Matter
Mar. 24, 1927	Jan. 1, 1954	(French Company) (Joseph Blumenfeld)	Blumenfeld process
Dec. 17, 1929	"	(Joseph Blumenfeld (French Company)	" "
Mar. 7, 1929	12 mos. notice	R. T. Vanderbilt Co.	Sale of TiO_2
June 25, 1929	12 mos. notice	Travancore Minerals Co. Ltd.	Purchase of ilmenite
Nov. 13, 1929	3 mos. notice	St. Wholesale Phosphate & Acid Works	Purchase of acid
Oct. 1, 1930	Sept. 30, 1931	Mexican Petroleum Corp.	Purchase of fuel oil

With the exception of the Vanderbilt contract, none of these contracts are assignable and it will therefore be necessary to get the consent of the respective parties to assignment to the new company. There is no legal objection, Exhibit "F", to taking over any of these contracts with the exception of the ilmenite sales contract which should have one minor revision before assignment. Also it would be desirable, for the sake of clarity, to draw up a new Blumenfeld license agreement replacing the two present agreements. Representatives of the Commercial Solvents Corporation have expressed the opinion that these changes can be made very readily.

In addition to the foregoing contracts, the new company will take over the following contracts under which Commercial Pigments granted non-exclusive licenses to manufacture titanated lithopone under the O'Brien patents.

Exhibit 196

Dated	Expires	Agreement With
July 15, 1929	After Dec. 31, 1932 on 6 mos. notice	Grasselli Chemical Company
Aug. 23, 1929	"	Krebs Pigment & Chemical Co.
Aug. 23, 1929	"	Glidden Company
Dec. 1, 1929	"	United Color & Pigment Co.

These license contracts are all assignable. The Glidden and United contracts have not been examined but representatives of Commercial Pigments have stated that these two licenses are identical with the Grasselli and Krebs licenses.

TRAVANCORE INVESTMENT:

Copies of the Travancore Minerals Company, Ltd., Memorandum of Association, Articles of Association, Lease and other documents have been reviewed by the du Pont Legal Department with particular reference to Commercial Pigments Corporation position as a minority stockholder in the Travancore Minerals Company. Mr. Hanley's report is attached as Exhibit "H".

Travancore Minerals Company capitalization and Commercial Pigments share therein is as follows:

	Total Outstanding	Commercial Pigments Holdings
6% Prior Lien Debentures	£20 000	£15,000
5% Debentures	£13,989	—
7% Preference shares	35,000 sh.	—
Ordinary shares	35,000 "	4,500 sh.
"A" shares	23,320 "	17,490 "

Paragraph 62 of the Articles of Association provide that Preference, Ordinary and "A" shares vote share for share so that Commercial Pigments has 23.6% of the vote as follows:

Exhibit 196

	Total Outstanding	Commercial Pigments Holdings
7% Preference shares	35,000 sh.	—
Ordinary shares	35,000 "	4,500 sh.
"A" shares	23,320	17,490 "
Total	93,320 "	21,990 "
	100%	23.6%

A special resolution passed at an Extraordinary General Meeting of the Company on October 10, 1928, provided that all profits distributed as dividends shall go to the "A" stockholders so long as the amount of 6% prior lien debentures outstanding shall exceed £13,989 and that ⅔rds of profits distributed as dividends shall go to the "A" shareholders when the amount of 6% Prior Lien Debentures outstanding does not exceed £13,989. At the present time there are £20,000 6% Prior Lien Debentures outstanding; consequently, Commercial Pigments Corporation now has an equity of 75% in any earnings available for dividends after providing interest on both classes of Debentures and after providing sinking fund for both classes of Debentures as provided in Paragraph 110-A of the Articles of Association:

	Total Outstanding	Commercial Pigments Holdings
"A" Shares	23,320	17,490
	100%	75%

After the amount of 6% Prior Lien Debentures outstanding has been reduced to £13,989 or less, Commercial Pigments will have an equity of at least 50% in any earnings available for dividends after providing for interest on both classes of Debentures and after providing sinking fund for both classes of Debentures as provided in Para-

graph 110-A of the Articles of Association. Under these conditions, Commercial Pigments will be entitled to 50% (75% of ⅔rds) of earnings through its holding of "A" shares, and in addition thereto it will be entitled to further earnings through its holding of Ordinary shares in case the earnings available (one-third of total) to preference and ordinary shares are more than sufficient to pay 7% non-cumulative dividend on preference shares.

CONCLUSION & RECOMMENDATION:

It is believed that the detailed examination of the business of Commercial Pigments Corporation has shown that the basis of consolidation set forth in the Agreement of Reorganization dated July 7, 1931, is equitable, and it is therefore recommended that the Grasselli Chemical Company notify Commercial Solvents Corporation, as provided in Article IV of the agreement, that it desires to proceed with the plan of re-organization.

Approved by:

Prepared by:

W. J. BEADLE

Exhibit 196

EXHIBIT "B"

COPY

E. I. DU PONT DE NEMOURS & COMPANY
ENGINEERING DEPARTMENT

July 1, 1931

Mr. W. J. Beadle, Asst. Dir.
Development Department

DEVELOPMENT DEPARTMENT—D-1353

Supplementing and revising our appraisal sent you on June 25 in reference to the Baltimore Plant of Commercial Pigments Company, would advise that a summary of our figures based on reproduction cost exclusive of the two wharves and the land—but including a figure of $58,300 known as Construction Fee and included on their books—

totals	$1,300,000
The estimated valuation of the wharves	45,000
3.4 acres of Land, based on Mr. Warner's valuation given us today	45,900
Total	$1,390,900

We wish to call to your attention that the above figures do not include the following:

Obsolete Lee Attack Equipment (from their Mr. Chase 6/30/31)	$50,000
Obsolete Oliver Equipment	13,000
Total	$63,000

Exhibit 196

The book value of plant as presented to us as of June 1, 1931, is $1,534,941. This includes land, wharves, etc. If we deduct from this figure the $63,000 for the obsolete Lee and Oliver equipment, we derive a figure of $1,471,941, which is comparable to our appraised valuation of $1,390,900, or a discrepancy of $81,041. You will note in the above figures that we have changed the valuation of the land from $10,000 per acre to $13,500 which is Mr. Warner's best guess, as of today. Cost of the obsolete Lee attack equipment was changed from $96,767 to $50,000 which is the figure agreed upon by Mr. Chase in your office yesterday.

In view of the fact that this plant is not equipped with sprinklers and is at the present time dependent on the United States Industrial Alcohol Company's system for fire protection, the figure of approximately $35,000 would have to be expended to bring this plant up to du Pont standards, comparable with the Meadows Plant, for instance. This $35,000 would cover the necessary sprinklers, storage tank, fire pump and connections, etc.

In making this appraisal, our men were very much impressed with the housekeeping, up-keep painting and general all-around good condition of the buildings and equipment existing in this plant.

(S) E. G. ACKART
CHIEF ENGINEER

EXHIBIT "B"

Exhibit 196

EXHIBIT "C"

COPY

June 24, 1931

INSPECTION OF COMMERCIAL PIGMENTS' PLANT AT BALTIMORE

As arranged Z. Phelps, J. E. Booge and L. H. Haupt met Major T. P. Walker and Mr. W. I. Nevius in Baltimore on the 23rd and made an inspection of their plant.

Commercial Pigments people were extremely free with all information and considerable data was voluntarily given us. However, in this report we will only cover certain items which are of special interest in connection with the pending negotiations.

Plant

Equipment in general was found to be in good operating condition. In fact it was evident that the plant was dressed up since considerable of the equipment has been painted within the last three weeks. In several steps of the operation the units are small and tend toward an increase in installation and operating costs. We believe that a newly constructed plant of equal capacity could be erected at below their present book value.

We found the following equipment not being utilized, and if this has been included in the plant appraisal it should be questioned because these items are obsolete and have no prospect of being used at a future time.

(1) Lee Attack Pans have been made obsolete by a new installation of three Steadman Attack Pans. These new at-

tack pans provide considerable excess capacity for this particular step in the operation. (2) An Acid Concentrating unit composed of two towers was installed at the time the original plant was built, and has not been used because it could not be operated. (3) An Ilmenite Dryer Unit was originally installed. Since the plant has been successfully using strong sulphuric acid, the pre-heating of the Ilmenite is not necessary. (4) Four Gas Burners have been made obsolete due to a change in the method for heating the attack pans. (5) A small Manning Boiler which is a separate unit in the boiler plant, together with the stack for same (the stack being in bad repair) is obsolete and we see no prospects for it ever being used. (6) A small 4 ft. x 4 ft. Oliver Filter is not being used. This was originally installed for experimental purposes and we understand is subject to return to the Oliver Company pending settlement of the claim of $13,000.00 against the Oliver Company for a Sweetland Filter which was previously returned. (7) There are two Dorr Classifiers (one new and the other old) which are not installed and we see no immediate use for them.

Capacity

It is our opinion that the plant, as equipped at present, cannot produce 7200 tons a year of finished TiO_2.

The question of the percentage of ground and unground pigment to be sold has a decided bearing on the output. The tendency seems to be toward increased sales of the ground pigment, which now represents about 85% to 90% of total. When ground the pigment passes through the wet grinding system and finished dryers, and the finished dryers cannot regularly turn out over 11 to 13 tons

per day. This unit we consider the "neck of the bottle" as regards capacity.

In order to increase the capacity to 20 tons per day, one of the present Gordon-Davis Dryers will probably have to be removed and replaced by a new filter-dryer unit estimated to cost $40,000.00.

We estimate that the capacity of the raw pigment filter will not permit the regular production of more than 16 to 18 tons per day. This we estimate could be increased to 20 tons by the expenditure of $5,000.00. We also believe that the capacity of the four centrifuges now installed is not ample to regularly produce 20 tons of TiO_2 per day. There is no spare centrifuge, and with proper washing of the copperas, we believe the capacity of this unit for regular operation will not exceed 15 to 16 tons per day. Two additional machines costing about $7,000.00 would be needed to bring the capacity up to 20 tons per day. The total expenditure necessary to attain an output of 20 tons TiO_2 per day regularly, is estimated to be $52,000.00.

The plant is located on very high price water front property. However, the water facilities at the plant are not used in bringing in the Ilmenite, Sulphuric Acid or Oil. What this really means is that the plant could be in another location on much lower price ground and obtain their raw materials at no higher costs. Due to the restrictions against dumping waste materials into the Curtis Bay, it is necessary for the plant to dispose of the copperas and muds amounting to approximately 4 tons per ton of finished TiO_2 by loading same on a bar barge which is lightered away from the plant. The cost for disposing of the by-product (not including the expense for putting the material on the barge) is 80 cents per ton. This expense penalized finished pigment cost about 16 cents per hundred pounds.

We do not consider the operations as a whole to be hazardous if proper safety precautions are taken. It will be necessary to install quite a number of additional guards and make miscellaneous changes to bring the plant up to the Du Pont safety standards.

The plant is not sprinkled and is dependent upon the adjoining alcohol plant for water supply for fire purposes.

The existing buildings occupy practically all of the four acres of ground and it is advisable to recognize that any large expansion of the plant on the present site will be impossible. At the present time a portion of the stock of Ilmenite is stored on nearby property because of lack of space, and this involves an extra handling cost.

Inventories

Miscellaneous Stocks. These stocks are kept in very orderly fashion and apparently do not include any appreciable amount of obsolete items.

Raw Materials. The only large item is the stock of Ilmenite which is estimated to be about one and one-half year's requirements. We were assured that this Ilmenite is all of standard quality, running 52% to 53% TiO_2 content.

Finished Product. The record at the close of May shows a total of 814,000 pounds of finished product, and included in this amount is 262,000 pounds of sweepings. These sweepings are an accumulation from operations over a long previous period (in fact ever since the plant has started up). The value of these sweepings is extremely questionable.

The stock of finished product of standard quality appears to be in good condition, and from their records it

appears that all of this material now on hand has been manufactured since March 1, 1931. We have been assured that all of the standard stock is of good quality and is saleable to any of their existing customers.

We wish to point out that the average book value of the standard quality finished TiO_2 is considerably higher than the present cost for producing this material.

Quality

The chemical control procedure was checked over and it it adequate to keep the quality of their product uniform. The records of tests on all packed batches since the new equipment was installed were inspected and the quality and uniformity of the packed material is satisfactory. It is believed that the operation is sufficiently standardized so that good quality TiO_2 can be regularly produced. From the inspection of the sample reports it appears that Commercial Pigments' TiO_2 is slightly better in color than the National Lead's product, however, it is approximately 10% inferior in strength.

We estimate that the quantity of sweepings now being produced will amount to between 1% and 2% of the total output.

Sub standard TiO_2 when made is blended in with regular production.

Costs

Since costs are compiled in their New York Office, the cost statements are the same as the figures previously submitted. The lowest cost obtained to date is for the month of May, 1931, which shows a full plant cost for the ground TiO2, packed in barrels of $.09064 per pound.

Exhibit 196

It should be clearly understood that this nine cent cost does not include several items which should be taken into account when establishing a mill cost. Furthermore, this includes no depreciation charge. Mr. Neilson clearly understands what items have not been included in this cost. It is believed that by Commercial Pigments' method of accounting, the nine cent cost as established for May can be reduced to at least eight cents when the plant is equipped and operated at a production rate of 20 tons per day. We would expect that by our method of accounting, namely when including all of the expenses which should properly go into cost, our mill cost figure will be about two cents per pound higher than the figures shown by Commercial Pigments' cost statements. This would mean that when operating the plant at the 20 ton per day rate, we would expect to obtain a cost of not higher than ten cents per pound.

Apparently the costs and profit and loss sheets of this pigment operation are being favored in regard to some charges, for example, only $719.00 for Research Expense has been charged during May, and only $630.00 included to cover New York Office Expense. Neither one of these items are in the plant cost. No charge has been made against the Pigment Company for the research work on TiO_2 being carried on at Terre Haute.

Repairs (labor and materials) for the past two months has averaged about $8100.00 per month. Based on May production, repairs, which are included in costs, amount to 85 cents per hundred pounds of TiO_2. The fact that there is so much equipment which is practically new, leads us to believe that repairs at a later time can be expected to be higher than at present.

Whereas 4% to 5% depreciation (covering obsolescence, etc.) is considered proper for a lithopone plant, we

believe that due to the TiO2 operations being relatively new and not standardized to the extent of a lithopone operation, that a depreciation rate of 8% to 10% should be applied.

The over all yield of packed TiO_2 based on TiO_2 in the Ilmenite is 70%-75%.

The May performance of the plant in respect to costs, yields, quality and output is more favorable than for any previous month since the plant began operations.

Production

The records show that in the month of May, the production was 955,011 pounds (15.4 tons average per day), which is the largest quantity of TiO_2 produced to date by this plant.

ZP:BM

(S) Z. Phelps
J. E. Booge
L. H. Haupt

Exhibit 196

EXHIBIT "C"

COPY

Newark, N. J.
July 2, 1931

Mr. W. J. Beadle, Asst. Director
Development Department,
E. I. du Pont de Nemours & Co.
Wilmington, Delaware

ESTIMATED COSTS FOR TiO_2

The cost estimate worked out on June 29th in conjunction with Mr. Chase and yourself indicates that when the Commercial Pigments Plant at Baltimore attains an output of 620 tons (31 days x 20 ton) per month, the finished ground TiO_2 in packages can probably be produced at approximately $0.09 per pound.

Commercial Pigments Company represents that its May 1931 cost figures are correct and we have used their May cost sheets as a basis for our estimate.

In May they produced 753,709# of ground TiO_2 put up in packages at a cost of $0.09064 per pound, however, their cost sheet does not include Depreciation, as well as some other items which under our accounting procedure would go into Cost. When the plant produces at the rate of 1,240,000# per month, the May performances, when adjusted to this higher rate of production, shows an estimated cost of $0.093 per pound, after we include the following additional items:

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ITEMS (see P.S.)			Per Month
1	Depreciation	—	$ 7,500
2	Extra cost-waste disposal	—	200
3	Research	—	2,000
4	Main Office Expense — Chargeable to Plant	—	630
5	Additional Repairs	—	900
6	Plant Office Expense	—	3,477
7	Service Department	—	3,614
8	Sweepings (no credit allowed)	—	777
	TOTAL	—	$19,098

We have assumed that over a future period of time it will be possible to effect economies and improvements to obtain better results than Commercial Pigments are getting at present and based on this assumption, we have arbitrarily reduced the estimated cost of $0.093 to the flat $0.09 cost per pound figure.

We estimate roughly that when operating at the 20 ton per day rate, that under the duPont cost accounting system, which will include all items properly applying to Cost, our cost will be approximately 1½¢ per pound more than the cost which would be shown by Commercial Pigments under their present method of arriving at the plant cost for the finished ground TiO_2 in packages.

ZP:KW (S) Z. PHELPS

EXHIBIT "C"

Exhibit 196

P. S.

1. In the month of May 1931 no Depreciation was charged against Cost or Profit & Loss by Commercial Pigments. This item must necessarily go into our plant costs and we have used the total value of $1,500,000 at a rate of 6% in arriving at the charge of $7,500 per month.

2. The May cost for waste disposal appears to be lower than it should be and for this reason $200 has been added.

3. In May Commercial Pigments show a charge of $720 for Research which is deducted from their Profit & Loss statement and is not applied against Plant Cost. We have assumed a research charge of $2,000 per month as a minimum, however, we believe that with the urgent need for an extended TiO_2 pigment; as well as other work during the first year or so, it is very probable that the research program which will later be authorized by the directors of the new company may incur a monthly expenditure of considerably larger than the amount of $2,000 which we have assumed. Under our cost accounting system the Research expense will be included in the cost of the finished product.

4. Commercial Pigments show a charge of $630 for their New York Office expense; this item, however, is in the Profit & Loss sheet and not in the Plant Cost. Under our proposed new set-up the main office will perform certain definite services for the plant which are properly chargeable to plant cost and we have assumed that our expense will be the same as Commercial Pigments' present New York Office expense.

5. During the past two months Repairs (labor and material) charged into costs amount to approximately $8,100

per month. We believe that when the equipment is pushed to obtain the higher output and the equipment becomes older, replacements and maintenance will be more severe and for this reason we have added an additional $900. On this basis it is assumed that the average cost for repairs will be $9,000 per month when the plant has an output of 620 tons per month at a future time.

6 & 7. The figures used are the same as shown by Commercial Pigments for the month of May. Commercial Pigments, however, charge out these expenses on their Profit & Loss sheet whereas we would include them in our Plant Cost. It is possible that we may be able to make a small reduction in these expenditures at a later time.

8. The sweepings are now set up at a value of 4¢ per pound and credited to Cost, and until such time as we have a market for this product, the sweepings should be put in at no value. The May costs received a credit of $777 based on sweepings produced and valued at 4¢ per pound. We have assumed that with greater efficiency the per cent of sweepings in relation to finished product can be reduced, therefore, we have assumed that when the plant obtains an output of 620 tons per month, the quantity of sweepings produced will not be any greater than the amount which actually resulted from their May operations.

(S) Z. PHELPS

Exhibit 196

EXHIBIT "D"

COPY

July 3, 1931

TO: F. SPARRE, DIRECTOR

FROM: D. W. JAYNE

PATENT SITUATION—COMMERCIAL PIGMENTS PROCESSES

The attached opinion of C. H. Biesterfeld with respect to patents infringed by the above may be condensed as follows:

Fladmark	1,288,863	— Valid
Jebsen	1,333,819	— Valid
Wrigley & Spence	1,338,473	— Doubtful validity
Olsen & Forland	1,333,849	— Invalid
Goldschmidt	1,348,129	— Invalid

It should be said, however, in connection with every one of these patents that a clear cut decision seems impossible. There is evidence and there is argument for and against validity and invalidity of all of these patents and Mr. Biesterfeld's conclusions have been drawn after weighing pros against cons and I think we should remember this in connection with the above brief tabulation of his conclusions. I think it is safe to assume that the three patents which he deems invalid could not be sustained by the patentee because of the method used by Biesterfeld in arriving at his conclusion which required rather strong evi-

dence of anticipation before he has been willing to admit invalidity. On the other hand the two patents which he believes are valid are not unquestionably so, and it would appear that there is a good chance that they would be declared invalid, but without the strong evidence he has concluded them to be valid.

The report also brings up a new case of infringement —Rossi & Barton patent 1,196,030. I understand this is of no importance as any change in Commercial Pigments' processes to avoid Jebsen and Fladmark will also avoid this patent and in any event it only has two more years to run.

(S) D. W. JAYNE

DEVELOPMENT DEPARTMENT

DWJ:M

EXHIBIT "D"

Exhibit 196

Noted
D.W.J.
Pages 4, 12 & 13
revised from original
P. 14-added

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

DR. FIN SPARRE June 30, 1931.

OPINION ON PATENT SITUATION
OF COMMERCIAL PIGMENTS' PROCESS

In this opinion the Fladmark, Jebsen, Wrigley & Spence, Olsen & Forland, and Goldschmidt patents are considered from the standpoint of infringement and validity. Product patents are not considered, inasmuch as we are dealing here with the manufacture from ilmenite of titanium oxide, and we are not considering the pigments or compositions that may be made therefrom. The various product patents in this art have previously been examined.

At the outset, I call attention to the general question of estoppel. Commercial Pigments has been operating for over three years and during that time has not been specifically accused of infringement. I had a conversation in Baltimore with Mr. Chase on this point, and he stated that there has been some general conversation with National Lead Company but that no specific charge of infringement has been brought against Commercial Pigments. Mr. Chase did not state that National Lead Company had been apprized of the exact character of the Commercial Pigments' process. As long as that is the fact, no estoppel would exist against them. I am not sure whether the fact

situation is such that Commercial Pigments could plead an estoppel against any of the patent owners, but at this writing I am calling attention to it because it will be a very important consideration in our position if National Lead Company actually has known of the situation and has failed to bring suit for over three years.

FLADMARK No. 1,288,863

The process of Commercial Pigments may be held to infringe this patent. There has been a question raised regarding infringement upon the ground that a mere heating of a titanium solution will not necessarily produce a precipitate as evidenced by the heating in the vacuum apparatus at the Commercial Pigments plant where no precipitation occurs at this point, the reason being that the solution is not in colloidal condition. They apparently have some colloidal material come through with the leaching operation but this is removed in the clarification by copper sulfide. Fladmark, however, states in lines 27 to 30 that the precipitation is based upon the fact that the colloidal titanium hydroxide is caused to coagulate whereby it is precipitated in a comparatively insoluble condition. Further reference appears to this on page 2, lines 5 to 9, in which it is stated that it is probable that a considerable portion of the titanium in the solution does not exist in the form of normal or basic sulfate but in the form of a colloidal solution of titanium hydrates. Fladmark's patent was issued in 1918, and at that date the art had not advanced to any great degree, so that even if Fladmark's yield of titanium oxide should be proved to be relatively low, yet it would not be a sufficient legal objection against the operativeness of his patent to show that Fladmark's yield is less than that of Commercial Pigments by their modern hydrolysis method.

The situation on infringement therefore is that Commercial Pigments form a concentrated solution of a titanium compound and heat to precipitate titanium hydrate, thereby infringing literally, and it does not appear to be a valid objection against the operativeness of the patent to assert that heating will not precipitate some concentrated titanium solutions where special steps have been taken to prevent the presence of colloidal titanium, which latter is specifically referred to by Fladmark as being the basis upon which the titanium hydroxide is caused to coagulate. Consequently, my opinion is that the patent is infringed.

Concerning validity, we have before us at the present time a reference, Blondel, Bull. Soc. Chim. *21*, 262-4 (1899). This states in the translation under "II"—"2." that a solution of .5 parts titanium dioxide in one part of concentrated sulfuric acid, diluted with 1.5 parts of its weight of water, precipitates sulfates of titanium dioxide with compositions varying with the temperature and corresponding, for 100° to the formula $2TiO_2 . SO_3$ + water, for 130° to the formula $7TiO_2 . 2SO_3$ + water. This teaches that 2.25 parts of water are to be added to .5 parts TiO_2 and one part 96% H_2SO_4 to form 3.75 parts total. We shall have to assume a density of 1.5 for this solution, although the sulfuric acid and water by themselves would form a liquid having a density of 1.32. On this assumption, we have .5 + 3.75 (1500 grs. per liter) which equals 200 grams TiO_2 per liter, and also, similarly, about 385 grams per liter H_2SO_4. This falls within the range covered by Fladmark, namely, 80-350 grams of TiO_2 per liter and 82-410 grams of SO_3 per liter. This appears to anticipate Claim 1. As for Claim 2, we know that 2.45 lbs. of H_2SO_4 (100%) per lb. of TiO_2, is required to form the normal

sulfate of titanium $Ti(SO_4)_2$. Our ratio, however, is .5 TiO_2 to one of the sulfuric so that Blondel discloses less acid than is required to form the normal salt of titanium.

Question has been raised as to how Blondel got the TiO_2 into solution in the sulfuric acid inasmuch as calcined TiO_2 is insoluble therein. This point is a fact question that will need to be answered together with the actual density of the solution, which is not known at present.

I have referred in my letter of February 2, 1931 to H. Bradshaw, page 2, last paragraph, to the fact that formulas given by Blondel show SO_3 percentage much higher than Fladmark on page 2, line 32, of his patent. It is further stated that the boiling point of Blondel's formula should be known by us. The reason why this reference must be so carefully examined is that it has been so far our only defense against Fladmark and it is a rather brief statement published 32 years ago which when used to anticipate a U. S. patent must leave no doubt as to its teaching. I am afraid that if suit is brought on Fladmark and the Blondel reference is shown to be faulty or ambiguous in respect to the matter touched upon above, the court may lay the reference aside. Our position on validity therefore must be that Blondel is a reference of doubtful value and that if it does not clearly anticipate the Fladmark patent must be considered valid.

JEBSEN No. 1,333,819

This patent is closely related to the Fladmark patent and each patentee refers to the patent of the other. Claim 3 is infringed by the Commercial Pigments procedure. The novelty in the claim centers around the quantity of sulfuric acid required for the attack on the ore. Jebsen not only

uses less sulfuric acid than is necessary for the formation of normal salts but he also employs a concentrated solution, assigning credit for the latter to Fladmark.

The validity of Claim 3 has been considered at length. References relating to the use of sulfuric acid in dissolving titanium compounds are Spence No. 670,819, Spence No. 681,993, Spence No. 758,710, Farup No. 1,087,575, Farup No. 1,156,220, and Nielsen & Goldschmidt No. 1,343,468; of these references apparently none are strictly applicable. The procedure of Spence in his patents is a little too far removed while Farup in the earlier patent does not leach prior to calcination and I therefore hesitate to cite it as anticipatory. The latter Farup disclosure gives 1 to 2 parts of concentrated sulfuric for 1 part of ilmenite ore but here again a heating to 600° C. immediately occurs. Nielsen & Goldschmidt, page 1, line 21, refer to the use of sulfuric acid but otherwise there is no pertinent disclosure.

A better group of references are found in Barton No. 1,155,462, Rossi & Barton No. 1,196,030 and Weintraub No. 1,014,793. As far as the ratio between TiO_2 and H_2SO_4 is concerned Weintraub directly anticipates Jebsen but when the ratio is figured on all the normal salts to be formed, I understand that the calculations of the Station show that Weintraub is just within Jebsen's upper limit. This, of course, still leaves it technically as an anticipation but it is not safe to depend on this since Jebsen might either reissue or disclaim or the court might read Jebsen to distinguish over Weintraub. In Rossi & Barton, line 50, it is stated that 95% sulfuric acid in the proportion of 2.5 to 2.6 parts by weight of acid to 1 part of titanic oxide in the material, is used. This may possibly be a protection for Commercial Pigments as it approximates their own

ratio in respect to $H_2SO_4 : TiO_2$. Rossi & Barton do not give the ilmenite analysis as do Weintraub and Jebsen, and state (line 60) that they form titanic sulfate and get a nearly complete combination with the bases. In the Barton Patent No. 1,155,462 a TiO_2 composition is recited at the top of page 2 and as I read this reference Barton is intending to prepare a titanic concentrate as a starting point for the sulfuric acid, or else to start directly from ilmenite, page 1, line 76. I therefore take it that the composition at the top of page 2 is to be treated with the 95% sulfuric acid. Information received today from the Station shows that the average percentage of this example fails to anticipate Jebsen. Patent No. 1,196,030 practically forms normal salts with the bases and hence fails to anticipate Jebsen.

We must now consider the question of priority between Jebsen and these two Barton disclosures. Jebsen's filing date is October 12, 1917 and in Norway November 1915. Rossi & Barton filed March 10, 1915 in the United States for Patent No. 1,196,030 and July 14, 1914 for Patent No. 1,155,462. That gives them eight months and sixteen months priority respectively against Jebsen. The possibility must be considered, however, that Jebsen can go back to a date of invention in Norway prior to the dates of Barton and Rossi & Barton as the law allows him this privilege in the event suit is brought on the Jebsen patent and anticipation is attempted by means of the Barton references. In case Jebsen should be able to place his date sufficiently far back, Weintraub would remain the best reference available. It is probably sufficiently safe to rely upon the Barton and Rossin & Barton priorities against Jebsen in order to anticipate the latter, but if we go ahead and lose a suit brought on the Jebsen patent we must be prepared to practice and

operate the expired Weintraub Patent No. 1,014,793 in order to escape from the injunction. Therefore, I think it should be definitely known whether or not we could operate according to Weintraub who uses a quantity of sulfuric acid equal to double the weight of the ilmenite (52% TiO_2; 47% FeO).

I have considered the question of invention in using a specific amount of sulfuric acid in the attack on the ilmenite. It might be argued that the quantity of acid is merely a matter of economy or degree and not all invention and I think this is to some extent true, but nevertheless a large number of methods have been devised in the patented art for extracting titanium oxide, and the chances are that the courts will let Jebsen have his specific method for solving this problem as it presents a useful, operative, economical method of attack and is utilizable in conjunction with Fladmark (who appears to have been a collaborator of Jebsen's). In other words, Jebsen presents a valuable step in the preparation of titanium liquor up to hydrolysis, and even if the patent is not considered valid because of lack of invention the difficulty is not obviated because when we come to Claim 2 of Fladmark it is included in the combination treatment, which Claim 2 is still more difficult to invalidate.

In conclusion, Jebsen's Claim 3 is infringed and appears to be valid in view of patents Nos. 1,196,030, 1,155,462 and 1,014,793 with the foregoing reservations. Claims 9 and 10 and others cover the counter current principle in leaching the attacked mass. I have not noted any unexpected result obtained by such a process and hence see no invention in it. The principle of counter current treatment and leaching is quite old in the industrial arts. Claim 18 covers the feature of decomposing the ilmenite by steps

and hence is infringed also. As in the preceding case, there is nothing novel in repeatedly extracting a material to get the valuable ingredients out and I therefore do not see where any invention would be involved in applying it to the extraction of ilmenite. A claim like 19, however, in which is incorporated the quantity of decomposing agent might be considered valid as it covers Jebsen's process in some detail.

WRIGLEY & SPENCE No. 1,338,473

This patent is infringed by the Commercial Pigments process in respect to claims 4, 5, 6, and 7. These claims are not directly anticipated by any previous publication in the art, but the following considerations regarding patentability and inventiveness in the step of cooling should be noted:

Jebsen No. 1,133,819 leaches the cake formed from the sulfuric attack on the ilmenite and says (page 3, line 6) "that crystallization is just avoided in the last vessel of the series". He forms a concentrated solution (line 16). Later on (line 79) he reduces the iron. Apparently, he does not crystallize the ferrous sulfate because his state of dilution is just great enough to keep the iron in solution. However, he recognizes the unfavorable effect of the iron in the product but advises (line 126) to redissolve and operate the process over again in order to get a purer TiO_2. From this we can take it that he did not contemplate crystallization of $FeSO_4$. We must compare with this also the disclosure in Fladmark No. 1,288,863 (lines 100-110) wherein it is apparent from the concentrations involved that in the June 9 examples the ferrous sulfate has been partly crystallized out. Now Fladmark operates according to Jebsen and apparently in these two instances his dilution was not great enough so that he obtained a crystallization.

Now the effective dates of Wrigley & Spence are subsequent to these June 9, 1916 results for Wrigley & Spence filed outside the Convention and had a British application date (No. 14,950) of October 16, 1917, which carries their date of invention back there. It would be possible legally to carry the Wrigley-Spence date back to the actual date of invention in England in order to avoid Fladmark, but this would involve Wrigley-Spence in the necessity of explaining their delay in filing their application in the United States. When they filed in Great Britain October 16, 1917, they apparently had no knowledge of Fladmark, who published on December 24, 1918, but who was much more diligent because he filed May 10, 1917, whereas Wrigley-Spence filed five months later. On this evidence the Fladmark and Jebsen priorities may be considered established to the extent of the disclosures.

These disclosures do not go so far as to make an outright anticipation, but Fladmark indicates that crystallization may occur, and this raises the general question whether or not there is any invention in lixiviating the TiO_2 cake in such a way that a liquor is obtained from which iron may be crystallized. It has been suggested that Jebsen necessarily precipitated iron sulfate by reason of his concentration, but the foregoing discussion has demonstrated that that is not true. Wrigley-Spence appear to have based their procedure upon Jebsen and Fladmark, as they took not only the strength of sulfuric but also the quantity from those patents and simply added the step of crystallizing the iron, which variation in the process consists merely in using a little less water than did Jebsen for the solution of the cake, or a higher temperature. Commercial Pigments leach at 60° C. and if they proceed like Jebsen with an equal amount

of water, they will thereafter necessarily deposit $FeSO_4$ when the liquor cools. It will therefore be apparent that the allegation of invention by Wrigley-Spence is difficult to support. Perhaps the best that could be said for it is that it is a step in a combination of steps resulting in the obtaining of TiO_2 in a pure state. While this is true, yet it remains the fact that Wrigley-Spence did not claim the combination and, in fact, did not describe a process of hydrolyzation, nor did they invent the initial conditions previously disclosed by Jebsen and Fladmark. Consequently, I think that the Wrigley-Spence patent is of doubtful validity. We can risk the infringement if we are prepared, in case of defeat, to hydrolyze in a liquid containing all the iron (maintained therein by proper dilution or elevated temperature).

OLSEN & FORLAND NO. 1,333,849

This patent covers the preparation for precipitation of a solution containing tetra-valent titanium salts, consisting in reducing all the iron to divalent iron and reducing a part of the titanium so as to insure the non-precipitation of iron. Apparently the iron although reduced has a tendency to occlude itself or otherwise associate itself with the titanium precipitate, and the inventors claim to have discovered that if the titanium is reduced partly it will prevent this contamination by iron.

The patent Claims 1, 2, 4 and 5 are infringed by the Commercial Pigments' process and solution.

Regarding validity, evidence of prior invention is found in the Rossi & Barton Patent No. 1,196,030, page 2, lines 21 to 43. It is here stated:

"and the presence of at least some little titanous sulfate we find desirable in order to insure the retention of such iron as may be present in the ferrous state which as we have above indicated is a condition indispensable if production of the purest possible precipitate product is desired."

Rossi & Barton filed March 10, 1915, whereas Olsen & Forland filed May 16, 1917, being thus two years behind. In their Oath, Olsen & Foreland give as their earliest foreign filing date the Norwegian case Serial No. 9502 of August 9, 1916, which is not early enough to overcome Rossi & Barton on priority. However, under the law interpreting Section 4886 of Revised Statutes, it is possible for Olsen & Foreland to go back to their date of invention in Norway in order to sustain their patent against evidence of prior invention and it would accordingly be possible for them to show a date prior to Rossi & Barton although we have of record no evidence to indicate that they could do so.

The disclosure in Prescott and Johnson of record upon which the Examiner relied still appears fairly pertinent although it does not, as pointed out by applicant, state exactly how far the reduction goes (it may be of interest that this citation of Prescott and Johnson was made by the writer).

It is of course well known that, for purposes of hydrolysis of titanium, the iron should first be reduced. This is brought out by Weintraub and other references. Some of these methods of reduction would not reduce the titanium at all because of the chemicals employed but from a broad viewpoint it may be stated that a method of reducing iron completely would be entitled to take along with it some of

the titanium to the trivalent condition in order to insure completeness of reduction if the chemicals were capable of so reducing the titanium. These are arguments that can be brought up against the patent on the ground of lack of invention but they are not as safe to rely on as the priority of Rossi & Barton. However, it can be stated on behalf of the patent that an extra effort must be made to reduce the titanium and that it is not obvious that such trivalent titanium will have the effect of totally preventing occlusion of iron in the precipitated hydrolyzed titanium compound.

It is disclosed in British Patent No. 1835 of 1903 and German Patent No. 152,257 to Dreher that the iron can be prevented from contaminating the precipitate, by reducing the titanium with hydrogen formed by placing zinc in the sulfuric acid solution. Dreher appears to make a total reduction of the titanium. Please note that Weintraub also reduces by hydrogen when he puts zinc in and therefore it appears to me that Weintraub is very likely to get a partial reduction of titanium when he completely finishes the iron reduction by zinc.

In Claim 5, Olsen & Foreland have included the ratio of acid as claimed independently in Jebsen but I fail to see patentable combination between this step and the step of titanium reduction as Olsen & Foreland were not entitled to monopolize a combination of two old steps that had no specific chemical connection.

Accordingly, I regard Olsen & Foreland anticipated by Rossi & Barton, subject however to the possibility that they may prove a very early date in Norway and thus overcome the Rossi & Barton date of invention. It is also doubtful whether Olsen & Forland have any invention over the Weintraub disclosure.

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GOLDSCHMIDT NO. 1,348,129

This patent covers the calcination of titanium oxide to obtain a product of crypto-crystallization character. The latter is illustrated in the patent as comprising rounded particles having a crystalline interior. Specifically, the patentee calcines between 900-1000° C. for a sufficient time to obtain this result. Thereby he produces a product eminently suitable as a pigment.

He filed October 12, 1917. At this date, the more or less analogous lithopone art had not yet performed its calcinations as high as 900° C., the Llopart patents and others having recommended temperatures at 700° C. or lower. It was therefore specifically new in the pigment industry to perform the calcination in the vicinity of 900° C., although it was known as far back as 1907 that the higher the calcination temperature the lower the oil absorption of lithopone. The raising of the calcination temperatures would involve only a matter of degree and would not be inventive in this art, unless some new unexpected result were obtained.

Goldschmidt maintains that such a new result is obtained in the crypto-crystallization of his product, this property being necessary for a good pigment. If that is a fact, and if Commercial Pigments has actually obtained a crypto-crystalline product; then the situation is one that will be very difficult for the defendant, because as the matter stands today the Commercial Pigments Company is in Goldschmidt's specific calcination range of 900° to 1000° C. Assuming that crypto crystallization is a fact, as alleged by Goldschmidt, then it would be necessary to invalidate the patent directly on the prior art. This could be done by showing that titanium oxide has been calcined to produce crypto-crystallization, or else that the heating treatments

of TiO_2 in the literature were inherently capable of achieving that result even though the latter was not directly stated.

We have in the past reviewed this subject of the prior art as follows:

In the opinion of April 14, 1928 to Mr. Chickering, page 26, we referred to the use of 1000° C. for the heating of titanium oxide and referred to the following references: Wohler, Liebig Ann. *73* p. 33, 44, (1850); Moissan, Traite, p. 514; Richter's "Lehrbuck der Annrg. Chemie" (1899, p. 276); also Moissan, Treatise on Inorganic Chemistry, 1905, Vol. 2, p. 511; Ruff in "Centralblatt", 1913/14, p. 1202; Weber, "Zeit. fur Anal. Chemie," 1912, II, p. 498-500, Vol. 51; Bornemann, "Chem. Centralblatt", 1911/1, p. 539.

We also referred to the time element as we did not know whether these literature references were operated for a sufficient time to produce crypto-crystallization.

In the opinion of February 18, 1929 to Dr. Sparre, page 6, I suggested avoidance of infringement by operation below 900°C.

On April 15, 1929, in the opinion to Mr. Chickering, page 9, I referred to our understanding and information that the product was crystalline to some extent at least.

In the opinion to Dr. Bradshaw, February 21, 1930, last page, I repeated the art of the April 14, 1928 opinion. I included also British Patent No. 11,964 of 1899, specifying calcination at a high temperature. I also stated that "if all you do is to calcine at 900°C. without getting the special result obtained by Goldschmidt, then I do not think you ought to be held to infringe". In other words, the prior art entitles you to heat TiO_2 up to 1000° C. so that the mere treatment of TiO_2 at elevated temperatures is a permissible thing, unless the *time* of treatment is such as to produce

Goldschmidt's special result of crypto-crystallization (assuming such a thing is possible).

In my letter of January 21, 1931 to Dr. Bradshaw, after further study of the data, I concluded that Goldschmidt may have made a new discovery in the pigment art not disclosed before in relation to pigments. Now this would be a strong point for the patent as long as the crypto-crystallization ensues, but the position of the patent would be weaker if the prior art exhibited crypto-crystallization and there remained consequently nothing for Goldschmidt to claim except the discovery that the prior art TiO as prepared was valuable for pigment purposes without further change or treatment.

Also in the last letter, I reviewed the prior TiO_2 pigment literature showing calcination between 600 and 800°C. and even to 900°C. in order to get rid of the volatile matter (which Barton said was combined water). Whether it is combined water or SO_3 does not seem to matter much as the art appears to have recognized the necessity of driving off the volatile constituents. Whatever time of treatment is necessary in order to do this is permissible in view of the prior literature and patents and, if in the course of such endeavor the crypto-crystallization is also obtained as a matter of necessity from that practice, then there is no invention in Goldschmidt. However, if after the expulsion of the volatiles, Commercial Pigments continues the calcination for a length of time in order to secure the crypto-crystallization (which had not been obtained at the moment of final expulsion of the volatiles) then Goldschmidt has an argument. However, even there I must interject the statement again that raising of the calcining temperature in lithopone calcination in order to attain the strength and to lower the oil absorption was published back in 1907 and

was a widely known thing in the lithopone art years before Goldschmidt. I further suggested in my letter of January 21, that two things could be shown either (1) crypto-crystallization occurs at the prior art calcining temperatures or else (2) that ordinary calcination between 900-1000°C. does not produce crypto-crystallization. It has been represented to me in the correspondence that crypto-crystallization exists in the raw pigment before calcination. If that can be proved, it wipes out Goldschmidt's argument for novelty.

It is important in the prior patents such as No. 1,189,229 that they direct, in reference to calcination, the expulsion of all volatile matter. They also refer to a density of 3.6 or 3.7 or 3.8 (Patent No. 1,106,406, page 3) which density may be similar to that obtained by Commercial Pigments. This is a fact worth noting.

In the reference by Bornemann & Schirmeister, Metalurgie I, 646-9 of 1910 (p. 711), and 7, there is clearly disclosed the heating of TiO_2 up to 1000°C. for 15 minutes in order to get a pure TiO_2 by expulsion of foreign matter. This would appear to anticipate a troublesome claim like No. 10 of Goldschmidt which covers heating above 900°C. to obtain stability against heat and light, provided the 15 minutes duration of heating is long enough to attain such results. It is important to remember that Goldschmidt obtains valuable results by heating past 900°C. aside from the crypto-crystallization, for he also gets light stability and low oil absorption as well as purity and good color. If all of these favorable results are obtained by Bornemann et al. in these references then the only point remaining in favor of Goldschmidt would be that he taught the value of such a procedure to the pigment industry, which actually did not know.

these things in the year 1917. This would be a very weak point on behalf of Goldschmidt since his patent is for a process and resulting product, and not for the use of the product in a different physical form or composition. My understanding from Doctors Bradshaw, Keats and Pierce is that Bornemann's heating for 15 minutes is sufficient. On that basis, I am prepared to say that Goldschmidt would be invalidated. I want to caution you that there must be nothing doubtful about this point for, if we can not demonstrate that Bornemann's procedure will give a good pigment, then this citation must fail.

The same line of reasoning applies to the remainder of the art which I will cite to complete the record.

Rammelsberg, Berichte 5, 1006, heated TiO_2 for a long time to whiteness and noted that it became crystalline. Hautefeuille in A. Ch. (4)4, 127, heated TiO_2 between 860° and 1000° to form brookite. Other researches show heating with microcosmic salt or with borax, etc., and have obtained crystals of TiO_2, and in fact all heating operations seemed to form a crystalline product. In Zeitschrift fur. Anal. Chemie., Vol. 51 of 1912, p. 500, TiO_2 was calcined to 1000°C. Wöhler in the Letvig reference supra, obtained a crystalline powder of TiO_2 after strong calcination.

All of this art shows clearly that TiO_2 has been heated to 900° or 1000°C. for appreciable lengths of time and a crystalline product has invariably resulted. It seems to me that such treatment would of necessity cause the TiO_2 to have a low oil absorption and also to have good stability against light as well as to remove volatile matter. If this is true, then there would remain for Goldschmidt only the argument that his product is crypto-crystalline whereas the prior art product is merely crystalline in the brookite or

rutile forms. I do not see how he can distinguish, however, between crypto-crystalline and crystalline, inasmuch as he has not stated in his patent any fixed time of treatment (other than a rotary kiln treatment in the conventional manner) nor has he said anything whereby we could determine that he had a crypto-crystalline product as compared with an ordinary crystalline product. Accordingly, if Commercial Pigments is sued by Goldschmidt, and they definitely prove that the calcination treatments of these references in the literature produce TiO_2 that has low oil absorption, good resistance to light, and good pigment qualities, then Goldschmidt can not win. If, notwithstanding such proof, there is such a thing as a crypto-crystalline product formed by careful attention to the calcination conditions and such product is fairly easy to differentiate from an ordinary crystalline TiO_2 formed by prior art calcination, then Goldschmidt will still have a special situation that he can protect to the extent that it is infringed. However, I am very skeptical as to whether there is any such thing as crypto-crystallization but this question must in the end be left to the technologists to answer.

On the basis therefore that the prior art produces calcined TiO_2 of crystalline character and having otherwise good pigment qualities, I consider the Goldschmidt patent anticipated.

ROSSI & BARTON NO. 1,196,030

This patent was discussed in reference to Jebsen from the standpoint of anticipation, but for the reasons given it was not thought to anticipate. If, however, the opposite view be taken, namely, that this patent covers a quantity

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of sulphuric acid in the attack similar to that used by Commercial Pigments, then we have to consider infringement for claims 1 and 3 would be directly infringed. In fact, the claims appear to be broad enough to cover the Commercial Pigments operation even though the patent is not a reference against Jebsen, for Commercial Pigments makes a basic titanic sulfate since the precipitate contains SO_3. The patent has two more years to run.

C. H. BIESTERFELD.

C. H. Biesterfeld

CHB:PLM

Exhibit 196

EXHIBIT "E"

CHEMICAL DEPARTMENT

July 1, 1931

MR. W. J. BEADLE, DEVELOPMENT DEPT.

In accordance with out conversation yesterday afternoon I am sending you herewith two copies of our report which discusses the Commercial Pigments patent situation and possible methods of avoiding patents owned by the National Lead Company. I am not enclosing copy of Dr. Keats' report on the process because it is not yet finished and I am not at all sure that you will want it when it is completed. It will be written in considerable detail and probably is most important as a matter of record.

(S) H. BRADSHAW
ASSISTANT CHEMICAL DIRECTOR

HB:EM
Enc.

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EXHIBIT "F"

COPY

E. I. DU PONT DE NEMOURS & COMPANY
Legal Department

June 29th, 1931.

MR. W. J. BEADLE, ASST. DIRECTOR,
DEVELOPMENT DEPARTMENT
BUILDING

PIGMENTS—GRASSELLI

I am returning herewith Agreement of March 24, 1927, between Commercial Pigments Corporation and Blumann Rare Earths Chemical Company, and also agreement of December 17, 1929 between Commercial Pigments Corporation and Joseph Blumenfeld, et al.

The effect of the agreement of December 17, 1929 is to cancel the agreement of March 24, 1927 between Pigments and Bulmann Rare Earths. In brief, the contract of December 17, 1929 provides that Pigments will not export to any country other than the United States and its territories, any products produced under the Blumann patents; that Terres Rarés will not export into the United States or any of its territories; and the Terres Rares contract of March 24, 1927, providing for exchange of improvements, processes, etc., shall continue in effect until January 31, 1954.

(S) THOMAS R. HANLEY

TRH/amp
ENCLS.

Exhibit 196

EXHIBIT "F" (2)

COPY

E. I. DU PONT DE NEMOURS & COMPANY

LEGAL DEPARTMENT

June 22d, 1931.

MR. WALTER J. BEADLE, ASST. DIRECTOR
DEVELOPMENT DEPARTMENT
BUILDING

I have your letter of June 19th with enclosures.

This Department has no objection to the various enclosed contracts from the standpoint of legality. However, in the agreement of June 25, 1929 between Travancore Minerals Company, Ltd. and American Ilmenite Corporation, the last sentence in Paragraph Six should be omitted in the new contract which I believe is contemplated between the Travancore Minerals Company, Ltd. and the corporation to be organized: This sentence is decidedly objectionable from the anti-trust viewpoint.

You will note that only the agreement of March 7th, 1929 with the Vanderbilt Company contains a clause authorizing assignment. While I believe you will have no difficulty with the contracts for the purchase of sulfuric acid and fuel, nevertheless, the consent of the respective parties should be obtained.

I would suggest that you carefully consider the effect of the agreement of March 24, 1927 between Commercial Pigments Corporation and Joseph Blumenfeld and The French Company in regard to the exchange of information and im-

provements. It will be necessary in this instance to first obtain consent to the assignment.

I spoke with Mr. Hartwell on the 'phone this morning and he has assented to leaving Paragraph XI in the form as originally drafted. He has also agreed to furnish us with copies of the contracts of March 24, 1927 between Commercial Pigments Corporation and Rare Earths Chemical Company and of February 12, 1927 between Mr. Tichnor and Blumenfeld.

Mr. Hartwell also stated that he would send to me a copy of the deed, previous to execution, under which the Commercial Pigments Corporation will acquire the site of the Baltimore Plan, and will also forward to me a title certificate to this property.

(S) THOMAS R. HANLEY

TRH/amp.

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EXHIBIT G

COPY

THE GRASSELLI CHEMICAL CO.
Incorporated

Newark, N. J.
July 2, 1931

Mr. W. J. Beadle,
Development Department
Wilmington, Del.

(Personal)

The several Commercial Pigments contracts and agreements which were submitted with your letter of June 19th were discussed briefly in Wilmington on Monday, and hereafter will present some of the comments made, plus further thoughts in the meanwhile.

The R. T. Vanderbilt Co. arrangement is one on which final opinion will have to be held for a complete review of their activities and accomplishment. It is a type of contract that we naturally would never think of entering, since it contains a twelve months cancellation clause and means that at best we cannot come from under without giving a year's notice. When the proper time arrives, and if it is decided to continue with Vanderbilt, it would be preferable to have a year to year understanding.

Likewise, it is not entirely clear whether any extended pigments produced by Commercial or successors would be included, but I believe this will be found to be so and probably was the intent. When a new agreement is written up this would have to be taken into consideration, and also

the matter of exclusion of Titanium Lithopone, which was brought into the new company by Grasselli and not Commercial.

It is unfortunate that Vanderbilt owns the trade mark, "Rayox", under which Commercial's TiO_2 has been sold generally, and for our own protection it may be necessary to purchase this trade mark at some later date. In the case of any additional products being considered in a new agreement, we would stipulate that material be sold under brands registered and owned by ourselves.

Since this is an assignable contract, we will have to proceed accordingly and arrange for modifications after we know more about the full intent and Vanderbilt's record.

The agreement between Commercial and Blumenfeld as submitted is somewhat incomplete as we do not have in our possession the contract dated February 12th, 1927 nor that dated March 24th, 1927 mentioned therein.

No possible termination date is mentioned, and since with the passing of time it might happen that there would be good reason for considering discontinuance of interchange of information, we ought to know complete terms. Please understand that we have absolutely no ideas along these lines at the present time, but this is merely stated as a future possibility.

We presume the agreement would include any Titanium products or derivatives thereof, such as extended pigments. Furthermore, we are not quite clear on the status of the work done at the Station up to the present time. Dr. Sparre's letter of June 24th makes it clear that everything we now have is subject to the duPont-I. C. I. agreement, and I presume, also includes C. I. L. In that case, it would appear, if eventually such information must be turned over

to Blumenfeld, it would be on a non-exclusive basis, at least insofar as it applied to anything we now possess.

The agreement between Travancore and American Ilmenite Corp. is apparently not assignable, and at the present time our ideas are in favor of continuing this end of the consolidation under the American Ilmenite Corp. name to distinguish the minerals from pigments. Since the American Ilmenite Corp. is an asset of Commercial Pigments Corp., through stock ownership, would it not be possible to simply arrange for this transfer without any change in the present set-up?

The agreement, however, has several weak spots. I particularly note that paragraph eight leaves us wide open on supplies of ilmenite, providing as it does for a prorata distribution of their production in the event of any difficulties. I understood from you that to date Commercial had taken all the ilmenite for which they were obligated under paragraph eight.

There is the possible thought that paragraph five might be changed to permit us to arrange for ocean freight and insurance if we can effect any saving, however, that is something which will come after, as well as information on prices, etc.

The fuel oil contract appears to be entirely satisfactory, but on the acid, no mention is made of the price which Whiting will allow on the 15 to 17% H_2SO_4. Mr. Chase mentioned that this material is taken at $3.00 per ton, basis 50° Be, and if 25% acid is shipped, the price becomes $4.00 per ton. This contract looks as if it should prove quite attractive, provided Whiting takes back all of the spent acid. Mr. Chase stated he is required to do this by the terms of the contract, but that he does not make good.

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Apparently there are only two special tank cars available for sending this material back to him and he delays the return.

I do not have the tonnage figures, but in May, acid to the extent of $22,000.00 was purchased from Whiting, and only $530.00 worth of acid sent back. This is far out of line, and would require some very definite action.

(S) C. H. RUPPRECHT

CHR:MW

Exhibit 196

EXHIBIT "H"

COPY

E. I. DU PONT DE NEMOURS & COMPANY
LEGAL DEPARTMENT

June 30, 1931

MR. W. J. BEADLE, ASST. DIRECTOR
DEVELOPMENT DEPARTMENT
BUILDING

TRAVANCORE INVESTMENT-COMMERCIAL PIGMENTS CORP.

The investment of Commercial Pigments Corporation in Travancore Minerals Company, Ltd., is evidenced by 150 Prior Lien Debentures, 17,490 "A" Shares and 4,500 Ordinary Shares.

This entire interest stands in the names of W. A. Burton and D. J. Burke, nominees of Commercial Pigments Corporation. These same nominees on March 6, 1931, executed a Declaration of Trust in which they acknowledged that they held the above mentioned shares for the use and benefit of Commercial Pigments Corporation. Further, that they had deposited blank transfers with the Pigments Corporation and that they would account for all dividends, interest and profits received by them from such shares and debentures.

I am informed by Mr. Hartwell, Attorney for Commercial Pigments Corporation, that the certificates for these shares are at present on deposit with the Guaranty Trust Company of London, and that a certificate issued by the Trust Company is held in the London Office of Commercial Solvents Corporation.

So far, from the information available to me, I see no objection to the present status of this investment. However, because of restrictions on transfer set forth in the Articles of Association, it may be difficult, if not impos-

sible, for these shares to be transferred to a new assignee. The restrictions are of no moment at this time, for the reason that it will not be necessary to transfer the shares but only to have a new Declaration of Trust executed by the owners of record, acknowledging that the beneficial interest is held for the new corporation. Of course, it will also be necessary for Commercial Pigments Corporation to execute an assignment of its interest in these securities.

In this connection, Mr. Hartwell advises me that he does not believe such a procedure need be approved by the India Office, but suggests that the opinion of the English Solicitors should be had on this point. In the event the plan of reorganization, as contemplated, is consummated, it is my opinion that we would be protected as much as is possible, by having Commercial Pigments Corporation assign and transfer to us, its beneficial interest in this investment, together with the certificates and other instruments of title, and that thereafter it shall be determined whether or not the new corporation wishes the present nominees to remain as holders of record of these shares and debentures. If the new corporation were satisfied with the present nominees, then it would only be necessary to secure a Declaration of Trust from Burton and Burke running to Krebs Pigment & Color Company, Inc., rather than Commercial Pigments Corporation. If, on the other hand, it is decided to substitute new owners of record, then the names of the new nominees should be inserted in the certificates endorsed in blank and the new owners of record duly qualified. At any rate, I see no necessity for consulting English Attorneys until it is determined at this end just which procedure the new corporation desires to follow.

TRH/amp (S) THOMAS R. HANLEY

EXHIBIT "H"

Exhibit 197

COPY

GRASSELLI CHEMICAL COMPANY

CLEVELAND, OHIO

July 9, 1931

Commercial Solvents Corporation
230 Park Avenue
New York

Gentlemen:

SOLVENTS, GRASSELLI & DU PONT
REORGANIZATION AGREEMENT

In accordance with Article IV of the Agreement between Commercial Solvents Corporation, E. I. du Pont de Nemours & Company and this Company, we hereby give you notice that this Company desires to proceed with the plan of reorganization as set forth in said Agreement.

Yours very truly,

(S) T. S. GRASSELLI
President

Exhibit 198

Copy to T. S. Grasselli
C. H. Rupprecht
Wm. Richter
C. R. Mudge

To: EXECUTIVE COMMITTEE SERIAL NO: S-2421

FROM: DEVELOPMENT DEPARTMENT July 13, 1931.

KREBS PIGMENT AND COLOR CORPORATION

In your Committee's resolution at the meeting on June 17, it was stated—

> "It is understood that as to the question of the inclusion or exclusion of Canadian rights that Dr. Starre will develop this situation with Mr. Purvis and Mr. Ticknor and report back to this Committee, and to the Grasselli Board if the interests of The Grasselli Chemical Company are involved, before the agreement is finally executed".

Your Committee has been advised orally that on further investigation it was ascertained that the Commercial Pigments Corporation does not, in fact, own the Canadian rights to the titanium pigment processes and therefore cannot convey these to the Krebs Pigment and Color Corporation. For this reason, the agreement relative to the organization of the new company does not mention the Canadian rights except to state that the du Pont Company and The Grasselli Chemical Company are under certain obligations to Imperial Chemical Industries and to Canadian Industries Limited as a prior commitment. This situation

has been discussed with Mr. Ticknor who states that there is only an informal oral understanding relative to the Canadian situation and it has therefore been suggested for the consideration of the management of the new Krebs Company that, as early as practicable, Mr. Ticknor should call on the European parties and endeavor to obtain the Canadian rights for the new Krebs Company or at least ascertain terms on which such rights could be obtained. The relations with Imperial Chemical Industries have also been explained to Mr. Ticknor so as to make sure that the du Pont Company's obligations are not overlooked.

Mr. Purvis has been advised in regard to the general situation and the writer has stated his willingness to meet Mr. Purvis at the first opportunity when he may be in New York or Wilmington in order that the situation may be explained to him though there is nothing we can do about the situation at this time.

The above is submitted to your Committee for your information and record.

Respectfully submitted,

FIN SPARRE
Director

Exhibit 199

TRAVANCORE MINERALS COMPANY, LTD.

The Krebs Pigment & Color Corporation owns shares and debenture bonds of the Travancore Minerals Company, a British company, operating an ilmenite deposit in India. It is from this deposit that the Krebs Company obtains ilmenite for the manufacture of titanium oxide.

The bonds and shares of the Travancore Minerals Company as now issued are as follows:

		Owner
6% Prior Lien	£20,000/0/0	Krebs
5% Debentures	13,989/0/0	Sir Hugo Hirst
35,000 7% Pfd.—1 shilling	1,750/0/0	British stockholders
35,000 Ord.—1 shilling	1,750/0/0	Various stockholders
23,320 "A" 1 shilling	1,166/0/0	Krebs

In addition to the 23,320 "A" shares (the entire issue) Krebs owns 4,500 of the ordinary shares. The "A" shares are entitled to two-thirds of the profits and to elect two out of five directors.

It is required by law that the shares owned by an alien must be registered in the name of a natural born British citizen. The registered owner must file with the British Secretary of State for India a declaration disclosing the name of the alien holding the beneficial interest.

The India office have ruled in the case of the Travancore Minerals Co. that they will not permit of further share holding by aliens. The present registered holders of the shares owned by Krebs are William A. Burton and Denis

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J. Burke. The actual stock certificates are in the custody of the Krebs Company together with signed blank transfers. Mr. Burton is a Vice-President of Commercial Solvents Corporation and its English representative. Major Burke is his assistant. At the present time Mr. Burton and Major Burke are respectively Managing Director and Secretary of Travancore Minerals Co. As registered owners their only function is to vote at the annual meeting.

The By-laws of Travancore Minerals are such that the stock holding of the Krebs Company entitles them to elect two directors: two other directors are elected by the other stockholders and the fifth director is nominated by the British India Office and is Ex-officio chairman of the Board.

The affairs of the Company are conducted by a management committee consisting of three board members, one of whom is the Chairman (nominee of the India Office). One represents Krebs and the third the British stockholders. The committee must act unanimously. Their actions are subject to review by the Board. As the three members of the management committee constitute a majority of the Board the action of the committee is practically final and the Krebs Company, through its own member, has power to veto any proposal to which they do not concur.

The present Board consists of:

Chairman—Sir John Hewett, Representing the India Office
Sir Hugo Hirst, Chairman British General Electric
Mr. George Mathey, Partner Johnson & Mathey
Mr. W. A. Burton, Vice-President Commercial Solvents
Major D. J. Burke, Secretary

The last two are the directors representing the former Commercial Pigments interest.

The Management Committee consists of

Sir John Hewett
Sir Hugo Hirst
Mr. W. A. Burton

History of Travancore Minerals Co., Ltd.

Deposits of monazite, a mineral containing thoria and ceria, were discovered in India in 1909. Some time shortly after their discovery, a German named Schaumberg obtained a concession from the government of Travancore for recovering monazite from the beach sands. In 1910, after holding it for a short time, Schaumberg sold the concession to the Cosmopolitan Mining Company (English Company). At the time of the sale the monazite production was at the rate of 300 tons per year. The entire production was being taken by the Deutsche Gasgluhlich Auer Gesellschaft (Welsbach). This Company, commonly referred to as the Auer Company, owned the patents for making gas mantles from thorium nitrate and needed monazite for making the thorium nitrate. The Auer Company had previously attempted to purchase the concession but were unable to do so.

On December 6, 1910 the Auer Company organized the Travancore Minerals Company (English Co.). Sir Hugo Hirst who owned an English lamp company, which manufactured gas mantles under the Welsbach patents, came into the situation and became the registered owner of the shares of Travancore, subscribed to by the Auer Co. The Travancore Minerals Company was formed to take over the concession and other rights of the Cosmopolitan Mining Com-

pany in Travancore. Jeager, the President of the Cosmopolitan Company, negotiated the deal.

While these negotiations were taking place the Cosmopolitan Mining Co., on May 6th, 1911, was granted a new concession from the Travancore Government running for 20 years and restricted to mining monazite. On July 15, 1911 the Cosmopolitan Mining Co. leased ten acres of private ground from the Raman Pillai Tarawad for a factory site. This lease was for a term of ten years but it was provided that it could be extended at the option of the lessee for ten years more.

The Travancore Minerals Company had an authorized capital of

20,000 ordinary shares (£1)
20,000 preference shares (£1)

The Auer Company subscribed to and paid for 10,000 ordinary shares and subscribed for 20,000 preference shares but only paid in £12,000. The deal between Cosmopolitan and Travancore was completed in 1912. The consideration to the Cosmopolitan Mining Co. was 10,000 ordinary shares of Travancore Minerals Co. Stock and £10,000 cash. The Cosmopolitan Company gave Jeager 1,000 shares of Travancore stock as a commission on making the sale. Auer promptly bought these 1,000 shares from Jeager so the final stock ownership was as follows:

Cosmopolitan	9,000	ordinary
Auer	11,000	ordinary
Auer	20,000	preference

After Travancore had acquired the rights of the Cosmopolitan Mining Company to the concession and factory

site lease they contracted with Schaumberg to operate the property.

A German Company, a subsidiary of Auer, took at £42 per ton the entire output up to 1,200 tons of monazite a year, a part of which they resold to the Lindsay Light Company. This arrangement continued until the latter part of 1914. Shortly after the outbreak of the war Hirst turned over to the Public Trustee all the German shares registered in his name. Schaumberg was interned and shipments to Germany stopped. Sales of Monazite to Lindsay were continued. The company at this time had a very considerable cash surplus and were making a profit on the sales to Lindsay. In 1915, the Public Trustee sold the German shares. These were eventually acquired by Sir Hugo Hirst and Sir John Hewett.

July 2, 1915 the capital was increased from £40,000 to £100,000, but only 15,000 ordinary and 15,000 preference shares were issued. This stock was offered pro rata to the successors of the German shareholder, the Cosmopolitan Mining Company being denied the right to subscribe for their pro rata share.

The new capital was to be used for building a plant for making thorium nitrate. When the Government sold the German owned shares it was on condition that the Company was to erect a plant for producing thorium nitrate. The firm of Johnson & Matthey subscribed to some of the new stock. A new company called the Monazite Products Company, was formed, 51% of the stock of which was taken by Travancore and 49% by Johnson & Matthey. The Monazite Products Company started to build a plant at Dartmouth, England.

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Previous to the war the Germans were operating a thorium nitrate plant at Serguiney, France. After the outbreak of the war the French Government seized this plant and put Dr. Blumenfeld, who was then working for the French Government, in charge. When the Monazite Products Company was started in England they retained Blumenfeld and put him in charge of the building of their plant and process development. $150,000. was spent on buildings and $100,000. on machinery and equipment. This plant never operated on a commercial scale.

In 1917 the Societe Chimiques de Produits Terres Rares (S.T.R.) was formed in France to take over the Sergueney plant. Travancore subscribed 750,000 francs (£50,000) for one-half of the shares of the capital stock. At the time of the subscription, however, they only paid 375,000 francs down. At this time then the Travancore owned one-half interest in Monazite Products and one-half interest in S.T.R. and Blumenfeld was Technical Director of both. Blumenfeld then started serious work on his titanium process, which was financed in part by Weizmann. After the war was over the price of monazite dropped and during the years 1919 and 1923 inclusive Travancore had little income. Lindsay and S.T.R. were its only customers. During these years Travancore were hard pressed for money. They had never fully paid up their subscription for S.T.R. shares. They were spending money for development of the Dartmouth plant and in 1923 were in a bad financial position. The Dartmouth plant was a complete failure and the project was abandoned. S.T.R. was pressing for a settlement on the share subscription.

Finally the S.T.R. was bought by a French Company called the Compagnie Industrielle et Miniere du Nord et des

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Alpes. The "Nord du Alpes" offered Travancore a certain number of their shares and a release from the unpaid balance of their subscription to the S.T.R. shares for the shares of S.T.R. held by Travancore. This offer was accepted and Travancore's investment of 375,000 francs in S.T.R. was represented by "Nord du Alpes" shares.

September 23, 1924—the concession was extended to zircon and ilmenite. From 1924 to 1925 Travancore sold some monazite and zircon, and in 1926 sold some ilmenite (this was the first ilmenite that they had sold).

By 1926 not only had the surplus existing in 1914 and the new capital subscribed in 1915 been expended but also the proceeds of a bond issue.

In 1927 the Monazite Products Company was finally liquidated. At this time the Travancore Company was heavily in debt and there was very little monazite business in sight although the demand for ilmenite was increasing. The mining concession would expire in 1931.

The principal stockholders were Sir John Hewett who had been prominently connected with the British Administration of Indian affairs, Sir Hugo Hirst, Chairman of the Board of the British General Electric and the firm of Johnson & Matthey, the official assayers of the Bank of England.

In February, 1927, Mr. W. D. Ticknor arranged with Sir Hugo Hirst to defray the expenses of obtaining a new concession and advanced for this purpose $25,000.00.

In May of the same year an advance of $30,000.00 was made to the Travancore Company for the purpose of providing facilities for the increased production of ilmenite. In September 1927 an arrangement was completed between Mr. Ticknor representing the Commercial Pigments and Sir Hugo Hirst, respecting the reorganization of the

Travancore Company and its refinancing. A new concession was obtained (the new concession was for 15 years and an option for a further period of 15 years).

The Company was reorganized and the charter amended to comply with the British Board of Trade regulations regarding alien participation in ownership of mineral deposits.

At the reorganization of the Company, the Commercial Pigments Corporation subscribed £20,000 of new debentures at 97 and received an allotment of a new class of one shilling shares entitled to ⅔ of the profits. Against this subscription were credited all the amounts previously advanced for obtaining the concession and for providing for increased factory facilities. The new financing, writing off and composition of old debts placed the Company on a sound basis. The Company has made substantial profits since its reconstruction. Monazite sales have increased due to the demand for ceria for glass making. The principal revenue of the Company has, however, been from the sales of ilmenite. In 1930 the 9,000 shares owned by the Cosmopolitan Mining Company were purchased by Commercial Pigments Corporation and Sir Hugo Hirst, each buying 4,500 shares. The Cosmopolitan Mining Company is now (1931) being liquidated.

The Company's charter, although the India Office has set a limit on the shares that can be held for the beneficial interest of aliens, has safeguarded the interest of such aliens.

The interest of the Travancore Company acquired by Krebs through purchase from Commercial Pigments Corporation and Blumenfeld is now the cominating one in the Company. However, the real deciding vote is and has to

remain in the Chairman of the Board who is the nominee of the British India Office.

Concession

The present concession is for the mining rights on the stretch of beach 79 miles long, lying on the southwest coast of India in the state of Travancore.

The indenture granting the mining rights on the 79 miles also gave the Travancore Company an option on the mining rights on a further stretch of beach adjoining and lying to the north. The extent of the concession and option area is the same as the original concession.

The mining operations are at present confined to about three miles of beach at Muttam this being the part of the concession that contains the richest sands. There is one other rich deposit lying outside of the concession but in the option area which is located at Quilon.

The concession is limited to the beach itself. Space for storing, treating and handling sands must be acquired by purchase or lease from the private owners of the property adjoining the beach. The mining rights on these private lands are also controlled by the government and they can not be mined except under a Government permit.

Controversy With Hopkin & Williams

During the period when monazite was in great demand for gas mantles manufacture it sold at a price that made its production a very profitable business. Companies other than Travancore were encouraged to go into the business. The Travancore Government looked with favor on the establishment of a competitor to the Travancore Minerals Company possibly on the theory that the Government's interest

was more protected by not having one company monopolizing the monazite business.

Among the companies so encouraged was Hopkin & Williams who purchased or leased private lands back of the shore line. They were given government permits for mining and were subject to government royalties. These royalties were the same as the ones charged the Travancore Co. for the beach concession so that the non-government concessionaires were subject to two royalties, one payable to the native owners and an additional one to the Government. The only survivor of the private land operators is Hopkin & Williams. They now own some properties and have leases on others. Their principal properties lie back of the stretch of beach on which Travancore is now working.

Travancore as successor to the Cosmopolitan Mining Company, obtained a lease of the surface rights on ten acres of ground adjoining the Muttam beach. On this site it located its present factory. The original lease dated July 15, 1911 was from a certain Tarawad (Indian family) commonly referred to as the Raman Pillai and Kumara Pillai Tarawad. The lease was for a period of ten years with a renewal privilege for a further ten years period. The ultimate expiration date was, therefore, July 15, 1931. The lease also contained a provision permitting the lessee an additional six months in which to remove his equipment.

In 1918 by some means, Hopkin & Williams obtained a lease to mine monazite (Ilmenite & Zircon not included) on 73 acres of land belonging to the Raman Pillai Tarawad. The 73 acres so leased included the 10 acres occupied by the Travancore Minerals Company's factory. After obtaining this lease Hopkins & Williams attempted

to oust Travancore from the ten acres. A law suit to accomplish this was brought in the Travancore courts but the underlying Travancore Co.'s lease was upheld and they were allowed to retain possession until July 15, 1931.

In the opinion of Travancore Indian lawyers the Hopkin & Williams 1918 mining lease expired in 1930 because according to Indian law a mining lease cannot be made by private owners for more than 12 years from the time that the lessee is permitted to enter the property. The Indian lawyers gave this opinion not withstanding the claim of Hopkin & Williams that they had been denied entry to the property due to the occupation of the ten acres by Travancore, the lawyers holding that the non-payment by Hopkin & Williams of the stipulated consideration barred them from claiming non-performance by the Tarawad.

In order to protect themselves, in case of failure to extend factory site lease beyond July, 1931, Travancore had, prior to the expiration of their lease, obtained a lease on an adjoining piece of land suitable as factory location shown on map as Togappan's Land.

In the latter part of 1930 Travancore before trying to get an extension of their lease to the factory site approached Hopkin & Williams with the suggestion that a definite settlement be made of Hopkin & Williams claims against the Tarawad under their lease of 1918, so that Travancore could get a clear title to a new lease. Hopkin & Williams imposed such impossible terms that Travancore could not accept them.

Later, Mr. Robert Brown, (owner of 50% of the stock of Hopkin & Williams) through Mr. Metcalfe of the I.C.I. (owner of 25% of Hopkin & Williams) communicated to Travancore the desire of Hopkins & Williams to cooperate

with Travancore in reaching an arrangement so that Travancore would not have to move. The arrangement proposed was that Hopkin & Williams were to negotiate for the mining rights for ilmenite and zircon on 63 acres out of the 73. (Their present mining rights cover Monazite only) Travancore were to take a direct lease on the 10 acres and pay Hopkin & Williams £2,000 for the loss of the mining rights on the 10 acres. It was agreed that the local managers of Hopkin & Williams and Travancore would carry out the negotiations. The local managers could not agree and up to the 5th of January, 1931 no settlement had been reached. On that date Messrs. Burton and Gamage, (the latter a son-in-law of Sir Hugo Hirst, Travancore director) representing Travancore, and Messrs. Brown & Metcalfe, representing Hopkin & Williams, met and agreed on a basis of settlement. This agreement provided that both Hopkin & Williams and Travancore obtain new leases simultaneously from the Tarawad, that Travancore pay Hopkin & Williams £2,000 and that Travancore join Hopkin & Williams in petitioning the Government to remove the ten yard restriction. (The Government in issuing mining permits for private lands always restricted these permits to a boundary ten yards distant from a concession boundary). The local managers of both companies were advised as to the terms of the agreement and instructed to carry out its provisions. Either through failure to give proper instructions or misinterpretation of instructions by the local managers no agreement could be reached. The latter part of January the negotiations were taken out of the hands of the local managers and turned over to the local lawyers of the two companies.

A number of months were spent in trying to reduce the London Agreement to the necessary formal papers, but

nothing was accomplished. Travancore had no right to occupy the premises after July, 1931 (except six months grace to move plant) and being in danger of being legally dispossessed sent Major Burke to India to see what the real difficulties were.

Major Burke found:

1. That the carrying out of the London agreement had been blocked by Mr. Taylor, Hopkin & Williams local manager, who in a letter dated January 21, 1931 to Mr. Priestley, Manager of Travancore, took the position that the leases could not be negotiated simultaneously and as a condition precedent to any negotiations between Hopkin & Williams and Travancore the latter must acknowledge the validity of the Hopkin & Williams 1918 lease. Only after such acknowledgment would Hopkin & Williams be willing to discuss any settlement with Travancore. (The settlement of the question of the validity of 1918 lease was the principal purpose of the London agreement).

2. That the removal of the ten yard neutral strip would bring the workers of the two companies close together. Since the local managers were not on speaking terms he feared that endless trouble would ensue. Further that the mining of the ten yard strip might damage the beach deposit.

3. That Hopkin & Williams had actually breached the London agreement in that they had attempted to get the Tarawad to sign a new lease covering the entire 73 acres for mining ilmenite and zircon. They had obtained two signatures to this new lease; one on January 17th and one on January 18th.

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In view of the above on April 18th Major Burke cabled his principals and advised the cancellation of the London agreement so that he could be free to negotiate at once with the Tarawad for a new lease on the ten acres. Travancore served notice of cancellation on Hopkin & Williams and the latter accepted cancellation.

Major Burke consulted the local Indian attorneys who advised him that the Tarawad, due to the small number that had signed the new Hopkin & Williams' lease, were in a position to make a lease for the factory site and in their opinion the Hopkin & Williams' rights under the 1918 lease were very limited and they would be unlikely to sustain the position they had taken in the courts.

Major Burke on this advice had prepared a new lease from the Tarawad to Travancore and got the signatures of 86.4% of the Tarawad. The new lease was for one year with an option for a ten year extension. It was still an open question whether the factory should not be moved in any case and the new lease with the Tarawad only committed Travancore for one year. The consideration for the extension period of ten years was 14,000 rupees at the present rate of exchange amounting to about $4,000. The Travancore Indian attorneys gave as their opinion in discussing the rights of the 13.6% who did not sign "for these reasons although the title is not perfect, the company (Travancore) is only taking a risk which a man of ordinary prudence would take under the circumstances.

The situation at present can be briefly stated as follows: Hopkin & Williams have a lease dated 1918 for mining monazite on 73 acres, on ten of which is located the Travancore factory site. Hopkin & Williams claim this lease runs for 12 years after they have been given possession of

the property and that up to now this possession has not been given them. Hopkin & Williams further claim to have the signatures of part of the Tarawad on a new lease running for 12 years from January, 1931. This new lease gives them the right to mine ilmenite and zircon. Up to now, they have not received a government permit for this purpose. Travancore has a lease on ten acres for one year with an option in the lease for ten years additional. The Travancore lease has been signed by 86% of the Tarawad. Hopkin & Williams have instituted suit against the Tarawad to gain possession of the entire 73 acres. This suit is still pending. A number of conferences have been had between representatives of Krebs and Mr. Brown looking to a dismissal of the suit but nothing definite has been accomplished.

The issue between Hopkin & Williams and Travancore is a question of their respective rights under the two leases; Hopkin & Williams' lease of 1918 and the Travancore lease of 1931 both made by the same property owner. The value of these rights is easy to estimate and it should not be difficult for Hopkin & Williams and Travancore to reach a perfectly fair agreement. Unfortunately, however, Hopkin & Williams have interjected into the discussions a demand that certain situations, which they consider unfair to them but not arising from the actual controversy, should be considered. The situations which they wish to discuss are:

1. Travancore has obtained contracts for supplying the requirements of a term of years of by far the larger users of monazite thereby leaving very little monazite business to Hopkin & Williams.

2. Travancore is in the position to obtain the business of practically all the users of ilmenite with the exception

of the I.G. who obtain theirs from an affiliated company in Norway.

3. Travancore has a government concession on the beach sand deposits and that such rich sand deposits as are on the private lands are contiguous to the boundary line of the government concession and as the law does not permit mining on private lands within ten yards of the concession boundary, they are stopped from mining the richest part of their leased ground.

4. Travancore has by means unfair to Hopkin & Williams established very friendly relationship with the natives.

Mr. Brown apparently feels that if he presses the present suit against the natives he will force Travancore to a discussion of the above situation.

As a justification of the continuance of the suit he advances the argument that unless the native "is put in his place" and shown that he cannot play one company against the other that in the long run it will be detrimental to both companies.

As a veiled threat as to what he can do to Travancore in other directions, he suggests that Travancore is dominated by alien stockholders while Hopkin & Williams is entirely British owned; therefore, the government in its consideration of the two companies will be more favorably disposed towards Hopkin & Williams and that government favors may play an important part in the success of either company.

The reason that Mr. Brown gives for continuing his suit appears far fetched. What the natives have done or

not done has been largely instigated by the local representatives of the two companies and it is hard to see any interpretation of Mr. Brown's desire to continue the suit other than to annoy Travancore. The relations existing between the Travancore Company and the natives is very satisfactory.

A bid for government favor based upon the ownership of the company's stock seems rather pointless. Both companies are British and pay British Corporation and Income Taxes. Both pay royalties on the minerals produced; the more minerals shipped the greater the revenue to both England and India. The present large shipments from India by Travancore are directly attributable to its alien stockholders and these stockholders in case of any discrimination against Travancore in favor of Hopkin & Williams can divert the business elsewhere and there would be no compensating business to Hopkin & Williams that would offset the loss of revenue to the State through income tax and royalties.

December 8, 1931.

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APPENDIX I

The lands owned and leased by Hopkins & Williams are reported to be as under. These have not been definitely checked, but the Travancore local manager believes them to be correct.

OWNED BY PURCHASE

Ordnance Survey No.	*Acres*	*Cents*
506 A.	1.	18.
" B.	1.	17.
520 A.	—	21.
" B.	—	29.
" F.	2.	23.
523 A.	1.	17.
" B.	1.	16.
	7.	41.

LEASED LANDS

LAND occupied by plant and buildings	17.	—.
" now being mined	64.	—.
Raman Pillai's disputed lease land	73.	—.
Pullian Tope	8.	—.
Total Land Leased	162.	—.
ADD " Purchased Land	7.	41.
Total Land Held	169.	41.

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NOTE: By local manager. Of the above lands the 73 acres owned by Raman Pillai is held very insecurely by Hopkin and Williams on a doubtful monazite lease, and an incomplete ilmenite and zircon lease signed by only two members of the Tarawad. The lease of the 17 acres on which their factory and buildings now stand is being disputed in the courts by the Indian owners. It is of course impossible to foretell the result but Hopkin and Williams appear to regard the matter as being serious, and in any event it will cause them trouble and expense. I do not anticipate that they will have to move as possession is nine points of the law, but they may have to pay heavily to stay on.

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APPENDIX II

MEMORANDUM OF AGREEMENT re Leases from Raman Pillai Tarawad made between Mr. Brown and Mr. Metcalfe representing the majority shareholders of Hopkin & Williams (Trawancore) Limited, Mr. Burton and Mr. Gamage representing the majority shareholders in Travancore Minerals Company Limited,

AGREED

1. IT is the object of negotiations to give Hopkin & Williams (Travancore) Limited the mining rights over the land at the same time to allow Travancore Minerals Company Limited to keep their buildings, etc., on their present site.

2. Travancore Minerals Company Limited will assist Hopkin & Williams (Travancore) Limited to obtain the mining rights over the whole area of 73 (seventy-three) acres from Raman Pillai Tarawad and Hopkin & Williams (Travancore) Limited will assist Travancore Minerals Company Limited to obtain from the Raman Pillai Tarawad a surface lease over the whole of the area comprised in their present lease (roughly 10 (ten) acres), both these documents to be signed simultaneously.

3. Travancore Minerals Company Limited will, in spite of this lease, permit Hopkin & Williams (Travancore) Limited to exercise their mining rights over the ground where the Travancore Minerals Company Limited Railway at present runs on the sea shore, but such exercise

shall not interfere with the working by Travancore Minerals Company Limited over the railway.

4. Travancore Minerals Company Limited will give Hopkin & Williams (Travancore) Limited a right of way over the leased land so as to allow them access to the road and in general both parties will give rights of way to each other in order to allow a general carrying out of their operations.

5. Travancore Minerals Company Limited will pay to Hopkin & Williams (Travancore) Limited £2,000 as compensation to the latter for giving up their mining rights under the leased land of 10 (ten) acres and this payment will be made immediately on signature of the Leases.

6. Travancore Minerals Company Limited will assist Hopkin & Williams (Travancore) Limited in any efforts they may make to obtain a reduction of the existing 10 (ten) yards marginal limit.

(Signed) ROBIN BROWN

E. METCALFE.

Imperial Chemical House,
London, S.W. 1.

6th January, 1931.

Exhibit 200

No. 402. Mr. Carter

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, September 11th 1931.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Mr. Blumenfeld is leaving today for New York on his way to Japan, and intends to call on Mr. Cornish. In view of this the following information may be of interest:

As you probably know, Mr. Ticknor gave a luncheon in London, at which were present Mr. Beschorman, Mr. Sidford, Mr. Warshow, Mr. de Greeff and myself, and Mr. Chase, Mr. Ewing (Dupont's European representative) and one other gentleman from Dupont's office in London, as well as Mr. Burton.

The day before, I called, as a matter of courtesy, on Mr. Burton, which resulted in a lunch with Mr. Ticknor and Mr. Chase. Both explained that the combination with Dupont would in no way impair the plans of a coming together of their and our group—it would rather further the matter. The Commercial Pigment Company and the two Lithopone companies of Dupont will be brought into one company under the name of Krebs Pigment and Colour Company in which the Commercial Solvents will have

shares, Mr. Ticknor will be a member of the board and Mr. Chase an active member of the staff. Mr. Ticknor wished to do all what he could to bring their groups and ours together, and he thought that I should not give up the plans of a consolidation of the titanium interests in Europe. They were leaving for the Continent and Mr. Chase expected to see Mr. Donegani of Montecatini and wanted to see me in Paris after that.

I asked Mr. Ticknor if not the prominent interests of Dupont in Lithopone will make them reluctant in developing titanium pigments. Mr. Ticknor considered that to be of no importance to him now, as he would have a profit from both pigments.

Mr. Blumenfeld here in Paris has told me that he was informed by Mr. Ticknor and Mr. Chase of the situation in New York, and that Dupont would continue the conversations with National Lead Company. He was willing to wait; he was, however, in a difficult position as he could sell more than he could produce, and he returned to his question of an earlier date—if we would deliver him some TiO2. He had also to decide before he left for Japan, whether he should put up a factory or not, but as such a factory would make an arrangement with us more difficult because we in that case ought to concentrate on Leverkusen, he was willing to make the sacrifice of postponing his decision, on the condition that we refrained from selling pure TiO2 in France and left that to him. He would take material from us in excess of his own production, and return the proceeds over to us after deduction of his expenses, so he thought there would be no sacrifice on our side.

I also met Mr. Ticknor in Paris, partly together with Blumenfeld and partly alone. He thought Blumenfeld's

decision not to take any steps which would prejudice a future agreement with us was most satisfactory, but was evidently surprised when I told him of the condition connected with this. He then criticised quite strongly Blumenfeld's attitude and suggested that I should have in mind to purchase Blumenfeld's interests. He said: "we have no intention of taking an interest in France and I do not know whether we will do anything in England".—I told Mr. Ticknor that a purchase of Blumenfeld's interests might be the best and perhaps the only way of dealing with Blumenfeld, in the case of a consolidation, but I was afraid that the price Blumenfeld would have to ask in order to save his face vis a vis his shareholders would be far too high.—Mr. Ticknor thought that Blumenfeld will not put up any factory this winter under any circumstances, thus confirming my own thoughts.

Neither Mr. Ticknor nor Mr. Chase had seen Mr. Donegani, but Mr. Ewing was going to Italy this autumn and would then talk over the matter with Mr. Donegani. Mr. Ticknor thought that Dupont could bring a lot of influence to bear upon Montecatini because of the intimate relations between them.

Mr. Beschorman, Mr. Henrikssen and I saw Mr. Blumenfeld last week and declined his offer, instead of which we suggested to cooperate with regard to the sale of TiO_2, on the same lines as you are doing in U.S.A. with the Commercial Pigment Company. I also told him that I wished in no way to influence his decision with respect to the creation of a factory, as I did not want to be under any moral obligation towards him with regard to possible future negotiations.

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Mr. Blumenfeld had his sales manager and technical director present at the interview, so Mr. Beschorman had an opportunity to get a personal impression of all three.

Mr. Blumenfeld telephoned me the day before yesterday, accepting our proposal—an arrangement which is presumed to last for a period of 6 months. He also has asked to extend this arrangement to Belgium and Holland, which I told him I would study with considerable interest, but reserved my opinion until I could talk it over with our agent there, adding that in the meantime we may have some practical experience how it would work in France. I promised Mr. Blumenfeld that in case of disagreement or frictions between his sales organisation and ours, I was willing to look into the matter personally if his people would bring the matter to me, which they all accepted.

Personally I am very much in doubt if anything will come out of this at all, in view of the reputation of his sales manager, but it seems to me from the above, that Blumenfeld is anxious to prevent the price for TiO2 to go lower than it is today. On the other hand, I pointed out that when we left to him to fix the price for TiO2 we would not accept an increase of the price.

Mr. Gilbert is of the opinion that we will get the larger part of the TiO2 business in France when the present contracts of the customers of Blumenfeld have run out. We are today delivering to some of Blumenfeld's customers who still have contracts with Blumenfeld with terms for delivery of undetermined date—deliveries the disclosure of which we cannot make in consideration of these customers. The above arrangement does also not oblige us to do this.

Mr. Blumenfeld's repeated suggestion to have us selling him TiO2 indicates that his relations with Montecatini are

still not good and that he also is reluctant to take material from U.S.A. On my question he gave the reason that both were selling all they could produce, but had to correct his statement with regard to Commercial Pigment Company —that this Company has been selling 550 tons per month in the last two months, corresponding to their output. Mr. Ticknor told me in Blumenfeld's presence that they were willing to deliver him TiO2 and, as the quantity Blumenfeld wants is only 25 tons per month, I do not think there should be any difficulty in this. May be the price Mr. Ticknor asks is too high. Blumenfeld's various sales prices in France will enable him to buy at 10-11½ cents per lb. fob, without leaving him profit, but carrying the sales expenses. Mr. Blumenfeld will however then have to introduce the American quality and refrain from mixing it with his own material, to the purpose of establishing a uniform quality; there is quite a difference between the American quality and that of Thann & Mulhouse.

Mr. Holm in Frankfurt told me over the telephone yesterday, that he had had a visit of Mr. Robinson and Mr. Merton. Mr. Holm said that they had complained of low prices and had evidently similar difficulties as we (I.G.).

There seem to be two movements amongst the Lithopone people: some who want to cut prices in order to force the smaller people to leave the business, and others who want higher prices. Mr. Holm has thought that the reduction of our prices will give the former an excuse to claim more strongly the forcing of lower Lithopone prices.

We have still made no change in the prices for the titanium pigments since my return. The meeting of the Lithopone Convention has been postponed to the end of September, and some technical experiments hoped to be realised in the nearest future, may have quite a bearing on

our price policy. I will write you about this in a separate letter.

I have had the pleasure of the visit of Mr. and Mrs. Beschorman and Mr. and Mrs. Sidford with their daughter. Mr. and Mrs. Beschorman left last Saturday and I will meet them again in Leverkusen, Monday the 21st. Mr. Sidford and family left yesterday for London, on their way back to U.S.A.

Mrs. Jebsen returned yesterday with the boys and joins me in sending to Mrs. McCarty and yourself our kindest regards.

Yours very truly,

G. JEBSEN

P.S.—I do not know what background Mr. Ticknor and Mr. Chase have for their evidently strong interest in a consolidation, but thought the above might be of interest to Mr. Cornish and yourself. Mr. Blumenfeld's position is probably not very strong at present, and this, together with their attitude, may hold him back from any aggressiveness for the time being.

Copy to Mr. Cornish.

Exhibit 201

COPY

October 30, 1931

Dr. G. Jebsen, Vice President
Titan Company Inc.
26 Rue de la Pepiniére, Paris, France

Dear Dr. Jebsen:

Many thanks for your letter of October 20th, No. 403, which brings the most encouraging news we have yet had from the factory at Leverkusen. I am sending copies of the letter to Dr. Thompson and Messrs. Ryan, Moses and Washburn all of whom will I am sure be much interested in it.

Your letter of September 11th, No. 402; was received in due course, but no reply was made at the time as we were expecting Mr. Beschorman in a short while, and thought any comments could better be deferred until after his return.

The changes which have taken place in England in the meantime have put all business in that country on a new basis, and the fall in the exchange had had the effect of reducing your price. It will be interesting to learn what the result has been. Tariff in England seems now assured as a result of the recent election, and I presume that the time has arrived when something definite should be done with respect to an English factory.

There has been little opportunity since the return of Mr. Beschorman and Mr. Sidford to discuss the titanium position in Europe, but we expect to give the matter our attention next week. In the meantime, we will await with

interest an expression of your views as to the whole European position.

I have been making quite a little progress since you were here—not as rapid as I should like, but perhaps all that I could expect. I have been coming to the office for a few hours each afternoon since the first of October, and quite enjoy the return to some of my old activities.

At one time we had some thought of taking a house in Pelham, but when the possibility of my return to the office developed we renewed our lease on our old apartment in Washington Square so as to be convenient to the office. We are, therefore, in our old quarters again for one year longer.

I understand that you were not able to move into your new apartment as early as you expected, but that you will do so some time before Christmas.

With kind regards for you and Mrs. Jebsen, I am,

Yours very truly,

McCarty.
Vice President

Exhibit 202

COPY

November 17, 1931

Dr. G. Jebsen
Titan Co. Inc.
26 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

Mr. Chase has again approached us on the subject of license agreement covering the Blumenfeld patents and our own.

Such an agreement could, I think, be arranged very easily on this side if it was thought desirable to do so, but the European situation is more complicated.

Mr. Chase feels that it would not be difficult to buy out Blumenfeld's interests in the various European countries with the exception of France, but thinks the French situation might prove a little difficult.

Will be glad to have the benefit of any ideas you may have on the subject.

Yours very truly,

McCARTY
Vice President

Exhibit 203

January 15, 1932

Dr. G. Jebsen
Titan Co. Inc.
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen;

I am much interested in your letter of January 4th, No. 418, which answers some of the questions asked in my recent letters to you.

Present conditions in Europe are so chaotic that one hesitates to predict what the outcome will be, but I am still of the opinion that sooner or later we will need a factory in England—perhaps sooner than we now expect. In view of this we should, I think, have our minds made up as far as possible as to what we wish to do.

All of us here feel that should we decide to build a factory in England we should like to have the Imperial Smelting Corporation as a partner if when the time comes the project appeals to Mr. Robinson.

Avonmouth may not be as well placed as some other locations from the point of view of transport, but I have been under the impression that this disadvantage can be offset by a lower price on sulphuric acid. Have you made any calculations on this point?

With respect to the Associated Lead Manufacturers, they seem very anxious to get into the titanium business. We do not consider that they are of particular value to the business except as potential consumers. It may be to our interest to allow them to take a participation in any company we form, but it would only be a small one, and perhaps not satisfactory to them. We should, of course, try to keep

them from going into the business with others, but may not be successful.

In mentioning the possibility of drawing our supplies of blanc fixe from LaPorte it was not my thought to locate a titanium plant at Luton, but possible to ship blanc fixe from Luton to the titanium plant.

I, of course, have no idea as to whether or not the English government would go so far as to put a tariff on crude barytes and ilmenite, but having seen the growth of the tariff sentiment in the United States once it is started I think we should be prepared as far as possible for all eventualities.

There is nothing new with respect to the patent situation. The DuPont interests as well as the Commercial Solvents people seem very keen on the exchange of licenses in this country. They tell me that they have no interest whatever in the titanium business in Europe, but are willing to give us their aid in bringing about a European patent arrangement in order to secure the agreement in the United States which they desire. We have not yet come to a conclusion as to whether or not we wish to make the arrangement they suggest in the United States, but are studying the subject. It has something to commend it. We will keep you advised of any new developments. In the meantime we hope you will formulate your own ideas as definitely as possible so that we may have the benefit of your recommendations.

With kind regards, I am,

Yours very truly,

McCARTY
Vice President

Exhibit 204

Letterhead of

NATIONAL LEAD COMPANY

February 10, 1932.

Mr. L. E. Barton,
Titanium Pigment Company, Inc.,
Niagara Falls, N. Y.

Dear Mr. Barton:

I would like to get your opinion with regard to the position I have taken with Mr. McCarty on certain phases of our patent situation. I advised Mr. McCarty that in my opinion we had two process patents which I believe the Commercial Pigments Corporation is using and infringing, which, if enforced, would prevent them from operating according to their present method, and might prevent them from economically manufacturing pure titanium oxide of high quality during the duration of these patents (about five years).

The first patent is the Wrigley and Spence No. 1,338,473, expiring April 27, 1937, covering the crystallizing out of ferrous sulfate prior to the hydrolysis of the titanium sulfate solutions. With the Commercial Pigments Corporation operating according to the Blumenfeld patents, their hydrolysis is conducted in relatively concentrated solutions, obtaining after hydrolysis an acid of relatively high strength and presumably some iron which they are able to concentrate or make use of economically in the preparation of acid suitable for fertilizer manufacture. My contention is that if they were not permitted to crystallize out their ferrous sulfate they would have to work with more dilute

solutions and probably could not work according to the Blumenfeld patents. However that may be, they would be subject to all of the difficulties connected with the recovery of their weak waste acid that confront us.

We bought the Wrigley and Spence Patent and have built up enough information to form affidavits to establish the priority of that patent. I told Mr. McCarty that I thought that the patent was good. He said that he had spoken to Dr. Jebsen about European rights and Dr. Jebsen thought that these rights would be of no value to the Titan Company as they had done this very thing. I told Mr. McCarty that a secret process would not stand against a patent except that the user might be able, in his own plant and under his own auspices, to continue to use the secret process but that it could not be assigned. It would appear doubtful, therefore, whether Leverkusen would have the right to crystallize out ferrous sulfate prior to hydrolysis if Wrigley and Spence had a patent issued to them in Germany standing against that crystallization.

I think I have stated what I told Mr. McCarty as fully as practicable, but there may be other points in connection with this matter that may occur to you, both for and against the position I have taken. I stated also, I think, that it was the general opinion of those with whom I talked (not my opinion only) that it would be very difficult for the Commercial Pigments Corporation to operate and produce a good pigment without prior crystallization, according to their present process or other processes which are available to them.

The second patent is the Olsen No. 1,333,849, expiring March 16, 1937. Somehow or other I have overlooked this patent and it covers the reduction of some of the titanium

to the tri-valent form prior to hydrolysis. It appears to me that this patent is good in spite of the fact that in some of the Titanium Pigment's prior patents reference is made to this reduction. These references are all incidental without apparent recognition of the necessity of the reduction of the titanium. I am obtaining the Patent Office file wrapper on this case to see what was cited against the Olsen patent and it may be that I shall ask Dorsey and Cole to give me a written opinion as to its validity. The Commercial Pigments Corporation by their process of crystallization would remove a large part of the iron but not all of it and it would seem likely that they would have to reduce the remaining iron and some of the titanium before their hydrolysis can be satisfactorily conducted.

I presume that if these patents were good when issued they are still equally as good, although it may be that they have lost some of their value through neglect on our part to warn the Commercial Pigments Corporation of their infringement. I am quite sure that these process patents could still be made the basis of a demand upon the Commercial Pigments Corporation to desist from their use. What damages we could collect is problemmatical. I am not now proposing to discuss whether it would be good policy for us to do anything. It is quite evident to me, however, that for five years we have almost an exclusive field under these patents if we desire to exercise our rights.

Please let me have your opinion at your early convenience.

Very truly yours,

G. W. THOMPSON

GWT:EA
c.c. Mr. McCarty

Exhibit 205

Niagara Falls, New York
February 15, 1932

Dr. G. W. Thompson, Chief Chemist
National Lead Company
105 York Street
Brooklyn, New York

Dear Dr. Thompson: See Olsen 1,333,849 File

Since receipt of your letter of February 10, 1932 relative to Spence U. S. patent 1,338,473 and Olsen U. S. patent 1,333,849, I have reviewed the prior art, particularly the patent literature, rather carefully.

I am convinced that the Spence patent 1,338,473 is sound and could be enforced to prevent the Commercial Pigments Corporation or others crystallizing Ferrous Sulphate from solution before precipitation by hydrolysis.

Wrigley and Spence specification does not indicate by examples that they cooled the solutions to any such temperature as proposed by Blumenfeld, but they refer to refrigeration and their claims are broad enough to cover the cooling of solutions to any temperature for crystallizing out more Ferrous Sulphate. I note too that the affidavit of Howard Spence refers to "subjecting the residual liquors to temperature at about the freezing point of water by refrigeration."

The crystallization of iron from Titanium solutions before hydrolysis and the resulting easier recovery of Sulphuric Acid from the solutions after the hydrolysis of Titanium compounds is likely to be an important favorable factor in

the cost of making Titanium pigments. To prevent the Commercial Pigments Corporation from using such methods would probably put them to considerable disadvantage, but I doubt if it would prevent them from manufacturing a good Titanium Oxide and competing with us to some extent.

The Commercial Pigments Corporation has another patent —Blumenfeld U. S. patent 1,489,183, April 1, 1924, which discloses another method of obtaining a Titanic Sulphate solution comparatively free from iron. The powdery mass of mixed iron and Titanium Sulphates resulting from the reaction between Ilmenite and Sulphuric Acid is treated with a limited amount of water while maintaining a temperature below 50 C, whereby the Titanium Sulphate is dissolved leaving a residue of Ferrous Sulphate. The residue is eventually worked up for crystallized Ferrous Sulphate. I have not tried this process but it does not read as if it would work very smoothly or with great economy from an operating standpoint. Undoubtedly the Commercial Pigments Corporation is as familiar as we are with methods for producing good Titanium Oxide from solutions containing all the iron.

I believe that the Olsen U. S. patent 1,333,849 is invalid because its subject matter is disclosed in prior art literature, including several of the Titanium Pigment Company's patents. The disclosure is particularly clear in the Rossi-Barton U. S. patent 1,196,030, August 29, 1916, from which I quote as follows: "We resort to any convenient, well-known manner of thus reducing the iron when so required as for example, by passing Sulphur Dioxide gas into the solution; but we have more conveniently obtained

the desired result by resort to the well-known electrolytic reduction of the iron in a diaphragm cell. . . . . .

. . . . . .

" . . . . . .

. . . . . .we use as the anolyte very dilute Sulphuric Acid . . . . . and pass the current long enough to ensure the complete reduction of the iron which is indicated by development in the solution of a pale violet color showing presence of some Titanous Sulphate." (Then follows the description of the precipitation.) In case the electrolysis is carried too far, "we have found it useful to add to the solution an oxidizing agent such as chlorin, chlorates, persulfates, or, much preferably, nitric acid, in such quantity as to oxidize most, but not all, of the titanous to titanic sulfate, the proper quantity of the oxidizing agent to thus employ being readily determined from the quantity of titanous sulfate in solution as shown by analyses. But it should be particularly noted that the amount of oxidizing agent thus added should be, in every case, less in quantity than required to completely oxidize all the titanous sulfate, since some atmospheric oxidation will take place during the boiling, and the presence of at least some little titanous sulfate we find desirable in order to insure the retention of such iron as may be present in the ferrous state, which, as we have above indicated, is a condition *indispensable* if production of the purest possible precipitate product is desired."

The process of patent 1,196,030 refers to a method of producing basic Titanic Sulphate of the character invariably produced at our Niagara Falls and St. Louis Plants, and presumably produced by our competitors in the manufacture of Titanium Oxide in pigments. Because our pre-

ferred method of reducing the iron in Titanium solutions was not at that time strictly novel, it was not specifically claimed as a step but the electrolytic method of reduction or any method of reduction was claimed in connection with the process as in claim three which reads as follows:

> The method of producing basic titanic sulfate from a titaniferous-ferruginous material, which comprises digesting said material with sulfuric acid so as to produce titanic sulfate, dissolving the resulting mass in water, reducing iron constituents to ferrous state, and boiling the resulting bath until basic titanic sulfate is precipitated.

The Titanic Basic Sulphate produced by this method was claimed as an article in U. S. patent 1,196,031.

The calcination of Titanic Basic Sulphate to produce Titanium Oxide is disclosed in other Titanium Pigment Company U. S. patents.

I note that you sent a copy of your letter of February 10th to Mr. McCarty so I am enclosing a copy of my letter in case you want it to complete Mr. McCarty's files.

Very truly yours,

.....

Dictated: L. E. Barton
BMM
Enc. 1

Exhibit 206

Niagara Falls, New York
February 20, 1932

Mr. W. F. Meredith, President
Titanium Pigment Company, Inc.
60 John Street
New York, New York

Dear Mr. Meredith:

Last month you discussed with me a possible arrangement with the DuPont Company for exchange of rights on patents relating to Titanium pigment. It was suggested that a survey of the present patent situation would be desirable, therefore I have studied the matter to a considerable extent and without making an exhaustive report, I submit the following facts and comments as they have occurred to me:

TITANIUM OXIDE

We have no patents which prevent competitors making titanic oxide but we have basic U. S. patents 1,205,267, 1,205,268 and 1,205,269 which cover the use of titanic oxide in paint. These patents, if enforced, would practically control the titanium oxide industry until November 21, 1933.

Representative Claims

U. S. 1,205,267

Claim 1—Paint comprising a pigment containing amorphous, white, titanic oxid (TiO_2) uncombined chemically with other substances.

Claim 3—Paint containing a plurality of pigments, one of which contains amorphous ti-

tanic oxide (TiO_2) uncombined chemically with other substances.

U. S. 1,205,268

Claim 1—Paint containing white lead and also another pigment containing amorphous titanic oxid (TiO_2) uncombined chemically with other substances.

U. S. 1,205,269

Claim 1—Paint containing zinc oxid and also another pigment containing amorphous titanic oxid (TiO_2) uncombined chemically with other substances.

We also have some patents which may give us a commercial advantage over competitors. For example—Spence U. S. Patent 1,338,437, which covers the crystallization of ferrous sulphate from titanic sulphate solutions before precipitation of the titanium compounds, thus permitting the use of more concentrated titanium solutions and economical recovery of sulphuric acid.

Titan Company U. S. Patent 1,333,819—Basic titanic iron sulphate solution and process of making same. This patent, which expires March 16, 1937, is *possibly* sustainable.

Representative Claims

Claim 5—The process of preparing from titaniferous materials containing iron a solution principally of titanium and iron compounds, which comprises subjecting the material to decomposition, by treating the material with sulphuric acid and lixiviating the resultant product, the quantity of sulphuric acid employed being less

than is required to form normal salts with the base-forming material present in the resultant solution.

Claim 21—As a new and useful article, a solution essentially of combined titanium and containing the SO_4 radical, the solution being formed from decomposition product obtained by the treatment of titaniferous materials with sulphuric acid, the SO_4 radical contained in the solution being in less quantity than would be present if all of the base-forming material in the solution were in the form of normal sulfates.

COMPOSITE TITANIUM PIGMENTS—TITANOX-C

Our basic patents U. S. 1,154,462 and Reissue U. S. 14,289 for composite titanic oxide calcium sulphate pigment and process, expires October 5th this year. After that date competitors may manufacture but the industry will still be practically controlled until 1934 by certain of our patents relating to application of composite pigments in paint. For example:

U. S. 1,218,161 Covers pigment and paint containing composite titanic oxide pigment and white lead. Expires March 6, 1934

Representative Claims

Claim 1—Paint containing a pigment comprising titanic oxide and a sulfate mixed with white lead.

Claim 3—As a new article a composite pigment comprising Titanic oxid and a sulfate mixed with white lead.

Exhibit 206

U. S. 1,313,874 Covers pigment and paint containing composite titanium pigments and zinc oxide—Expires August 16, 1936

Representative Claims

Claim 1—Paint containing a pigment comprising titanic oxid and an insoluble sulfate mixed with oxid of zinc.

Claim 2—As a new article a composite pigment comprising titanic oxid and an insoluble sulfate mixed with oxid of zinc.

U. S. 1,251,170 Covers pigment, paint and process of making same by mixing either composite titanium pigment or *titanic oxide* with a mineral extender—Expires December 25, 1934.

Representative Claims

Claim 2—A pigment comprising titanic oxid together with a sulfate base, intermixed with a mineral extender.

Claim 4—A pigment comprising titanic oxid and thereto unadherent barytes.

Claim 7—A pigment comprising principally titanic oxid and not to exceed 20% of a therewith intermixed mineral base.

Claim 9—Paint containing a composition of sulfate base with titanic oxid, and also a therewith intermixed mineral extender.

Claim 10—The method of making paint which comprises grinding together titanic oxid and a min-

ent extender, and grinding the resulting product together with a paint vehicle.

Claim 11—The method of making paint which comprises intimately intermixing a mineral extender together with a composition of titanic oxid with a sulfate base, and mixing the resulting product together with a paint vehicle.

Competitors must also avoid using our improved process of making composite titanic oxide calcium sulphate pigment covered by

U. S. 1,680,316 which does not expire until August 14, 1945

Representative Claims

Claim 3—The method of making composite titanium pigments from a titanium solution which comprises separately and preliminarily forming a suspension comprising acicularly crystalline particles of calcium sulphate, then adding same to the titanium solution, treating the charge to precipitate the titanium compounds upon said calcium sulphate particles, separating the precipitates from the solution, and calcining same.

Claim 14—As a new article, a composite pigment comprising titanic oxide coalesced with acicularly crystalline particles of calcium sulphate of minute substantially uniform fineness.

COMPOSITE TITANIUM PIGMENT—TITANOX-B

Our basic patent U. S. 1,236,655 for composite titanium oxide barium sulphate pigment and process expires August 14, 1934.

Exhibit 206

Representative Claims.

Claim 6—As a new article, a composite pigment comprising titanic oxid and barium sulfate.

After August 14, 1934 competitors may manufacture composite titanic oxide barium sulphate pigment but must avoid infringing our improved process or making the product of our U. S. Patent 1,409,648 which does not expire until 1939. This patent covers Titanox-B formerly made at our Niagara Falls Plant and now made at St. Louis.

Representative Claims

Claim 8—The composite titanic oxide pigment product consisting essentially of carrier particles of barium sulphate having therewith coalesced and thereto externally and interstitially adherent particles of titanic oxide and containing also a relatively small quantity of a fixed alkali compound.

COMPOSITE PIGMENT ON ANY BASE

Our U. S. Patent 1,223,357 which expires April 24, 1934, covers composite titanium pigment on any base or extender, either in calcined or uncalcined condition.

Representative Claims

Claim 7—In the production of composite titanic oxid pigments, the steps which consist in suspending in a titanic sulfate solution particles of therein insoluble matter and thereon precipitating particles of basic titanic sulfate.

Claim 9—As a new composition of matter, the herein described, uncalcined composite precipitate, distinguished as consisting essentially of particles of extender material having therewith coalesced thereto adherent particles of basic titanic sulfate.

Claim 10—As a new composition of matter, the herein described calcined titanic oxid product, distinguished as consisting essentially of particles of extender material having thereto adherent, therewith coalesced, particles of titanic oxid.

TITANIUM PIGMENT APPLICATIONS

Our Titanium Pigment Company patents on the application of titanium pigments in other products than paint are as follows:

U. S. 1,236,367	Use of Titanium Pigment in linoleum	Expires August 7, 1934
U. S. 1,283,455	Use of Titanium Pigment in printing ink	Expires November 5, 1935
U. S. 1,286,916	Use of Titanium Pigment in lake pigment	Expires December 10, 1935
U. S. 1,317,854	Use of Titanium Pigment in pliable filled fabric goods	Expires October 7, 1936
U. S. 1,322,518	Use of Titanium Pigment in rubber	Expires November 25, 1936
U. S. 1,326,319		Expires December 30, 1936
U. S. 1,365,882	Use of Titanium Pigment in nitrocellulose plastic	Expires January 18, 1938

From the foregoing it is clear that our patents, if enforced, will give a monopoly on the Titanium pigment business for two years and after that we would still have patent protection on various improvements which would give us an industrial advantage.

The Commercial Pigments Corporation's patents as a group are rather impressive but when carefully compared with the prior art, they do not appear nearly as formidable as a casual inspection would indicate. Some appear to be either entirely or partly invalid, subject matter of prior art patents being claimed in connection with some apparently new features. Some of their patents appear to be unimportant, others are interesting, instructive and doubtless contain contributions to the art. Some of the patents and claims are no doubt valid but of such a nature that they would not be effective in controlling competitor operations.

Unquestionably the Titanium Pigment Company is in a much stronger position as regards patent protection than the Commercial Pigments Corporation notwithstanding the fact that most of our basic patents will expire within the next two years. This relation should be fully allowed for in any contemplated arrangement.

The possibilities in future development of the titanium pigment industry are so great that the combined strength of Titanium Pigment Company's and Commercial Pigment Corporation's patents is unlikely to prevent the entry of new capital after our basic patents expire.

Future progress in the titanium pigment industry will probably depend more on technical and business initiative and aggressive development than upon patent protection; and in any arrangement for pooling interests the chief advantages

will probably result from exchange of technical information and cooperation relative to construction, operation, purchase of raw materials and marketing.

In considering the matter of pooling interests, it should be kept in mind that the Titanium Pigment Company, with its well-developed research facilities, sales organization and prospects of expansion in new products and facilities should be able to maintain leadership in the titanium pigment industry.

Relative to your question as to whether a survey of the Titanium Pigment patent situation had before been made, I will refer you to Mr. Andrew Thompson's letter of January 20, 1926 to Mr. McCarty.

I am sending copies of this letter to Mr. McCarty and Dr. Thompson with the hope that the information may prove useful to them.

Very truly yours,

.....

Dictated: L. E. Barton
BMM

CC E. T. McCarty
G. W. Thompson

Exhibit 206

Niagara Falls, New York
February 22, 1932

Mr. W. F. Meredith, President
Titanium Pigment Company, Inc.
60 John Street
New York, New York

Dear Mr. Meredith:

In my letter to you of February 20, 1932 in second from last paragraph, I should have called your attention also to Mr. Andrew Thompson's letter to Mr. McCarty of December 22, 1927 with which he enclosed a rather complete report relative to Titanium Pigment Company's and Titan Company's patents.

Very truly yours,

.....

Dictated: L. E. Barton
BMM
CCE. T. McCarty
G. W. Thompson

Exhibit 207

March 26, 1932.

Dorsey & Cole,
405 Lexington Avenue,
New York, N.Y.

Re: Validity of Olsen & Forland 1,333,849, in view of the patent to Rossi & Barton, 1,196,030.

Dear Sirs:

This is to thank you for your opinion of March 19, 1932, on the validity of the above patent.

I would like to make these comments. If the text of this patent relates only to basic solutions and it is construed that the claims relate only to basic solutions, there is, of course, only a limited protection given by this patent. There is another aspect of the question, however. The Barton patent makes certain disclosures, or presents a record of certain observations which have presented rather puzzling problems to me. If they recognized that the control of the reduction of the Titanium was essential to the precipitation of the iron free product through the prevention of the oxidation of the iron, why was it that they did not cover this step or a feature of the process by a claim? I have talked to Mr. Barton about this and I could not get an explanation that was very satisfactory to me. He stated, if I recollect correctly, that they thought this feature of the reduction of the titanium had been sufficiently disclosed to prevent them from making such a claim, but I cannot find any real disclosure prior to the Rossi and Baron patent 1,196,030. It seems to me that the fact that they did not attempt to cover by a claim this feature of the process of reduction is evident that they did not recognize the importance of the controlled reduction of the titanium for the purpose of obtaining a

white titanium precipitate free from iron. On the other hand, the Rossi-Barton patent does give considerable information about the reduction. This patent ought to be very carefully considered to see whether they give evidence of recognizing the importance of this feature. It is not clear to me, in view of the recent decision in chromium plating patents, that the mere recognition of certain occurrences, without attempting to apply those occurrences designedly for the purpose of securing certain results, constitutes anticipation. This appears to be the case here.

I should explain to you that our interest in this matter lies in the following facts. Certain manufacturers of titanium oxide are getting fairly good results in competition with us. We are confident that they cannot get these results except by the reduction of the titanium in amounts sufficient to prevent the oxidation of the iron during hydrolysis. We ought to notify these manufacturers that they are infringing this patent but we want to be rather sure of our grounds before we do so. I do not think that the matter would come up for action but we ought to be as sure in the matter before presenting our claim to them as we would be if we contemplated a suit.

You can see, therefore, that what confronts us is a very practical question. Under the Agreement between the Titan Company and the Titanium Pigment Company, all of these patents become merged and there would be no conflict between either interest during the life of the contract, but with regard to others the situation is somewhat different. I wish, therefore, you would give this matter a little more consideration and advise us candidly how strong you think the Olsen and Forland patent is.

Yours very truly,

C/T:EA
c.c. Mr. Barton

Exhibit 208

Letterhead of

COMMERCIAL SOLVENTS CORPORATION

April 19, 1932

Mr. W.C. Beschorman
National Lead Company
111 Broadway
New York City

Dear Mr. Beschorman:

I am sending you herewith a copy of Dr. Mayer's report on the conference held in Paris in 1931.

With this report, I am also enclosing a copy of Dr. Jebsen's memorandum on the proposed arrangement between Blumenfeld and Titan Inc., and a copy of my memorandum on the titanium situation, which you may keep for your files.

Very truly yours,

M. F. CHASE

M.F. Chase

MFC:BH
Encl.(3)

Exhibit 208

COPY

TRANSLATION

VEREIN FUR CHEMISCHE UND
METALLURGISCHE PRODUKTION
AUSSIG a/Elbe.

4th May, 1931.

W.A. Burton, Esq.
c/o Commereial Pigments Corporation,
Aldwych House, Aldwych,
LONDON, W. C. 2.

Dear Mr. Burton,

With reference to the negotiations which took place in Paris at the end of March this year in regard to (a general unification of agreement on) the titanium territory, I beg to send you herewith two copies of Report No. 12415. Owing to unforeseen circumstances, and other important work, the preparation of this report has unfortunately taken longer than I anticipated.

With kind regards,

Yours very truly,

(Sgd.) M. MAYER.

Enc. Report No. 12415 (in duplicate).

Exhibit 208

REPORT No. 12415 (Translation)

On the conferences with the under-mentioned held in Paris 22 - 26 March 1931.

Reported by Dr. Latka

Trip made by Dr. Mayer.
to Brussels, Paris, Cologne, Berlin.
from.....to 2nd April, 1931.

Present: Ticknor
Chase
Burton
Dr. Jebsen
Dr. Blumenfeld
Ourisson
Janda
Dr. Kuhne)
Holm) on 26.3.31 only
Dr. Mayer

RE: TITANIUM UNIFICATION. Dr./La/Nu. 4.5.31.

The first few days were spent in discussing primarily the international ruling on the titanium territory, when the working and market conditions of each group were considered. The demands to be made of the opposite group (National Lead, Titan Co. Inc. and Titan Gersellschaft) were also discussed.

In these preliminary discussions a special difficulty arose from the situation in England, because there the National Lead demanded 80% of the market and only wanted to leave 20% for the Blumenfeld group. Furthermore, the Verein and the Blumenfeld group demanded as part of their

territory, outside England, a division of the market in the ratio of 40 : 60. A difficulty also arose from Bovisa's position on account of the fact that Dr. Blumenfeld had granted Bovisa the selling rights in a number of countries up to the 1st July 1933.

At the end of the first few days the position was that a demand was made to the Titan Co. of Leverkusen for a 40 : 60% division of the market, whereupon they replied that this proposition could form no basis for further negotiations and that it was quite useless for the I.G. representatives under these conditions to come to Paris.

This attitude of the I.G. made fresh preliminary negotiations with the Blumenfeld group necessary with the object of getting them to abandon to the Verein, in addition to the territories formerly reserved for the Verein, all those countries which the Titan Company of Leverkusen is to-day working in addition to the territories reserved for the Verein. After lengthy negotiations Dr. Blumenfeld declared himself in agreement with such an arrangement under certain conditions.

Now as regards the division of countries, the following should be noted:

1. The reserved territory of the Titan Co. of Leverkusen includes the following countries:

Germany	Austria
Russia	Hungary
Poland	Jugoslavia
Danzig	Czechoslovakia
Roumania	
Bulgaria	Switzerland
Greece	Spain
Albania	Portugal
Turkey	China
Japan	

All these countries will thus, in accordance with the arrangements made for the proportion of the Titan Co., remain the Verein's contracted territory, whilst all other countries, with the exception of North America including the Philippines and all islands, as well as Canada (Commercial Pigments Co.) shall belong to the Blumenfeld group. For Denmark only, special arrangements have to be made.

11. As the territory formerly reserved for the Titan Co. Inc. in relation to the Titan Co. of Leverkusen and the National Lead, the following were determined:

Sweden
Norway
Denmark
Finland
Estonia Lithuania
Lettland
France (with its colonies)
Italy " " "
British Empire
Belgium (with its colonies)
Holland " " "

North America, including the Philippines and all islands, as well as Canada, is the territory reserved for the National Lead.

111. South America belongs jointly and in equal parts to the National Lead and the Titan Co. Inc., the latter shall however surrender its right of delivery to the Titan Co. of Leverkusen. In the event of such an arrangement,

Messrs. Chase and Ticknor asked Dr. Blumenfeld that the Blumenfeld group should grant Commercial Pigments Corporation the right to supply South America with one half the sale of the Blumenfeld group.

The supply of the South American market was therefore allotted as follows:

National Lead
Titan Co. Leverkusen (with Verein—one half the share of the Blumenfeld group)
Commercial Pigments Co. (the second half of the Blumenfeld group's share).

As this would mean a position which could not be maintained, Dr. Jebsen is to negotiate with the National Lead to get them to refrain from exporting to South America. The question is therefore in in abeyance and has yet to be settled between Messrs. McCarty and Jebsen.

Iv. As regards the British Empire, the following is the position: The National Lead is contemplating erecting a titanium factory with the Imperial or National Smelting Co. in Avonmouth (where cheap zinc sulphuric acid is available). Now it was taken into consideration that the English outside groups must have an approximately 25% quota, whilst the remaining 75% should be divided in the proportion of 40 : 60% between the Blumenfeld groups and the National Lead groups, so that the quotas would amount to:

25% for the English group
30% for the Blumenfeld group
45% for the National Lead group

v. The following distribution was also agreed between the Titan Co. Inc. and the Blumenfeld group for the remaining countries:

France:	Blumenfeld group	40%
	Titan Co, Inc.	60%
Holland and Belgium:	Blumenfeld group	20%
	Titan Co, Inc.	80%

whereupon Dr. Blumenfeld stated that this division should only be for the requirements of Holland and Belgium, and not for those quantities which are mixed in these countries and exported as titanium lithopone and the like. For such export the above-mentioned ratio of 40 : 60 shall be in force. (With reference to the carrying on of business, Dr. Jebsen demanded that his group in view of their quota of 60% should have the carrying on of the business. This matter remains to be settled internally with the Blumenfeld group).

vi. Italy belongs entirely to the Blumenfeld group, i.e., Bovisa; the Blumenfeld group asked on behalf of Bovisa that this company might thoroughly exhaust their yearly capacity of 1500 tons, thus the Titan Co. Inc. should undertake the sale of quantities of of titanium acid not sold in Italy.

In the following discussion it was first of all considered what quantities Bovisa had hitherto effectively sold and it was hereby determined that only about 1300 tons were sold, of which 400 tons remained in Italy.

In view of the sales figures determined, a counter-demand was made of the Titan Co. Inc. that only a quota of about 1300 tons shall be allowed to Bovisa, whereat the

Verein undertook to dispose of 170 tons in their territory. This counter-demand supported by Messrs. Chase and Ticknor, was discussed again later (see under).

In this connection, Dr. Jebsen has stated, on inquiry, that he has sold 1178 tons—referring to pure TiO_2—in the territories of the Titan Co. (but all as mixed pigment).

The negotiations had now reached a deadlock. At this point new possibilities of a general agreement were discussed in detail with Mr. Chase, giving rise to the proposal already mentioned above, according to which the Blumenfeld group is to surrender certain territories to the Verein, so as to admit of the possibility of a general agreement with the I.G. A further telephone call was made to Frankfurt, whereupon on the 26th March, Dr. Kuhne and Mr. Holm joined the conference. Then Dr. Mayer entered into immediate negotiations with these gentlemen and Dr. Jebsen. The I.G. representatives were informed that the Verein had had certain countries surrendered to them by the Blumenfeld group, so that now the territory for the activities of the Titan Co. Leverkusen and the Verein (with the exception of Denmark) was the same. The Verein now demanded 30% of the market, with a guaranteed 600 tons increasing to 40%. The I.G. representatives, referring to the discussions in Davos, stated that they had thought that the Verein would be content with the 20% offered them at that time. They then offered 25%, without however, a guaranteed minimum. Dr. Mayer said that that could be considered so long as a total market of an amount up to 2800 tons was meant. But the arrangement with Bovisa was also of importance, for it was impossible for the Verein to take over exactly 170 tons from them. The Verein could at the most undertake to take over from Bovisa 20% of what

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the Verein delivered on their quota, with a maximum of 170 tons. But even this maximum quantity of 170 tons ought not to be fixed for ever. If the Bovisa market grows, the Verein must be freed of their obligation to Bovisa. (In the definite contract a suitable clause must be inserted to this effect).

It was then arranged that discussions should take place in Paris between the Titan Co. Incorporated, the Blumenfeld group and Messrs. Donegani (Bovisa), to settle the above indicated questions in so far as they concern Bovisa.

With the members of the I.G. it was further discussed what quota the Verein should have for an increase of total sales over 2800 tons. Dr. Mayer wanted a successive raising of the quota of the Verein up to a total sale of 7000 tons, so that at 7000 tons the quota should be 35% of the total sales. In the course of the discussions however this quota was reduced to 32% but it was explained that with a total sales exceeding 7000 tons the quota of the Verein should amount to 35%, not however on the total quantity but only on that portion of the total which exceeds 7000 tons. The Verein should formulate its proposal more precisely and submit it to the members of the I.G.

The outlook of the whole Titanium business was then discussed whereupon it was agreed that in the present situation the business may be unprofitable and an improvement can only be expected when it is possible substantially to raise the total sales. In this connection it was recently mentioned by the members of the I.G. that the plant of the I.G. which at present is not worked at anything like full capacity, could, with a relatively slight addition of cost, increase its capacity, from 4500 tons to 9000 tons. In regard to the future outlook, the statements of the Americans were in-

teresting. They say that according to experiments made in America there is not the slightest doubt that an addition of TiO_2 to lithopone not only raises the covering power but leads to a better stability than lithopone alone possesses. This was the reason why the business in America has developed so much more quickly. It was thereupon agreed that the question of manufacturing Titanium lithopone should be gone into thoroughly by the interested parties.

The sale possibilities of Titanic acid pigments as against Zinc white and white lead were decided as follows:—
White lead can be displaced extraordinarily quickly: With Zinc white it depends whether it is possible to put on the market a product superior to Zinc white at a competitive price. Since the covering power of titanic acid is, according to quality, two and a half to three times that of zinc white, the possibility arises, given a sufficiently cheap production cost for titanic acid, of putting on the market a mixture of titanic acid, zinc white and barium sulphate which is no dearer than zinc white but which has considerably better stability properties.

The possibility was then discussed of increasing quickly the sale of titanium white and the following method was reviewed. First, competition with white lead, the sale of which in Germany is estimated at about 10,000 tons and this could be completely displaced by titanium white. Secondly, competition with zinc white (sale in Germany about 12,000 tons) and with lithopone. Here it might be advisable to introduce and force the titanium-lithopone which has already been introduced into America. If favourably working lithopone factories were supplied with titanium oxide at a suitable price, a similarly prepared titanium lithopone must be available to open up large opportunities of sale.

Thirdly the idea of supplying unadulterated titanium white to colour works and merchants for the purpose of manufacturing with these mixed products might be to advantage avoided because of the danger of inferior mixed products being put on the market, which might discredit titanium white.

As regards the further development of the business everything depends on how cheaply titanic acid can be produced. It was agreed that, if the unification in the commercial field is carried out, one must co-operate with the I.G. and test out all possibilities in order to permit of the production as cheaply as possible. It was also clear that if Leverkusen can operate more cheaply, as much as possible of the capacity of Leverkusen should be used before a new English, French or a new factory of the Verein is erected. The point was then discussed under what conditions Leverkusen was to abandon the prepared pigment colours to the other groups of the agreement. If these conditions are particularly advantageous, the idea could be considered of the other factories curtailing or even closing down their production so far as customs conditions permit, if it did not appear expedient in the interests of the development of the business to work these factories further.

It is still to be noted that the Titan Co. Inc. requested the Verein to give up Denmark in their favour. Dr. Mayer expressed himself as ready in principle for a compensation yet to be fixed.

The final results of the discussions can be summed up as follows:—

(1) *North America and Canada.* This territory remains reserved for the Blumenfeld group (Commercial Pigments) and National Lead by reason of an internal agreement.

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(2) *South America.* The settlement of the respective questions remains open. According to the last arrangement (see the detailed announcement above) this territory would be at the disposal of National Lead, Titanium Co. Leverkusen (together with Verein) and Commercial Pigments Co. Mr. Jebsen will further negotiate with Mr. McCarty as to whether National Lead should give up the South American market, in which case the Commercial Pigments Co. would also give up its claim to supplying South America.

(3) Relation of the Titan Co. Leverkusen towards Verein.

The agreed territory (after the original reserve territory of the Verein became extended through the abandonment of a single country by the Blumenfeld group) now comprises the following countries:

Germany
Russia
Poland
Danzig
Austria
Hungary
Jugo-Slavia
Czecho-Slovakia
Rumania
Bulgaria
Greece
Albania
Turkey
Switzerland
Spain
Portugal
China
Japan

The sale in all those countries which are worked by the Titan Co. Leverkusen, will be divided between this company and the Verein as follows. Up to a total sale of 2800 tons per year the Verein receives 25%; for a higher total sale than 2800 tons per year up to 7000 tons per year there will be a successive raising of the quote of the Verein so that at 7000 tons the quota will amount to 32% of the total sales. With a total sales above 7000 tons the quote of the Verein will amount to 35% but not on the total quantity, only on that portion of the total sales which exceeds 7000 tons.

(4) Relations between National Lead or the Titan Co. Inc. and the Blumenfeld group:

(a) *British Empire.* The sales should be so divided that the English outside group should receive a quota of 25%, the Blumenfeld group 30% and National Lead 45%.

(b) *France.* The sales should be divided into 40% for the Blumenfeld group and 60% for the Titan Co. Inc.

(c) *Holland & Belgium.* The Blumenfeld group should receive 20% and Titan Inc. 80%. But this system of division shall only hold good for the requirements of Holland and Belgium and not for those quantities which, in these countries are mixed and exported as Titanium Lithopone or the like. For the purpose of these exports the proportions should be 40 (Blumenfeld group): 60 (Titan Co. Inc.)

(d) *Italy.* 100% belongs to Bovisa. It should be further discussed with Bovisa on the basis that Bovisa to start with remains assured of a total sale of about 1300 tons and that the Titan Co. Inc., within the limits of this total quan-

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tity, shall remove the quantities not sold in Italy, especially for the supply of the English market. The Verein would, in order to ease the situation, take away from Bovisa 20% of that quantity which it supplies on its quota (see para 3) but with a maximum of 170 tons per year. The latter maximum quantity would not remain fixed but rather, if the sales of Bovisa increased, the Verein must be successively freed from its obligation to Bovisa.

(e) *Sweden, Norway, Finland and the Border-states* are the reserve territory of the Titan Co. Inc.

(5) *Denmark*

The question of the handing over of this country by the Verein to the Titan Co. Inc. is foreseen but the compensation to be rendered for it still remains undecided.

The duration of the agreements to be made is, provisionally, for a period of 15 years. Since the American partners would prefer to make the arrangements for a period of 20 years, this latter duration should be accepted if the Americans insist on it.

A general exchange of experience is provided for as well as an agreed regulation of patent matters.

(Sgd.) DR. LATKA.

Exhibit 208

MEMORANDUM OF TITANIUM SITUATION

The development of the titanium business in Europe is at the present time in the hands of the following companies:

I.G. (Kuhne)
Aussig (Mayer)
Montecatini (Donegani)
Thann (Blumenfeld)
Titan Co., Inc. (Jebsen)

The total productive capacity is at the present time sufficient to supply the current demand. However, it is thought that it will not be long before additional capacity will have to be created. The program of Aussig and Thann is that shortly they will have to build plants. The capacity of the I.G. Plant can be considerably increased at a small expense and it seems that all of the European manufacturers feel that it is desirable that they enter into an arrangement whereby the construction of new plants can be deferred for the present and that the supplies can be drawn from the existing plants and the increased plant of the I.G. In arriving at such an agreement it was necessary to arrange for the proportion of business that each company would have. The proposed arrangement is set forth in the memorandum prepared by Mr. Jebsen.

The point has been raised that three of the companies who would be a party to this agreement; that is, I.G., Aussig and Montecatini, are engaged in the manufacture of lithopone and that perhaps the development of the titanium business which is competitive with lithopone would suffer because of this. As far as the I.G. territory is concerned which would be identical with that of Aussig there is, ap-

parently no way to avoid this as both Aussig and I.G. are now in control of the two operating titanium processes. In regard to the territory outside of Germany, with the exception of Italy, the present titanium interests have no lithopone operations so that this territory can be exploited without respect to the effect it might have on the lithopone sales. It is unlikely, that if titanium is sold outside of Germany at a price to make serious inroads on lithopone sales that eventually the price of titanium would not be the same in Germany. This would in a measure counteract the effect of the titanium producers in Germany being more or less influenced in their policy by the fact that they were making lithopone.

The advantages of making the proposed arrangement are:

A—That by the use of the combined information and of concentrating the production in single plants the cost of production would be considerably lowered; that the advance in the art would be more rapid than if the various companies were acting independently.

B—That the sales and advertising could be conducted more cheaply and effectively.

C—That a combination of the present producers, which includes the strongest chemical concerns in Europe would deter other interests from engaging in the business and provide for some time a monopoly for those who have developed the manufacture of titanium.

All the European manufacturers are desirous of entering into such an arrangement. Under the existing condi-

tions such an arrangement cannot be affected unless the National Lead and the Commercial Solvents agree to it.

There are two questions still open for discussion; one of which is the disposition of the Montecatini tonnage (this can probably be worked out by the European interests themselves), the other is the English situation. The proposal for England is a combination between the Imperial Smelting Company, the Commercial Pigments and the National Lead. The division of participation has been tentatively agreed to. However, there is still open the question of composite pigments and the relation of the selling price of such pigments to that of pure titanium oxide. The plant contemplates the erection of a pure titanium pigment plant in England and the importation for the present of composite pigment from Germany. In order to protect the English plant a satisfactory differential between the selling price of pure titanium and the selling price of composite pigment must be established. At the same time the plan must provide at some time in the future that the English plant can produce composite pigments. So far no constructive suggestion has been offered as to how this situation can be met. It is obvious that as a continuing proposition that the English plant could not be excluded from the manufacture of composite pigments; (a) because of the expiration of patents and (b) the difficulty of maintaining a proper differential between the selling price of the two pigments. The expectation is that the cost of production of pure titanium can be reduced to a low figure. In the event of a general duty being applied in England, it would be impossible to import composite pigments into England from Germany at a price at which they could be sold in competition with the English produced pure titanium oxide so that

eventually the English plant would have to engage in the manufacture of composite pigments if the composite pigment market is to be held. It is also quite obvious that a discrimination between the various partners in the English plant as regards the division of profits from the sale of composite pigments and straight titanium would not be fair. It would seem that the fairest way of approaching the solution of this particular difficulty would be by establishing a date after which the English Company could engage in the production of composite pigments.

An agreement to this European program by the Solvents and the National Lead can only occur if these two companies enter into some agreement as regards patents and development in the U.S. either by combination of companies or by a cross-licensing arrangement. An arrangement of cross-licensing between the National Lead and Commercial Solvents would probably be warranted on account of the European situation if there were no disadvantages to either of the Companies now interested in the American market. However, if done it should be worked out in a way to improve the position of both companies.

The advantages to the National Lead and Commercial Pigments, are:

1. A stronger position of both as against a possible third Company.
2. A more rapid advance in technical development and lowering of costs.

There would be no price fixing or division of market.

To accomplish any cross-licensing two situations would have to be cleared up:

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1. Composite pigments
2. New inventions not yet disclosed through issued patents.

It has been suggested that composite pigments be excluded by both parties. This, however, might not be to the best interests of either company and a more constructive plan looking to a more rapid development of titanium in all forms might be worked out.

The new inventions not yet disclosed might be taken care of by an arrangement providing that each company would pursue their own research and development without disclosure, and until issuance of patents, and that on such issuance each party would be entitled to a license. This would provide the proper incentive for individual work, while duplication could be avoided by joining in experimental work on certain specific problems before the work was started.

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MEMO

Minutes of Dr. Jebsen

REGARDING A PROPOSED ARRANGEMENT BETWEEN THE BLUMENFELD GROUP AND TITAN CO. INC.'S GROUP TO THE PURPOSE OF THE REGULATION AND FUTURE DEVELOPMENT OF THE TITANIUM INDUSTRY

Titan Co. Inc.'s group consists at present of the following licensed enterprises:

Titan Co. Inc.
Titan Co. A/S
T.G.m.b.H.
Sté Industrielle du Titane (France).

Further, a close cooperation by agreement is established with the Titanium Pigment Co., which has the exclusive patent rights for North America and non exclusive rights for South America.

The Blumenfeld group consists of the following enterprises:

Sté des Terres Rares
Thann & Mulhouse
Aussig
Montecatini
Commereial Solvents Co.,

which cooperate through exchange of licenses and experience.

Each enterprise has a definite territory for the sale of its product and also definite territory within which they can undertake the manufacture.

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1) The Blumenfeld group will arrange the division of territories in accordance with the division established for the Titan Co. Inc.'s group, to the purpose that Aussig has the same territory as T.G.m.b.H. Commercial Solvents has the same territory as Titanium Pigment Co.

a) It is presumed that an agreement will be reached between the Commercial Solvents Co. and the Titanium Pigment Co. regarding a cooperation within their territory of such a nature than an exchange of licenses and experience can take place between all the companies concerned.

b) It is further presumed that an agreement between T.G.m.b.H. and Aussig of the same character will be made, and that the lines of this will be:

Out of a total sale in their territory until 2800 t. of TiO_2 (contained in various products) Aussig shall have the right to deliver 25% and T.G.m.b.H. 75%. When the sale exceeds this quantity the quota of Aussig shall increase on a sliding scale which will provide for a quota to Aussig of 32% when the sale reaches 7000 tons. Of any sales exceeding these 7000 tons Aussig's quota shall be 35%.

c) ITALY.

Montecatini has at present the exclusive right to the manufacture and sale in Italy under the Blumenfeld patent, and a temporary right to undertake an export.

It is stated by Mr. Blumenfeld that the Montecatini deliveries in 1930 have been:

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Italy	400 t.
England	430 t.
Belgium & Holland	90 t
France	135 t.
Various countries	100 t.
Aussig's territories	160 t.
	1315 t.

and that these deliveries have been made to bona fide buyers, either consumers or dealers, for their regular trade, with the exception of 135 tons delivered to Thann & Mulhouse, and the 160 tons delivered to Aussig, which quantities have been bought by these companies for resale.

In view of the Italian market at present not being developed to consume the total capacity of 1500 tons of the Montecatini factory, it is foreseen that Montecatini, until the end of 1936 at latest, shall be allowed to export of its own production to England, France, Belgium, Holland and "various countries" the same quantities as above mentioned for 1930, on certain conditions which provide for the control of the sales and secure that those are conducted in accordance with the sales policy which from time to time is determined by the company which has the licensed rights for the territory to which the export is made. A specification of the export to the "various countries" shall be given and the permission applies only for such quantities to each of these countries as has been sold and delivered in 1930.

Montecatini has sold in England through Taylor Brothers & Cox. The English company (which shall take over the rights for the British Empire) shall have an option to take over the sale of the Montecatini exports to the

British Empire when the agreement with T.B. & Cox is finished or at an earlier date, in the latter case by giving T.B. & Cox a part of a commission on the condition of the English company guaranteeing that the quantity allowed to Montecatini will be sold. The price to be the English Company's sales price less a commission, Montecatini to deliver TiO_2 of a quality equal to what the English company otherwise sells. This quality to be established by standard samples to be sent Montecatini from time to time. In case of dispute regarding the quality, this to be settled by arbitration. (As arbitrator suggested Dr. Jordan of the Research Institute of the Federation of the Oil and Colour Trade in U.K.)

It is presumed that Aussig will buy from Montecatini a quantity of 20% of Aussig's sales up to 160 tons. Montecatini will endeavour to increase the consumption of TiO_2 in Italy and as its domestic sales develop it will reduce its exports to the countries above mentioned by the same quantity, this reduction shall be distributed pro rata over each of the countries mentioned.

Montecatini shall not increase its present annual production until the Italian market consumes it all, upon this occurring all export by Montecatini shall cease.

The same or similar stipulations as made for the import to England to be applied to the import into the other countries mentioned above, except Aussig's territory.

The Montecatini sales in 1930 to be proven to the satisfaction of Thomson and McLintock & Co. London.

d) BRITISH EMPIRE.

It is foreseen that Blumenfeld or Commercial Solvents Co., Imperial Smelting Co. and Titan Co. Inc. shall be

interested in an English company in the following proportions:

Blumenfeld	24%
C.S.C.	25%
Titan Co. Inc.	51%.

The English company to have the exclusive rights in the manufacture and sale for and in the British Empire, and to erect a factory for the production of TiO_2 with the following exceptions:

a) Montecatini's right to import into England as above mentioned.

b) Titan Co. Inc. to have the exclusive right to import composite Titanium pigments. The incidents of this stipulation to be subject of further conversations between Mr. McCarty and Commercial Solvents and/or Mr. Blumenfeld.

e) FRANCE.

It is foreseen that Blumenfeld and Titan Co. Inc. will form a French company in which Blumenfeld will have 40% interest, and Titan Co. Inc. will have 60% interest.

This French company to have the exclusive rights to the manufacture and sale for and in France, Colonies, Dependencies and Protectorates.

Until the company erects its own factory it will take its requirements of Titanium products from the source of supply which offers the best conditions.

Thann & Mulhouse agrees to stop its sales, which will exclusively be made by the new company. Thann &

Mulhouse agrees to cease its manufacture and delivery of Titanium products at latest when the French company starts its own production, and to refrain from any activities in the Licensed Field for a period of
with the exceptions foreseen below.

It is foreseen that license may be given to Thann for the production of Titanium compounds other than pigments to the extent the new French company finds this advisable, and Thann is especially suited for such manufacture, for inst. for $TiCl_4$.

The French company to allow Montecatini to export to and sell in France 135 tons TiO_2 as above foreseen.

f) Belgium and Holland.

It is foreseen that Blumenfeld and Titan Co. Inc. shall be interested in a Belgian or Dutch company in the following proportions:

Blumenfeld	20%
Titan Co, Inc.	80%.

This company to have the exclusive rights to the manufacture and sale for and in Belgium and Holland, incl. their Colonies, Dependencies and Protectorates.

For the present it will take its requirements of Titanium products from the source of supply which offers the best conditions.

In the case that this company supply Titanium pigments for the production of Titanated Lithopone, or similar articles, and these are exported, it is agreed in principle, that the net profit of such supplies after deduction of

selling expenses, shall be transferred to the company into whose territory the material has been imported.

Such means of controlling this export as can be established, without hampering the sale, shall be considered, and the company endeavour to provide the necessary information for the carrying out of this principle.

The Belgian company to allow Montecatini to export to and sell in Belgium and Holland 90 tons of TiO_2 as above foreseen.

g) SCANDINAVIA.

FINLAND AND THE BALTIC STATES (LETHUANIA, ESTHONIA & LETLAND).

Titan Co. Inc. (or its substitute) to have the exclusive rights to manufacture and sell in these countries.

h) SOUTH AMERICA.

Titanium Pigment Co. and Titan Co. Inc. have both the right to export to and sell in South America. A transfer of these rights to other companies in Titan Co. Inc's group may be undertaken.

Blumenfeld agrees to transfer his rights to these countries to the company or companies of his group, which has the right to operate in the same territories as the companies of Titan Inc.'s group, which acquire this territory.

i) OTHER COUNTRIES.

It is foreseen that in all other countries not dealt with above, the interest shall be divided as follows:

Blumenfeld &	40%
Titan Co. Inc.	60%.

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3) LICENSES.

The various companies shall exchange licenses to manufacture and sell under all patents in the "Licensed Field" as defined below.

An exchange of technical and chemical manufacturing experience shall also take place.

As to an exchange of laboratory developments, this matter has not been under consideration, but it should be done.

The Blumenfeld group exchange laboratory experience.

"Licensed Field" means all methods and processes in the field of the manufacture of Titanium compounds containing two per cent (2%) or more of the element Titanium as well as the Titanium compounds themselves. "Titanium compounds" means substances, materials and compositions in which the element Titanium is contained in a chemically or physically combined state, for instance the composition pigments of the character of the Titanox belong to them. Simple mixtures do not come under this definition.

With regard to the territories outside of North America, regulations of the sales have to be made as far as practical to avoid indirect competition between the various companies. Cooperation re the pricepolicy is intended and also between the European Co. on one side and the American Co. on the other.

4) "FUND for the protection of the patents"

In order to prevent infringement of the patents, the creation of a fund to provide for the total or a part of the cost by legal proceeding may be considered.

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A part of the cost may be carried by the party or parties controlling the sales in the country in which the infringement takes place.

The fund may be provided by a payment of each member of the group in proportion to the quantity of TiO_2 sold.

5) Dr. Jebsen gave the information, that the carrying out of this plan is dependant upon arrangements to be made regarding certain contracts and obligations, which are not entirely under their control.

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April 21, 1932.

Mr. M. F. Chase
Commercial Solvents Corporation
230 Park Avenue
New York, N. Y.

Dear Mr. Chase:

I wish to thank you for the enclosures which came with your letter of the 19th. Should anything further come up I shall again communicate with you.

Yours very truly,

BESCHORMAN
Vice President.

Exhibit 210

KREBS PIGMENT & COLOR CORP.

256 Vanderpool St.

Newark, N. J. April 27, 1932

Dr. G. W. Thompson, Vice President,
National Lead Company,
111 Broadway,
New York City, N. Y.

My dear Dr. Thompson:—

This will confirm the understanding reached at the conference held in your New York Office on April 22nd, 1932, attended by Mr. E. J. Cornish, President, and Messrs. Beschorman, Carter, Rockwell, and Thompson, Vice Presidents, of National Lead Company and Messrs. W. Richter and C. H. Rupprecht representing Krebs Pigment and Color Corp.

National Lead Company and Krebs Pigment and Color Corp. are to send representatives to visit our respective titanium pigments plants and laboratories, for complete and open inspection of processes and apparatus used in manufacture and for discussion of know-how on pure titanium oxide and composite titanium pigments. This is with the definite understanding that patented (inclusive of inventions covered by pending patent applications) and stipulated secret inventions in this industry owned by either company will not be used in commercial operation by the other company without obtaining the owner's consent. It is understood as a result of negotiations in this connection, suitable consid-

eration will be paid for valuable patented (inclusive of inventions covered by pending patent applications) and stipulated secret inventions so acquired and used, it being agreed that no consideration will be expected o paid for information not in this category.

It is also understood that any information relative to possible infringement by one company of patents owned by the other company, obtained during inspection of plants, will not be used by either company as evidence in a contested patent case, but if the plant inspection would show such infringement by one company of the other company's patent or patents, it is the intention of both of our companies to arrive at a just arrangement in the spirit of the preceding paragraph.

The foregoing is to be considered as the first steps toward further negotiations to acquire licenses under patented and secret inventions which either of our companies may desire to acquire from the other company in the manufacture of pure and composite titanium pigments.

The understanding reached between us and set forth in this letter may be cancelled at any time by either company serving notice on the other company provided that such notice cannot be given until both parties have had the opportunity to inspect the other company's plants and processes. It is agreed that all information secured by either company from the other will be considered confidential, both during and subsequent to the duration of this agreement.

This arrangement is understood to apply only to the United States, and none of the information obtained by either party is to be made available to foreign associates.

Exhibit 210

We believe this will be found in accord with your ideas as expressed during our conference, and we are prepared to proceed at once with plant inspections.

Yours very truly,

(signed) C. H. RUPPRECHT.
PRESIDENT.

CHR/MW.

COPY

Exhibit 211

May 10, 1932

Mr. C. H. Rupprecht, President
Krebs Pigment and Color Corporation
256 Vanderpool Street
Newark, New Jersey

My dear Mr. Rupprecht:

This is in reply to your letter of April 27th which you handed me on that day. I am sorry I could not reply to it properly on May 4th. The Spirit of the letter is one that we all reciprocate. I should explain to you, however, some of the difficulties that stand in the way. While they are apparently not insurmountable, they will take time to clear up.

The Titanium Pigment Company has a license agreement with the Titan Company which is very restrictive as to what each of the companies can do, and while the National Lead Company has a controlling interest in both of these companies, it can not do anything legally that would impair the rights of the minority stockholders, and it will take time to bring about such an understanding as will result in more or less formal modifications of the agreement. Therefore, there are some things which you have in mind that will have to be held in abeyance for development although they can be discussed and plans developed for putting them into effect at the opportune time.

Furthermore, it seems to me that what we ought to try to do is to develop the proposition in such a way as to avoid internal friction as much as we can, and get everyone to follow the conception that we have in mind. I would suggest therefore that your letter be accepted as the one that

we have in mind, but that it be developed in the following way:

The Titanium Pigment Company and the Krebs Pigment and Color Corporation are to send representatives to visit our respective titanium pigment plants for complete and open inspection of processes and apparatus used in manufacture and for discussion of all methods that pertain to the developed manufacture of pure titanium oxide and composite titanium pigments. This is with the definite understanding that patented (inclusive of inventions covered by pending patent applications) and stipulated secret processes and inventions in this industry owned by either company will not be used in commercial operation by the other company without obtaining the owner's consent. It is to be understood that as a result of negotiations in this connection suitable consideration should be paid for valuable patented (inclusive of inventions covered by pending patent applications) and stipulated secret processes and inventions so acquired and used, it being agreed that no consideration will be expected or paid, for information not in this category. This however would have to be on the understanding that we would have to develop a means whereby we would have the right to authorize you to use our patented processes, etc., under our license agreement with the Titan Company. It is to be presumed that no insurmountable difficulty would occur in this connection but we have no legal authority to promise anything of this kind at present. Whatever is done would have to be the result of negotiations. The possibility exists of course that we may be unable to bring about a modification of our license agreement with the Titan Company that would permit us to do things contemplated.

It is also understood that any information relative to the possible infringement by one company of patents owned by the other company, obtained during inspection of plants, will not be used by either company as evidence in a contested patent case, but that if the plant inspection should show such infringement by one company of the other company's patent or patents, it is the intention of both of our companies to arrive at a just arrangement in the spirit of your letter, and if difficulty is experienced in so doing, to submit to arbitration.

In connection with your 'phone call made after our conference on the 27th, my idea would be that we could get together prior to the visit and list those process patents which each thought the other was probably infringing. Then during the visits each party should make notes of what the other is doing that would indicate further infringement or be useful, and afterwards, by conference, exchange the notes. There is still some question as to the status of standard processes and apparatus (unpatentable) used by one party but not by the other. I presume this can be settled by conference.

I think this covers the exchange of visits to our respective plants.

My thought is that then we should exchange information as to our respective issued patents (process, products and use), followed by an exchange of information on pending patents. If everything has gone nicely up to this point, and we have, as I expect we shall have, a hearty cooperation in the main purposes we are after, we can then enter into a discussion of our projected patents and an exchange of visits to our laboratories. I am putting this exchange of visits to our laboratories late in the program as I want to

Exhibit 211

develop the matter so that everyone will feel that we are doing the right thing.

I think your statement that the understanding reached between us should be cancelable at any time by either party serving notice on the other is satisfactory, although I can not believe, looking as well as I can into the future, that such cancellation would be probable. I note that you qualify your letter as to cancellation proposition by saying that no such notice could be given until each party had had the opportunity to inspect the other company's plants and processes.

You are right in your understanding that this arrangement is to apply only to the United States so far as any right to use any of your processes, etc., by us is concerned and vice versa. Of course we would have no right to communicate to our foreign associates any information obtained without your consent. On the other hand, it would be our purpose to develop a situation where we could act freely in giving you patent rights, etc., legally and honorably.

I am enthusiastically in favor of this proposition. I think Mr. Cornish is also although some of our people are, to say the least, lukewarm with regard to it.

I was much encouraged by the statement made by either you or Mr. Richter that you did not intend to manufacture composite pigments until you are free so to do through patent expiration.

I shall be glad to confer further with you at any time you may appoint by your communicating with Mr. Carter.

Yours very truly,

(Signed) G. W. THOMPSON.

Exhibit 212

Niagara Falls, New York
June 17, 1932

Dr. G. W. Thompson, Chief Chemist
National Lead Company
105 York Street
Brooklyn, New York

Dear Dr. Thompson:

Our trip to St. Louis worked out about as expected. On Tuesday and Wednesday full days were put in at the Plant with Messrs. Daley, Booge, Evans and Haupt. We also had a session during the evening of Tuesday. Messrs. Daley and Evans left on Wednesday night; Dr. Booge and Mr. Haupt put in a full day with us on Thursday watching the detail operations in making batches of Titanium Oxide and "C" pigments.

Complete details of plant operation and quantity of materials consumed and produced were recorded. A few details of cost were touched upon and many costs they can calculate from other data taken, but no discussion of general costs took place although I have the impression that they would have been glad to have gone into them had we not reminded them that the matter had been left for further consideration between you and Mr. Phelps.

The Plant was in fine condition and operating smoothly on all three of our products. Various ones of their Committee spoke appreciatively of condition of Plant and efficiency of operation, and when we parted late Thursday afternoon, Dr. Booge expressed appreciation for their Committee of the co-operation shown them during the visit. Our development in the Titanium pigment industry is so vastly greater

than theirs at the present time, that I can only hope that the negotiations which are in progress will result in advantages to the Company which will offset the tremendous amount of first-hand information given during their inspection. Mr. Washburn, who will be in New York by Saturday or Monday, will doubtless have much to say relative to these matters. In general, or in principle, I shall probably be in agreement with him, but I think it better that I express my opinions directly to you or others as may be desirable when opportunity affords. I assume that nothing will be done definitely in regard to the new Eastern Plant until we know a little more about the results of present negotiations.

Perhaps even more important than the present negotiations with the DuPont Company is the unsatisfactory situation which seems to have developed in recent months bearing upon the development, operation and merchandising of our products. Personal ambition seems to have been a factor detracting from the effort that might have been devoted to the business and resulting in great lack of co-ordination of effort. It may be as a result of this lack of co-ordination that some lines have been more extended than is justified by near future business prospects. We seem to have no clearing house where various matters can be promptly co-ordinated and the system constantly adjusted to harmonious and efficient operation. I shall be glad to discuss these matters further with you when I have opportunity if you care to go into them.

The topic discussed in last paragraph has been brought up in connection with the matter of our negotiations with the Du Pont Company because I think it has a bearing. Our

defective organization is unfortunate because there is no question but what we have an abundance of talent in research, engineering, production and merchandising fields. In addition to patents, which if enforced, would control the industry for a number of years, we have a number of new and promising lines which have not been exploited or thus far divulged to others. Some of them are probably patentable, but even if not, are likely to result in economies and the development of new business.

Assuming that our efforts are effectively and harmoniously co-ordinated, there is no reason why we should not maintain our leadership in the Titanium pigment industry, ourselves making the desirable expansion during the next few years. This should be the case not-with-standing the results of present negotiations or the fact that information given to present competitors might have to be regarded as a technical loss. See also my letter of February 20th to Mr. Meredith, copy of which was sent to you.

When I was in New York last week, you mentioned that you would have a busy time during this week and possibly longer. I expect to be in New York at the Salesmen's meeting scheduled for the week of June 27th, but I shall be glad to come earlier if you wish to take up any of these matters with me.

Very truly yours,

.....

Dictated: L. E. Barton
CC W. F. Meredith

Exhibit .213

August 12, 1932.

Memorandum for Mr. W. S. Robinson re Blumenfeld position.

Blumenfeld sold the North American rights to Commercial Pigments Company originally for part cash and royalty; the royalty has since been computed on to a cash basis and purchased by the Commercial Pigments Company so that Blumenfeld has no income from the North American rights.

They were also given an option on the British rights, and consequently before Blumenfeld could sell or transfer his British rights to any one he would have to offer them to the Commercial Pigments Company on the same basis as the suggested transfer.

Blumenfeld's French rights are held by Thaan & Mulhouse, terms unknown.

The Italian rights were sold to Montecatini for one-half common stock interest in the plant, with restrictions not to ship out of Italy without Blumenfeld's permission. Montecatini has since obtained Blumenfeld's permission to ship into Great Britain, and we understand ships somewhere between 300 and 400 tons of pure TiO_2 per annum. We understand that this stock has never paid a dividend.

The rights for Germany, Switzerland, Spain, Portugal, China and Japan were sold to Aussig, on what terms we do not know. Our best information is that Aussig's produc-

tion is approximately 300 tons of pure Titanium oxide per annum.

We further understand that on all of these contracts both parties to each contract are required to post the other party on all improvements developed, and give the other party the right to use said improvements. It is for this reason that I felt that it would be dangerous to take Blumenfeld into the English company.

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COPY

August 26, 1932

CONFIDENTIAL

Mr. C. H. Rupprecht, President
Krebs Pigment and Color Corporation
256 Vanderpool Street
Newark, New Jersey

Dear Mr. Rupprecht:

Permit me to state the understanding at which I believe we arrived as a result of the discussions in my office on August 16th, as follows:

Titanium Pigment Company and the Krebs Pigment and Color Corporation will each in due course send to the representative of the other company a complete set and list of all issued patents it owns, controls or is licensed to operate under and also a list with copies in each case of one or more descriptive claims of its pending patents, together with a statement prepared by its representative of those process patents issued or pending which it is believed are being infringed by the other company in their operations.

In accordance with this, I am sending you a complete set and list of all issued patents that the Titanium Pigment Company owns, controls or is licensed to operate under and also a list with copies of one or more descriptive claims of its pending patents, together with a statement prepared by Mr. Barton of those process patents which in his opinion after consultation with our people are being infringed by the Krebs corporation in their operation at Baltimore manufac-

turing Titanium pigments. I trust you will find these complete and in order.

Please note that as Mr. Barton has explained in his letter; he is expressing no opinion as to infringements of claims in pending patents as the exact wording of patent claims will not be known until these patents are in shape for issue.

At your convenience kindly send me similar papers covering patents, etc., with proper lists of issued and pending patents and any claims which you may have of infringement by us as we are operating at St. Louis of any of these patents.

Yours very truly,

G. W. THOMPSON

Encs.

Exhibit 214

August 26, 1932

Dr. G. W. Thompson,
National Lead Co. Laboratories,
105 York Street,
Brooklyn, N. Y.

Dear Mr. Thompson:

We have compared the process of the Krebs Pigment & Color Corporation as operated at Baltimore with the patents owned or controlled by the Titanium Pigment Company, Inc. It is believed that the following patents of the Titanium Pigment Company, Inc. are infringed in the manufacture of titanium oxide at Baltimore:

Number	*Date of Pat.*
1,338,473	Apr. 27, 1920.
1,196,031	Aug. 22, 1916
1,348,129	July 27, 1920
1,276,644	Aug. 20, 1918
1,288,863	Dec. 24, 1918
1,333,849	Mar. 16, 1920
1,333,819	Mar. 16, 1920
1,412,027	Apr. 4, 1922
1,360,737	Nov. 30, 1920

Further study may possibly indicate other cases of infringement. It has been noted also that the process as operated at Baltimore apparently infringes some of the claims in our pending patent applications, but of course we do not now know whether such claims will finally be granted nor do we

know definitely the form of the claims in case they are granted.

I am enclosing a complete list of our patents, also an abstract of our pending U. S. Applications, in each case giving one or two of the representative claims.

Very truly yours,

L. E. BARTON

LEB/F
Enc.

Exhibit 214

MEMORANDUM

TITANIUM PIGMENT COMPANY, INC.
UNITED STATES PATENTS PENDING

Application No.	Title	Appl. Date
576,198	Composite Pigments	Nov. 19, 1931
580,725	Paints Containing Lead Titanate.	Dec. 12, 1931
572,439	Paper Containing Titanium Pigments.	Oct. 31, 1931
569,264	Alkali Titanate Process.	Oct. 16, 1931
528,964	Application of Titanium Soaps.	Apr. 9, 1931
518,898	Mixed White Pigments.	Feb. 27, 1931
525,605	Mixed White Pigments.	Mar. 26, 1931
555,529	Titanium Pigments Containing Lead Titanate.	Aug. 5, 1931
509,264	Titanium Soaps.	Jan. 16, 1931
475,385	Precipitation of Titanium Compounds.	Aug. 14, 1930
424,439	Titanium-Zinc Sulphite Pigments.	Jan. 29, 1930
420,811	Calcination Accelerators.	Jan. 14, 1930
394,917	Composite Pigments.	Sept. 24, 1929
394,918	Composite Pigments.	
183,245	Treating Ores.	Apr. 12, 1927
574,466	Obtaining Titanium Compounds From Titanium Solutions.	Nov. 11, 1931
193,951	Decomposing Ores & Separating Titanium Compounds from Iron.	Mar. 24, 1927

Exhibit 214

PENDING U. S. PATENT APPLICATIONS

****

Application No. — Title

576,198 — Composite Pigments.

Claim 11: A process for making a composite pigment which comprises treating hydrated titanium oxide containing sulphuric acid with a compound the metallic element of which will form an insoluble sulphate with the sulphuric acid in the hydrated titanium oxide, adding thereto an extender, and calcining said mixture including said insoluble sulphate.

Claim 23: As a new article, a composite pigment containing by weight about 75% barium sulphate and about 25% titanium oxide, and having an oil absorption of less than 14.

Claim 24: As a new article, a composite pigment containing by weight about 70% calcium sulphate and about 30% titanium oxide, and having an oil absorption of less than 17.

580,725 — Paints Containing Lead Titanate.

Claim 1: Paint containing lead titanate.

Claim 2: Paint containing a pigment comprising lead titanate.

Claim 3: Paint containing a pigment comprising lead titanate and titanium oxide.

572,439 — Paper Containing Titanium Pigments.

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Claim 1: In a method for making paper, the step which consists in mixing a titanium pigment with the paper pulp.

Claim 8: Paper containing a titanium pigment.

Claim 11: Paper coated with a titanium pigment and a binder.

569,264 — Alkali Titanate Process.

Claim 1: A method for decomposing titanium ores which comprises heating said ores with an alkali-metal compound in amounts to form the alkali-metal titanates ($M_2Ti_5O_{11}$).

Claim 7: A method for decomposing titanium ores which comprises heating said ores with sodium sulphate and carbon in amounts to form the sodium titanate ($Na_2Ti_5O_{11}$).

528,964 — Application of Titanium Soaps.

Claim 1: Paint containing a soap of a tetravalent element in Group IV of the Periodic Table.

Claim 2: Paint containing a fatty acid soap of a tetravalent element in Group IV A of the Periodic Table.

Claim 3: Paint containing a resin acid soap of a tetravalent element in Group IV A of the Periodic Table.

518,898 — Mixed White Pigments.

Claim 1: A white compound pigment consisting of an intimate mixture of basic carbonate white lead, zinc oxide and titanium oxide.

Claim 2: A white compound pigment consisting of an intimate mixture of basic carbonate white lead, zinc oxide and a titanium oxide composite.

Exhibit 214

525, 605 — Mixed White Pigments.

Claim 1: A white compound pigment consisting of an intimate mixture of basic carbonate white lead and titanium oxide.

Claim 2: A white compound pigment consisting of an intimate mixture of pigments the major constituents of which are basic carbonate white lead and titanium oxide.

555, 529 — Titanium Pigments Containing Lead Titanate.

Claim 1: A method of making a titanium pigment containing lead titanate, which comprises mixing a compound of titanium and a compound of lead, and calcining said mixture.

Claim 22: A calcined pigment containing lead titanate.

509, 264 — Titanium Soaps.

Claim 1: In the production of soap of a tetravalent element in Group IV A of the Periodic Table, the step which comprises mixing an alkali metal soap with a salt of said tetravalent element.

Claim 2: In the production of a titanium soap, the step which comprises mixing an alkali metal soap with a salt of titanium.

Claim 18: As a new article, a composition of matter comprising a soap of a tetravalent element in Group IV A of the Periodic Table.

Claim 19: As a new article, a composition of matter comprising a titanium soap.

Exhibit 214

475, 385 — Precipitation of Titanium Compounds.

Claim 2: A process for the manufacture of titanium oxide which comprises mixing a mineral acid solution containing titanium with calcium sulphate and an alkali-precipitated hydrated titanium oxide to supply adsorptive nuclei in said solution heating the charge to precipitate titanium compounds by hydrolysis on said nuclei separating the composite precipitate, washing it substantially free from calcium sulphate, and calcining it at a temperature between 700° C. and 1200° C.

Claim 18: A process for the manufacture of a composite pigment consisting of titanium oxide, calcium sulphate and barium sulphate, which comprises mixing a sulphuric acid solution containing titanium, barium sulphate, calcium sulphate and an alkali-precipitated hydrated titanium oxide, to supply adsorptive nuclei in said solution heating the charge to precipitate titanium compounds by hydrolysis on said nuclei, separating the composite precipitate, washing it and calcining it at a temperature between 700° C. and 1200° C.

424, 439 — Titanium-Zinc Sulphide Pigments.

Claim 1: A process for the manufacture of composite pigments containing zinc sulphide and titanium oxide, which comprises suspending titanium oxide in a solution of a salt of zinc, adding a soluble sulphide to precipitate zinc sulphide upon the suspended titanium oxide, separating, washing, and calcining the resultant composite precipitate

Claim 2: A process for the manufacture of composite pigments containing zinc sulphide and tita-

nium oxide, which comprises suspending hydrated titanium oxide in a solution of a salt of zinc, adding a soluble sulphide to precipitate zinc sulphide upon the uncalcined hydrated titanium oxide, separating, washing, and calcining the resultant composite precipitate.

Claim 4: A process for the manufacture of composite pigments containing zinc sulphide, titanium oxide and a white extender pigment, which comprises suspending a previously prepared composite pigment containing titanium oxide and a white extender pigment in a solution of a salt of zinc, adding a soluble sulphide to precipitate zinc sulphide upon the suspended composite pigment, separating, washing, and calcining the resultant composite precipitate.

Claim 5: A process for the manufacture of composite pigments containing zinc sulphide, titanium oxide and a white extender pigment, which comprises suspending a previously prepared composite precipitate containing hydrated titanium oxide and a white extender pigment in a solution of a salt of zinc, adding a soluble sulphide to precipitate zinc sulphide upon the suspended composite precipitate, separating, washing, and calcining the resultant composite precipitate.

Claim 22: As a new article a composite pigment consisting of zinc sulphide and "Titanox B."

420,811 — Calcination Accelerators.

Claim 4: In the production of titanium pigments from a precipitated and separated titanium

pulp, the steps which comprise treating said titanium pulp by adding thereto normally water-soluble, fusible inorganic compounds substantially non-volatile at calcination temperatures, and calcining same.

Claim 12: In the production of titanium pigments from titanium precipitates, the steps which comprise mixing said precipitates with a solution of normally water-soluble, fusible inorganic compounds substantially non-volatile at calcination temperatures, and calcining the charge.

Claim 22: A titanium pigment characterized as being a substantially neutral, calcined product containing titanium oxide, in form a soft, fine smooth powder, substantially white in color, and composed of minute particles of titanium oxide combined with relatively small amounts of inorganic compounds of the elements of Groups I and II of the Periodic System which are normally water soluble and substantially non-volatile at calcination temperatures.

394,917 — Composite Pigments.

Claim 5: The process for the manufacture of titanium pigments which consists in mixing calcium sulphate with a sulphuric acid solution of titanium to supply adsorptive nuclei therein, elevating the temperature to cause hydrolytic precipitation of titanium compounds on said nuclei, separating the precipitate, washing it substantially free from calcium sulphate and calcining it at a temperature ranging between 700° C. and 1200°C.

Claim 12: The process for the manufacture of composite titanium oxide-barium sulphate pigments which consists in mixing a sulphuric acid solution

of titanium with barium sulphate and artificially prepared calcium sulphate having the crystalline structure of anhydrite, elevating the temperature to cause precipitation of titanium compounds by hydrolysis, separating the composite precipitate, washing it substantially free from calcium sulphate and calcining it at a temperature ranging between 700°C. and 1200° C.

Claim 41: As a new article, a calcined pigment comprising titanium oxide, an extender and calcium sulphate in the crystalline form of anhydrite.

Claim 42: As a new article, a calcined pigment comprising titanium oxide, an extender and calcium sulphate, a part of which is in the crystalline form of anhydrite.

394,918 — Composite Pigments.

Claim 6: The process for the manufacture of composite calcium sulphate-titanium oxide pigments which consists in mixing concentrated sulphuric acid with hydrated lime; mixing the resultant calcium sulphate with a sulphuric acid solution of titanium, elevating the temperature to cause precipitation of titanium compounds by hydrolysis, separating the composite precipitate, washing it and calcining it at a temperature ranging between 700° C. and 1200° C.

Claim 30: As a new article, an uncalcined composite precipitate comprising hydrated titanium oxide and calcium sulphate in the crystalline form of anhydrite.

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Claim 33: As a new article, a calcined pigment comprising titanium oxide and calcium sulphate, a part of which is in the crystalline form of anhydrite.

183,245 — Treating Ores.

Claim 46: In the method of recovering water soluble titanium compounds from a mixture of titaniferous materials and strong sulphuric acid, the step which consists in introducing water to the mixed charge to initiate the reaction.

Claim 60: In the method of recovering water soluble titanium compounds from a mixture of titaniferous materials and strong sulphuric acid, the step which consists in maintaining the reaction of said mixed charge to substantial completion by successive additions of water to the reacting charge.

Claim 62: The method of recovering water soluble titanium compounds from titaniferous materials in one reaction vessel, which comprises mixing said materials and strong sulphuric acid, intorducing water to the mixed charge to develop the reaction, allowing the reaction to proceed to form a soluble reaction product, and then dissolving this reaction product with water in the same reaction vessel.

574,466 — Obtaining Titanium Compounds From Titanium Solutions.

Nov. 11, 1931

Claim 1: A process for the manufacture of titanium compounds comprising subjecting a titanium sulphate solution with a basicity range of 5% to 50% to hydrolysis in the presence of an acid-binder.

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Claim 17: As a new and useful article of manufacture, a pulp, formed by hydrolytically precipitating titanium hydrate from a titanium salt solution having a basicity range of from substantially 5% to 50% in the presence of an acid binder.

193,951 — Decomposing Ores and Separating Titanium Compounds from Iron.

Nov. 24, 1927

Claim 1: The process of treating titanium materials containing iron which consists in subjecting said materials and a reducing agent to a temperature sufficiently high to reduce the iron to metallic state but not the titanium compounds, and treating the reduction product with sulphuric acid—sufficiently concentrated to dissolve the titanium compounds present without dissolving the metallic iron.

Claim 2: The process of treating titanium materials containing iron which consists in subjecting said materials and a reducing agent to a temperature sufficiently high to reduce the iron to metallic state but not the titanium compounds, treating the reduction product with sulphuric acid sufficiently concentrated to dissolve the titanium compounds present without dissolving the metallic iron, and thereafter separating the metallic iron from the titanic solution.

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"CONFIDENTIAL"

September 8, 1932.

MR. C. H. RUPPRECHT,
NEWARK OFFICE.

We have carefully compared the process in operation at the St. Louis plant of the Titanium Pigment Company with the patents owned by the Krebs Pigment & Color Corporation. It is believed that the following Krebs patents are infringed in the operations conducted at St. Louis:

Patent No.	*Date of Patent*
#1,357,690	Nov. 2, 1920
#1,504,669	Aug. 12, 1924
#1,504,670	Aug. 12, 1924
#1,633,621	June 28, 1927
#1,758,528	May 13, 1930
#1,795,467	March 10, 1931
#1,845,633	Feb. 16, 1932
#1,851,487	Feb. 23, 1932

Further study of the above patents and the other Krebs patents may possibly indicate other cases of infringement.

It is apparent also that the process operated at St. Louis probably infringes some of the claims in our pending patent applications. However, it may be necessary to change the wording of some of these claims or possibly cancel some of them altogether in the further prosecution of these applications in the Patent Office; consequently, no final opinion on possible infringement can be given at this time.

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I am enclosing a complete list of our Titanium Patents; also an abstract of our pending U. S. Applications, giving in each case one or more representative claims.

JAMES E. BOOGE,

RESEARCH DIRECTOR—WHITE PIGMENTS.

JEB:MP

Exhibit 215

U. S. PATENTS ON TITANIUM PIGMENTS OWNED BY KREBS PIGMENT & COLOR CORP.

AUGUST 20TH, 1932

Date	*Inventor*	*Title*
11-2-20	Oscar T. Corfelt.	Process for the Recovery of Titanium from its Ores.
4-1-24.	C. Weizmann and J. Blumenfeld.	Production of Titanic Acid.
8-12-24	J. Blumenfeld.	Titanium Compound.
8-12-24	J. Blumenfeld.	Titanium Compound.
8-12-24	J. Blumenfeld.	Filtration of Solutions.
8-12-24 9-10-29)	J. Blumenfeld.	Preparation of Titanium Hydroxide.
8-12-24 9-10-29)	J. Blumenfeld.	Preparation of Titanium Hydroxide.
8-12-24 5-8-28)	J. Blumenfeld.	Titanium Pigment.
9-21-26	W. J. O'Brien	Lithopone and Process.
9-21-26	W. J. O'Brien	Lithopone and Process.
6-27-27	J. Blumenfeld.	Filtration of Solutions, etc.
8-16-27	J. Blumenfeld.	Preparation of Pigments and Paints.
11-15-27	N. Specht.	Process for the Manufacture of Titanic Oxide.
1-10-28	J. d'Ans and F. Somer.	Proc. of Prep. Titanic Oxide from Titanic Ores.
4-2-29	J. Blumenfeld	Proc. for the Manufacture of Titanium Oxide.
4-2-29	C. de Rohden.	Prod. of Titanium Tetrachloride.
3-N-30	N. Specht.	Process of Producing permanent Paints.

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Number	*Date*	*Inventor*	*Title*
1,758,528	3-13-30	W. Mecklenburg.	Production of Titanium Dioxid
1,766,592	6-24-30	J. Blumenfeld.	Prod. of Composite Pigmen Cont. Titanium Dioxide.
1,795,467	3-10-31	J. Blumenfeld.	Prod. of Titanium Dioxide.
1,797,760	3-24-31	C. de Rohden.	Prod. of Titanium Composition
1,827,691	10-13-31	N. Specht.	Proc. of Treating Ores of Tita nium Containing Chromium an Recovering the Sulfuric Acid.
1,832,666	11-17-31	N. Specht.	Processes for the Mfr. of Brown Pigment Containing Tita nium from Sludge of Titanium.
1,836,275	12-15-31	W. J. O'Brien	Method of Producing improve Lithopone.
1,845,633	2-16-32	N. Specht.	Proc. for the Purification of Im pure Dioxide of Titanium Con taining in Particular Chromium
1,846,188	2-23-32	C.de Rohden.	The Prod. of Titanium Pigments
1,851,487	3-29-32	J. Blumenfeld.	Preparation of Titanium Hydrox ide.
1,864,504	6-21-32	W. J. O'Brien	Composite Pigment.

Exhibit 216

COPY

KREBS PIGMENT & COLOR CORPORATION
256 Vanderpool Street
Newark, N. J.

September 12, 1932.

CONFIDENTIAL

Dr. G. W. Thompson, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Dr. Thompson:

Reply to your letter of August 26th has been delayed, first due to Dr. Booge's absence, as explained in Mr. Phelps' letter of August 29th, and awaiting my return from vacation today.

In accordance with our conversation of August 16th, I am sending you herewith a list of all issued patents on Titanium Pigments owned by Krebs Pigment & Color Corporation, together with a copy of each patent. I am also sending memorandums of our pending patents on Titanium Pigments, citing descriptive claims in each case.

Attached also find copy of letter prepared by Dr. Booge following discussion with our group, listing those of our patents which in his opinion are being infringed by The Titanium Pigment Company, Inc., in their operations on Titanium Pigments at the St. Louis Plant. Mention is also made in Dr. Booge's letter that no opinion is being

Exhibit 216

presented at this time on infringement of claims in our pending patent applications, due to possible changes in wording, or otherwise, which may be made prior to issuance.

I trust you will find all of the attached in order, and after you have had opportunity to review our memorandums, we will be very glad to arrange for the meeting between Mr. Barton and Dr. Booge, as was suggested in our discussion of August 16th.

Very truly yours,

(Signed) C. H. RUPPRECHT
President.

Exhibit 216

PENDING U. S. PATENT APPLICATIONS OF KREBS PIGMENT & COLOR CORPORATION ON TITANIUM PIGMENTS

SEPT. 12, 1932.

Exhibit 216

COPY

Case 370-K

M. L. Hanahan,
Titanium Oxide Pigments of Fine Texture.
Filed: Aug. 7, 1931
Ser. No. 555,770

Claim 10. A pigment comprising heat treated titanium oxide the particles of which are substantially all of a size below 15 microns.

Claim 13. A pigment comprising heat treated titanium oxide which is free from particles visible to the naked eye and which produces, when ground in oil, a paint which gives films of smooth and glossy appearance, substantially free from speckles and irregularities.

Exhibit 216

COPY

Case 390-K

G. Kubin
Process for reducing the Oil Absorption of
Titanium Dioxide Pigment
Filed: Feb. 16, 1929
Ser. No. 340,652
Allowed: June 9, 1932.

Claim 3. A process for producing titanium dioxide pigment characterized by a low oil absorption which comprises calcining TiO_2 produced by hydrolytic precipitation, wet grinding said calcined TiO_2, drying the same, and grinding said pigment in dry condition.

Exhibit 216

COPY

Case 400-K

H. Haber and P. Kubelka—Production of Titanium Dioxide from Titanium Tetrachloride
Filed: Sept. 3, 1931.
Ser. No. 561,026

Claim 3. In a process for the production of titanium dioxide, the step which comprises reacting vaporized titanium tetrachloride with steam at temperatures of 300° to 400° C.

Claim 5. In a process for the production of titanium dioxide, the steps which comprise separately preheating titanium tetrachloride and steam to temperatures ranging from 300 to 500° C. and introducing said preheated materials into a reaction space heated to a temperature ranging from 300 to 500° C.

Exhibit 216

COPY

Case 401-K

H. Haber and P. Kubelka
Titanium Dioxide from Titanium Tetrachloride
Filed: Sept. 3, 1931
Ser. No. 561,027.

Claim 1. In a process for the production of titanium dioxide, the step which comprises heating vaporized tetrachloride in the presence of free oxygen-containing gases at temperatures in excess of approximately 100° C.

Exhibit 216

COPY

Case 407-K

Joseph Blumenfeld
The Production of Titanium Dioxide
Filed: Apr. 26, 1932
Ser. No. 607,611
Re-issue of Patent #1,795,467.

Claim 1. In a process for preparing titanium dioxide by combining a solution of a titanium salt with a solution of lesser concentration, the step which comprises slowly adding at an elevated temperature the titanium solution to the solution of lesser concentration while agitating the mixture so that colloidal particles of titanium compound are produced prior to actual precipitation.

Claim 17. The process for producing colloidal TiO_2 particles in a titanium sulfuric acid solution which comprises slowly adding said solution to a solution of lesser concentration at an elevated temperature and agitating the mixture during said addition.

Claim 20. The process for producing hydrolytically precipitated titanium dioxide which comprises slowly adding a titanium sulfate solution to a diluent, at an elevated temperature, the mixture being agitated to promote homogeneity, and heating the completed mixture until hydrolysis is substantially complete.

Exhibit 216

COPY

Case 410-K

W. Mecklenburg
The Production of Titanium Dioxide
Filed: April 12, 1932
Ser. No. 604,861
Re-issue of Patent #1,758,528.

Claim 12. In a process for the production of titanium dioxide the steps which comprise adding to a titanium salt solution a seed prepared separately and heating said mixture to produce hydrolysis, said seed comprising a titanium oxygen compound which dissolves on heating in said titanium salt solution.

Claim 15. In a process for the production of titanium dioxide, the steps comprising adding a titanium oxygen compound to a titanium salt solution and heating said mixture to effect hydrolysis, said titanium oxygen compound being at least partly soluble on heating in said titanium salt solution and being further characterized by having been prepared by a process which includes as one of its steps precipitation by the reduction of the acidity of a titanium salt solution by mixing it with a neutralizing agent.

Claim 23. In a process of hydrolyzing titanium sulfate, the steps of reducing the acidity of a titanium sulfate solution by mixing acid solution with a neutralizing agent, thereby precipitating a titanium oxygen compound therefrom, adding said precipitate to a titanium sulfate solution containing more titanium than that added, and heating said mixture to effect hydrolysis.

Exhibit 216

COPY

Case 419-K

Paul Kubelka and Josef Srbek
Rutile Pigments and Process of Making the Same
Filed: Feb. 20, 1932
Ser. No. 594,384

Claim. 5. In a process of producing a titanium dioxide pigment the steps which comprise adding to a titanium chloride solution a seed prepared separately, and heating said mixture to produce hydrolysis, said seed being insoluble on moderate heating in said titanium chloride solution of a low pH until a titanium oxygen compound has been precipitated.
Claim 10. A pigment comprising precipitated and subsequently heat treated titanium dioxide showing a rutile X-ray pattern.

Exhibit 216

COPY

Case 420-K

Paul Kubelka

Method of Dissolving Titanium Tetrachloride in Aqueous Solvents

Filed: Feb. 12, 1932
Ser. No. 592,656

Claim 1. In a process for the preparation of a titanium chloride solution, the step which comprises introducing titanium tetrachloride into an agitated aqueous solvent below the surface of said solvent.

Exhibit 216

COPY

Case 421-K

Paul Kubelka
Process of Preparing Clear Solutions of Titanium Chloride
Filed: Feb. 12, 1932
Ser. No. 592,657

Claim 1. In a process for the preparation of a clear titanium chloride solution, the step which comprises dissolving titanium tetrachloride in a titanium chloride solution containing at least 150 grams of HCl free and combined per liter.

Exhibit 216

COPY

Case 422-K

Paŭl Kubelka
Process of Preparing Concentrated Clear Solutions of Titanium Chloride
Filed: Feb. 12, 1932
Ser. No. 592,658

Claim 1. In a process of preparing an aqueous solution of titanium chloride comprising adding titanium tetrachloride to an aqueous solvent, wherein the solution becomes turbid and precipitates titanium oxygen compounds at low concentrations, the step of adding titanium tetrachloride to said turbid solution.

Exhibit 216

COPY

Case 442-K

Marion L. Hanahan
Processes of Making Titanium Oxide of Fine Texture
Filed: June 16, 1932
Ser. No. 617,577
Division of Case 370-K

Claim 1. The process of separating a calcined titanium oxide pigment into fractions of different particle size which comprises deflocculating a suspension of said pigment in a liquid, elutriating said deflocculated suspension at a predetermined speed of flow and separately recovering the pigment which settled out against the flow in the elutriator and the pigment contained in the overlow from the elutriator.

Exhibit 216

COPY

Case 383-K

C. de Rohden
Production of Titanium Pigments
Filed: Jan. 17, 1928
Ser. No. 247-465
Allowed: June 8, 1932.

Claim 8. A process producing a white pigment which comprises digesting titanium dioxide with dilute hydrochloric acid in the presence of a reducing agent.

Exhibit 216

COPY

Case 394-K

J. Blumenfeld & M. Mayer
Preparation of Titanium Pigments
Filed: May 15, 1930
Ser. No. 452,810

Continuation of cases Ser. No. 2233 and 2234

Claim 23. In a process for the production of a titanium pigment, the steps of suspending a titanium oxygen compound in a solution of a compound of an element selected from the group of elements consisting of the rare earth metals, thorium and zirconium and treating said solution to precipitate an oxygen compound of such element in the presence of said suspended titanium oxygen compound.

Claim 25. In a process for the production of a titanium pigment, the step of calcining a composition comprising a titanium oxygen compound and an oxygen compound of one of the elements selected from the group of elements consisting of the rare earth metals, thorium and zirconium.

Exhibit 216

COPY

Case 384-K

C. de Rohden
Production of Titanium Pigments
Filed: Jan. 17, 1928.
Ser. No. 247,466

Claim 6. A process for producing a white pigment which comprises incorporating about 1% of sodium sulfate with titanium dioxide and calcining the mixture.

Exhibit 216

COPY

Case 391-K

Max Mayer

Art of Producing Oxides of the Fourth Group Metals

Filed: Mar. 14, 1929

Ser. No. 347,192

Allowed: June 24,1932.

Claim 9. In the manufacture of oxides of fourth group metals from fluid halogen compounds of such metals, the method which consists in incorporating said compounds in solid salt non-reactive on said oxides and decomposing said compounds by treating the mass with steam.

Exhibit 216

COPY

Case 395-K

J. Blumenfeld and M. Mayer
Preparation of Titanium Pigments
Filed: May 15, 1930
Ser. No. 452,811

Division of Case 394-K Ser. 452,811 and continuation of Ser. 2233 and 2234

Claim 9. In a process for producing a white titanium oxide pigment, the step of calcining at a temperature upward of about 800° C, a mixture comprising a precipitated titanium oxygen compound and an alkali metal compound.

Claim 13. In a process for producing a white titanium oxide pigment, the steps of incorporating into a precipitated titanium oxygen compound a predetermined amount of a potassium compound and calcining the mixture at a temperature upward of about 800°C.

Exhibit 216

COPY

Case 397-K

R. M. McKinney
Preparation of Stabilized Titanous Salt Solutions
Filed: April 27, 1931
Ser. No. 533,370

Claim 1. A method of producing stabilized titanous solutions which comprises adding stabilizers to titanium solutions, removing the iron compounds from said solutions, and reducing the titanium in said solution to the titanous form.

Claim 11. As a reducing agent an aqueous solution of trivalent titanium containing as a stabilizing agent a compound selected from the group consisting of citric, tartanic, oxalic, lactic, malic and other organic hydroxy-carboxylic acid.

Exhibit 216

COPY

"CONFIDENTIAL"

September 8, 1932.

MR. C. H. RUPPRECHT,
NEWARK OFFICE.

We have carefully compared the process in operation at the St. Louis plant of the Titanium Pigment Company with the patents owned by the Krebs Pigment & Color Corporation. It is believed that the following Krebs patents are in ringed in the operations conducted at St. Louis:

Patent No.	*Date of Patent*
#1,357,690	Nov. 2, 1920
#1,504,669	Aug. 12, 1924
#1,504,670	Aug. 12, 1924
#1,633,621	June 28, 1927
#1,758,528	May 13, 1930
#1,795,467	March 10, 1931
#1,845,633	Feb. 16, 1932
#1,851,487	Feb. 23, 1932

Further study of the above patents and the other Krebs patents may possible indicate other cases of infringement.

It is apparent also that the process operated at St. Louis probably infringes some of the claims in our pending patent applications. However, it may be necessary to change the wording of some of these claims or possibly cancel some of them altogether in the further prosecution of the applications in the Patent Office; consequently, no final opinion on possible infringement can be given at this time.

Exhibit 216

I am enclosing a complete list of our Titanium Patents; also an abstract of our pending U. S. Applications, giving in each case one or more representative claims.

JAMES E. BOOGE,
RESEARCH DIRECTOR—WHITE PIGMENTS

JEB:MP

Exhibit 216

U. S. PATENTS ON TITANIUM PIGMENTS OWNED BY
KREBS PIGMENT & COLOR CORP.
AUGUST 20TH, 1932

Number	*Date*	*Inventor*	*Title*
1,357,690	11-2-20	Oscar T. Coffelt.	Process for the Recovery of Titanium from its Ores.
1,489,183	4-1-24	C. Weizmann and J. Blumenfeld.	Production of Titanic Acid.
1,504,669	8-12-24	J. Blumenfeld.	Titanium Compound.
1,504,670	8-12-24	J. Blumenfeld.	Titanium Compound.
1,504,671	8-12-24	J. Blumenfeld.	Filtration of Solutions.
Re. 17,429 (1,504,672	8-12-24 9-10-29)	J. Blumenfeld.	Preparation of Titanium Hydroxide.
Re. 17,430 (1,504,672	8-12-24 9-10-29)	J. Blumenfeld.	Preparation of Titanium Hydroxide.
Re. 16,956 (1,504,673	8-12-24 5-8-28)	J. Blumenfeld	Titanium Pigment.
1,600,772	9-21-26	W. J. O'Brien	Lithopone and Process.
1,600,773	9-21-26	W. J. O'Brien	Lithopone and Process.
1,633,621	6-27-27	J. Blumenfeld	Filtration of Solutions.
1,639,423	8-16-27	J. Blumenfeld.	Preparation of Pigments and Paints.
1,649,496	11-15-27	N. Specht.	Process for the Manufacture of Titanic Oxide.
1,655,940	1-10-28	J. d'Ans and F. Sommer	Proc. of Prep. Titanic Oxide from Titanic Ores.
1,707,248	4-2-29	J. Blumenfeld.	Proc. for the Manufacture of Titanium Oxide.
1,707,257	4-2-29	C. de Rhhden.	Prod. of Titanium Tetrachloride.
1,750,287	3-11-30	N. Specht.	Process of Producing permanent Paints.

Exhibit 217

COPY

"MONTECATINI"
SOCIETA GENERALE PER L'INDUSTRIA MINERARIA ED AGRICOLA

Milan, 21st September 1932.—X°

Dear Mr. Ewing:

Titanium Oxide

You are certainly informed of the very difficult situation which has recently turned out for the above product in the European markets, and you will also know that this product—manufactured through the Blumenfeld patent by the Solvents Corporation—is interesting now, because of some arrangements concluded, your Concern through the Krebs Corporation.

Montecatini is producing titanium oxide in their Bovisa Works exploiting the same Blumenfeld patent and in the past have had friendly relations in connection with this branch of manufacturing with Mr. Tickner, President of the Solvents Corporation.

I have now reasons to believe that in short it will be possible to arrange a conversation between the European producers of titanium oxide by the Blumenfeld patent and the group I.G.—National Lead. In my opinion it would be much advisable—in the interest of both the European producer group and the du Pont de Nemours Concern which are all exploiting the same process of manufacturing—that an exchange of views on the respective principles followed by the above groups should take place. I do not want the relations—if there are any—between Krebs—duPont and

Exhibit 217

National Lead in America, but I would like to learn whether an eventual European agreement between the group of the Blumenfeld patents possessors and the I.G. could present an interest for Krebs—duPont, either in view of the particular situation existing in America with regard to the National Lead, or because of the indirect relations between the Concerns exploiting the both patents.

I wished to expose to you the foregoing as I have the impression that an agreement can only present a serious and efficient character if it is a general arrangement and therefore extended to European and American groups. In this case, the reunion of the possessors of Blumenfeld patents and I.G. patents would allow the concentration of all titanium oxide markets in the hands of the said groups, as no other patents which could industrially compete, exist.

I should therefore thank you to take matters in hand so that you will be in a position to let me know the views of your Company on the foregoing, in occasion of the meeting fixed for the 4th October next. Perhaps you will request an answer by cable in reply to a letter which it would be opportune you write on receipt of this letter to your offices in America.

Yours very truly,

(s) G. DONEGANI

Exhibit 218

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY,

September 23rd, 1932.

TITANIUM OXIDE.

This morning I received a letter from Mr. Donegani, dated September 21st, copy of which I am enclosing. I believe that we know your interests with respect to conversations on patents between the two groups, but in view of Mr. F. W. Pickard's departure for Europe on September 30th, I believe he would prefer that you discuss the whole proposition with him before his departure. I am leaving for Italy for the Board Meeting of the Italian Duco Company on October 2nd and will be in conversation with Mr. Donegani on October 4th. However, in view of Mr. Pickard's arrival and the probability that he will want to discuss the proposition directly, I do not intend to do other than listen to what Mr. Donegani has to say.

The European situation on titanium oxide is very interesting at present and Mr. Donegani's suggestion that the present is the proper time to discuss respective patents may be prompted by the fear that he will lose his 300 or 400 tons export to Great Britain by virtue of the amalgamation which is fast nearing completion, as a result of which there will be a titanium plant established in England. It may be, however, that these conversations are being brought about only through Montecatini's close association with the I.G. as Montecatini now hold 51% interest in the dye industry in Italy with the I.G. as their partners holding 49%.

Exhibit 218

However, a European agreement between the Blumenfeld licensees and the National Lead-I.G. group in Europe would be interesting to observe.

Regarding the titanium plant for England, reference to which was made in Mr. Jenney's letter of September 14th, we met yesterday afternoon with Major Barley, Director of I.C.I's Development Department and Mr. Major of the Foreign Department. Major Barley explained that the amalgamation scheme, including I.C.I., Imperial Smelters, Goodlass, Wall Associated Lead and National Lead, would probably be completed within the next few weeks. Details of the arrangement have not been completed, but the gentlemen from I.C.I. were interested to know how any commitments they might make as minor shareholders in this English company would be construed in the light of the du Pont-I.C.I. Patents & Processes Agreement. It is evident that I.C.I. have the right to apply for a license for our developments up to the time of the formation of Krebs Pigment & Colour Corpn., but with the commitment which du Pont made in the purchase of Commercial Pigments Corporation and the acquisition of the Blumenfeld patents, these and later developments restrict our field accordingly.

Because of the minority holding of Imperial Chemicals in the new amalgamation (they will have only about 17%), there arises the question of passing on to the new company any developments which they obtain from us, as in effect there is no way to restrict these developments from finding their way back to our licensed territory.

The amount of information which I.C.I. might have obtained from us before the formation of Krebs is of doubtful value, and whether they could really restrict information which they now possess in finding its way back may

be, in effect, only an academic discussion. As regards Canada, however, the situation is not clear. The new English company will probably have selling rights in Canada and so far as we are informed will compete with Canadian Industries Limited if that company is manufacturing titanium oxide.

We are uninformed on recent developments in the Canadian situation, more especially as regards the status of the Blumenfeld patents. It is our understanding that during his trip through the United States or on his return from China Mr. Blumenfeld would discuss with Mr. Ticknor the value of the Canadian patents, which at one time were held at a value of $20,000, but which you wish to obtain for about half this figure. We do not know whether you have reached any conclusion with Blumenfeld on the Canadian patents or whether you have made any arrangement with Canadian Industries Limited for the manufacture of titanium oxide.

In this connection there is another view which might have to be considered. We were in conversation with Major Burke** of Travancore Minerals, who advises confidentially that to his knowledge the Canadian patents have not been sold and that Blumenfeld at the present time is sadly in need of cash. He also learns that Blumenfeld is in negotiation with Laporte Company in England, whose works are at Luton, with a view to selling his English patents to this company. As explained in our letter of September 14th, Laporte Company is the only important one manufacturing titanium oxide in England which is not included in the new amalgamation, although Major Barley believes that Laporte will work very closely with the English company. We know further that the Laporte

Company in England has some sort of an arrangement with the Monk-Irwin Company of Canada and that through negotiation with Laporte in England Blumenfeld may decide to sell also his Canadian patents if, in fact, they are still in his possession. All of this is unknown to I.C.I. who believe that there is still an opportunity to negotiate with Blumenfeld for the English patents and bring him into the amalgamation.

At the meeting yesterday with I.C.I. it was apparent that no commitments will be made on the part of I.C.I. with the English amalgamation until the Canadian position, vis-a-vis C.I.L., is completely clear. To this end Major Barley is cabling Mr. Purvis in order that no step will be taken to jeopardize the rights of our jointly owned subsidiary.

We are in constant communication with I.C.I. on this subject and accordingly would kindly ask that you explain the present situation in Canada, which is obviously tied in with the English situation.

We anticipate that the cable which we have sent you today is sufficiently clear to enable you to give Mr. Pickard your fullest views, not only with respect to the Montecatini request but also as regards Canada and the English situation.

HOMER H. EWING.
Homer H. Ewing.

Enclos: Copy of Montecatini letter of Sept. 21.
HHE/HGL.

*I. C. I have no right to pass any information to a company in which they do not hold 51% but they may apply for permission as we have done in connection with our Duco Cos.

HHE

**Do not mention Burke's name regarding **.

Exhibit 218

"MONTECATINI"
Societa Generale per L'Industria Mineraria ed Agricola

Milan, 21st September 1932.—X°

Dear Mr. Ewing:

Titanium Oxide

You are certainly informed of the very difficult situation which has recently turned out for the above product in the European markets, and you will also know that this product—manufactured through the Blumenfeld patent by the Solvents Corporation—is interesting now, because of some arrangements concluded, your Concern through the Krebs Corporation.

Montecatini is producing titanium oxide in their Bovisa Works exploiting the same Blumenfeld patent and in the past have had friendly relations in connection with this branch of manufacturing with Mr. Ticknor, President of the Solvents Corporation.

I have now reasons to believe that in short it will be possible to arrange a conversation between the European producers of titanium oxide by the Blumenfeld patent and the group I.G.-National Lead. In my opinion it would be much advisable—in the interest of both the European producer group and the du Pont de Nemours Concern which are all exploiting the same process of manufacturing—that an exchange of views on the respective principles followed by the above groups should take place. I do not want the relations—if there are any—between Krebs-duPont and National Lead in America, but I would like to learn whether

an eventual European agreement between the group of the Blumenfeld patent possessors and the I.G. could present an interest for Krebs-duPont, either in view of the particular situation existing in America with regard to the National Lead, or because of the indirect relations between the Concerns exploiting the both patents.

I wished to expose to you the foregoing as I have the impression that an agreement can only present a serious and efficient character if it is a general arrangement and therefore extended to European and American groups. In this case, the reunion of the possessors of Blumenfeld patents and I.G. patents would allow the concentration of all titanium oxide markets in the hands of the said groups, as no other patents which could industrially compete, exist.

I should therefore thank you to take matters in hand so that you will be in a position to let me know the views of your Company on the foregoing, in occasion of the meeting fixed for the 4th October next. Perhaps you will request an answer by cable in reply to a letter which it would be opportune you write on receipt of this letter to your offices in America.

Yours very truly,

(s) G. DONEGANI

Exhibit 219

INCORPORATED WITH LIMITED LIABILITY
IN THE STATE OF DELAWARE, U. S. A.

Pigments

September 27, 1932

CONFIDENTIAL

Mr. H. H. Ewing,
E. I. duPont de Nemours & Co.,
Bush House, Aldwych,
London, W. C. 2, England

On the second page of my letter of September 23rd I mentioned that I was sending you copies of correspondence with Dr. Blumenfeld and included copy of letter also dated September 23rd.

This last named letter, however, was not dispatched and herewith I am sending you copy of a letter of September 26th which was substituted. The copy you have dated September 23rd should, therefore, be destroyed. The revised copy as attached does not in any way change the situation and merely represents some rewording.

C. H. RUPPRECHT

CHR:MW

CC: Mr. T. S. Grasselli, Cleveland
Mr. Wm. Richter, Wilmington
Foreign Relations Department, Wilmington

Exhibit 219

CC.: Mr. T. S. Grasselli, Cleveland
Mr. Wm. Richter, Wilmington
Mr. W. D. Ticknor, New York City
Mr. T. R. Hanley, Wilmington

September 26, 1932

Dr. Joseph Blumenfeld,
Societe de Produits Chimiques des Terres Rares,
67, Rue de Prony,
Paris XVII, France

Dear Dr. Blumenfeld:

Your letter of July 27th is received, and I regret that there should be any misunderstanding in your mind relative to Krebs Pigment & Color Corporation entering into an agreement with you and your European associates covering exchange of technical data,

I can only respectfully repeat that the situation as stated in my letter of May 23, 1932, explains our position. Your former agreement with Commercial Pigments Corporation did not permit of assignment and you were informed that it would be necessary to negotiate an entirely new agreement with the Krebs Corporation. It was also clearly explained to you that because of earlier commitments of the duPont Company, it was impossible for the Krebs Corporation to undertake in their entirety such obligations as were covered in your former agreement with Commercial Pigments Corporation.

At my meeting with you in New York in September 1931, we talked over a possible agreement in a preliminary way, and it was understood that you would return for an-

other conference in December 1931, at which time we would discuss the matter further, and outline a plan which could then be submitted to the Board of Directors of the Krebs Corporation for approval.

As you did not pay us this promised visit, I had concluded when writing you on May 23rd, that you were not interested in proceeding further with our negotiations. You undoubtedly realize that because of the changed conditions, a number of new factors must be considered, and it is impossible to attempt by correspondence, an outline of the limited agreement we are now permitted to discuss, but if you care to visit us again we will be glad to go into the matter. Otherwise, a discussion must be deferred until such time as a meeting can be arranged convenient to both parties.

We repeat that we regret there should be any misunderstanding and assure you of our desire to continue on a very pleasant and friendly relationship with you, however, pending another meeting, this subject of an agreement can only be held in abeyance, and meanwhile, with expressions of my kindest regards and greetings to you and Dr. De Rohden, I am,

Yours very truly,

C. H. RUPPRECHT
President.

CHR:MW

Exhibit 220

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

September 27th, 1932.

Imperial Chemical Industries Ltd.,
Millbank, S.W.1.
Attention Mr. L. J. Greenwood,
Foreign Department.

Dear Sirs,

Confirming various conversations between Major Barley, your department and this office, we take it that the I.C.I. see no objection to our carrying on with Cookson on Duolith for another year.

Titanium Pigments are included in the I.C.I.-duPont agreement. However, upon the formation of the Krebs Pigment & Color Corporation, through which duPont acquired a 70% interest in the Blumenfeld process limited to a territory comprising the United States and certain other countries, assuming at the same time an obligation to pass along new developments in this field to the European licensees, the exchange of information on this subject between I.C.I. and duPont was discontinued. I.C.I. is therefore entitled only to information received prior to the formation of the Krebs Company. However, as I.C.I. contemplate transferring their Titanium information to a company in which they will have less than 51% interest, the terms of the patents and processes agreement will not apply, and I.C.I. will not be entitled to pass to the new company any of the information received from duPont, although the

matter might be arranged by special negotiation. Likewise, under the patents and processes agreement, I.C.I. is not entitled to give any of its own company's developments prior to the time of the formation of the Krebs Pigment & Color Corporation, for use in the United States until making formal offer to duPont.

In view of the above situation, the effect of which is that the terms of the patents and processes agreement have practically ceased to operate in connection with Titanium Pigments, Krebs is free to continue its Duolith agency in England. Nevertheless, when local manufacture commences we shall be anxious to receive your suggestions as to the further development of our own products in this market.

Yours faithfully,

E.I.DU PONT DE NEMOURS & COMPANY

J K JENNEY

JKJ/JDA

Exhibit 221

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Letter No. 778.

30th, September, 1932.

Mr. W. R. Swint,
Foreign Relations Department,
Wilmington, Delaware.

Titanium Pigments—I.C.I.

We have previously reported the proposed association of white pigment interests in Great Britain and the negotiations between National Lead, Imperial Smelters, Goodlass Wall and I.C.I. which are now approaching completion. We have also reported that I.C.I.'s interest in the new company to be formed, namely British Titan Products Ltd., will amount to not more than 17%, this being, in their view the only practicable way for them to enter the field of titanium white in the British Empire. This Company will operate only in the British Empire (excluding Canada) and Egypt but the intention is to arrange for I.C.I. to license the British Titan Products Ltd. and, through that Company, its associates, the National Lead Company and Titan G.m.b.H. (I.G.) under any future process in connection with titanium oxide and pigments.

The Du Pont-I.C.I. agreement of July 1st, 1929 entitles I.C.I. to receive from Du Pont an exclusive license to manufacture and sell in the British Empire pigments made in accordance with the processes used by our Company, subject to a reservation in respect of titanium pigments as a result of our commitments through Commercial Pigments Company with Blumenfeld.

Exhibit 221

In order that there may be no misunderstanding in respect of the obligations of the I.C.I. Du Pont agreement, they now ask us to report the matter fully to Wilmington and especially to call to your attention the intended license arrangements and interchange of technical information between I.C.I. and the British Titan Company. In view of the final negotiations now proceeding they hope to obtain your early advice as to any restrictions which we believe should be placed on the use by I.C.I. in the above connection of:—

(a) Information obtained by I.C.I. from Du Pont previous to organisation of Krebs Co.

Have we any objection to I.C.I. passing along our information to the new company who are obligated to pass information to National Lead for use in the United States?

(b) Information on previous I.C.I. pigment work passed to Du Pont.

Have we any objection to their passing along their own information to National Lead for use in the United States since we have an option to an exclusive License on this?

In a discussion of this subject with Mr. Major he asked whether he was correct in believing that I.C.I. was free to turn over their information to a company in which they own a 17% interest, and that they still retain their right to take over our business in the British Empire as provided in

Exhibit 221

the agreement. We replied that in view of the cessation of exchange of technical information there was no basis on which they could acquire licenses and, in addition, I.C.I.'s interest of less than 51% excluded it from the agreement. We stated, on the other hand, that we did not believe that this specific case was one of practical importance in view of the fact that we are only free to export to British Empire countries until Blumenfeld sells the British Empire rights to his process and in addition it was quite likely that local manufacture would make it impossible to import. If the new Company desires to take over such business as we have developed it should be made a matter for special negotiation and considered on its own merits.

As we understand that the information on titanium now in I.C.I.'s possession is a matter of no practical importance to us, it seems scarcely likely that we can raise an objection to I.C.I. issuing the proposed license to the new Company.

We shall expect to receive your formal consent in due course unless we receive a short cable to the contrary.

Copy of letter containing I.C.I.'s formal request will be forwarded in the next mail.

J. K. JENNEY

J. K. Jenney

Exhibit 222

COPY

Rm. 1823

October 3, 1932

Dr. G. W. Thompson, Chief Chemist
National Lead Company
Research Laboratories
Brooklyn, N.Y.

Dear Dr. Thompson:

I have studied the claims of the patents owned or controlled by the Krebs Pigment and Color Corporation and have prepared a memoranda, which is attached, hereto.

I have not paid attention to their pending patent applications, as I do not have a copy of their letter to you of recent date which contained a few selected claims of each application.

It seems to me that it would be decidedly to our advantage for the representatives of Krebs Pigment and Color Corporation and the Titanium Pigment Company, Inc., to get together and agree in substance as to what claims of all existing patents are being infringed. Once this point is established, I would suggest that we agree to discontinue infringing each other's patents. Before taking this stand, I would like to have an opportunity to explain to the members of the Technical Committee just why I feel we can produce economically a satisfactory product without infringing any of the Krebs Pigment and Color Corporation's patents. On the other hand, I believe they would have great difficulty in operating so as not to infringe our patents, particularly the ones covering basic solutions, crystal-

lization of ferrous sulphate, and the Goldschmidt Patent on a pigment containing a crypto-crystalline titanium dioxide. According to Dr. Booge's own statement, it would cost them, with their present production, over $150,000 a year if they were obliged to use acid solutions. Consequently, the writer believes that if they continue to use this patent, they should pay the Titanium Pigment Company, Inc., a very substantial royality.

There is also the question of whether they would be able to produce a satisfactory pure TiO_2 from a solution containing large quantities of ferrous sulphate without infringing some of our pending patent applications. These applications are ready for issue, so may be considered as granted.

Yours very truly,

W. F. WASHBURN
Asst. General Manager

WFW:MCY
Encl.

Exhibit 222

MEMORANDA ON PATENTS OWNED OR CONTROLLED BY KREBS PIGMENT AND COLOR CORPORATION

Coffelt Patent 1,357,690—November 2, 1920:

It is believed that Claim 1 of this patent, which we are alleged to infringe, is invalid.

There are many references in the art which show that it was well known practice to dissolve Ilmenite in sulphuric acid. Most references; for instance, Spence, Weintrube, and Jebsen, state that concentrated acid may be used. The concentration specified by Coffelt, 77% to 85%, includes one grade of so-called "concentrated acid," i.e., 60°.

In this connection, it is interesting to note that if Ilmenite is decomposed with 66° acid in a closed container, the water formed by the reaction would bring the strength of the acid within the range specified by Coffelt.

In order to ascertain whether or not we are infringing the Coffelt Patent, I have had analyses made of the mixture in our digestion tank at the start of thickening. The first analysis showed 88.14% H_2SO_4, and 0.8% TiO_2. Another sample taken 2 minutes before reaction gave 85.26% H_2SO_4, and 1.41% TiO_2. The following morning additional samples were taken and were found to be as follows:

During thickening—H_2SO_4, 86.7%; TiO_2, 1.02%. One minute later—H_2SO_4, 86.2%; TiO_2, 1.28%. In another test the following results were obtained: H_2SO_4, 83.7%; TiO_2, 0.95%. An additional sample taken only a moment before violent reaction gave the following: H_2SO_4, 76.6%; TiO_2, 1.46%; Fe_2O_3, 49.0%.

It follows from the above, that we do not infringe Claim 1 of this patent. It is true the acid concentration drops after the reaction commences, which naturally is to be expected, as water is formed during the reaction.

U. S. PATENT 1,504,669—AUGUST 12, 1924:

Claim 2, "Producing titanium hydroxide of constant chemical and physical properties by the hydrolysis of crystalloid titanyl sulphate solutions substantially devoid of Tyndall effect, as described."

The freshly made titanic sulphate solutions used in our process are substantially devoid of Tyndall effect. As we have used such solutions continuously since 1918, we certainly can not be prevented from continuing to do so by a patent issued in 1924.

U.S. PATENT 1,504,670—AUGUST 12, 1924:

Claim 1, "In the process of producing crystalline titanyl sulphate from material containing titanium, the steps of mixing the said material with sulphuric acid, heating the mixture initially to a temperature of at least 130° C and gradually increasing the temperature to a maximum of 220° C."

This claim is anticipated by U.S. Patent 1,014,793, Weintrube; and U.S. Patent 1,383,819, Jebsen. Furthermore, the temperature range specified is that which has

been in continuous use prior to 1918, and until the digestion furnaces were replaced by the digestion tanks.

It is believed this claim is invalid and could not be sustained.

U.S. PATENT 1,633,621—BLUMENFELD:

It is alleged we infringe Claim 7. This claim covers any clarified solution of titanium and iron sulphate. It is well known that such solutions have been used since the manufacture of titanium pigments were placed on a commercial basis.

The solution prepared according to U.S. Patent 1,276,644—Goldschmidt, would be described by Claim 7. In both patents, it is to be noted that the clarification is facilitated by the liberation of a colloidal substance carrying an electric charge of opposite sign to that of the suspended impurities. As the Goldschmidt Patent was issued several years before Blumenfeld, there can be no question of any infringement by us.

U.S. PATENT 1,758,528—MECKLENBURG—MAY 13, 1930:

Inasmuch as all claims in this case are limited to a hydrogen-ion concentration of pH 2.5 to 6.0, our process does not, in any way, infringe. Our accelerator solution was recently analyzed and found to contain 5.4% H_2SO_4 and had a pH of approximately 1.

It is well known to all skilled in the art that the practice we developed in 1918, and which has been followed continuously, of adding a solution of sodium carbonate, prior to precipitation, to the titanic sulphate solution, in reality forms orthotitanic acid, which redissolves forming a colloidal solution which is analogous to adding a "seed suspension" to the titanic sulphate solution.

Exhibit 222

U.S. PATENT 1,795,467.

It is alleged that we infringe Claims 1, 2, 3, 4, 8, 9, 13, and 14 of this patent. In this connection, I would like to ask Dr. Booge to explain why he believes we are infringing this patent. He certainly cannot consider the formation of our accelerator as an infringement, as we add titanic sulphate solution to lime water.

Since the manufacture of titanium pigments was commenced, it has been the practice to combine a solution of titanic sulphate with a solution of lesser concentration; for instance, the solution from the reduction tanks was added to a solution of lesser concentration; i.e., the wash water used for washing residues, also a certain amount of weak acid from the end of precipitation. It is well known that both these materials contain colloidal particles of TiO_2 which act as a precipitation accelerator.

The addition of a definite quantity of titanic sulphate solution to our suspension of Blanc Fixe containing sodium sulphide, results in the formation of collodial titanium. This is, in all probability, a partial explanation of why it was considered that Blanc Fixe prepared by the alkaline process was much superior to that prepared by the acid process. We have since found that by the addition of sodium salts, acid Blanc Fixe could be successfully used, although it requires a somewhat higher temperature.

Much more could be said in this connection, but further amplification is not considered necessary. (See U. S. Patent 1,288,863—Fladmark. Lines 25-30.)

U. S. PATENT 1,845,633—SPECHT—FEBRUARY 16, 1932:

I do not understand how we are infringing Claim 5 of this patent in any way. It is true we do add salts to our

pigment pulp, prior to calcination, but as we have followed this procedure since 1917, we certainly cannot be deprived of the right to continue to do it.

The addition of alkaline earth compounds is not new. For instance, see U. S. Patent 1,361,866, Jebsen; and 1,343,469, Nielsen and Goldschmidt. It is true that the object of the additions may not have been made for the purpose of reacting with chromium, but it was well known that such additions imparted certain desirable properties to the pigments, although pigments of satisfactory color have been made by us which have not been so treated.

U. S. PATENT 1,851,487—BLUMENFELD—MAY 29, 1932:

It may be true that our process for making pure TiO_2 infringes certain claims of this patent, but it is not admitted that the patent is novel over the prior art. This is clearly demonstrated in the specification as issued; for instance, lines 75 to 100. The claims which we may possibly infringe are 2, 3, 4, 5, 7, 8, 12, 14, and 15.

It is well known that the product in the precipitation tanks after the addition of sodium carbonate solution, contains collodial titanium dioxide. This can easily be demonstrated.

Claim 10, "A stable solution containing collodial titanium dioxide in the presence of titanium sulphate irons," is not novel, it having been used by us, to my personal knowledge, since 1918.

Claim 16 is not novel, as our solutions, when ready for precipitation, contain colloidal titanium capable of passing through a filter and of being coagulated by boiling with hydrochloric acid.

WFW:MCY

Exhibit 223

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

October 3rd, 1932.

C. H. Rupprecht,
Krebs Pigment & Color Corp'n.
Newark, N. J.

With reference to your letter of September 22nd, Titanium Plant—England, I.C.I. are taking a passive attitude about bringing Blumenfeld into the group which is to organize British Titanium products. They have written Weismann who is acting as Blumenfeld's agent in the matter, hinting that they would be receptive to a request from him to join, but apparently he has not taken the hint; and as we subsequently reported, it seems possible that the Blumenfeld interests are carrying on negotiations with La Porte. This does not disturb I.C.I. at all as they apparently have a commercial understanding with La Porte on future developments of Titanium products in this market. We in this office shall do nothing to further this matter unless we hear from you.

We also have your letter to Mr. Ewing of September 23d with respect to his cable reporting receipt of a letter from Mr. Donegani, suggesting a possibility of arranging for conversations between the Blumenfeld and I.G. Titanium groups, which I am acknowledging in his absence. You have no doubt received his letter confirming his cable by this time, which should clear up the questions raised on Page 3. The conference, as we understand it, is not to discuss any specific existing patent so much as a general arrangement for closer technical cooperation. Presumably

Exhibit 223

this conference is the result of a desire by Montecatini and the I.G. to get closer together on this subject in view of the closeness of their relations in some other industries.

We fully appreciate that you have no direct interest in these negotiations, but knowing of your interest in coming to an understanding on patent infringements with National Lead, and that National Lead was somewhat restricted in its freedom of action by its European connections, we believed that you would be most interested in knowing of the possibility of a closer union of interests on this side, and we considered it desirable to cable you so that you could discuss the situation fully with Mr. Pickard before he sailed.

J. K. JENNEY

JKJ/EW

Exhibit 224

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Letter. No. 779

4th, October, 1932.

Mr. W. R. Swint,
Foreign Relations Dept.,
Wilmington.

Titanium Pigments.

Further to our letter of September 30th we attach hereto original letter received from I.C.I. Foreign Department, addressed to Mr. Ewing, for your files.

J. K. JENNEY.
J. K. Jenney.

Enc.
JKJ/PR.

J. K. JENNY

Exhibit 224

Letterhead of

IMPERIAL CHEMICAL HOUSE

29th September, 1932.

Dear Mr. Ewing,

TITANIUM PIGMENTS.

You have been aware since the early months of the current year of the proposed association of White Pigment interests in Great Britain, and the negotiations between the National Lead Corporation—I.S.C. (Imperial Smelters Corporation)—Goodlass Wall & Co. and I.C.I. which have taken place over the ensuing nine months. These negotiations are now approaching completion. You have also been informed that our interest in the new Company to be formed, namely, British Titan Products Limited, will probably amount to not more than 17%. This is in our view the only practicable way for us to enter the field of Titanium White in the British Empire.

As explained at the recent discussion with yourself, Major Barley and the writer, British Titan Products Limited will only operate in the British Empire (excluding Canada) and Egypt, but the intention is to arrange for I.C.I. to licence the British Titan Products Limited and through that company, its associates, the National Lead Company and the Titangesellschaft, under any future process in connection with titanium oxide and pigments.

The du Pont/I.C.I. Agreement of July 1st, 1929, entitles I.C.I. to receive from du Pont an exclusive license to manufacture and sell in the British Empire, pigments made in accordance with the processes used by your Company,

Exhibit 224

there being a reservation in respect of Titanium Pigments as a result of your commitments with Commercial Pigments Co. and others.

It is clear from previous correspondence that you have from time to time kept Wilmington informed as to our intention to interest ourselves in the White Pigment industry in the territory above referred to. However, in order that there may be no misunderstanding in respect of the terms of our licence agreement with you, we would now ask you to report fully on this matter to Wilmington, and especially to call to their particular attention the intended Licence arrangement and interchange of technical information between I.C.I. and the British Titan Company.

In view of the final negotiations now proceeding in regard to the British Titan Products Limited, I hope you will be able to obtain early intimation from Wilmington as to any restrictions which should in their view be placed on the use by I.C.I. in the above connection, of:

(a) Information obtained by I.C.I. from du Pont.

(b) Information on previous I.C.I. pigment work passed to du Pont.

Yours very truly,

MAJOR

H. H. Ewing, Esq.,
Messrs. E.I. du Pont de Nemours & Co. Ltd.,
Bush House,
Aldwych,
LONDON, W.C.2.

Exhibit 225

Dr. G. W. Thompson, October 8, 1932.
Building.

Dear Mr. Thompson:

The enclosed notes pertain entirely to the subject of alleged infringement by us of a group of eight patents owned by the Krebs Pigment & Color Corporation. My general conclusion is that we do not infringe any of these patents.

In the spirit of our negotiations with the duPont Company, there is another angle from which this group of patents and others should be very carefully considered, namely, their status with respect to possible future operations of others than ourselves. While some of the patents appear to be either invalid or non-controlling in view of the prior art, there are some which may be of considerable importance to all concerned; for example, Blumenfeld U. S. Patent No. 1,795,467, March 10, 1931.

While Patent No. 1,795,467 is non-controlling in respect to our practice in view of our own patents and long industrial use of the subject matter, prior to the date of the patent, it does not necessarily follow that the patent is invalid in respect to possible futire operations of others. My tentative conclusion is that this patent is valid in respect to the operations of all others than ourselves and the du Pont Company.

Among the applications of the Krebs Pigment & Color Corporation now being prosecuted in the United States Patent Office are some which in all probability will never develop into patents, others that are unimportant even if granted, but there are a number that are very interesting and may be important if patents are granted.

Very truly yours,

LEB/F
Enc.

L. E. Barton

Exhibit 225

NOTES ON ALLEGED INFRINGEMENT OF PATENTS

*****

Coffelt, U. S. Patent 1,357,690, Nov. 2, 1920.

From our study of this patent and prior art literature in connection with Coffelt's claim of infringement I believe the patent is invalid. However, we do not so treat ilmenite.

Blumenfeld, U. S. Patent 1,504,669. Aug. 12, 1924.

Claim 2 referring to the production of titanium hydroxide "by hydrolysis of crystalloid titanyl sulphate solutions substantially devoid of Tyndall effect *as described*" involves both preparation of the solution as described in this patent and the hydrolysis of a crystalloidal solution. We do not use the process "as described" but we have for many years prior to Blumenfeld's patent made solutions on an industrial scale under our own patents which I believe were substantially devoid of Tyndall effect and from which we precipitated hydrated titanium oxygen compounds.

Blumenfeld, 1,504,670. Aug. 12, 1924.

Since we do not produce crystalline titanyl sulphate we do not infringe the process of Claim 1.

Blumenfeld, 1, 633,621. June 28, 1927.

Solutions "substantially free" from colloidal suspended matter have, for years prior to Blumenfeld's patent, been industrially made and used by us. For example, under our Goldschmidt, U. S. Patent 1,276,644, Aug. 20, 1918.

Mechlenburg, U. S. Patent 1,758,528, May 13, 1930.

I believe we have never operated the process indicated in Claims 4 and 18 or produced the compositions described in

Claims 1, 2 and 17; however, this should be checked by reference to Mr. Washburn.

Blumenfeld, U. S. Patent 1,795,467, March 10, 1931.

It has long been known to us to precipitate titanium by hydrolysis by adding a titanium sulphate solution to water or a solution of lesser concentration while heating and agitating the solution. Such a process was industrially operated by us for years prior to Blumenfeld's patent which thus is inoperative as regards our practice.

Specht U. S. Patent 1,845,633, Feb. 16, 1932.

The claims of this patent are limited to purification of titanium dioxide from chromium which element I believe is not present in titanium precipitates calcined in our manufacturing processes; but even if present the St. Louis operation of heating titanium compounds in presence of a small amount of alkaline sodium phosphate is practiced under our Patent 1,412,027, April 4, 1922, Claim 1 of which covers the process of heating titanium oxygen compounds with any compound of phosphorus.

Blumenfeld U. S. Patent 1,851,487, Mar. 29, 1932.

Claims 2, 3, 4, 5, 7, 8, 12, 14 and 15 referring to "separately prepared" titanium solutions should be referred to Mr. Washburn in view of his use of "accelerator" in the hydrolysis of titanium solutions.

Solutions such as indicated in Claims 10, 11 and 16 I believe have been unavoidable in our practice of many years involving the handling of relatively dilute solutions at various stages of the processes.

G.W.T.
W.F.W.
A.S.M.
L.E.B

L. E. BARTON.

Exhibit 226.

COPY

F. W. Pickard
H. H. Ewing
P. H. Chase.

Pigments

14, Rue Lincoln, Paris.

October 10th, 1932.

MEMORANDUM

In the afternoon of Saturday October 8th, 1932, a meeting took place at the Hotel Meurice, in Paris between Mr. Pickard and Mr. Donegani. Were also present, Mr. Ewing and Mr. Chase.

After a talk on generalities, during which Mr. Donegani expressed his opinion that Europe would never pay its debts to America, the conversation veered to Titanium.

Mr. Donegani stated that Blumenfeld had lost a great deal of time in exploiting his Titanium patents. For about five years, he did not do much with them, allowing the I. G. to come into the field and to compete with the holders of the holders of the Blumenfeld patents sooner and more intensively than it would have otherwise. The first licensees were the French, who have built a plant having a capacity of from half a ton to a ton. Aussig came next and have built in Czechoslovakia works having about the same capacity as the French. Montecatini then secured the license of the Italian patents and have built works having a capacity of from seven to eight tons; they produce on the average of four to five tons. The American patents were then sold to the Commercial Pigment Corporation, which has since become part of the Krebs Pigment and Color Corporation.

On the other hand, I. G. have also been working on the problem and have developed a process, while making arrangements with the Norwegians and also with National Lead.

According to the Blumenfeld patents, Montecatini should only sell in Italy, but they have obtained from Blumenfeld license to sell in England, the market of that country being very interesting. That license was for a certain number of years and is to expire very soon. On the English market, Montecatini has met with the competition of the I.G. and the very profitable business which it enjoyed there has considerably decreased, there being a price war between I. G. and Montecatini. As a result of this, Montecatini has approached the I. G., pointing out that an agreement as to prices would be profitable to all of them. From such overtures, which were very well received, it came to be suggested that all the Titanium producers in Europe, and possibly also those in the United States, might pool their patents, this being supplemented possibly by a price agreement.

Montecantini has been in touch with the French and the Czechoslovakians who are in agreement. Mr. Donegani was therefore asking us if the Krebs Corporation, as holders of the American Blumenfeld patents, were also willing to come in, so that the whole group of Blumenfeld licensees could talk to the other group.

Mr. Donegani was told by Mr. Pickard that the du Pont Co. always looked favorably on any measure which was for the good of an industry and that the pooling of patents might probably be a very good thing. As to whether or not our Company can be a party to such pooling of patents, opinion of our Legal Dept. would have to be obtained. Mr.

Exhibit 226

Donegani having inquired as to whether we would consider going into a price agreement, it was explained to him that this would be absolutely illegal, according to American laws, and that, therefore, we would not be interested.

Summing up the situation, Mr. Donegani stated that he understood that we had no fundamental objection to a talk with the other group of Titanium producers regarding the pooling of patents, but that we were first to inquire into the legal situation to find out if we might even consider such a possibility. Regarding price agreements, which would take place between European producers, we were precluded from taking any share in them, due to American laws. He was told that the situation, as summed up by him, was correct.

PHC/GB

Exhibit 227

October 11, 1932.

Dr. G. W. Thompson,
Building.

Dear Dr. Thompson:

Enclosed is a copy of Titanium Pigment Company, Inc. pending applications for patents to which the date of the application has been added.

This is the information you wanted to pass on to the Krebs Pigment & Color Corporation.

Very truly yours,

L. E. BARTON.

LEB/F
Enc

Exhibit 227

MEMORANDUM

TITANIUM PIGMENT COMPANY, INC.

UNITED STATES PATENTS PENDING

Application No.	*Title*	*Appl. Date*
576,198	Composite Pigments	Nov. 19, 1931
580,725	Paints Containing Lead Titanate.	Dec. 12, 1931
572,439	Paper Containing Titanium Pigments.	Oct. 31, 1931
569,264	Alkali Titanate Process.	Oct. 16, 1931
528,964	Application of Titanium Soaps.	Apr. 9, 1931
518,898	Mixed White Pigments.	Feb. 27, 1931
525,605	Mixed White Pigments.	Mar. 26, 1931
555,529	Titanium Pigments Containing Lead Titanate.	Aug. 5, 1931
509,264	Titanium Soaps.	Jan. 16, 1931
475,385	Precipitation of Titanium Compounds	Aug. 14, 1930
424,439	Titanium-Zinc Sulphide Pigments.	Jan. 29, 1930
420,811	Calcination Accelerators.	Jan. 14, 1930
394,917	Composite Pigments.	Sept. 24, 1929
394,918	Composite Pigments.	
183,245	Treating Ores.	Apr. 12, 1927
574,466	Obtaining Titanium Compounds from Titanium Solutions.	Nov. 11, 1931
193,951	Decomposing Ores & Separating Titanium Compounds from Iron.	Mar. 24, 1927

Exhibit 228

October 11, 1932.

Mr. Washburn
Mr. Barton
Mr. Moses.

Experimental draft of letter to be considered at Technical Committee, October 13, at 11 A. M.

G. W. THOMPSON

Exhibit 228

(Draft) October 11, 1932.

Dear Mr. Rupprecht:

We have been very carefully considering the claims made respectively by Krebs Company and ourselves of patent infringements of their patents by ourselves and Krebs Company respectively. In this letter I am proposing and carrying out what seems to me to be the most practical next step in our negotiations. I am therefore doing two things: I am laying down, first, certain principles on which I think these infringements should be considered. Second, I am giving you a reply to the claims made of the specific infringements covered in your letter of and I think prepared by Dr. Booge. The principles which we have attempted to follow and which I think should be followed by both of us in the next step, are these:

Both of us should assume that the validity of the patents claimed to be infringed should not be questioned except as a last resort.

The answers to the claims of infringement should be in the following form:

1. Simple admission of infringement.
2. Admission of infringement but agreeing in the future to desist.
3. Denial of infringement on account of prior use.
4. Denial of infringement by citation of coverage by prior patent or patents.

Taking now the patents which you claim we are infringing:

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U. S. Patent 1,357,690—Coffelt.

We have no knowledge of having infringed this patent. If, however, we have infringed we agree to desist.

According to the Washburn Tank Method, ilmenite is treated with 66° acid and to start the reaction some water is added. This reduces the strength of the acid and in the future it will be easy for us to avoid an addition of water in amount that would dilute the acid and bring it within the scope of this patent. It should be borne in mind that in interpreting this patent we understand that Coffelt claims better results are obtained by treating ilmenite with certain strengths of acid. When sulfuric acid acts upon ilmenite some of the SO_3 is removed. We are assuming there would be no claim made that when SO_3 is removed, with the consequent reduction in strength of the remaining acid, that acid of that lower strength, which might come within the limits of Coffelt's patent, would be considered as really within the scope of said patent.

U.S. Patent 1,504,669—Blumenfeld.

We do not believe that we are infringing this patent. Claim #2 is the one indicated as being infringed. Freshly made titanic sulfate solutions used in our process are substantially devoid of Tyndall effect and we have used such solutions continuously since 1918. Furthermore, as this claim refers to a process as described and we do not use such a process, we cannot see how this patent is being infringed.

U.S. Patent 1,504,670—

It is alleged that we are infringing Claim #1. This claim is anticipated by U. S. Patent 1,014,793—Weintraub,

and U.S. Patent 1,333,819—Jebsen. Furthermore, the temperature specified is that which has been in continuous use since prior to 1918 and until the digestion furnaces were replaced by digestion tanks.

U.S. Patent 1,633,621—

It is alleged that we are infringing Claim #7. The solution prepared according to U.S. Patent 1,276,644—Goldschmidt, issued prior to this Blumenfeld patent is described by Claim #7. In both patents it is to be noted that Clarification is facilitated by the liberation of a colloidal substance carrying an electric charge of the opposite side to that of the suspended impurities. At the present time glue is used for this clarification and has been in use for many years. At all times the solutions used have been those which can be characterized as being substantially free from suspended or colloidal matter.

U.S. 1,758,528—Mecklenberg.

Inasmuch as all claims in this case are limited to a hydrogen ion concentration of pH 2.5 to 6.0, our process does not in any way infringe. Our accelerated solution was recently analyzed and found to contain 5.4 H_2SO_4 and had a pH value of approximately 1. In the process developed in 1918, which has been followed substantially continuously, the addition of a solution of sodium carbonate prior to precipitation in reality forms ortho-titanic acid which redissolves forming a colloidal solution which is analogous to the adding of a seed suspension to titanic sulfate solution. The Mecklenberg patent is therefore not infringed either as to pH concentration and in view of prior practices.

Exhibit 228

U.S. Patent 1,795,467

It is alleged that we are infringing Claims 1, 2, 3, 4, 8, 9, 13, and 14. We cannot at the moment understand how it can be claimed that we are infringing this patent. It certainly cannot be considered that the formation of our accelerator is an infringement as we add titanic sulfate solution to lime water. Since the manufacture of titanium pigments were commenced it has been our practice to combine a solution of titanic sulfate with a solution of lesser concentration. For instance, the solution from the reduction tanks was added to a solution of lesser concentration by using the wash water used for washing residues; also a certain amount of weak acid from the ends of the precipitation. It is well known that both of these materials contain colloidal particles of TiO_2 which act to accelerate precipitation. The addition of a definite quantity of titanic sulfate solution to our suspension or to blanc fixe containing sodium sulfide results in the formation of colloidal titanium. We ask you to consider U.S. Patent 1,288,863—Fladmark, lines 25 to 30.

U.S. Patent 1,845,633

It is claimed we are infringing Claim #5 of this patent. It is true that we add salts to our pigment pulping prior to calcination but we have followed this procedure since 1917. The addition of alkaline earth compounds is referred to in U.S. Patent 1,361,866—Jebsen and 1,343,469—Nielson and Goldschmidt. This patent refers to the purification of titanium oxide by combining chromium, if present, with certain addition agents. The addition of small amounts of alkaline sodium phosphate is covered by Patent 1,412,027 and antedates Patent 1,845,633 covering the use of any compound of phosphorus.

Exhibit 228

U.S. Patent 1,851,487

It is claimed that we are infringing Claims 2, 3, 4, 5, 7, 8, 12, 14, and 15 referring to separately prepared titanium solutions which are used as accelerators. It can be easily demonstrated that the product in the precipitation tanks after the addition of sodium carbonate solution contains colloidal titanium dioxide. In general we claim that this patent is not infringed in view of prior use substantially of the methods now in use dating back to the prior to this patent 1,851,487.

You will note that we have endeavored to follow the rules laid down at the beginning of this presentation. We are very glad to present these answers to your claims of infringement and would be glad, if this procedure commends itself to you, to receive answers to our claims of infringement of our patents by the Krebs Company, or along any lines which commend themselves to you. If you do not approve of this method of procedure, we shall be very glad if you would suggest any other method that seems to you better and we shall be glad to conform to your wishes. I think that the above plan is in full accord with the original scheme which we agreed upon.

Yours very truly,

Exhibit 229

FILE COPY

Copies to:—
G.W.White, Mgr., I.C.I., New York,
E.C.Thompson, V.P., Grasselli Co., Cleve., O.,
C.H.Rupprecht, Pres., Krebs Corp., Newark, N.J.,
Development Dept., Building.

Letter No. 473

October 12, 1932.

J. K. JENNEY—LONDON OFFICE.

TITANIUM PIGMENTS—I.C.I.

Referring to your letter of September 30th, No. 778, and replying to the specific questions on the second page, in principle, we have decided objections to I.C.I. passing on to a company, in which they have a minority interest, information which will, in turn, be passed on to our competitors in the United States. This applies both to information which they have received from us and which they, themselves, have developed.

It is perfectly true that in the present case the information in question is of little practical importance, and from this standpoint we would be harmed little, if any, by having either our own information or I.C.I.'s information (limited to that previous to organization of Krebs Corp.) passed to competitors, but by the same token, it can be of little value to I.C.I. to have the rights which they request. Under these circumstances, unless I.C.I. put real weight on the matter, we would prefer to abide by the principles involved and request that they refrain from licensing the new com-

pany on any such information. If I.C.I. do make such a point and wish to claim special and specific information in this case, please advise us and we will consider the matter further.

In discussing this general question with Mr. Mitchell while he was in Wilmington yesterday, he gave me to understand that British Titan Products Ltd. has been organized solely for the purpose of exploring the possibilities and there is no commitment whatever to building a plant. Furthermore, he intends to investigate this matter personally when he returns.

FOREIGN RELATIONS DEPARTMENT,

WENDELL R. SWINT, Director.

WRS/C

P.S.—A further consideration, for your own confidential information, is that it is not unlikely that some sort of an arrangement will be arrived at for cross-licensing between National Lead and ourselves here, which would set the whole matter straight.

10/12/32

P.S. for Mr. G. W. White:—

The attached is in connection with a formal request from I.C.I.—London, forwarded through our London Office, in which they ask our advice as to any restrictions which we believe should be placed on the use by I.C.I., in connection with proposed licenses to be issued by I.C.I. to British Titan Products Ltd., with respect to:—

Exhibit 229

(a) Information obtained by I.C.I. from du Pont previous to organization of Krebs Co.

Have we any objection to I.C.I. passing along our information to the new Company who are obligated to pass information to National Lead for use in the United States?

(b) Information on previous I.C.I. pigment work passed to du Pont.

Have we any objection to their passing along their own information to National Lead for use in the United States since we have an option to an exclusive license on this?

W.R.S.

WRS/C

Exhibit 230

Copies to:—
Lammot du Pont, President,
J. T. Brown, Vice President,
J. E. Crane, Vice President,
Dr. F. Sparre, Dir., Development Dept.

October 20, 1932.

C. H. RUPPRECHT, PRESIDENT
KREBS PIGMENT & COLOR CORPORATION,
NEWARK, N. J.

At a meeting, on October 11th, Mr. Mitchell and Mr. White, of I.C.I., discussed with various du Pont representatives a number of subjects. Mr. White took some notes of this meeting, from which I quote for your information:—

"Titanium

DuPont mentioned in passing that they have not been making very much progress in the way of exchanging information with their European associates. They felt that it was not beyond the bounds of possibility that they might graduate towards some form of arrangement with the National Lead Company. Mr. Mitchell mentioned the small exploratory syndicate, which included National Lead associates, that had been formed in England and in which I.C.I. had a minority interest."

As a matter of fact, this does not adequately describe the conversation as I went into considerable detail in explaining to Mr. Mitchell our position with respect to patents both here and in Canada, along the lines which you discussed with me a few weeks ago.

FOREIGN RELATIONS DEPARTMENT,
WENDELL R. SWINT, DIRECTOR.

WRS/C

Exhibit 231

Copy to:—E. C. Thompson, Grasselli Chemical Co., Cleveland.
C. H. Rupprecht, Krebs Pigment & Colour Cor., Newark.
Development Department, Wilmington.

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Letter No. 799

21st October, 1932.

Mr. W. R. Swint,
Foreign Relations Dept.,
Wilmington, Del.

Titanium Pigments.

We have your letter No. 473 of October 12th. We also note your decision on this subject, namely, that you would prefer to abide by the principles involved and request that I.C.I. refrain from licensing the new Company on any information received from us, or I.C.I.'s own information.

I.C.I. recognizes the principles involved but in view of the fact that the practical importance of the matter is so small they wished to be in a position to make the gesture of bringing their know-how to the new Company. I am certain that it would be taken by them as an unfriendly act if we were to prevent them from doing this merely on the ground of demanding full protection of our rights, which we understand to be of little practical value, under the letter of the agreement.

In my opinion we could fully protect our rights by writing I.C.I. along the following lines:—

Exhibit 231

1. In view of their decision that the only practical way for them to enter the field of Titanium White in the British Empire is to take a minority interest in British Titan Products Limited, we are prepared to make such adjustments to the I.C.I.—DuPont Patents and Processes Agreement as will leave them free to do this.

2. In order that our own position may be protected I.C.I. should turn over such information as they acquired from DuPont prior to the organization of Krebs Company and such information as they themselves developed up to that time, with the understanding that it will not be used in DuPont exclusive license territory.

In view of the fact that this information is not of outstanding value it seems as if the new Company could undertake not to show it to their American shareholder.

A letter along the above lines would protect the situation from the standpoint which is foremost in your mind, namely, observing the principles involved. At the same time it would permit I.C.I. to make the gesture they desire. The only difficulty would be that the material might be actually available to National Lead through carelessness or any other reason on the part of the new Company. However, even if this were to occur, as everyone seems to admit that the practical effect of this is of no importance, we would seem to have little to lose by falling in with I.C.I.'s wishes.

Another point which occurs to us is that we have never given any assurance to I.C.I. that the information we acquired from them prior to the organization of the Krebs Company together with our own information, the British Empire rights to which they are entitled, may not be used by Blumenfeld in the British Empire. This point has not been mentioned by I.C.I.

Exhibit 22

Mr. Major is out of town and consequently we are unable to give you the benefit of his views at the present writing.

We shall be interested in having your early advice as to whether the above presentation may not change your point of view in the matter. I.C.I.'s Development Department is very anxious to know our decision so that they may make final arrangements relative to participating in the British Titan Products Company.

With reference to the last paragraph of your letter in which you state that Mr. Mitchell believed that this Company had been organized solely for exploring the possibilities, and that there is no commitment to build a plant, we understand that this is correct. At the same time we understand that in the organization of the Company care is being exercised to define the interests and contributions of the various participants. We also received the distinct impression from Major Barley that, while official decision to build a plant had not actually been made, the various participants were pretty well agreed to go ahead as soon as possible.

J. K. JENNEY.

JKJ/PR.

Exhibit 232

October 21, 1932.

Dr. G. W. Thompson,
Building.

Dear Dr. Thompson:

Sample No. 9, Filter Cake from the Krebs Pigment & Color Corporation, has been analyzed by Mr. J. H. Kenny with the following results:

Moisture at 105° C.	66.16%

Dry Basis

Titanium Oxide	77.62
Sulphuric Anhydride	6.15
Combined Water	14.83
	98.60

This is the product referred to in the Rossi & Barton U. S. Patent 1,196,031, August 29, 1916.

The analysis is very close to one of the examples given in the patent specification.

Very truly yours,

L. E. Barton.

Exhibit 232

Letterhead of

TITANIUM PIGMENT CO., INC.

Sample of "No. 9 Filter Cake Before Additions"
Date October 19, 1932
To Mr. L. E. Barton
From The Laboratory
See Yours of October 14, 1932 (memorandum)
Sample Rec'd
Sample Marked

ANALYSIS

Moisture at 105° C.	66.16%
Dry Basis	
TiO_2	77.62%
Loss on Ignition (900° C)	20.98%
	98.60%
Sulphuric Anhydride	6.15%
	20.98
	6.15
	14.83 Com. Water

Titanium Oxide	77.62
Sulphuric Anhydride	6.15
Combined Water	14.83
	98.60

Analyst: J. H. Kenny

This is the product deferred to in R & B U. S. Patent 1 196 031, Aug 29, 1916

Exhibit 233

Letterhead of

KREBS PIGMENT & COLOR CORPORATION
256 Vanderpool Street
Newark, New Jersey

October 27, 1932.

CONFIDENTIAL.
Dr. G. W. Thompson, Vice President
National Lead Company
111 Broadway
New York, N. Y.

Dear Dr. Thompson:

We have now had opportunity to consider the claims made by National Lead Company of infringement of claims in their patents by Krebs Pigment & Color Corporation. We agree with the proposal in your letter of October 17, 1932, to answer these claims under certain headings.

We wish to offer for your consideration a slight modification in heading number four and an additional heading number five. These are within our understanding of the spirit of your proposal.

1. Simple admission of infringement.
2. Admission of infringement but agreeing in the future to desist.
3. Denial of infringement on account of prior use.
4. Denial of infringement by citation of coverage by prior art.
5. Denial of infringement for the reason that the claim or claims do not read on our process or product.

Exhibit 233

Below we shall discuss the individual patents which you claim we are infringing:

U. S. PATENT No. 1,196,031—ROSSI AND BARTON

It is alleged that we are infringing the single claim of this patent. This claim covers a basic titanium sulphate of certain specified composition.

The only product which could be considered to come within the scope of such a claim is our acid cake. We have experimental evidence that this acid cake is not a basic titanium sulphate as specified in the claim. In view of this fact we believe that we are not infringing under heading 5 referred to above. Attention is also called to the expired U. S. Patent No. 1,014,793 issued January 16, 1912, to Weintraub. We are following the teachings of Weintraub inasmuch as our acid cake is of a general composition similar to that of the product resulting from his process.

U. S. PATENT No. 1,276,644—GOLDSCHMIDT

It is alleged that we infringe claims 1, 3, 7, 8, 9 and 10 of this patent. These claims cover the use of precipitated sulphur in the clarification of titanium solutions.

In our process precipitated sulphur is never used for this purpose. We use precipitated copper sulphide under reducing conditions which preclude the formation of precipitated sulphur. We therefore believe that we are not infringing under heading 5.

U. S. PATENT No. 1,288,863—FLADMARK

It is alleged that we infringe all seven claims of this patent. These claims cover the hydrolysis of concentrated titanium solutions, also concentrated basic titanium sulphate solutions.

Exhibit 233

We do not believe that we are infringing this patent as we follow the teaching of Blondel who in 1899 disclosed in Bulletin Soc. Chim. 21: 262-4, a manner of hydrolyzing concentrated titanium sulphate solutions, including basic solutions, by heating. We, therefore, believe that we are not infringing under Heading 4.

U.S. PATENT No. 1,333,819—JEBSEN

It is alleged that we infringe claims 3, 4, 5, 7, 8, 9, 11, 15, 18, 19, 20, 21 and 22. These claims are directed to the attack and leaching processes particularly with use of less acid than corresponds to the formation of normal titanium sulphate: $Ti(80_4)2$.

Our process follows the teachings of Weintraub in his U. S. Patent No. 1,014,793 and of Farup in his U. S. Patent No. 1,087,575. Both of these patents have expired. We feel confident, therefore, that our process does not infringe claims 3, 4, 5, 7, 15, 18, 19, 20, 21 and 22. This non-infringement belongs to the heading No. 4.

The other three claims 8, 9 and 11 seemingly have no bearing on our process as we do not make use of the specific conditions described in these claims. Claim 8 is directed to the use of a slime in the attack step which we do not practice; claims 9 and 11 cover a lixiviation process in which the fresh decomposition product is treated with a solution formed by lixiviation of the decomposition product with water, which is not practised by us.

U. S. PATENT No. 1,333,849—OLSEN & FORLAND

It is alleged that we infringe claims 1, 2, 4 and 5. These claims cover the reduction of the titanium solution prior to hydrolysis so that some titanous salt is present.

Exhibit 233

Our process follows the teaching of Weintraub in U. S. Patent No. 1,014,793, which discloses the reduction of ferric iron by means of zinc added to the slightly acid titanium solution so that the iron remains in solution when, on boiling the titanium compounds are precipitated as meta-titanic acid. We, therefore, believe that we do not infringe either the process or the product claims of this patent.

U. S. PATENT No. 1,338,473—WRIGLEY & SPENCE

It is alleged that we infringe two groups of claims 1, 8, 11, 12, 13, 14, and 15, covering the direct injection of steam during the attack step; and 4 and 6 covering removal of copperas from the itanium solution.

There must be some misunderstanding concerning the bearing of the first group of claims upon our process. We do not inject steam during the attack but merely pre-heat the acid with steam prior to the introduction of the ilmenite. We, therefore, believe that we are not infringing under heading 5.

Concerning the other two claims, numbers 4 and 6, we understand from the specifications of the patent (page 2, lines 15 et seq.) that it is contemplated to reduce the titanium solution completely, or practically completely, prior to the copperas removal. We do not practice such complete reduction and therefore believe that we do not infringe under heading 5. Attention may be called also to the fact that we operate according to the teachings of the prior art in producing concentrated solutions of titanium and iron sulphates. Such solutions, as is well known, will crystallize during ordinary manufacturing practice so that a major

portion of the copperas, separates, unless special precautions are taken to keep them at a high temperature.

U. S. PATENT No. 1,348,129—GOLDSCHMIDT

It is alleged that we infringe two claims; 16 and 19 which cover a "crypto crystalline" titanium oxide.

We have examined our titanium oxide pigment by various microscopic methods using magnifications equal to and higher than that specified by Goldschmidt and have found no evidence that the particles are composed of crystals which are relatively small as compared with the particles and also no evidence that these particles exhibit a crystalline interior structure and a smooth exterior surface. We, therefore, believe that we are not infringing under heading 5.

U. S. PATENT No. 1,360,737—FARUP

It is alleged that we infringe claim 12, covering a titanium pigment containing combined phosphorous.

We do not add any compound of phosphorous to our pigment at any step in its manufacture. We do not believe that we are infringing this claim under heading No. 5.

All titanium ores with which we are familiar, available for the manufacture of titanium oxide pigments, contain phosphorous compounds as impurities and if any combined phosporous has been found in our pigment by analysis it originated from impurities in the raw material.

U. S. PATENT No. 1,412,027—WASHBURN

It is alleged that we infringe claim 15, covering a crystalline TiO_2 containing combined phosphorous.

Exhibit 233

The same discussion applies as under Farup U. S. Patent No. 1,360,737 and we believe that we are not infringing for the same reasons covererd there.

If you will communicate with me after reviewing our comments, I will be glad to arrange for discussion, and have Dr. Booge present.

Very truly yours,

(Signed) C. H. RUPPRECHT
PRESIDENT

Exhibit 234

Copies to:—
Development Department,
E. C. Thompson, V.P., Grasselli Chem. Co., Cleveland, Ohio,
C. H. Rupprecht, Pres., Krebs Pigment & Color Corp., Newark, N. J.

Letter No. 492 November 2, 1932.

J. K. JENNEY,
LONDON OFFICE.

TITANIUM PIGMENTS

After discussing your letter of October 21st, No. 799, with Dr. Sparre, we have decided that it would be decidedly preferable, from our point of view, if this whole matter could be held in abeyance for two or three months. By that time, we hope to have our arrangement completed with the National Lead, and then the whole question will automatically be solved.

I, personally, do not see how it is feasible to get any undertaking from the proposed new British company, as outlined in your paragraph "2".

I note you have not yet discussed this matter with Mr. Major, and I presume also, not with other representatives since receiving my letter of October 12th. If you have in the meantime, or do in the future, have discussions on this point and you feel that our views are objectionable to them, please write us again.

Exhibit 234

The point which you raise in the second paragraph on page 2 of your letter has no basis in fact. As we have no reciprocal exchange of information with Blumenfeld, but have simply bought the U.S. rights to his patents and information, he cannot use our prior technique in the British Empire to I.C.I.'s detriment.

FOREIGN RELATIONS DEPARTMENT,

WENDELL R. SWINT, DIRECTOR.

WRS/C

Exhibit 235

November 2, 1932

Dr. G. W. Thompson, Chief Chemist
Research Laboratories
Brooklyn, N. Y.

Dear Dr. Thompson:

Referring to letter from Krebs Pigment & Color Corp., October 27, 1932.

U.S. PATENT No. 1,196,031, ROSSI & BARTON

1: The claim marked as infringed in this patent clearly covers the acid cake produced by Krebs.

2: Weintraub U.S. Patent No. 1,014,793 mentions a suspension of titanium sulfates remaining after dissolving the ferrous sulfate and some titanium sulfate in a limited quantity of water. Weintraub does not separate the sulfate nor disclose its composition, but from our knowledge of titanium sulfates so produced, sulfate may have been a soluble titanyl sulfate. This possibility is confirmed by Weintraub's statement that his suspension is thrown into a large amount of boiling water whereby meta-titanic acid is formed indicating that the suspension whatever it was was soluble in water.

U.S. PATENT No. 1,338,473, WRIGLEY & SPENCE

The third paragraph of Krebs' letter under this heading is very weak, particularly in the reference to lines 15, etc., page 2, of the Wrigley & Spence patent. Beginning at line 15 Spence describes his method of treating titanium solutions for the preparation of titanous solutions, but the broad disclosure of all solutions is stated on page 2, lines 7 to 15 where it is made clear that the process is not limited to the

preparation of titanous solutions or to the reduction of all the titanium before crystallizing out ferrous sulfate. Lines 7-15, page 2, are as follows:

> "The clear neutral, basic, or acid liquors obtained by the process are in themselves for certain purposes in the arts, *either before or after the removal of a proportion of the iron by crystallization as hydrated ferrous sulfate*, useful solutions of titanium sulfate containing iron sulfate and are also economical starting liquors for the preparation of other compounds of titanium."

Krebs further states as follows:

> "We do not practice such complete reduction", etc.

Our observations at Baltimore and the description of the process given to us show that it is their regular practice to completely reduce the iron to the ferrous state before crystallizing out ferrous sulfate. I believe this is borne out also by the Blumenfeld group of patents taken as a whole.

The other patents referred to in Krebs' letter of October 27, 1932 are either Washburn or Titan Co. patents, and I am therefore leaving them for Mr. Washburn to reply to, although I am taking the opportunity to discuss them with him.

Yours very truly,

Titanium Pigment Co., Inc.

(Signed) L. E. Barton

L. E. Barton

LEB:JEJ

CC—Mr. W. F. Washburn

Mr. A. S. Moses

Exhibit 235

November 2, 1932

MEMORANDUM relative to Blumenfeld U. S. Patent No. 1,795,467

In studying the Weinberg U. S. Patent No. 1,014,793 in relation to the matter of infringement by the Krebs Pigment & Color Corporation of our U. S. Patent No. 1,196,031 (see Krebs' letter October 27, 1932) it appears that Weinberg makes a rather clear disclosure of subject matter and certain claims of the Blumenfeld patent where he states on page 2 as follows:

> "For each 100 g. of ilmenite originally taken, 500 cc. of water are sufficient. This mixture is stirred for a long time in order to insure complete solution of the iron salts and disintegration of the titanium sesquisulfate particles. The reduction of the ferric sulfate is performed during this part of the operation, in the manner already described. *After the reduction, the mixture, consisting of a solution of titanium sulfate and ferrous sulfate and of a suspension of titanium sulfates, is thrown into a large quantity of boiling water, whereby meta-titanic acid is formed,* which is filtered and treated in the same manner as described above."

LEB:JEJ

L. E. BARTON

CC—Dr. G. W. Thompson
Mr. W. F. Washburn

Exhibit 236

November 3, 1932

Dr. G. W. Thompson, Chief Chemist
National Lead Company
Research Laboratories
Brooklyn, N. Y.

Dear Dr. Thompson:

I have read Mr. Rupprecht's letter to you of October 27 and have prepared the following memoranda, which may be of assistance to you in formulating your reply to it:

U. S. Patent #1,196,031—Rossi and Barton

The claim in this case is as follows:

> "As a new product, the herein described titanium compound characterized as consisting essentially of basic titanium sulphate and as rendering by analysis a preponderance of titanic oxide, less combined water than titanic oxide, and less sulphuric anhydride than combined water."

The dried product; ie., prior to calcination, manufactured by the Krebs Pigment and Color Corporation, is certainly covered by this claim. While it is true that the dried product is, as far as I know, not offered for sale, nevertheless, it constitutes an infringement.

Attention is directed to the analyses given on page 2, lines 92-100, inclusive, of U. S. Patent #1,196,031.

If they are following the teachings of Weintraub, U. S. Patent #1,014,739, as claimed by Mr. Rupprecht, their

product would not be white and would contain 1-2% iron oxide. (See Weintraub—page 2, lines 22 and 23.)

U. S. Patent #1,276,644—Goldschmidt

As we are waiting for certain tests now being carried out in the Laboratory, it will be well to defer comment on this patent until the investigation is completed. However, I will call attention to the fact that Goldschmidt, in his specification, shows that solutions containing colloidal slimes may be clarified by the addition of a colloid carrying an opposite electrical charge.

I am not at all sure but that there is an infringement of this patent on the grounds of equivalency, even though there may be no elemental sulphur present in their solutions.

U.S. Patent #1,288,863—Fladmark

Mr. Rupprecht denies infringement of this patent by citing the article by Blondel published in Bulletin Soc. Chim. 21,262-4. This, to the writer, seems very farfetched. There is nothing in Blondel's article which would indicate or even suggest that a practical commercial process had been developed. There is no evidence that Blondel's products were suitable for the preparation of a white pigment, nor that he had any such object in mind. Furthermore, he does not use a solution such as described by Fladmark, nor does he state that titanium hydrates can be precipitated from a concentrated basic solution by heating.

Repeatedly, the courts have held that a scientific article in which a casual mention is made of a chemical compound cannot be held to anticipate a practical commercial process.

Exhibit 236

U.S. PATENT #1,333,819—JEBSEN

This patent covers the formation of a basic solution of titanium and iron sulphate from Ilmenite by the action of sulphuric acid.

This is, in the writer's opinion, a very important and valid patent.

In none of the references cited is there any suggestion that when Ilmenite is treated with less sulphuric acid than is theoretically required to combine with the base-forming elements present, more than the theoretical amount of iron and titanium would go into solution. Neither of the references cited are pertinent, as they do not disclose Jebsen's discovery.

Weintraub, for instance, on page 1, lines 64-68, inclusive states, "The quantity of acid may vary through reasonable limits but the theoretical amount required; namely, double the weight of the Ilmenite under treatment, is sufficient."

Fasup, U.S. Patent #1,078,575, which discloses a process for the manufacture of a *yellow* pigment specifies "treating finely pulverized titaniferous iron ore with *relatively great amounts* of sulphuric acid." He does not contemplate the formation of a solution of titanium and iron sulphates.

Certainly there is no suggestion in either of these references that less sulphuric acid than would be required to combine with the base-forming materials present, can be successfully employed. If they follow the teachings of Weintraub, as is alleged, they should use at the "attack" step of their process sufficient acid to form normal salts with the base-forming materials present.

Exhibit 236

U.S. PATENT #1,333,849—OLSEN AND FORLAND

This patent covers a solution of titanium and iron salts adapted for the precipitation of titanium hydrates substantially free from iron, in which solution the iron is in the trivalent condition and the titanium in both the tetravalent condition and in a condition of lower valence, the salts of the last-named titanium being present in relatively small proportion to the salts of the trivalent titanium but in sufficient quantity to prevent the formation of trivalent iron salts or subsequent precipitation of the titanium hydrates.

When the solution covered by this claim and clearly disclosed in the specification, is submitted to hydrolysis, a white precipitate of titanium hydrate essentially free from iron, is formed.

Mr. Rupprecht enters a denial of infringement of this patent by citing the Weintraub U.S. Patent #1,014,793. This reference is not pertinent, as it certainly is not an anticipation of the Olsen and Forland Patent. There is no suggestion in the Weintraub Patent that some of the titanium should be reduced to a lower valence. In fact, it is apparent that Weintraub did not contemplate such a process. For instance, page 2, lines 2-10, inclusive: "It is therefore necessary to reduce the ferric salt in the solution. This is performed by adding zinc or sulphurous acid or a concentrated sodium thiosulphate solution until no more reaction with potassium sulfocyanate takes place, which indicates that the ferric salt has been reduced to the ferrous state."

There is certainly no suggestion here that Weintraub had reduced titanium present in his solution. On the contrary, inasmuch as sulphurous acid and zinc are considered by him to be equivalent, it is clear that he did not contemplate having reduced titanium present.

Exhibit 236

Furthermore, page 2, (line 20), "and can easily be filtered off, washed with hot water, dried and calcined to a very light titanium dioxide with not more than 1-2% iron oxide." The iron content specified proves to one skilled in the art that Weintraub did not have sufficient reduced titanium present in his solution to prevent precipitation of iron during hydrolysis.

In addition, it should be noted that if Weintraub's solution was the same as that made by Jebsen, he would not have been obliged to precipitate his titanium hydrates by the addition of a large amount of water.

It should be noted that U.S. Patent #1,333,819—Jebsen; U.S. Patent #1,333,849—Olsen and Forland; and U.S. Patent #1,288,863—Fladmark, are links in a process for the preparation of titanium hydrates from basic solution. The process used by Krebs Pigment and Color Corporation at Baltimore clearly infringes each of these patents.

It should be noted that the Weintraub Patent was cited by the examiner against these patents. We were able to clearly distinguish our process over the reference and prior art.

U.S. Patent #1,338,473—Wrigley and Spence

There is no misunderstanding, on our part, concerning the infringement of this patent.

Mr. Rupprecht's statement: "Concerning the other two claims, Nos. 4 and 6, we understand from the specification of the patent (page 2, lines 15 et seq.) that it is contemplated to reduce the titanium solution completely, or practically completely, prior to the copperas removal."

Exhibit 236

I wish to call attention to lines 7-15, inclusive, where it clearly states that, "liquors obtained by the process are in themselves for certain purposes in the arts, either before or after the removal of a proportion of the iron by crystallization as hydrated ferrous sulphate, useful solutions of titanium sulphate containing iron sulphate and are also economical starting liquors for the preparation of other compounds of titanium." And then in Claim 4: "In the process of obtaining solutions of titanium sulphate by treating ilmenite with a dissolving agent, the step which consists in removing iron from the solutions by crystallization as a hydrated ferrous sulphate."

Mr. Rupprecht states that they are operating according to the teachings of the prior art in producing concentrated solutions of titanium and iron sulphate. I should be glad to have him indicate what references he has in mind. They certainly are not known to me. He well knows that the removal of the copperas from the solution is a very important step in the manufacture of titanium pigments from basic solutions. If, as he suggests, it is quite natural for copperas to crystalize out from such solutions, why do they use the expensive cooling and crystallizing equipment? Certainly such an important step in the process cannot be so lightly dismissed.

U.S. PATENT #1,348,129—GOLDSCHMIDT

Commercial samples of Rayox have been examined by one of the foremost authorities in microscopy and x-ray analyses in the United States and he has found crypto-crystalline titanium dioxide in the pigment.

Exhibit 236

U.S. PATENT #1,360,737—FARUS AND U.S. PATENT #1,412,027—WASHBURN

It is admitted that the processes disclosed in the above patents are not being infringed. However, we do submit that the product claims of which Claim 12 may be quoted: "As a new and improved article of manufacture, a white or light-colored pigment containing an oxygen compound of titanium and combined phosphorous," are being infringed.

As it is well known that compounds of phosphorous have a marked effect upon the properties of titanium pigments, it seems to me that there is no question but that this claim is infringed. The fact that the phosphorous compounds may be present in the ore as an impurity, has no bearing on the question.

I have tried to cover the essential points as briefly as possible. If you wish to have me further amplify them, I shall be very glad to do so.

Yours very truly,

W. F. WASHBURN
Asst. General Manager

WFW:MCY

Exhibit 237

November 5, 1932

Dr. G. W. Thompson, Chief Chemist
Research Laboratories
Brooklyn, N. Y.

Dear Dr. Thompson:

I have discussed with Mr. Washburn his letter to you of November 3, 1932, relative to Krebs' statement of non-infringement, their letter of October 27, 1932.

Washburn's remarks relative to the reference to Blondel are well taken and I believe constitute the real answer. However, it is interesting to note that none of the titanium sulfates described by Blondel in the reference come within the range of composition referred to in the table, page 2 of our patent 1,196,031, nor are they covered by the claim, all of them containing higher percentages of sulphuric anhydride. You will recall that our analysis of the basic sulfate precipitated by Krebs in their operations at Baltimore did come within the limits of the table referred to.

While I believe my letters of November 2 and Mr. Washburn's letter of November 3 are important for their own information, and may become useful under conditions which may develop, it is my present opinion that these comments should not be sent to Krebs Pigment & Color Corporation, but rather that we should stand squarely on our previous statement of their infringement.

Yours very truly,

Titanium Pigment Co., Inc.
L. E. Barton

LEB:JEJ

Exhibit 238

Letterhead of

PHILIP C. PECK

December 22nd, 1932.

Dr. G. W. Thompson,
c/o National Lead Company,
111 Broadway, New York, N. Y.

Dear Mr. Thompson: —

Re: Krebs Pigment & Color Corporation

Your December 20th letter enclosing copies of Mr. Rupprecht's December 16th letter to you and of your reply of December 20th has been received, and I have carefully considered the questions raised in these letters.

You are correct in your statement to Mr. Rupprecht that the two decisions cited are not pertinent to the issues raised in this correspondence. However it is not a question of your infringing Krebs patents, but of their validity. Infringement is suggested as a basis of the issue of invalidity on the test of "what would infringe, if later, anticipates if earlier."

Furthermore there is no such thing as partial invalidity as intimated in the fourth paragraph of your letter to me. Patents can not be "invalid as far as we are concerned" without also being invalid in favor of the public generally.

An analysis of the Kendall and Macbeth decisions shows that they only decide that an inventor who makes up his mind not to patent his invention at all, forfeits all right to a patent, and may not thereafter obtain a monopoly under the patent laws. The issues of prior knowledge and prior use do not arise for determination.

Who then benefits by this forfeiture — the public or some subsequent inventor or discoverer? Such question can not arise unless the earlier inventor has successfully kept the invention so absolutely concealed that it is virtually a lost or forgotten art; otherwise the second man would not be the inventor of something "not known or used by others in this country before his invention or discovery thereof" (U.S.R.S. 4886). The dominant right of the public created by the patent laws prevails because this second man is not the true inventor and the invention is not new.

Anticipation is also made out under U.S.R.S. 4920 when it is established as to the patentee

> "That he was not the original and first inventor or discoverer of any material and substantial part of the thing patented"

These two sections go together on the issue of prior knowledge and use.

In Coffin v Ogden (18 Wall. 120, 124), the U. S. Supreme Court expressly held:

> "The prior knowledge and use of an anticipatory device by a single person is sufficient to negative invention by a later comer"

In the case of Reed v Cutter, Fed. Case. No. 11645, Mr. Justice Story said:

> "If the invention is perfected and put into actual use by the first and original inventor, it is of no consequence whether the invention is extensively known or used, or whether the knowledge or use thereof is limited to a few persons, or even to the first inventor."

Exhibit 238

As I understand the facts, your procedure has long been in commercial use, and in no wise comprises a case of a forgotten process that after being first practiced was afterwards thrown aside and its use altogether abandoned. On the contrary, your Company has made no special effort to hide this particular procedure. While it was your practice to exclude the general public from your plants, yet such policy was not dictated by a wish to keep this particular procedure strictly secret. You did not pledge your employees to secrecy in respect thereto, a considerable number of employees knew of such procedure and felt no obligation of secrecy, and in the course of years many must have left your services and probably were expressly enjoined when they left. Manifestly such process was a long-continued commercial use, a practical employment in ordinary plant practice. In fact such procedure is the only use possible industrially, and shows both prior knowledge and prior use under the statute.

The Macbeth case (so much relied on by Krebs) decides only that an inventor forfeits his rights under the patent laws when he uses his invention for many years as a trade secret. In the District Court the decision (231 F.R. 188) was rendered by Judge Clarke who afterwards sat in the U. S. Supreme Court. He dismissed the suit not only because Macbeth abandoned the invention (sole ground of affirmance in the Circuit Court of Appeals), but also because the patent was void for prior knowledge and use.

After reviewing the various decisions on this second ground including Kendall v Winsor (21 How. 323), Judge Clarke said:—

> "No case has been cited to the court where a patent has been held valid *after a long commercial but se-*

cret use of it, upon the ground that such a use was not a public one within the meaning of the patent statutes."

See also Perkins v Nashua, 2 Fed. R. 453 and cases cited.

In Standard v Kiefer (18 Fed (2nd) 326; affirmed page 331), the Court reviewed many of the prior decisions, and the well-settled rule is epitomized in the syllabus as follows:

"Prior use for years for commercial purposes of machines which anticipated that of a later patent, which use was known to numerous employees not pledged to secrecy and to occasional visitors, was a public use, which renders the patent invalid, though there was more or less of an attempt by the concerns using the machines to keep such use as well as other of their processes, from the knowledge of the general public."

This summarizes exactly the issues as applied to your plant practice as I understand the situation in respect to the procedure in question.

Furthermore your industrial plant procedure was sufficiently public to constitute an anticipation under the provisions of R.S. 4886 and 4920 which I have mentioned. The final clause in the opinion of the du Pont Patent division quoted in your December 20th letter to Mr. Rupprecht is not supported by the decisions which I have set forth in my opinion, and the preceding parts of this du Pont opinion quoted in Mr. Rupprecht's letter are only relevant as against an inventor who first decides not to patent his invention at

all, and then later on patents it seeking to offset abandonment. As you have well stated, such du Pont opinion is "not germane to the question of your prior use which I believe is sufficient to require denial of a valid patent.

The only exception to the statutory rule that no patent may validly issue for anything "known or used in this country" before its invention by the patentee is where the earlier inventor has absolutely concealed and suppressed all knowledge of the invention by other so that the second inventor and patentee may be likened to a rediscover of an old or forgotten art (Gaylor v Wilder 10 How. 477). It must be fully established that the first inventor's efforts to keep his invention strictly secret have been altogether successful. Even a pledge to secrecy by your employees would not necessarily make your procedure a secret use.

In your correspondence with Krebs I would not refer to your commercial plant procedure as being a "*secret* use", but rather a continuous industrial practice that was not designedly hidden from your employees or visitors at your plants.

I realize that you are "not concerned in or desirous of rendering any of the Krebs patents invalid". Nevertheless your defense must be invalidity under R.S. 4886 and 4920 should they be so ill-advised as to sue, since infringement is suggested under the necessary assumptions in rendering this opinion.

Very truly yours,

Philip C. Peck

PCP/VP

Exhibit 239

Book D—page 387

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, December 22, 1932, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Broderick, Carter, Caselton, Cornish, Croft, Rockwell, Sidford, Taylor and Thompson.

Resolved, that this Board approves the acquisition of the 7100 shares of outstanding stock of Titanium Pigment Company, Inc., not already owned by this Company, in exchange for shares of the Class A Preferred Stock of this Company now in its treasury, upon the general terms offered to the holders of said shares by Mr. W. C. Beschorman, Vice-President, as reported by him at this meeting.

Exhibit 240

Book D—page 390

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, January 26, 1933, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Brodrick, Carter, Cornish, Rockwell, Sidford and Taylor.

Approving the acquisition of 7100 shar of the capital stock of Titanium Pigment Company, Inc., constituting the remainder of the outstanding stock of said Company not already owned by this Company in exchange for an equal number of shares of the Class A Preferred Stock of this Company; upon the terms specified in written offers to the former holders of said shares dated December 30, 1932.

Exhibit 241

January 20, 1933.

Dr. G. W. Thompson, Chief Chemist
National Lead Company.
Building—18th Floor.

Dear Dr. Thompson:

In connection with the Krebs negotiations you wanted some information about the I. G. patents pending. I have made a review of our I. G. patents and find the following:

U. S. Serial No. 417,000, December 27, 1929.

Subject: Basic titanium sulphate solutions for tanning.

Claim 7. Titanium sulphate preparations containing a sulphate of the group consisting of the alkali metals & ammonia in which on each mol of titanium dioxide 0.3 to 0.5 mol of sulphuric acid are bound, being colorless crystalline powders, dissolving easily in water and being valuable tanning and weighting agents.

Claim 8. Titanium sulphate preparations containing an alkali metal sulphate in which on each mol of titanium dioxide 0.3 to 0.5 mol of sulphuric acid are bound, being colorless crystalline powers, dissolving easily in water and being valuable tanning and weighting agents.

Claim 9. Titanium sulphate preparations containing sodium sulphate in which on each mol of titanium dioxide 0.3 to 0.5 mol of sulphuric acid are bound, being colorless crystalline powders, dissolving easily in water and being valuable tanning and weighting agents.

U. S. Serial No. 507,040, January 6, 1931.

Subject: Producing basic solutions by removing part of SO_4 radical as an insoluble sulphate.

Claim 2. In a process of preparing tanning and weighting agents from aqueous solutions of titanium sulphuric acid compounds the steps which comprise adding to an aqueous sulphuric acid solution of titanium dioxide, containing for about one mol of titanium dioxide one mol of sulphuric acid, such a quantity of a basic agent forming a water-insoluble compound with sulphuric acid, that the remaining solution contains 0.5-0.9 mol of sulphuric acid upon one mol of titanium dioxide.

Claim 3. In a process of preparing tanning and weighting agents from aqueous solutions of titanium sulphuric acid compounds the steps which comprise adding to an aqueous sulphuric acid solution of titanium dioxide, containing for about one mol of titanium dioxide one mol of sulphuric acid, such quantity of calcium carbonate that the remaining solution contains 0.5-0.9 mol of sulphuric acid upon one mol of titanium dioxide.

U. S. Serial No. 555,141.

We apparently have no exact copy of the application as filed by the I. G. in the United States, but we have a copy of the case as filed in Canada, the subject matter of which, as well as the United States case, is briefly as follows:

> Process of improving the wetting power of pigments by milling them with oils, fats, higher hydrocarbons or salts of fatty acids such as aluminum stearate.

Representative claims from the Canadian application are as follows:

Claim 1. Process for improving the miscibility with binding agents of pigments, which comprises grinding the pig-

ment with about 0.1 to 0.3% of a substance of the group consisting of oils, fats, fatty acids derived therefrom and salts of these fatty acids.

Claim 2. Process for improving the miscibility with binding agents of pigments, which comprises grinding the pigment while heating to about 30-100°C. with about 0.1 to 0.3% of a substance of the group consisting of oils, fats, fatty acids derived therefrom and salts of these fatty acids.

Claim 3. Process for improving the miscibility with binding agents of pigments, which comprises grinding the pigment with about 0.1 to 0.3% of a mineral oil.

Claim 15. Composition of matter consisting of a pigment, having incorporated therewith 0.1 to 0.3% of a substance of the group consisting of oils, fats, fatty acids derived therefrom and salts of these fatty acids, said composition of matter being a powdery pigment having an improved miscibility with binding agents.

We received a letter from the Titan Company dated June 18, 1932, in which they state that Titangesellschaft have received an office action in the United States application which they consider very pertinent and wish to know if we would agree to withdrawal of the application. We suggested to the Titan Company that the case be limited with the possibility of obtaining some minor protection, but in view of the references in the case, most of which we have in our files, it is highly improbable that any patent protection will be obtained.

We sent to the Krebs Pigment & Color Corporation a set of our United States patents issued, including I. G. patents 1,738,765 and 1,758,472. Four other I. G. patents

have come to my attention which I believe had not been received at the time the set was sent to them. They are as follows:

U. S. No. 1,849,153, March 15, 1932.

"Method of Preparing Highly Concentrated Titanium Sulphate Solutions."

Subject: Making basic concentrated titanium solutions by heating acid titanium solutions with titanic acid and subsequently concentrating in vacuum.

Claim 1. In the process of preparing highly concentrated titanium sulphate solutions, the step which comprises dissolving ortho-titanic acid in a saturated solution of meta-titanic acid in concentrated sulphuric acid at a temperature of not over 60°C.

Claim 2. In the process of preparing highly concentrated titanium sulphate solutions, the step which comprises dissolving ortho-titanic acid in an amount that for two molecules of sulphuric acid at least about one molecule of titanium dioxide is present, in a saturated solution of meta-titanic acid in concentrated sulphuric acid, at a temperature of not over 60°C.

Claim 3. In the process of preparing highly concentrated titanium sulphate solutions, the step which comprises dissolving ortho-titanic acid in an amount that for two molecules of sulphuric acid about one molecule to about two molecules of titanium oxide dioxide are present, in a saturated solution of meta-titanic acid in concentrated sulphuric acid, at a temperature of not over 60°C.

Exhibit 241

U. S. No. 1,850,154, March 22, 1932.

"Solid Titanic Sulphate."

Subject: The absorption of titanium solutions during the drying process of salts such as sodium sulphate or minerals such as silica or asbestine.

Claim 1. The process which comprises adding to the concentrated titanium sulphate solution 3-5%, calculated on the amount of the titanium sulphate used, of a solid, water binding agent and subjecting the solution in a finely divided form to the action of a heated current of air of a temperature of about 250-350°C.

Claim 2. The process which comprises adding to a concentrated titanium sulphate solution 3-5%, calculated on the amount of the titanium sulphate used, of anhydrous sodium sulphate and subjecting the solution in a finely divided form to the action of a heated current of air of a temperature of about 250-350°C.

Claim 3. The process which comprises adding to a titanium sulphate solution containing in a liter about 400 to about 500 grams of titanium dioxide 3-5%, calculated on the amount of the titanium sulphate used, of a solid, water binding agent and subjecting the solution in a finely divided form to the action of a heated current of air of a temperature of about 250-350°C.

Claim 4. The process which comprises adding to a titanium sulphate solution containing in a liter about 400 to about 500 grams of titanium dioxide 3-5%, calculated on the amount of the titanium sulphate used, of anhydrous sodium sulphate and subjecting the solution in a finely divided form to the action of a heated current of air of a temperature of about 250-350°C.

Exhibit 241

U. S. No. 1,850,286, March 22, 1932.

Copy enclosed.

U. S. No. 1,891,911, December 27, 1932.

"Process of Decomposing Titanium Ores."

Subject: Treating titanium ores with dilute sulphuric acid in presence of reducing agents such as titanous sulphate to dissolve iron but not titanium.

Claim 1. The process of decomposing raw titanium ores and removing the iron therefrom which comprises directly treating the raw ore with dilute sulphuric acid in the presence of a reducing substance for the ferric ions.

Claim 2. The process of decomposing raw titanium ores and removing the iron therefrom which comprises directly treating the raw ore with dilute sulphuric acid in the presence of a titanous compound as a reducing substance for the ferric ions.

Claim 3. The process of decomposing raw titanium ores and removing the iron therefrom which comprises directly treating the raw ore at an elevated temperature with dilute sulphuric acid in the presence of a reducing substance for the ferric ions.

Claim 9. The process of decomposing ilmenite and removing the iron therefrom which comprises directly treating the raw ore at a temperature of about 180°C. with dilute sulphuric acid in the presence of a titanous salt sufficient to reduce the ferric ions.

Yours very truly,

TITANIUM PIGMENT CO., INC.

LEB:J

L. E. Barton

Exhibit 242

February 2, 1933

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Enclosed are two papers—one a copy of a Memorandum of Tentative Understanding arrived at between Krebs Pigment and Color Corporation and Titanium Pigment Company for the Cross-Licensing of Patents, and the other, a Supplementary Agreement proposed for the purpose of enabling us to proceed with the cross-licensing agreement with the Krebs corporation roughly described in the Memorandum first mentioned above.

It is quite important now that we should know what your attitude and the attitude of our German and English associates is toward our pursuing these negotiations to completion. We are quite sure that it will be of advantage to the Titanium Pigment Company. (We have canvassed this qugstion very thoroughly.)

In the Memorandum referred to, we have made our argument in favor of this cross-licensing agreement solely on the ground that the patent infringement difficulties are not easily solvable. There are other advantages which will be obvious to you.

In order that you may understand all that we are attempting and the reasons for it, I shall present to you a short discussion of the Memorandum of Tentative Understanding etc. first.

1. The Krebs corporation derives most of its patents from the Blumenfeld group. It owns these United States

patents but has no power to convey to any one else the right to use them outside of the United States. They would permit us under our tentative plan to operate under these patents to the extent we might desire. The other group of patents is those owned by the Titanium Pigment Company and those owned by the Titan Company. We are not assuming that we have any right to grant to the Krebs corporation licenses to operate under patents owned by any of our sub-licensees such as the Titangesellschaft and I.G. or as may be in the future issued to the British Titan Company or our English associates. You will see therefore that our proposition relates only to the United States and it is our intent to do nothing that would work adversely to the interests of any of our associates abroad.

You will shortly hear from Mr. M. D. Cole with regard to a phase of the proposition which will enable us to proceed more satisfactorily. Resolutions have been drawn up by our attorneys to be adopted concurrently by the Titan Company, Inc., and the Titanium Pigment Company providing that the Titanium Pigment Company shall assign and transfer to the Titan Company all patents issued outside of its territory and providing that the Titan Company shall assign to the Titanium Pigment Company all patents it owns in its territory. It seems to be an equitable arrangement and will enable the Titanium Pigment Company more freely to operate within its territory and presumably should similarly operate with reference to the Titan Company, Inc.

I have in mind to suggest at the next meeting of the Titanium Pigment Company directors the following general policy, to wit: that in the future the Titanium Pigment Company will agree to assign to the Titan Company all

patents it (the Titanium Pigment Company) might apply for in the Titan Company's territory, leaving entirely to the Titan Company the question as to whether these patents should be applied for and to the extent they shall be maintained. We will suggest also that the Titan Company follow a similar practise with regard to future patents that might be applied for by it (the Titan Company, Inc.) in the territory of the Titanium Pigment Company. This has been rendered practicable by the purchase by the National Lead Company of all the stock owned by Mr. Meredith and his associates so that the Titanium Pigment Company is today owned entirely by the National Lead Company. If this plan is adopted, it will remove the burden of continuous correspondence between the Titan Company and the Titanium Pigment Company with reference to their respective foreign patents. We can see no objections to this plan but of course with regard to this we want your advice and criticism.

2. The cross-licensing plan with Krebs corporation provides for non-exclusive licenses. This is for legal reasons.

3. Explains itself.

4. Provides for a cancellation notice with regard to patents for which application has not been made. We are of the opinion that a three years' notice would be satisfactory.

5 and 6. Explain themselves.

7. You are not concerned in this royalty arrangement but you will be interested in the fact that the Krebs corporation has accepted our suggestion and we have adopted as an expiration of the royalty December 31, 1936 because

our royalties will not cease to the Titan Company, Inc., until that date. It will be understood of course that in calculating royalties the production of the Krebs corporation will be included with the production of the Titanium Pigment Company. Inasmuch as the Titanium Pigment Company's production is considerably more than twice that of the Titan Company, Inc., and its associates, the cross-licensing with Krebs will not in all probability increase the royalties that the Titanium Pigment Company will have to pay the Titan Company, Inc.

8. This is a stumbling block but we have practically made up our minds that unless the Krebs corporation will agree not to sell for export out of the United States our cross-licensing system can not go into effect. We are discussing the question now. It is obvious to me that the Krebs corporation could not possibly do a profitable export business where our European Titanium pigment manufacturers have costs so much lower than we have in the United States. We shall, however, do nothing in our cross-licensing agreement with the Krebs corporation that would impair the interests of our foreign associates by permitting our licensee to sell for export.

9. Explains itself.

We now come to the proposed Supplementary Agreement amending the license agreement of 1920. The preamble is quite clear, requiring no explanation.

Section 1 is the main section. *a* is fairly clear. *b* explains itself but requires this elaboration— I am quite sure that we will get permission to transmit to you for the benefit of your licensees any information profitable to them that we get from the Krebs corporation as to its operations. To

put in our cross-licensing agreement that they must divulge everything would be contrary to the spirit of the proposition. We are entering into this, both of us, solely for the United States, and we will probably have an understanding with Krebs that they shall not send abroad to your competitors any information about our processes of manufacture without our consent and that we would not send to you for your associates' benefit any information about the Krebs plant without their consent. This seems to be eminently fair and while we have not attempted as yet to cover it by a formal clause in our understanding that is the thought I am sure both have in mind. *c* seems to me to be perfectly clear. *d*—We have ourselves only recently complied with the license agreement of 1920 in compelling certain of our employees to sign contracts with regard to inventions and improvements which they may make. I think our agreement is satisfactory from our standpoint with our employees. The Krebs corporation, which is a department of DuPont, has all of its employees tied up by contract. This proviso, *d*, however, would only be of interest to the Titan Company and its associates if we had any right to ask the Krebs corporation to give us foreign rights to inventions they may make. *e* and *f* explain themselves.

Section 2 is clear. I have already explained that the Krebs production would have to be included with that of the Titanium Pigment Company in calculating royalties that might be due to the Titan Company.

Won't you kindly give these two papers your careful consideration and show them or such parts of them as you think should be shown to your German and English associates asking them to criticise them freely so that we may do nothing which will possibly affect them adversely.

Exhibit 242

This letter will go on the same steamer, addressed to you both in Paris and in London, as the agreements with the British Titan Products Company Limited.

Yours very truly,

(Signed) G. W. THOMPSON

G. W. THOMPSON

P.S. Since dictating the above it has been decided that I should send to you three extra copies of the Supplementary Agreement to London. Assuming that your associates approve the amendment to the 1920 agreement, will you kindly ask them to signify their approval as indicated in the copies sent by signature of a qualified officer with the seal of the company.

G. W. T.

P.P.S. The "copies" last above referred to are executed originals—two to be returned to this office after approval by all concerned and the third to be retained for your Paris office files.

M. D. COLE

(Copy to Thames House, London)

Exhibit 242

MEMORANDUM OF TENTATIVE UNDERSTANDING

ARRIVED AT BETWEEN

KREBS PIGMENT AND COLOR CORPORATION

AND

TITANIUM PIGMENT COMPANY

FOR THE CROSS-LICENSING OF PATENTS

It having become evident that further controversy relative to infringement of patents would very likely end in a deadlock which could only be settled by arbitration, it has seemed desirable to these two companies that a cross-licensing agreement be entered into of all controllable covering the production, use and products of Titanium except Titanium alloys, particularly Titanium pigments, along the following lines.

1. Patents involved are those owned by the Krebs Corporation, those owned by the Titanium Pigment Company, and those owned by the Titan Company.

2. Cross-licensing shall be non-exclusive.

3. These non-exclusive licenses shall be for the life of the patents.

4. These non-exclusive licenses shall extend to all pending and future patents, processes and methods with this proviso, namely, after December 31, 1936 either party on _____ years notice may cancel the cross-licensing agreement with reference to all patents for which application has not been made. (Perhaps it would be better to omit this last clause.)

Exhibit 242

5. This cross-licensing agreement relates only to United States patents.

6. If either party should develop a patentable process, product or use of obviously superior value such party must notify the other party of this fact, and a special payment to the inventive party by the other party in an amount agreeable to both parties shall be made.

7. A ratio agreement is established based upon the total production of Titanium oxide, pure and in combination, for the year 1932 which is accepted as being as one for Krebs is to three for Titanium Pigment Company. If either party exceeds this ratio it will pay to the other party a royalty on the production in excess of its ratio. This royalty is to be 5% of the average published carload price in barrels prevailing for pure TiO_2. Royalty payments if any to accrue from January 1, 1933.

8. Products made wholly or in part under Titanium Pigment Company or Titan Company patents can not be sold for shipment to points outside of United States except through the Titanium Pigment Company as agents.

9. On the acceptance of this tentative understanding by both parties, the Titanium Pigment Company will take the necessary steps to bring about an amendment to the license agreement of 1920 between the Titanium Pigment Company and the Titan Company A/S which will permit said cross-licensing without imposing the burdens upon the Krebs corporation which said license agreement of 1920 would otherwise impose.

Exhibit 243

MEMORANDUM OF CONFERENCE WITH MR. RUPPRECHT.

February 7, 1933

Mr. Rupprecht had my "Memorandum of Tentative Understanding" but had not consulted very extensively with his people. There were many difficulties that he outlined to me which I did not attempt to settle at this time. Following are the points to be cleared up:

1. He wanted to know what we meant by controllable patents. I explained to him that they were the patents owned either by the Titan Company or the Titanium Pigment Company; that we could not control the I. G. patents or subsequent patents that might be taken out by the British Titan Company. I gave him a letter from Mr. Barton giving a fair description of the patents applied for by and issued to the I. G. in the United States.

The proposed cross-licensing would be with the Krebs company and the question arises as to whether the Grasselli company, which covers other things than pigments and which is nominally the owner or controller of the Krebs company, would be interested in any other patents.

4. He thought that the time of cancellation could be reduced from three years to a shorter period, with an agreement that research work should be fairly well exchangeable mutually which would prevent either party holding back patentable propositions.

6. He was agreeable to this but thought that perhaps it ought to be stated simply as the spirit of our cross-licensing plan.

7. Apparently he did not understand the plan as originally proposed. He thought that royalties would only be charged where there was an increase by either party over what the other party would increase in excess of the ratio. As an example, if the Titanium Pigment Company produced 10,000 tons and the Krebs company 4,000 tons, there would be an increase of 1,000 tons in one case over 9,000 and in the other case over 3,000, in which case there would be no royalty paid. According to the plan proposed to Mr. Rupprecht, any increases to avoid royalty would have to be in the ratio of one to three. I suggested to Mr. Rupprecht that the plan as proposed should be adhered to but some maximum amount might be set or some limitation as to payment of royalties or increase. He however is going to consider it.

The royalty to be five per cent of the average published carload price, he said should be carload minimum price, which would be in bags and not in barrels.

He made no objection to the royalty payments accruing from January 1, 1933.

8. Krebs' difficulty however related to Item 8. He said they have always been doing some export business. They have shipped titanated lithopone to England; have an office in Buenos Aires and one or more offices in Japan and China. He did not think they would want to accept the restriction proposed. He said their legal department had advised him that as long as this was a cross-licensing agreement between two United States companies any restriction of territory might be considered in violation of law. I asked him to think over this restriction and see what he could suggest as a substitute. I have thought of no real substitute for it myself although we may be able to develop one. It

might be that something added to this restriction, would make it satisfactory, say, the following: "Nothing in this restrictive clause as to sales for export shall prevent either licensee entering into negotiations with either the Titan-gesellschaft in Germany, the Titan Company operating abroad or the British Titan Company to facilitate sales for export in their respective territories, to wit:".

I did not think it desirable at this time to attempt to dispute any of Mr. Rupprecht's criticisms and objections. My idea was that it would be better to leave these disputed points so I could think about them and they can be a matter of discussion after I return from Florida.

Exhibit 244

Letterhead of

TITAN COMPANY, INC.

Paris, March 1st, 1933.

Dr. G. W. Thompson,
National Lead Company,
111 Broadway,
New York City, U. S. A.

Dear Mr. Thompson:

In my other letter of to-day I have dealt with the proposed arrangement with Krebs on broad lines.

By application of the fundamental principle mentioned there on the various contemplated stipulations of the agreements, and taking into consideration the conditions under which the chemical industries operate, one will probably arrive more or less at the same results.

It may thus be superfluous to go into details, but as you have been so good to write so fully, the following notes as to the various points may interest you. They may seem to be more of a critical nature than constructive, but please do not take this as no wish on my part to find a solution of your problem. It is rather difficult to make positive suggestions re details without knowing more of Krebs' attitude and point of view.

Ref. your letter of February 2nd.

ad 1) 1st paragraph.

Refraining from giving Krebs a license under U. S. A. patents belonging to T. G. m.b.H. or in future to B. T. P.

or Société Titane is probably not of much consequence to these companies, as they have given exclusive licenses to the T. P. Co. and can not make any use of the inventions themselves. The only rights left to them re these patents are legal rights to sue Krebs, which, in view of the relations intended to be established between Krebs and T. P. Co., they would presumably hesitate much to do so.

(Note from Art. V f., that it has been considered to be first of all in the interest of the licensee (in this case T. P. Co.) to bring suit, as the licensee has the benefit of an exclusive license. The licensor's interest to sue would be in the case only of the infringer exporting to his market).

Ad 1) 2nd paragraph.

A reciprocal assignment and transfer of all patents under which T. P. Co. and Titan Co. Inc. now have granted each other licenses, has probably its advantages as a mean to eliminate correspondence. I see no objection to this, but beg to return to the question after closer investigation.

Ad 2) 3) 4).

No comments.

Ad 5).

See other letter of to-day.

Ad 6).

If this should apply to Krebs in its relations to our European companies, it will have to be reciprocal. It seems to me, that lumping it as we have done in our agreements,

avoids future discussions. Each company has presumably sufficient incentive to do development work in any case,— a royalty or payment will not make much difference for any company with sufficient market. In our case, with each company having its market from which the other is excluded, such payment becomes of a different character.

Ad 7).

No comments.

Ad 8).

This restriction of Krebs' export seems of a very doubtful value. Confer, the preamble.

Ad. The supplementary agreement between T. P. Co. and Titan Co. A/S.

Ad a).

See other letter of to-day.

Helping the licensee (Krebs) with licenses and information means to strengthen his ability or even enable him to make inventions and acquire patent rights outside said allotted countries. (Certain patent rights are already acquired by sending in an application in the licensee's own country).

Liberty to dispose of these opens competition and will consequently lead to withdrawal of co-operation between the licensor (T. P. Co.) and his friends in the "outside countries".

It must be remembered that the same process can be subject to further inventions and patents—and patents can be very interlocked.

Exhibit 244

Let us presume that T.P.Co. develops a patented process and gives an exclusive license to T.G.m.b.H. (through Titan Co. Inc.) and also a license to Krebs. Krebs patents an improvement on this process. T.G.m.b.H. will then have no right to this improvement.

Very often such patentable improvements can arise with very little effort. It may even have been reached by T.P.Co. or T.G.m.b.H. but found preferable not to patent it. The original process may have been the result of exchange of experience between chemists of T.P.Co. and T.G.m.b.H.

A situation has been created, which does the opposite of promoting confidence and co-operation.

Ad b).

—do.—

The License Agreements deal, as regards the technical co-operation, first of all with the patents, but it has been the intention of all parties that also an exchange of experience should take place and not only experience necessary for the application of the patented inventions (see Art. VII).

It has also been intended that any invention based on the experience available to the parties should be at the disposal of both (see Art. VIII).

I have had the opinion that these inventions should be exclusively at the disposal of the parties for use within their territories within the Licensed Field together with sublicensees of theirs, who go wholeheartedly with us.

It has been left to the discretion of the parties to what extent such experience and non patented inventions should be kept secret, trusting the parties to take care of this—and partly because no contractual obligations can cover such a point.

Exhibit 244

Considering that every patented invention (to which the exclusive rights are to be granted) is based on experience to a great extent, and such experience as has been acquired not only by the particular development work done for the invention in question, but also experience amassed by previous inventions, development work and factory experience, it is a logical consequence that in a co-operation as foreseen, any division of patents and unpatented technical knowledge is dangerous and may lead to an estranging between the parties.

The conditions of Art. XIV and XV are particularly dictated by the above considerations.

Ad c).—

I.G.'s views caused them to propose that even no-opposition should be made against patent applications.

I beg to refer to Mr. McCarty's letter of October 24th 1928, of which I.G., on Mr. McCarty's request has got a copy.

Ad d).—

This will be difficult for I. G. to understand.

It is general practice in Europe in the chemical industries to have such obligations upon the employees, and I see that also Krebs has such.

It has two effects:

1) The acquisition of those patents by the Company.

2) Preventing others from acquiring these inventions.

This last is also of importance, particularly in view of the temptation it represents for employees to make undue use of information acquired in the company's service.

(The obligation is limited to "as far as possible").

Exhibit 244

Adf).—

An elimination of the restrictions as to field will raise much discussion and presumably bring forward a demand from our associates of a similar liberty, if not a restriction of the Licensed Field to pigments alone, giving for inst. I.G. liberty as to other compounds. The question is a difficult one.

I refer to my letter of January 27th.

Not knowing the obligations of Krebs vis à vis Blumenfeld it is difficult to form an opinion in this matter. 2 years ago it was taken as granted by the interested parties in the Blumenfeld group that an arrangement regarding exchange of patents or experience could not take place between particular parties of the various groups, unless it was done by all. This was also accepted as a matter of course by Dr. Kühne and myself.

As, however, the relationship between the various parties of the Blumenfeld group is considerably more loose, and in some cases not exactly friendly, I thought from your remarks last summer, that Krebs by taking over the Commercial Solvents' interests, had dissolved their relationship.

If this is not the case, it remains open—in order to enable the Titanium Pigment Co. to make an arrangement with Krebs and at the same time maintaining the close co-operation with our European associates—to take up again the negotiations with the Blumenfeld group, which stopped 2 years ago. In view of the particular conditions within that group, this is not an easy matter, but could of course be tried.

With my best regards,

Yours very truly

Copy to Mr. Cornish.

G. Jebsen.

Exhibit 245

Letterhead of
TITAN COMPANY, INC.

Paris, March 1st 1933.

GJ/AK

Dr. G. W. Thompson
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Dr. Thompson,

I acknowledge receipt of your favour of February 2nd and beg you to excuse my delayed reply caused by my absence.

The proposed arrangement with Krebs and amendment of the agreement of 1920 represents such a radical change of the present basis of cooperation, that I beg to present you my views before I definitely bring the question before our associates in Europe.

The fundamental principle of the agreements with Titangesellschaft, British Titan Products Co. and Sté Industrielle du Titane, the three firms which are licensed by us in Europe, is a wholehearted cooperation in the technical development, manufacture and sale of Titanium compounds *throughout the whole world*. The same applies to the agreement between Titanium Pigment Company and Titan Company Inc., on which the above agreements were modelled in accordance with the stipulations in Art. XIV of 1920.

A technical cooperation in the Licensed Field between any of these parties with any other party (third party) involves a considerable element of disturbance of the above

aimed cooperation, unless the third party accept this same principle for cooperation.

Every patented invention is based on experience not only acquired by the particular development work done for the invention in question, but also experience amassed by previous inventions, development work and factory experience. Technical developments—when published in one country—have legal effect in other countries. Any arrangement by which important technical knowledge will go from for instance Titangesellschaft or British Titan Products Co. through Titanium Pigment Company to Krebs, inspiring their development work and possibly resulting in European patent rights belonging to Krebs, to which the European partners should have no rights, or any such arrangement by which the same knowledge may go to our competitors—the Blumenfeld group here,—will mean a disturbance of cooperation and either be met by our associates with considerable criticism when not repudiation, or lead to a rearrangement between all parties—loosening the relationship.

During my visit last summer you had understood that Du Pont were under no obligation of cooperation with the Blumenfeld group and were not interested in the development of a titanium business outside of North America. I told you that two years ago, during the negotiations with the Blumenfeld group here, and Picknor and Chase, it was said that an arrangement of reciprocation existed regarding patents. You had, however, understood that the transfer to Krebs of Commercial Solvents' interests did not involve such an obligation for Krebs.

If this is the case, I hope you will succeed in bringing Krebs fully into our circle, with Krebs accepting the fundamental principle above mentioned. This involves that Krebs

will not only have to refrain from sales outside U. S. A. or North America; but also accept at technical cooperation outside North America with our Companies (through the Titanium Pigment Company.)

You say: "I am quite sure that we will get permission to transmit to you for the benefit of your licensees any information profitable to them, that we get from the Krebs Corporation as to its operations".

You add: "To put in our cross-licensing agreement, that they must divulge everything, would be contrary to the spirit of the proposition."

If this last is caused by the competition which will go on between Titanium Pigment Co. and Krebs, it seems to me that the European companies may be satisfied by an exclusive license under the Krebs' possible patent rights outside North America.

In short, the main points to consider in order not to affect adversely the European companies' interests are:

1) Prevent commercial competition.

2) Prevent technical competition

   a) by giving the European companies exclusive licenses under all patent rights outside North America (~~taking care to obtain~~ patents as far as possible or found desirable by the European Companies on all inventions for which patents are applied by Krebs and Du Pont in the Licensed Field)

   b) by preventing technical information to go to our competitors in Europe.

As to the question of further contributions from Krebs with information, etc., this will I think be considered by

our associates as of secondary importance and they would probably be satisfield with what may satisfy the Titanium Pigment Co.

Considering the importance of the firms which have joined us in Europe, the I.G. Farbenindustrie, Imperial Smelting Corporation, Goodlass Wall and the Imperial Chemical Industries, with which last firm DuPont is closely befriended, a cooperative matter, these firms ought to have a considerable weight with even Duponts.

I have had in mind to visit New York in the latter part of April. Will this be convenient to you? In the meantime I shall try, when meeting our associates, to see what I can learn about their views without presenting your proposal.

With my best regards,

Yours very truly,

G. JEBSEN.

P.S.—In the agreements here for the European companies, we have succeeded to have not only the licensed companies, which are engaged in active work for the development of the industry, to accept the principle fully, but also the shareholders, I.G. Farbenindustrie, Imperial Smelting Corporation, Goodlass Wall—and as regards Imperial Chemical Industries with the following exceptions:

I.C.I. have limited their obligation to license British Titan Products Co.—to pigments, but, by the main agreement they are obliged to refrain from dealing in and manufacturing Titanium compounds, except $TiCl_4$. The effect

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of this is presumed to be practically the same as I.C.I. refraining from any competition.

I.C.I. have certain commitments towards Dupont and Canadian Industries re exchange of patents and experience, which have been given as reasons for this form of the agreement.

It is not likely that they will undertake themselves any development work, when they are prevented from making use of it, and it is to be expected that they will consent to give B.T.P. the benefit of all what Dupont may give them.

I do not know what the terms are for the reciprocal arrangement between Dupont and I.C.I., but it seems to me that any particular compensations fixed between these companies should be waived, so that it will in reality be an exchange of patents between Krebs and you on the one side and B.T.P.

The simplest arrangement would be that I.C.I. consented to have the exchange going through Titanium Pigment Co. and Titan Co. Inc., but if this, for some reason, is not acceptable, B.T.P. can receive from Dupont through I.C.I., and Dupont-Krebs from B.T.P. through T.P. Co.

The matter is somewhat delicate to handle and I beg you to treat the above information as confidential.

The parallel to our arrangements in the case of Krebs would be—an agreement with Krebs, similar to ours with B.T.P. or Titangesellschaft, covering practically all Titanium compounds, and an undertaking from Dupont only to operate through Krebs in the Licensed Field.

When the shareholders of the Titan companies have undertaken these obligations—it is an acceptance of our view, that this is a consequence of a close connection between the Titan companies and their shareholders—connection of commercial and particularly of technical nature.

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Imperial Chemical Industries were reluctant in accepting these conditions. You may remember that I asked I.G.'s standpoint to an arrangement with I.C.I., by which I.C.I.'s obligations were limited only to Titanium pigments, but they considered it dangerous to let I.C.I. in, on such basis.

During my conversation with I.G., somebody asked if we would be willing to let I. G. also be free to act independently re titanium compounds other than pigments, but Dr. Kuhne immediately rejected it as unfortunate if such a division of interests should be made.—I mention this also in view of your proposals to amendment of Art. XIV in the 1920 agreement.

P.P.S. I am writing you another letter dealing more in detail with the various points in your letter.

Copy to Mr. Cornish.

Exhibit 246

MEMORANDUM OF IMPRESSIONS

ARRIVED AT ON READING

DR. JEBSEN'S LETTERS TO ME OF MARCH 1, 1933.

First letter—The whole-hearted cooperation throughout the whole world referred to requires some interpretation. Obviously our agreements with the Titan Company and others are for profit. We can not cooperate outside of the United States with respect to United States business and the profits coming from it. We can cooperate on technical matters which would be of advantage to us in the United States. Therefore the whole question relates as to whether an agreement with Krebs will impair or strengthen the help we would be able to give our associates abroad. In general, it is my opinion that it will strengthen us in helping them. If, however, our license agreement with Krebs can be improved that we will be better able to strengthen them, that ought to be provided for.

Inasmuch as the DuPonts and their associates according to our best information are not particularly interested in foreign business or even in foreign patents, it would appear to us that we have nothing to fear from them that would result in an impairment of our foreign situation. It is impossible to provide direct cooperation between Krebs and our foreign associates. Nevertheless by our working with Krebs, results will be obtained, if properly handled as we would intend to do, to be able to materially assist our foreign associates. To meet this point, I would suggest simply for consideration that an article be put in our cross-licensing agreement with Krebs providing that if any invention is made by Krebs, Titanium will be promptly

advised and Krebs would give Titanium a six months' option for the acquirement by our foreign associates of the foreign patent rights to this invention on terms to be agreed upon.

I personally see only in the cooperation with Krebs a strengthening of our patent position here and development of improvements in the art which would be primarily advantageous to us here but would be made more or less obtainable by our associates abroad.

Dr. Jebsen is thinking of the old arrangement with the Commercial Solvents Company and the Commercial Pigments Company when he refers to the obligations Krebs may have had or its predecessors may have had with Blumenfeld. It is very doubtful if we could directly bring Krebs into fully accepting the fundamental principle Jebsen refers to. It appears to me that Dr. Jebsen can not appreciate that a friendly and cordial relation with Krebs would take the place of specific legal obligations. My own opinion is that we will get more out of Krebs if we do not attempt to tie them down by too rigid obligations.

Jebsen makes a suggestion similar to mine above where he says, "It seems to me that the European companies may be satisfied by an exclusive license under the Krebs possible patent rights outside of North America". Of course Krebs derives many of its patents from Blumenfeld. Under these, they have no power over the foreign rights.

I agree that we must prevent foreign commercial competition coming from Krebs. This may be more of a mare's nest than a reality because I can not conceive how any product for many many years to come in the Titanium line can compete in cost with foreign products.

The expression, "prevent technical competition", does not seem to me quite correct. A certain amount of com-

petition is good and my belief is that Krebs and Titanium can compete with each other to see who can make the greater improvements. This ought to be the same way, say, between the Titangesellschaft and the Titanium Pigment Company. I am sure we can not prevent all technical information going from Krebs to our European competitors but we may be able to control Krebs' new patents.

Second letter—The introduction is very friendly. It disclaims any intention of being critical rather than constructive. The difficult of the problem makes it appear otherwise than critical. Our cross-licensing only of patents which Titanium Pigment Company or Titan Company owns and Krebs owns is for the purpose of simplicity. Krebs may want to acquire some Titangesellschaft or I. G. United States patents—these of course to be considered as a separate negotiation in which we would act as a friendly mediator. I can not understand why the restriction of Krebs' export business can be considered of very doubtful value.

It is perfectly true that improvements on processes may control the processes themselves. Our associates would get the benefit of any improvements the Titanium Pigment Company makes on the Krebs patents. Krebs would also get the United States benefit of these improvements. Now if Krebs makes improvements upon Titan Company or Titanium Pigment Company patents, we might as suggested above, provide for an option as to the foreign rights.

License agreements, it is true, call for an exchange of experience and advice. Very little of such an exchange has taken place during the last two years.

(To be continued)

Exhibit 247

Letterhead of

TITAN COMPANY, INC.

Paris, March 3rd 1933

GJ/AK

Edward J. Cornish Esq.
President
National Lead Co.
111 Broadway
New York City, U.S.A.

Dear Mr. Cornish,

My best thanks for your kind letter of February 17th.

I enclose copies of two letters to Dr. Thompson, dealing with his negotiations with Du Pont and amendments of the 1920 agreement.

Dr. Thompson's proposal involves a very radical change of the present basis of co-operation.

The letter Marked I) deals chiefly with the question in principle and may interest you. The other letter is presumably too detailed for your attention.

Trusting that you have fully recovered from your influenza and that Mrs. Cornish and you are well, I am, with kindest regards,

Yours sincerely,

G. Jebsen.

Exhibit 248

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, March 21st 1933.

Dr. C. W. Thompson
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Dr. Thompson,

RE DU PONT—KREBS.

I refer to my letter of March 1st, and particularly to the Post-Scriptum dealing with I.C.I. and Du Pont.

I told Major Barley of I.C.I. last week, that the conversations between you and Dupont were advancing and I expected, during my next visit to New York, presumably in the latter part of April, that these negotiations would be considered. I therefore asked him if there were any objections from I.C.I. to an arrangement by which Du Pont-Krebs' future patent-rights in Titanium within the Licensed Field for the British Empire, go to the British Titan Products Co.—directly or through them as intermediary.

Major Barley did welcome such an arrangement, saying that this was just what they would like, as it would bring Dupont in line with us. Dupont was their chief consideration in the difficulties they had felt in our negotiations with them.

I perceived from the conversation, that there are no definite obligations on the part of either I.C.I. or Dupont,

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to exchange patents in these matters, except a very strong mutual consideration of each other's interest. This was, though, not clearly expressed by Major Barley.

I told Major Barley that I in some way had got the impression last year, that, when merging Commercial Pigments with Krebs, no obligation had been undertaken towards Blumenfeld as to exchange of future patents, experience, etc. Major Barley thought this was so, and that it had only been a matter of acquiring Blumenfeld's patents existing at that time. He did not state this definitely;—he is, though, I think, fairly well informed of the nature of DuPont's arrangements.

Major Barley thought that Dupont would probably not go against Blumenfeld commercially over here, and he also thought Dupont would probably not go against I.C.I.'s interest in the British Empire. (This last was of course only an expression of opinion, with no obligation).

The above is interesting, as it indicates that there should be no obstacle of importance for an arrangement with Dupont on similar lines as we have with our associates here, as far as the British Empire is concerned. When Dupont will not go against Blumenfeld commercially in his territory, which comprises the countries outside U.S.A., but Dupont can dispose themselves of their patent-rights in his territory, it is to be hoped that there also will be no serious objection to include the rest of the world (outside B.E. and U.S.A.)

I have not mentioned the lines of the arrangement with Dupont, which you sent me, to any of our partners, as I feel it would be unfortunate to suggest such radical changes at present, particularly to our English partners,—now immediately after the agreements with these are signed. I

consulted our English lawyer, Mr. Howard in the matter, who shared my opinion.

With my best regards,

Yours very truly,

G. Jebsen.

P.S.—I presume you know that my plans regarding my trip to U.S.A. will have to be changed, in view of Mr. Beschorman's visit here early May.

I look forward with much interest to hear further from you in the above matters.

Copy to Mr. Cornish.

Exhibit 249

Blind copies to Mr. T. S. Grasselli
Mr. E. W. Furst
Mr. Wm. Richter
Mr. T. Hanley

CONFIDENTIAL

April 8, 1933.

W. C. Beschorman, Vice President,
National Lead Company,
111 Broadway,
New York City, N. Y.

Dear Mr. Beschorman:

Enclosed I am sending you three copies of the proposed cross-licensing agreement between The Titanium Pigment Company Inc. and Krebs Pigment & Color Corporation, as decided upon at our conference on April 6th.

This is now in the form in which it is being presented to our Board and other executives for approval. I believe you will find this to be entirely in order and in accordance with our understanding.

I would like to confirm here, in connection with Article V, the information given you on April 6th relative to our recent acquisition of the so-called European Auer patents from Travancore Minerals Company Ltd., among which are some French and Italian patents which had already been submitted to Dr. Blumenfeld in France and Mr. Donegani in Italy with a proposition that they purchase the patents for these respective countries outright.

As explained to you, we feel we should be permitted to complete these negotiations which were inherited with our acquisition of the patents and we understand that this is

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agreeable to you. We will, of course, endeavor to bring these negotiations to a speedy conclusion.

As to the remaining European patents, and more particularly those of Germany and Austria, I have just been informed that Aussig has passed them up as being or no interest to them, so it only remains for us to clear up the French and Italian propositions.

I am also enclosing suggested drafts of letters to be exchanged between yourselves, E. I. duPont de Nemours & Co., Commercial Solvents Corporation and The Grasselli Chemical Company, which I believe cover the purposes intended.

I appreciate the fine spirit and co-operation of your organization in these negotiations and trust that we can now bring the matter to an early close.

Yours very truly,

CHR:MW

President.

Exhibit 250

April 8, 1933.

To: Board of Directors,
Krebs Pigment & Color Corp.

From: C. H. Rupprecht, President

Proposed Cross-Licensing Agreement Between
The Titanium Pigment Company Inc.
and
Krebs Pigment & Color Corporation

You have been kept informed of our progress in the negotiations with National Lead Company in behalf of their 100% owned subsidiary, The Titanium Pigment Company, Inc., and Krebs, to arrive at a basis of cross-licensing on patents covering titanium pigments and compounds in pigment form, including products, processes and uses. Inasmuch as you are familiar with the situation on patents which confronted us and which presented the reason for opening these negotiations, and the benefits we expected to derive from concluding such an agreement, I shall not attempt to restate these facts, beyond the statement that the patent situation was unquestionably so involved that both companies were faced with the possibility and even probability of continued controversy with resultant litigation which would undoubtedly be very costly.

I am now pleased to report that the negotiations have been concluded and I am submitting herewith a proposed cross-licensing agreement which is acceptable to The Titanium Pigment Company Inc., with my recommendation that it receive your favorable consideration. The agreement covers a complete cross-licensing on all patents now or here-

after owned by either party during the life of the agreement, and also includes exchange of technical and research information and rights under secret processes in our plants which are not patentable or covered by patents. The Titanium Pigment Company Inc. maintains an extensive research organization and we must realize that they have been very aggressive in developing the art of titanium pigments, particularly in the field of extended products, in which we hope to engage in the near future and which presents the greatest opportunity for expansion of our titanium business. Through this agreement we obtain a greater freedom of action on patents and developments, and it is certainly expected that by our combined efforts, we will be able to create further advances in the titanium pigment art with greater rapidity, and avoid duplication of effort.. In other words, the money spent on research by the respective organizations will be directed along organized lines and should enable us to cover wider fields and expand studies at no greater cost and possible savings.

In connection with the clause on foreign rights, The Titanium Pigment Company has a substantial interest in Titangesellschaft m.b.H, Leverkusen, Germany, the titanium unit of I. G., and also in the new British Titan Products Company Ltd., an English company in which I. C. I. have a minority interest. We expect to be in position to obtain on a reasonable basis, any developments on titanium pigments which these organizations patent in the United States, and we in turn will offer them rights under our patents in Continental Europe or Great Britain on a non-exclusive basis and on terms mutually agreeable.

It will further be necessary for duPont and Commercial Solvents to submit letters to National Lead Company

stating that their activities in titanium pigments in the United States will be entirely vested in Krebs, in accordance with the duPont-Commercial Solvents agreement, and National Lead Company in turn will similarly write to duPont and Commercial Solvents stating that they lodge their entire titanium pigment activities in their subsidiary, The Titanium Pigment Company Inc., for the United States.

This recommendation is, therefore, respectfully submitted for the approval of this Board and that of The Grasselli Chemical Company and approval and authorization by the Executive and Finance Committees of E. I. duPont de Nemours & Co.

C. H. RUPPRECHT

Exhibit 251

CC: Mr. T. S. Grasselli, Cleveland
Mr. E. W. Furst, Cleveland
Mr. Wm. Richter, Wilmington

CONFIDENTIAL

Newark, N. J.,
April 8, 1933.

Mr. O. M. Hook,
The Grasselli Chemical Co.,
Cleveland, Ohio

Enclosed herewith I am sending you four copies of a proposed cross-licensing agreement between The Titanium Pigment Company Inc. and Krebs, which is being submitted to the Krebs Directors today, for action at their next Board meeting on the 17th.

This will provide a copy for yourself and three copies to be sent to Messrs. Carpenter, Echols and Harrington of the Grasselli Board. I am making the suggestion that these copies be forwarded to them in advance of your Board meeting, which takes place on the 18th. The matter will then have to go to the duPont Executive Committee for approval and to the Finance Committee for final authorization. I am hoping that all of these moves can be made promptly so that it will reach the duPont Finance Committee for their meeting on May 1st.

On Monday I will send you enough copies of the proposed agreement for the duPont Executive and Finance Committees so these can be forwarded to them promptly after the Grasselli Board takes action on the 18th.

C. H. RUPPRECHT

CHR:MW

Exhibit 252

Blind copies to Mr. T. S. Grasselli
Mr. E. W. First
Mr. Wm. Richter

CONFIDENTIAL April 8, 1933.

Mr. W. D. Ticknor,
Commercial Solvents Corp.,
230 Park Ave.,
New York City, N. Y.

My dear Mr. Ticknor:

Today I am sending to the Board the proposed cross-licensing agreement between Krebs and The Titanium Pigment Company and am also sending you herewith suggested form of letters to be exchanged between the several stockholders involved in Krebs and The Titanium Pigment Company, to provide for the necessary protection that all of the titanium activities under the cross-licensing plan will be vested in Krebs and The Titanium Pigment Company Inc.

I believe you will find the enclosed letters to be in order.

Yours very truly,

C. H. REPPRECHT
PRESIDENT.

CHR:MW

Exhibit 253

CC: Mr. Wm. Richter, Wilmington
Mr. E. W. Furst, Cleveland

Newark, N. J.,
April 8, 1933.

CONFIDENTIAL

Mr. T. S. Grasselli,
The Grasselli Chemical Co.,
Cleveland, Ohio

THE TITANIUM PIGMENT CO. AGREEMENT

You are receiving herewith the final draft of the proposed cross-licensing agreement, together with my letter of transmittal to the Board.

I am also sending you copies of proposed letters to be exchanged between the stockholders in Krebs and The Titanium Pigment Company Inc., which I believe you will find in order. Am also sending these to Mr. Ticknor. They have been prepared by the Legal Department in Wilmington, in accordance with our last conference with the National Lead people.

In my letter of transmittal I have not mentioned several points which may come up in your mind, namely, the approval of different departments within the Parent Company. The Legal Department took care of getting approval from all departments and subsidiaries who they thought might be interested. This is always left in their hands and was taken care of. Furthermore, the Development Department and Foreign Relations Department have approved the proposed agreement and it has also been passed on by Dr. Benger for the Chemical Department and Mr. Biesterfeld on patents.

Exhibit 253

In other words, I feel that the matter has been cleared through everyone who should be consulted. I cannot think of anyone being overlooked. Mr. Hanley of the Legal Department has been very co-operative in providing for all of these details and in the preparation of the agreement as now submitted.

You will further note in my letter to National Lead today I mention the Auer patents, and in explanation will say that during our last discussion with them I stated that we had recently acquired these patents and that we felt we should be permitted to conclude negotiations with Blumenfeld and Donegani for France and Italy respectively on the Auer patents for those countries, which had really been offered to these people and on which no final answer had been given. We have had no negotiations with either one but Travancore had already offered them these patents and they expressed a little interest in one or two of them, but nothing was ever done about it. However, I felt I would want to keep the door open to the extent of promptly having the duPont London office contact Blumenfeld in Paris and Donegani in Italy and give them a list of the French and Italian patents, with some sort of a proposition, and ask that these people either take them or say that they are not interested. In this way I felt we would be in a position of having given them each another opportunity. All National Lead asked was that we do not prolong it but bring it to a prompt close. This we will endeavor to do.

C. H. RUPPRECHT

CHR:MW

Exhibit 254

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Copy to Wm. Richter
C. H. Biesterfeld
W. R. Swint
C. R. Mudge

April 10, 1933

MR. C. H. RUPPRECHT
KREBS PIGMENT & COLOR CORP.
NEWARK

KREBS—TITANIUM PIGMENT AGREEMENT

I have read over the proposed agreement attached to your letter of April 8 which appears satisfactory but I want to make the following comments:

I am assuming that Article 5 is satisfactory to the Foreign Relations Department.

I think it is very unfortunate that Canada is left out of this agreement. I presume that this is because the Krebs Company did not acquire the Blumenfeld Canadian rights but, as you know, I have always considered that it was a mistake that your company did not acquire these rights. I would have liked very much to see the Krebs Company purchase the rights and would like to have the assurance from the Titanium Pigment Company that they will include Canada in the territory covered by the Agreement whenever Krebs acquire the Blumenfeld Canadian rights. In this event I think that the provisions of the agreement in so far as Canada is concerned should be permitted to be assigned to C.I.L. whereas this cannot be done in accord-

ance with Article 8. I realize that my comments in this connection are beside the point inasmuch as Krebs have no Canadian rights but I think it is a pity.

I am also assuming, as I have stated previously, that you know for a fact that the Titanium Pigment Company own the various patents under which you desire to obtain licenses and that there is no question but that the National Lead Company's entire titanium pigment developments will be conducted by the Titanium Pigment Company and that all patents in this connection will be owned by the Titanium Pigment Company now and hereafter.

Fin Sparre
Director

FS:N

Exhibit 255

CC—Mr. Wm. Richter, Wilmington
Mr. C. R. Biesterfeld, "
Mr. W. R. Swint, "
Mr. C. R. Mudge, "

Newark, N. J., April 12, 1933

DR. FIN SPARRE, DIRECTOR
DEVELOPMENT DEPARTMENT
DUPONT CO.—WILMINGTON

KREBS—TITANIUM PIGMENT AGREEMENT

I am pleased to note from your letter of April 10th that the proposed agreement appears to be satisfactory.

Relative to Article 5, this has been discussed with Mr. Swint and I understand has his approval.

You are right in your assumption that Canada was left out of the agreement by reason of our having no Canadian rights. We did not agree to pay Dr. Blumenfeld's asking price for his Canadian patents and he turned down our offer. We explained the situation to C.I.L. asking if they were interested in acquiring these patents but they simply suggested that we do so and hold against the future. I think if Blumenfeld had modified his $20,000 figure, we would probably have acquired these patents.

I have talked with National Lead regarding the Canadian situation and asked definitely whether they would be agreeable to including Canada should we obtain the Blumenfeld Canadian patents. Their disposition was to agree without any question, however, they simply asked that we leave it on the basis of being assured that it would have very fair consideration from then when the occasion arises.

Exhibit 255

If conditions remain as at present, I do not think that there would be any doubt about their being willing to extend our arrangement to Canada. The future may, however, develop a situation which would require some further negotiation due wholly because of the fact that the new English company in which I.C.I. is a minority stockholder is looked upon as the ultimate supplier to the Canadian market; in other words, National Lead have in mind withdrawing from the Canadian market entirely and serving it through their British associate, if and when the latter gets into production.

National Lead believe that the present titanium market, including extended pigments, in Canada does not total 500 tons annually; however, I see no reason why it should not grow in similar proportion to the United States. They feel, however, that a continuation of the reciprocal tariff arrangement in Canada protecting Empire products will eliminate their United States production.

As to Article 8, which does not permit any assignment, I do not see that anything can be done about this at the moment, I simply feel that when the time comes to discuss Canada more definitely with National Lead that we will find them very reasonable.

I have been informed that all patents on titanium pigments are owned by the Titanium Pigment Company and not the National Lead Company. Furthermore, it is planned to exchange letters between the stockholders of the two pigment subsidiaries entering this agreement whereby all signify their intention of conducting all of their titanium pigment business through their subsidiary. The Wilmington Legal Department has prepared the form of letters to be used.

C. H. RUPPRECHT

CHR:KW

Exhibit 256

Book D—page 409

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, April 20, 1933, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Carter, Caselton, Croft, Marsh, Merideth, Rockwell, Sidford, Taylor and Thompson.

Approving a proposed agreement between The Titanium Pigment Company, Inc., and Krebs Pigment & Color Corporation providing for reciprocal grants of non-exclusive licenses under United States Letters Patent owned by said companies in the field of titanium pigments.

Exhibit 257

Newark, New Jersey,
April 27, 1933.

PERSONAL

WM. RICHTER, GENERAL MANAGER,
FABRICS & FINISHES DEPARTMENT,
WILMINGTON.

Thanks for your telegram informing me of Committee approval on the Titanium cross-licensing deal.

I dropped in to see Mr. Ticknor yesterday, and found him in unusually good humor. He was highly complimentary on my success in signing up this agreement with National, and wondered how I persuaded them to come through to this extent. I do not quite understand that slant, for the reason that they are really giving no more than they hope to get. He said because of being detailed at home by illness he was prevented from writing to congratulate me on the deal.

It simply shows that a lot of our biggest worries never grow up.

C. H. RUPPRECHT.

CHR:s

Exhibit 258

Letterhead of-

COMMERCIAL SOLVENTS CORPORATION

April 28th, 1933.

National Lead Company,
111 Broadway,
New York, N. Y.

Gentlmen:

In reference to the contemplated agreement between Krebs Pigment & Color Corporation and The Titanium Pigment Company, Inc., we assure you that it is the intention of this company to conduct its Titanium Pigments business in the United States exclusively through Krebs Pigment & Color Corporation, 30% of whose outstanding stock is owned by this company.

Very truly yours,

COMMERCIAL SOLVENTS CORPORATION

By W. D. TICKNOR

W. D. TICKNOR,

WDT/B/R

President.

Exhibit 259

Letterhead of

COMMERCIAL SOLVENTS CORPORATION

May 2nd, 1933.

Mr. C. H. Rupprecht, President,
Krebs Pigment & Color Corporation,
256 Vanderpool Street,
Newark, N. J.

Dear Mr. Rupprecht:—

In accordance with the suggestion contained in your letter of April 8th, I am sending you, herewith, a letter, addressed to the National Lead Company, which I understand will be forwarded to them by you.

I shall expect to receive through you, in due course, a letter from the National Lead Company, addressed to us, similar in form to the draft which accompanied your letter of April 8th.

Very truly yours,

W. D. TICKNOR

WDT/B/R

1106

Exhibit 259

April 28, 1933

National Lead Company,
111 Broadway,
New York City.

Gentlemen:

In reference to the contemplated agreement between Krebs Pigment & Color Corporation and Titanium Pigments Company, we assure you that it is the intention of this Company to conduct its Titanium Pigments business in the United States exclusively through Krebs Pigment & Color Corporation, 30% of whose outstanding capital stock is owned by this Company.

Very truly yours,

COMMERCIAL SOLVENTS CORPORATION

By (s) W. D. TICKNOR
President

Exhibit 260

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

May 4, 1933.

National Lead Company,
111 Broadway,
New York City.

Gentlemen:

In reference to the contemplated agreement between Krebs Pigment & Color Corporation and The Titanium Pigment Company, Inc., we assure you that it is the intention of this Company to conduct its Titanium Pigments business in the United States exclusively through Krebs Pigment & Color Corporation, 70% of whose outstanding capital stock is owned by this Company through its 100%-owned subsidiary, Grasselli Chemical Company.

Very truly yours,

E. I. DUPONT DE NEMOURS & COMPANY

By N. F. HARRINGTON
Vice-President

Exhibit 261

Letterhead of

THE GRASSELLI CHEMICAL CO.

May 11, 1933.

National Lead Company,
111 Broadway,
New York, N. Y.

Gentlemen:

In reference to the contemplated agreement between Krebs Pigment & Color Corporation and The Titanium Pigment Company, Inc. we assure you that it is the intention of this company to conduct its Titanium Pigments business in the United States exclusively through Krebs Pigment & Color Corporation, 70% of whose outstanding capital stock is owned by this company.

Yours very truly,

THE GRASSELLI CHEMICAL COMPANY,

T. S. GRASSELLI.
(T. S. Grasselli.) President.

TSG/C

Exhibit 262

Letterhead of

TITAN COMPANY, INC.

Paris, June 9th 1933.

GJ/AK

William C. Beschorman Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I suppose you are anxious to receive a reply from I.G. Farbenindustrie regarding the agreement Titanium Pigment Company / Krebs Pigment & Color Corp. as soon as possible.

On my suggestion to meet Dr. Kühne in Leverkusen this week, I received the reply that both he and Dr. Brüggemann were absent and will return in the beginning of next week.

I have written to Dr. Kühne pointing out the desirability of having this agreement closed soonest possible, also as Mr. Blumenfeld is leaving for U.S.A. on June 23rd and will presumably during his stay in New York discuss his position with Dupont—and also in view of the details regarding our arrangement with Dr. Mayer.

I do not anticipate any difficulties from the I.G. people, but, as Dr. Kühne has brought Frankfurt in the matter, he may find it difficult to arrange a date at which all persons concerned can meet.

Exhibit 262

I shall do my best to get the matter settled as soon as possible.

By the way, it may interest you that Mr. Lovati from Montecatini has asked for a meeting to discuss further price arrangements.

Sales continue to develop well and the 250 tons TiO_2 sent to U.S.A. may prove to be 250 tons more than we like to have disposed of.

Hoping that Mrs. Beschorman and you had a nice voyage and that the heat in New York is not disturbing you too much, I am, with kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 263

Letterhead of

TITAN COMPANY, INC.

GJ/AK Paris, June 14th 1933.

William C. Beschorman Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I acknowledge receipt of your cable as follows:

" HOPE YOU CAN LET ME HAVE REPORT ON
" REACTION TITANGESELLSCHAFT TO KREBS
" CONTRACT WITH DAY OR TWO"

and telegraphed you to-day as per enclosed copy.

Dr. Kühne returned to-day to Leverkusen, but I have had difficulties in getting hold of him over the telephone, as he and Geheimrat Duisberg have been showing the place to important visitors.

Dr. Kühne told me just over the telephone that Dr. Brüggemann has not returned yet from his holiday. He suggested a meeting in Frankfurt where he would arrange that Dr. Brüggemann also will be present.

As I have understood from a telephone conversation with Frankfurt that they also welcome the agreement with Dupont, I anticipate only comments of a formal nature.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 264

R. C. A. COMMUNICATIONS, INC.

RADIOGRAM

GC17XAX RFK578
PARIS 133/130 22 1350 1/50

LC BESCHORMAN LEADCO NEWYORK

AGREEMENT KREBS ACCEPTABLE TO IGFARBENINDUSTRIE PROVIDED CLEARLY EXPRESSED BY KREBS IN SOME FORM THAT THEY WILL RESPECT TITANGESELLSCHAFTS TERRITORY NOT MANUFACTURE THERE MAKE NO DELIVERIES DIRECT OR BY CUSTOMERS GIVE NO SUBLICENSES AND NO TECHNICAL AID FOR MANUFACTURE WITHIN OR FOR THAT TERRITORY STOP IG CONSIDERS THREE YEARS AGREEMENT SHORT IN VIEW OF PARTING WITH EXPERIENCE AND SUGGESTS FIVE YEARS BUT MAKES IT NO CONDITION STOP IG S RESERVATIONS SHOULD ALSO APPLY TITANINCS TERRITORY STOP AGREEMENT AUSSIG TITANGESELLSCHAFT PRACTICALLY COMPLETED STOP BLUMENFELD WITH TECHNICIAN INTENDS VISIT KREBS FACTORY STOP BLUMENFELD READY ERECT FACTORY BELGIUM VERY FAVOURABLE CONDITIONS WILLING DROP THIS PROVIDED QUOTA ARRANGEMENT AND POSSIBLY CLOSER COOPERATION TITANINCS TERRITORY OUTSIDE BRITISH EMPIRE STOP CONSIDER NECESSARY I GO NEWYORK SATURDAY JULY FIRST DISCUSS EUROPEAN SITUATION CABLE

JEBSEN

Exhibit 265

Letterhead of

NATIONAL LEAD COMPANY

June 23 1933

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Avenue
Newark, New Jersey.

Dear Mr. Rupprecht:

Agreeable to your telephone request I am handing you a verbatum copy of the cable from Dr. Jebsen outlining the objections of the I. G. to the agreement with your Company as now outlined.

Yours very truly

L. C. BESCHORMAN
Executive Vice President.

Agreement Krebs acceptable to Igfarbenindustrie provided clearly expressed by Krebs in some form that they will respect Titangesellschafts territory not manufacture there make no deliveries direct or by customers give no sublicenses and no technical aid for manufacture within or for that territory Stop IG considers three years agreement short in view of parting with experience and suggests five years but makes it no condition Stop IG's reservations should also apply Titan Incs territory.

Exhibit 266

Letterhead of

TITAN COMPANY INC.

CJAK Paris, June 23rd, 1933.

William C. Beschorman Esq.
Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman:

Monday 19th I met the I. G. people in Frankfurt. From I. G. were present:

Mr. Weber Andreae, one of the first commercial heads of I. G.

Dr. Kühne, Leverkusen.

Dr. Brüggemann, Leverkusen.

Dr. Buhl, I. G. lawyer, Frankfurt, former "Ministerialrat".

Mr. Borgwardt, I. G. (manager of titanium sales).

We had first a meeting with

Dr. Mayer, head of Verein für Chemische & Metallurgische Produktion *Aussig*, Czechoslovakia.

Mr. Schaeffler, from Aussig.

The agreement between Aussig and Titangesellschaft was discussed and the main points agreed upon,—details to be worked out by Mr. Schaeffler and Mr. Borgwardt.

Afterwards the same gentlemen from I. G. discussed with me the draft agreement Titanium Pigment Co./Krebs.

Exhibit 266

The I. G. put forward exactly the same points, which I have laid down in my letter of March 1st to Dr. Thompson, and made the same comments upon the drafts as I did to you here in Paris.

I advocated the matter with the same arguments which you used, explaining the position between Dupont and National Lead Co., the advantages of the agreement and the intentions as to the territories not licensed by the contemplated agreement—further the acceptance of the draft by British Titan Products Co. (I. C. I.).

Mr. Weber-Andreae seemed to have a fairly good knowledge of the way of cooperation between Dupont and I. C. I. He considered it, though, necessary to have a clear statement from Dupont about the important points,—not necessarily embodied in the agreement, but for instance by exchange of letters between National Lead Company and Dupont.

I hope you can arrange this without any inconvenience, particularly as it is an expression of the main points of your explanation to Dr. Kühne.

Mr. Weber Andreae wanted also some minor points definitely included, for instance the compensation for important patents, but I got this changed to a statement from I. G. to us, not necessarily to be taken up with Krebs.

I enclose copy of a letter from the I. G. to me (with English translation), stating I. G.'s standpoint and views.

Dr. Mayer of Aussig went Monday evening to Paris to see if an arrangement with Blumenfeld was possible. I have passed the whole Wednesday and Thursday morning with them.

Blumenfeld was very sore about our arrangements for British Empire. He has not expressed this previously and it is probably the result of a recent visit to England.

He asked a compensation for British Empire or a quota there, going back to our conversations in 1931: He could have made arrangements with Laporte, but had declined in view of a possible understanding with us.

I told him the British situation had to be discussed with the British Titan Products Co., in which we had only a minority. I wished only to discuss Titan Co. Inc.'s territory outside T. C. m.b.H. and British Empire, and referred to 1931 negotiations by which he should have:

40% of France
20% in Belgium and Holland.

He asked first: 80% in France
55% in Belgium
45% " Holland

which I characterised as impossible.

Dr. Mayer had a talk with him alone and suggested then:

more than 50% for France
33% " Belgium
33% " Holland.

I told him that I would not discuss such basis before I have had the opportunity of conferring with New York (I had mentioned before we started, that I intended to visit New York in July.)

They urged me to go earlier to New York. Blumenfeld would remain there to July 15th.

Mr. Blumenfeld then mentioned what Dr. Mayer had told me confidentially—about his plan of a factory in Bel-

gium. Calculated production cost Mk. 400.—per ton of TiO_2 with supply of sulphuric acid Mk. 20.—per ton.

It was not, in that connection, mentioned that Blumenfeld should cancel this plan, but it is to be understood from the previous conversation (and earlier conversations) by which Meyer had explained the principles of his agreement with T.G.m.b.H. (T.g.m.b.H. to supply until its capacity is fully employed, capacity to include extensions within present Buildings).

Our sales in the last years compare favorably with Blumenfeld's (see enclosed table). There exists, though a great danger of French government's protection of a domestic industry to the exclusion of foreign goods (tariff, import contingent or otherwise.)

Mr. Blumenfeld asked if he should visit National Lead Co., but Dr. Mayer advised him not to do so, as you would not be prepared to discuss the situation before my arrival.

I have informed Mr. Blumenfeld that, unless he hears to the contrary, I would leave Saturday July 1st.

I thought a discussion of these matters with Blumenfeld in New York would be advantageous, partly in view of the situation I presume he will find vis a vis Dupont, and partly because of the evident advantages otherwise.

With kindest regards,

Yours very truly,

G. JEBSEN,

P.S.—I enclose confirmation of my cable to you of 22nd inst.

P.P.S.—The discussions with the I.G. passed in the most friendly and cordial spirit.

Exhibit 266

It has been very difficult to translate I.G.'s letter making it exact and conveying at the same time the spirit.

I.G.'s intention has been to meet the National Lead Co's wishes as far as they considered possible, and to reduce to a minimum the points considered necessary to make the agreement compatible with T.G.'s interests, expressing other important points without making them conditions.

I sent the cable with I.G.'s approval of the wording, as you might find it advisable to close with Krebs before Blumenfeld's arrival, and the other points, I presume, can be taken care of afterwards.

Exhibit 266

Translated from German.

I.G. Farbenindustrie Akt.Ges.
Verkaufsgemeinschaft Chemikalien

Frankfurt (Main) 20. June 1933.

Dr. G. Jebsen
Société Indústrielle du Titane
Paris 8e
26 Rue de la Pépinière

Dear Dr. Jebsen,

We thank you for having sent us the draft for the proposed contract between Titanium Pigment Co. Inc. and the Krebs Pigment & Colour Corp., content of which we have read with interest.

We have carefully examined how this contract affects the interest-sphere of Titangesellschaft, and it seems to us, that at least one important point in the new contract has not been clearly expressed, namely that Krebs unconditionally have to respect the territory reserved Titangesellschaft in the License Agreement of October, 1927 between Titan Co A/S and Titangesellschaft, that is that Krebs

a) shall not themselves manufacture in the territory of Titangesellschaft,

b) shall not make deliveries in this territory,

c) shall also impose upon their customers a corresponding obligation not to deliver in this territory,

d) shall grant sublicences only to undertakings outside this territory and for use outside of this territory,

e) shall strictly observe the same limitation as under d) also regarding the experiences of which they get knowledge and which originate from Titangesellschaft.

We consider it of the greatest importance to have this point made clear, as otherwise the unbearable situation may arise for the Titangesellschaft, that Krebs compete with Titangesellschaft in the latter's territory, with T.G.'s own patent-rights and experiences which are transmitted to Krebs through Titanium Pigment Company..

If this point is made clear, there exists; though, still a difficulty in so far as the contemplated agreement shall have a duration of only three years, so that after the termination of the agreement, Krebs is free to fight Titangesellschaft in the latter's own field, with the experience of Titangesellschaft, acquired in the meantime.

As we, on the other hand, do not fail to recognize the great importance of the new contract for the extension of the international cooperation in the Titanium-field, and as we moreover hope that the cooperation between Krebs and the Titanium Pigment Co. will work so well that practically the termination of the contract after three years is hardly probable, we are ready to withdraw (zurückstellen) our doubts in this connection. We may, however, express the wish that our hesitation at least to some extent be taken into account, so that the duration of the new contract be fixed at—at least 5 years instead of three.

The wording of Art. 5 paragr. 2 of the new agreement does not so far quite correspond with (cover) the above mentioned basic principle, that Krebs shall not grant any licenses within the territory of Titangesellschaft and/or to be made use of for this territory, inasmuch as the term

Exhibit 266

"non exclusive license" has been used. Further, it would better correspond to the spirit of the agreement between Titangesellschaft and Titan Co A/S, if such licenses were granted Titangesellschaft free of cost, it should then be (es sei denn) that Krebs acknowledge, that also they have to pay to T.G. a corresponding compensation for the use of patent-rights originating from T.G., as it, according to information from Mr. Beschorman, seems to be intended, without we being able hitherto to find a confirmation of this in the agreement. The above mentioned basic principle that, according to the spirit of the contract between T.G. and Titan Co A/S, Titangesellschaft should be granted a licence free of cost under the Krebs patents, applies also to new inventions as such naturally practically always will result from the experiences resulting from the cooperation Krebs/Titanium Pigment Co/ Titangesellschaft.

We should be obliged if Titanium Pigment Co. could give us a certain reassurance also with regard to these points.

Asking you to transmit to Titanium Pigment Co. this our standpoint, we remain

Yours very truly,

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Exhibit 266

SOCIETE INDUSTRIELLE DU TITANE

DIFFERE

22.VI.1933.

BESCHORMAN

LEADCO

NEW YORK

AGREEMENT KREGS ACCEPTABLE TO IG-FARBENINDUSTRIE PROVIDED CLEARLY EXPRESSED BY KREBS IN SOME FORM THAT THEY WILL RESPECT TITANGESELLSCHAFTS TERRITORY NOT MANUFACTURE THERE MAKE NO DELIVERIES DIRECT OR BY CUSTOMERS GIVE NO SUBLICENSES AND NO TECHNICAL AID FOR MANUFACTURE WITHIN OR FOR THAT TERRITORY STOP IG CONSIDERS THREE YEARS AGREEMENT SHORT IN VIEW OF PARTING WITH EXPERIENCE AND SUGGESTS FIVE YEARS BUT MAKES IT NO CONDITION STOP IG'S RESERVATIONS SHOULD ALSO APPLY TITANINCS TERRITORY STOP AGREEMENT AUSSIG TITANGESELLSCHAFT PRACTICALLY COMPLETED STOP BLUMENFELD WITH TECHNICIAN INTENDS VISIT KREBS FACTORY STOP BLUMENFELD READY ERECT FACTORY BELGUIM VERY FAVOURABLE CONDITIONS WILLING DROP THIS PROVIDED QUOTA ARRANGEMENT AND POSSIBLY CLOSER COOPERATION TITANICS TERRITORY OUTSIDE BRITISH EMPIRE STOP CONSIDER NECESSARY I GO NEW YORK SATURDAY JULY FIRST DISCUSS EUROPEAN SITUATION CABLE

JEBSEN

Exhibit 267

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CONFIDENTIAL June 28, 1933.

W. C. BESCHORMAN, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

We have considered the various points raised by I.G. in their cable to you with the desire, if possible, to comply with its request.

As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article II of the Krebs-Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

The I.G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclu-

sive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis. Since all licenses received from Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally, we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of much care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:

Exhibit 268

CC—Wm. Richter, Gen. Mgr.—Wil.

Newark, New Jersey,
June 29, 1933.

CONFIDENTIAL
E. C. THOMPSON, VICE PRES.
GRASSELLI—CLEVELAND.

KREBS-TITANIUM PIGMENT AGREEMENT

I talked with you the other day on the above, telling you of the cable which National Lead had received from I. G. reading as follows:

> "Agreement Krebs acceptable to Igfarbenindustrie provided clearly expressed by Krebs in some form that they will respect Titangesellschafts territory not manufacture there make no deliveries direct or by customers give no sublicenses and no technical aid for manufacture within or for that territory Stop IG considers three years agreement short in view of parting with experience and suggests five years but makes it no condition Stop IG's reservations should also apply Titan Incs territory."

I have had several conversations with Mr. Beschorman on the subject, and saw Mr. Hanley of the Legal Department in Wilmington on Tuesday, at which time we drafted a reply which I delivered to National Lead personally yesterday, as per copy herewith. Mr. Beschorman feels that this should take care of the situation, and assures me that he is disappointed that I. G. have not come right through with a flat approval. I told him that it was a selling job for them to make I. G. realize that they were putting their

Exhibit 268

interests in National Lead's hands, and that they would be well taken care of. Mr. Beschorman told me that when he saw Dr. Kuhne, in charge of the I. G. Titanium Plant at Leverkusen, Germany, the latter definitely said that it all seemed O. K. to him and he would write a letter of approval. Instead of the letter of approval, this cable was received.

There is no further move to be made now, as the next step is up to National Lead. I am sending this copy to you instead of Mr. Grasselli, inasmuch as I talked it over with you. You will no doubt explain it further to him.

C. H. RUPPRECHT.

CHR:s
Encl.

Exhibit 269

Newark, New Jersey,
June 29, 1933.

CONFIDENTIAL

T. R. HANLEY, LEGAL DEPT.,
WILMINGTON.

KREBS-TITANIUM PIGMENT AGREEMENT

Attached is a copy of the letter to the National Lead Company, which we drafted in your office on Tuesday, and which I delivered to Mr. Beschorman yesterday.

He seemed to feel this ought to take care of the situation, so we now have to sit back and leave the rest to them. He again assured me he saw no reason why I. G. do not come through with a flat approval, and had been led to expect this when he talked to them in Germany.

C. H. RUPPRECHT.

CHR:s
Encl.

Exhibit 270

COPY

Letterhead of

NATIONAL LEAD COMPANY

New York, July 14, 1933.

Mr. H. S. Tasker, Vice Chairman,
British Titan Products Company Limited,
London House,
3, New London Street,
London, E. C. 3, England.

Dear Mr. Tasker:

Referring to the Minutes of the Meeting held on May 29th, I note the following under "developments".

"DEVELOPMENTS. Mr. Beschorman mentioned that Duponts and Titan Company Inc. had entered into agreement whereby the benefits of any developments by the Dupont Co. in Titan Pigments would be at the disposal of the National Lead Company and their associates, and this would apply particularly to territories outside America.

"Major Barley stated that the I. C. I. were very pleased at this decision, the effect of which would be complete technical co-operation between Duponts, National Lead Company and this Company, who would thus secure the benefit of the commercial co-operation.

"The Chairman stated that he welcomed and approved this measure of co-operation, and it met with the full support of the Board."

Exhibit 270

This does not cover the subject as presented by Major Barley or myself. Unless I am very much mistaken, Major Barley made a motion that the British Titan Products Company approve the proposed contract between Titanium Pigment Company and Krebs Pigment and Color Corporation for co-operation in the United States, which was extended to our foreign associates through the making available of all developments by both parties. This motion I seconded, and it was this motion which I presumed the Board approved.

Major Barley had a copy of the proposed contract, but for your records I am sending you a copy of the proposed contract, together with copies of two letters—one from the Krebs Pigment & Color Corporation and one from myself to the I. G. Farbenindustrie, making several points (which were designedly not gone into fully in the contract for legal reasons) more specific.

May I suggest that either the Minutes of the May 29th meeting be corrected, or if it is too late that a resolution on the line of my understanding be passed at the next Board Meeting.

Very truly yours,

(Sgd) W. C. BESCHORMAN,
Executive Vice President.

Exhibit 271

July 17, 1933.

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Avenue
Newark, New Jersey.

Dear Mr. Rupprecht:

I am enclosing you herewith copy of letter written I. G. Farbenindustrie on the 12th, which copy I believe you read when in the office the other day. This for your records.

Very truly yours,

Executive Vice President.

Exhibit 271

COPY

July 12, 1933

I. G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Grüneburgplats.

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you a copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subsequently to the points brought out in your letter of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both as to use, manufacture and selling to the territory

granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good co-operation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outside of their territory which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licenses in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in a position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these respects, which are also own own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your interests than to complicate the situation with a separate contract.

Exhibit 271

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advice from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours

Executive Vice President.

Copy to—Dr. Kuhne
Dr. Jebsen
Mr. Rupprecht
Mr. Tasker, Vice Chairman, British T.P.Co.

Exhibit 272

July 18, 1933.

MEMORANDUM—To Mr. Beschorman.

In view of the situation arising out of the agreement contemplated to be made with Krebs & Co., I beg to point out the following:

It is foreseen that compensations shall mutually be given by Krebs and T. G. m. b. H. respectively the other European companies, for patents or licenses under patents belonging to each party.

Titan Company, Inc. and A/S have no Titanium factory of its own any longer, taking its requirements from T. G. m. b. H. It maintains, therefore, only a very small staff of expert chemists chiefly occupied with the patents and aiding me with regard to chemical questions.

Although some patents have been applied for by this organization, it is not to be expected that much development work will emanate from this organization which has no factory and no facilities for experiments, except and I hope therefore it will be possible for you when dealing with Krebs on this side to arrange such acquisition for Titan Company, Inc. on very reasonable terms.

G. JEBSEN

Exhibit 273

COPY

July 21, 1933.

I. G. Farbenindustrie Aktiengesellschaft
Verkaufsgemeinschaft Chemikalien
Frankfurt (Main) 20
Gruneburgplatz, Germany
Direction.

Dear Sirs:

Re: Contemplated Agreement between Titanium Pigment Co., Inc. and Krebs Pigment and Color Corporation.

I have forwarded your favor of June 20th to Mr. W. C. Beschorman, Executive Vice President, National Lead Company, and a Vice-President of the Titan Company, Inc. and a director of the Titanium Pigment Co., Inc., and beg to enclose a letter from him which he, on my request, has directed to you.

I hope this will meet the various points in your letter of June 20th and shall look forward to your reply.

Very truly yours

(Signed) G. JEBSEN
Vice President.

Exhibit 273

July 12, 1933.

I. G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Grüneburgplats.

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subsequently to the points brought out in your letter of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both as to use, manufacture and selling to the territory

granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good co-operation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outsitle of their territory which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licenses in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these respects, which are also our own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your

Exhibit 273

interests than to complicate the situation with a separate contract.

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advise from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours

Executive Vice President.

Copy to—Dr. Kuhne
Dr. Jebsen
Mr. Rupprecht
Mr. Tasker, Vice Chairman, British T. P. Co.

Exhibit 273

R. C. A. COMMUNICATIONS, INC.

RADIOGRAM

GC17XIX RFK578

PARIS 133/130 22 1350 11/50

L C BESCHORMAN LEAD CO NEW YORK

AGREEMENT KREBS ACCEPTABLE TO IG-FARBENINDUSTRIE PROVIDED CLEARLY EXPRESSED BY KREBS IN SOME FORM THAT THEY WILL RESPECT TITANGESELLSCHAFTS TERRITORY NOT MANUFACTURE THERE MAKE NO DELIVERIES DIRECT OR BY CUSTOMERS GIVE NO SUBLICENSES AND NO TECHNICAL AID FOR MANUFACTURE WITHIN OR FOR THAT TERRITORY STOP IG CONSIDERS

THREE YEARS AGREEMENT SHORT IN VIEW OF PARTING WITH EXPERIENCE AND SUGGESTS FIVE YEARS BUT MAKES IT NO CONDITION STOP * * IG S RESERVATIONS SHOULD ALSO APPLY TITANINCS TERRITORY STOP AGREEMENT AUSSIG TITANGESELLSCHAFT PRACTICALLY COMPLETED STOP BLUMENFELD WITH TECHNICIAN INTENDS VISIT KREBS FACTORY STOP BLUMENFELD READY ERECT FACTORY BELGIUM VERY FAVOURABLE

CONDITIONS WILLING DROP THIS PROVIDED QUOTA ARRANGEMENT AND POSSIBLY CLOSER COOPERATION TITANINCS TERRITORY OUTSIDE BRITISH EMPIRE STOP CONSIDER NECESSARY I GO NEW YORK SATURDAY JULY FIRST DISCUSS EUROPEAN SITUATION CABLE

JEBSEN

Exhibit 273

COPY

Blind copies to:
E. C. Thompson— Cleveland
Wm. Richter — Wil.
T. R. Hanley — "

June 28, 1933.

CONFIDENTIAL

W. C. Beschorman, Vice Pres.,
National Lead Company,
111 Broadway
New York City, New York.

Dear Mr. Beschorman:

We have considered the various points raised by I. G. in their cable to you with the desire, if possible, to comply with its request.

As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article II of the Krebs Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

Exhibit 273

The I.G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclusive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis. Since all licenses received by Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally, we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of such care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Very truly yours,

PRESIDENT.

CHR:s

Exhibit 274

26 Rue de la Pepiniere
Paris, France. July 21, 1933.

Dr. H. Kühne
I. G. Farbenindustrie Aktiengesellschaft
Leverkusen b. Cologne
Germany.

Dear Dr. Kühne:

I enclose copy of my letter of today to I. G. Farbenindustrie Aktiengesellschaft transmitting a letter from Mr. W. C. Beschorman, copy of which also is enclosed, dealing with the various points raised in the letter from I. G. Farbenindustrie of June 20th to me regarding the contemplated agreement between Titanium Pigment Company, Inc. and Krebs Pigment and Color Corporation.

I have met Mr. Rupprecht, President of Krebs Pigment and Color Corporation, who verbally has expressed to me the same views as to the future co-operation which has been expressed by Mr. Beschorman.

Considering the views and interpretations as expressed by Mr. Beschorman, and by Mr. Rupprecht in his letter to Mr. Beschorman, it seems to me that a co-operation can be looked to which will be of important benefit to Titangesellschaft.

It is considered desirable to treat the matter strictly confidential.

With kindest regards,

Very truly yours,

P.S. I will be back in Paris at the end of this month or the first days of August and expect to have shortly thereafter for a holiday.

Exhibit 274

COPY

July 21, 1933.

I. G. Farbenindustrie Aktiengesellschaft
Verkaufsgemeinschaft Chemikalien
Frankfurt (Main) 20
Gruneburgplatz, Germany
Direction.

Dear Sirs:

Re: Contemplated Agreement between Titanium Pigment Co., Inc. and Krebs Pigment and Color Corporation.

I have forwarded your favor of June 20th to Mr. W. C. Beschorman, Executive Vice President, National Lead Company, and a Vice-President of the Titan Company, Inc. and a director of the Titanium Pigment Co., Inc., and beg to enclose a letter from him which he, on my request, has directed to you.

I hope this will meet the various points in your letter of June 20th and shall look forward to your reply.

Very truly yours

(Signed) G. JEBSEN
Vice President.

Exhibit 275

July 21, 1933.

26 Rue de la Pepiniere
Paris, France

M. Weber Andreae, Esq.
c/o I. G. Farbenindustrie Aktiengesellschaft
Verkaufsgemeinschaft Chemikalien
Frankfurt (Main) 20
Grüneburgplatz

Dear Mr. Weber Andreae:

I beg enclosed to send to you a letter addressed to I. G. Farbenindustrie with enclosures.

I have met Mr. Rupprecht, President of the Krebs Pigment and Color Corporation, who verbally has expressed to me the same views as to the future co-operation which has been expressed by Mr. Beschorman.

Considering the views and interpretations as expressed by Mr. Beschorman, and by Mr. Rupprecht in his letter to Mr. Beschorman, it seems to me that a co-operation can be looked to which will be of important benefit to Titangesellschaft.

Awaiting I. G. Farbenindustrie's answer, no agreement has been signed yet. It is considered desirable to treat the matter strictly confidential.

With kind regards,

Very truly yours,

P. S.—I will be back in Paris at the end of this month or the first days of August, and expect to leave shortly thereafter for a holiday.

Exhibit 276

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

July 24, 1933.

CONFIDENTIAL

C. H. RUPPRECHT, PRESIDENT,
KREBS PIGMENT & COLOR CORPORATION,
NEWARK, N. J.

TITANIUM PIGMENTS AGREEMENT

You will recall that some weeks ago you and I discussed the draft of a letter which I had prepared to send to Mr. Ewing, advising him of the agreement between Krebs and The Titanium Pigment Company. You agreed with the draft as prepared but I have been holding it awaiting advice from you that the agreement has actually been signed. Will you please advise whether this is the case, so that I may release the letter?

In case the agreement has not been signed but probably will be in the near future, I think it is probably best to let the letter go ahead anyhow as, no doubt, I.C.I. are familiar with it and may be discussing it with Ewing, resulting in some embarrassment to him through his ignorance in the matter.

To refresh your memory, I am enclosing a draft of the letter which you have approved.

FOREIGN RELATIONS DEPARTMENT,

WENDELL R. SWINT

Director.

WRS/C

Exhibit 276

Copies to:—
F. W. Pickard, Vice Pres.,
J. T. Brown, Vice Pres.,
J. E. Crane, Vice Pres.,
Dr. F. Sparre, Dir., Development Dept.,
C. H. Rupprecht, Pres., Krebs Corp.,
Newark, N. J.
G. W. White, Mgr., I.C.I.—New York.

July 24, 1933.

Letter No. 657

H. H. EWING, MANAGER, (2)
LONDON OFFICE.

TITANIUM PIGMENTS AGREEMENT

There have been some recent developments in the titanium position here, concerning which we wish you to be advised, and which we will also ask you to explain to our friends in I.C.I.

You are, I believe, familiar with the fact that the patent situation on titanium has been very confusing. In an effort to improve this situation, an agreement has now been signed, between Krebs Pigment & Color Corporation and The Titanium Pigment Company (owned by National Lead), which provides for cross licensing of all patents now, or hereafter during the term of the contract, owned by both parties; license will be non-exclusive and will cover the right to manufacture within the U.S., its colonies and possessions, and to sell the products resulting from the use of the licensed processes throughout the U.S., its colonies and possessions, Mexico, Central America, the West In-

dies and South America. It also provides for the exchange of technical information in the field covered. Article V, which is of particular interest to you and to I.C.I., reads as follows:—

"ARTICLE V

Each party hereto agrees during the term of this Agreement to use its best efforts to assist the other to acquire, on terms as favorable as possible to the other, an irrevocable and non-exclusive right and license to manufacture, use and sell, within the limits of the Licensed Field and within the territory of the license granted by this Agreement, under any United States Letters Patent and/or applications therefor owned by or otherwise at the disposal of other companies, firms or individuals, domestic or foreign, under which such party hereto itself is licensed.

"Krebs further agrees that during the term of this Agreement it will offer to any foreign associate of Titanium that may be designated by Titanium, before offering to any other person, firm or corporation, the opportunity to acquire, upon mutually satisfactory terms and conditions, an irrevocable and non-exclusive license within the limits of the Licensed Field under any patent relating to the Licensed Field issued in any country of continental Europe or in Great Britain which now is or hereafter and during the term of this Agreement may be owned by or otherwise at the disposal of Krebs."

Canada is not covered by the agreement, for the reason that we have no patent rights in Canada. You are familiar

with this situation and understand that the way is still open for C.I.L. to acquire the Blumenfeld patents if they desire, and in the event they should do so, it is quite possible that further negotiations with National Lead would result in extending the present arrangement to Canada.

You will probably find, in discussing this with I.C.I., that they are already familiar with the agreement, inasmuch as the National Lead representatives wished to consult their foreign affiliates before finally signing. For this reason, we did not feel free to inform I.C.I. of this development until the agreement was actually signed. I believe I.C.I. will agree that its execution has put our relationship with them back on a better basis, as regards titanium, than had been the case since I.C.I. entered the British Titan Products, Ltd. While titanium is excluded from the I.C.I.-duPont Agreement, the present Krebs-Titanium Pigment Agreement does provide the opportunity for I.C.I. to enjoy, indirectly, the benefits of technical progress made by Krebs which result in patents. On the other hand, it also makes it obligatory for us to offer first to National Lead's other European associates non-exclusive rights to any patents in this field, but in view of the arrangements which have been reached by National Lead and I.C.I. on titanium, as we understand them, this would not seem to work any hardship on I.C.I.

We are enclosing an extra copy of this letter which you may forward to I.C.I. if you wish.

FOREIGN RELATIONS DEPARTMENT,

WENDELL R. SWINT, DIRECTOR.

WRS/C

Exhibit 277

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

Newark, New Jersey,
July 25, 1933.

W. R. SWINT, DIRECTOR,
FOREIGN RELATIONS DEPARTMENT,
WILMINGTON.

TITANIUM PIGMENTS AGREEMENT

I have your letter of July 24th, and while the agreement has not yet been definitely signed, due to some of the I. G. questions, I see no reason for withholding your letter to London Office.

You might pin a note to Ewing's copy and tell him that the document has not yet been signed, but we are expecting same to be done almost any day, pending information from I.G. putting their final approval on the deal.

I mentioned to you some of the peculiar questions they raised, but we think these have been satisfactorily answered.

C. H. RUPPRECHT.

CHR:s

Exhibit 278

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

August 3, 1933

Leonard Smith, Esq.
Imperial Chemical Industries, Ltd.,
Millbank, S. W. 1.

TITANIUM PIGMENTS AGREEMENT

Dear Mr. Smith:—

I am enclosing copy of Foreign Relations Department's Letter No. 657 of July 24, which was just received this morning. I believe you will find the letter self-explanatory.

The Titanium business throughout the world seems to be divided into two groups—the one which may be classified as the "Blumenfeld Group", including: in addition to Krebs Co.; Montecatini in Italy; Societe Terres Rares in France; and United Chemical & Metallurgical Works, Aussig; and the other: the "I. G.", or "National Lead Group", which includes National Lead in the U. S. A.; I. G. Farbenindustrie; and the Norwegians. Your situation in England is a bit more complicated, as Blumenfeld still possesses his rights for England, and I understood that the group which I. C. I. has joined, and which includes also National Lead representatives, is about to make some arrangement with him. At any rate, the move which has culminated in this agreement in the U. S. A. is an attempt to bring the two groups together, and I understand that a similar move is on foot in Europe. We look upon this Patent Pool as a definite advance in cooperation and the strengthening of both parties' position to the exclusion of outsiders.

Exhibit 278

With reference to the du Pont/I. C. I. Patents & Processes Agreement, Titanium has been excluded from that Agreement, on approval of both parties. However, I. C. I. will enjoy indirectly, although not through the medium of the P. & P. Agreement, those privileges which would otherwise have passed directly had I. C. I. been active in Titanium manufacture and had we not made the agreement with Commercial Solvents at the time of the formation of the Krebs Company.

Mr. Mitchell has now agreed this. Previously Titanium Pigments were "inactive" under P. & P. agreement.
(sgd.) S.J.G.

If there are any questions which may arise, please do not hesitate to place them before me. Kind regards,

Yours very truly,

E. I. DU PONT DE NEMOURS & Co.
European Manager.

HHE/AAD
encl. 1.

Exhibit 279

Letterhead of

TITAN COMPANY, INC.

Paris, August 9th, 1933.

W. C. Beschorman Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York, N. Y., U. S. A.

Dear Mr. Beschorman:

RE: KREBS AGREEMENT AND I. G.

I incidentally met Mr. Weber-Andrea in London in the I. C. I. building, and we had a short talk, during which he promised to deal with the above matter immediately on his return to Frankfort. He was, though, going away on holiday at the end of last week, and Dr. Kühne would also be absent.

I have had several telephone conversations with Mr. Weber-Andrea from here, which resulted in a letter to me as per copy enclosed. A draft was sent me beforehand, to which I suggested some changes, as the matter of invention of "outstanding importance" was not considered. It has, however, been overlooked that the "licensed Field" in the contemplated Krebs agreement is a different one from that of the Titangesellschaft's agreement. You will, however, gather from the letter, that the Germans wish to make no difficulties.

The I. G.'s letter seen in connection with the previous correspondence and the draft of the Krebs agreement seems,

though, to meet the case, and when Mr. Weber-Andrea returns in September, I think a supplementary letter clearing the point can be arranged. I had Mr. Borgwardt on the telephone, who considered the word "Gebietsabgrenzungen" (delimitations) to refer only to "boundaries of territories". In that case the matter is clear. Mr. Borgwardt is, though, not in an authoritative position re such a question.

I have had two conversations with Mr. Blumenfeld since my return. He has now reduced his demand as to quota to the following:

FRANCE	55% of the first 1000 tons of TiO_2,
	45% " " next " " " "

and then 50% of the exceeding quantities.

BELGIUM & HOLLAND	30%.

It seems that we will have to accept this, if we shall make an arrangement with him, as he evidently considers his position with the factory in France and the political nationalistic tendencies entitle him to this.

With regard to Montecatini's export, I have agreed, that he and I shall give room for 75 tons TiO_2 to be placed in France, Belgium and Holland, at prices corresponding to what we obtain, and to be divided according to the consumption of white pigments in these markets, and the quotas agreed upon. Mr. Blumenfeld thinks, that Montecatini might be given the right to a total export of 600 tons, to be reduced as the consumption develops later on. Of the remaining 525 tons he has suggested 250 tons to be sold to the English market, or if the English prices go too low, to be to Montecatini's charge. The disposal of the remaining 275 tons is still a puzzle. A considerable part

of it should though be allowed sold for the account of Montecatini in Japan, China, Spain, Portugal, South-America—those countries which he intended to give Aussig.

I have suggested to him to make arrangements for these countries directly with T. G., as Aussig in this connection only will represent an extra charge. Blumenfeld feels though a moral obligation not to do so without Mr. Mayer's consent.

With regard to the other points in Mr. Chase's list, he seems to find these in order, but we did not go into a closer interpretation of each point at present, with the exception of No. 10: "Delivery of products on a mutual basis", which he interpreted to mean the same price for the same quality ab works—Leverkusen or Thann.

We agreed to postpone further negotiations until middle or latter part of September. In the meantime Mr. Blumenfeld intended to see Mr. Donegani of Montecatini, and Mr. Mayer.

I leave to-day for my holiday in the Italian Tyrol, and intend on my return journey to visit Montecatini in Italy.

With kindest regards,

Yours very truly,

G. JEBSEN

Encl. Copy of a letter from I. G. Farbenind. of Aug. 7, 1933,

" Rough English translation of same.

P. S. It seems that *Montecatini* has had quite a nice development of sales to the British Empire last year. Official export statistics show:

Exhibit 279

	1931	*1932*
Export to GREAT BRITAIN:	284 tons	369 tons
" " AUSTRALIA:	34 tons	92 tons
" " NEW ZEALAND:	0 ton	10 tons
" " STRAITS SETTLEMENT:	0 ton	13 tons

Greeff's sales of TiO_2 (in metric tons) were as follows:

	1931	*1932*
To GREAT BRITAIN:	117 tons	359 tons
To AUSTRALIA:	0 ton	11 tons
To NEW ZEALAND:	0 ton	0 ton

Titan Co.'s deliveries (in metric tons) were as follows:

	1931	*1932*
To STRAITS SETTLEMENT:		
Extra "T"	0 ton	25 tons
Standard "T"	20 tons	5 tons

Exhibit 279

TRANSLATION

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT,
FRANKFURT (MAIN) 20
(Legal Department)

Dr. Jebsen
26; rue de la Pépinière
Paris, France,

August 7th 1933.

Dear Dr. Jebsen,

The point of view which the National Lead Co. has taken in the letter of July 12th 1933 signed by Mr. Beschorman, Vice-President, and which appears from a letter from the Krebs Pigment & Color Corporation of June 28th 1933 signed by Mr. C. H. Rupprecht, President, of which also a copy has been submitted to us, does not formally correspond with the wishes which we expressed to you in our letter of June 20th 1933. We note though from these letters the assurance that National Lead Co. and Titanium Pigment Co. as well as their new American Contract Partner, the Krebs Pigment & Color Corporation, will loyally respect the delimitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement between Titan Co. and Titangesellschaft. Relying on this loyal promise, we renounce on the formal confirmation of the wishes expressed in our letter of June 20th 1933.

Your declaration that the duration of the agreement will not end after three years, also that the licenses which Titangesellschaft will receive from Krebs, will be granted, except in exceptional cases, only against a nominal fee, more than suffice for us. The exceptional cases concern

possible inventions by Krebs of especially outstanding importance. Krebs shall offer us these on reasonable conditions. Exceptionally, Krebs will though be free to utilize these especially outstanding inventions in T.G. territory in case T.G. does not accept, within reasonable time, an offer on reasonable conditions.

Our consent to the agreement between Krebs Pigment and Color Corporation and Titanium Pigment Company being closed is given with the reservation that for us, respectively Titangesellschaft, no liabilities may arise from same which are not compatible with the existing contractual obligations.

We beg to add our heartiest thanks for the trouble you have taken and remain

Yours very truly

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

(signed) Weber-Andreae—(Signed) Mayer-Wegelin.

Exhibit 279

KOPIE

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT,
FRANKFURT (MAIN) 20.

Herrn Dr. Jebsen,
26 Rue de la Pépinière,
Paris, Frankreich.

7. August 1933.

Juristische Abteilg.

Die Stellungnahme, die die National Lead Company in dem von Herrn Vicepräsidenten Beschorman unterzeichneten Briefe vom 12. Juli d.J. eingenommen hat und welche von einem uns ebenfalls in Kopie vorgelegten Schreiben der Krebs Pigment & Color Corporation von 28.6.33, unterschrieben durch Herrn Präsidenten C. H. Rupprecht, ausgaht, entspricht zwar nicht formell den Wünschen, die wir in unserem Briefe vom 20. Juni d.J. Ihnen mitteilten. Wir entnehmen diesen Briefen jedoch die Zusage, dass sowohl die National Lead Company, als auch die Titanium Pigment Company, als auch deren neuer amerikanischer Vertragspartner, die Krebs Pigment & Color Corporation, in loyaler Weise die Gebietsabgrenzungen hinsichtlich Fabrikation, Lizenzierung und Verkauf wahren werden, welche in dem zwischen der Titan Company und der Titan-Gesellschaft abgeschlossenen Vertrage festgesetzt sind. Im Vertrauen auf diese loyalen Busagen verzichten wir auf die formelle Bestätigung unserer im Schreiben vom 20.6.33 ausgesprochenen Wünsche.

Ihre Erklärungen, dass die Dauer des Vertrages keineswegs nach 3 Jahren enden wird, sowie dass die Lizenzen, Welche die Titan-Gesellschaft von Krebs erhalten

wird, von Ausnahmefällen abgesehen, nur gegen eine Anerkennungagebühr erteilt werden, genügen uns vollauf. Die Ausnahmefälle betreffen etwaige Erfindungen Krebs' von besonders hervorragender Bedeutung; diese muss Krebs zu angemessenen Bedingungen anbieten, Krebs wird jedoch ausnahmeweise für die Verwertung dieser besonders hervorragenden Erfindungen im Gebiete der Titan-Gesellschaft frei, falls die Titan-Gessellschaft ein Angebot zu angemessenen Bedingungen innerhalb angemessener Zeit nicht acceptiert.

Unsere Einwilligung in den Abschluss des Vertrages zwischen Krebs Pigment & Color Corporation und der Titanium Pigment Company erfolgt mit dem Vorbehalt, dass uns bezw. der Titan-Gesellschaft daraus nicht Verplichtungen erwachsen dürfen, die mit den bisherigen vertraglichen Bindungen nicht vereinbar sind.

Wir verbinden mit dieser Mitteilung unseren verbindlichsten Dank für Ihre Bemühungen und begrüssen Sie,

mit vorzüglicher Hochachtung

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

gez. Weber-Andrea. gez. Mayer-Wegelin.

MW/Tr.

Exhibit 280

Letterhead of

NATIONAL LEAD CO.

New York, August 28, 1933.

Krebs Pigment & Color Company
256 Vanderpool Avenue
Newark, N. J.

Attention Mr. Z. E. Phelps

Dear Sirs:

I am handing you herewith Agreement between the Krebs Pigment & Color Corporation and the Titanium Pigment Company, Inc. properly signed and sealed by the Titanium Pigment Company; and also three letters signed by F. M. Carter, President, National Lead Company, addressed one to Commercial Solvents Corporation, one to E. I. DuPont de Nemours & Co. and one to Grasselli Chemical Company, to the effect that our titanium pigment business in the United States will be conducted exclusively through the Titanium Pigment Company whose stock is owned by National Lead Company 100%.

Article 3 of the Agreement referring to disclosures, and conversations between Mr. Rupprecht and the writer were to the effect that we should each appoint a committee consisting of an official of the Company and probably two technical experts. This matter can be left until Mr. Rupprecht's return. The committee from the Titanium Pigment Company will probably consist of Mr. W. F. Meredith, President, J. E. Barton and W. F. Washburn. This is a preliminary appointment and the gentlemen in question will not be officially appointed until we receive your approval of their appointment. In other words, we are following some of the diplomatic usages between countries to find if our envoys will be persona grata.

Very truly yours

W. C. BESCHORMAN
Executive Vice President

Exhibit 281

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

August 29, 1933.

CONFIDENTIAL

W. C. Beschorman, Exec. Vice President,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

We wish to acknowledge your letter of August 28th, together with our copy of the executed agreement; also three letters signed by Mr. F. M. Carter, President of National Lead Company.

We appreciate your promptness in executing these papers, and feel sure that this agreement will work to our mutual benefit over a future period.

Promptly upon Mr. Rupprecht's return on September 5th, we will appoint a Committee to act for Krebs Corporation, and it can then be arranged at your convenience to have our people get together for their first meeting.

In the meantime, if anything should develop where we can give you information or be of any assistance, we hope you will call upon us.

Very truly yours,

Z. PHELPS

Z. PHELPS, Vice President

ZP:s

Exhibit 282

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

August 30, 1933.

Z. PHELPS, V.P.,
KREBS PIGMENT & COLOR CORP.,
NEWARK, N. J.

Thanks very much for your letter of August 29th, attaching copies of agreement with The Titanium Pigment Company and exchange of letters with National Lead.

We have forwarded a copy of the agreement to the London Office for their files.

FOREIGN RELATIONS DEPARTMENT,

J. K. JENNEY, Asst. Director.

JKJ/C

J. K. Jenney.

Exhibit 283

August 30, 1933.

Letter No. 694

LONDON OFFICE.

You will be interested to know that agreement between Krebs and The Titanium Pigment Co., Inc., has now been executed and this whole matter brought to a satisfactory conclusion.

We attach, for your files, a copy of this agreement. Letters have also been exchanged between duPont, National Lead and Commercial Solvents, stating that their Titanium Pigments business in the United States over a future period will be conducted exclusively through The Titanium Pigment Company and Krebs Pigment & Color Corporation.

FOREIGN RELATIONS DEPARTMENT,

J. K. JENNEY, Asst. Director.

JKJ/C

Exhibit 284

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CONFIDENTIAL September 6, 1933.

W. C. Beschorman, Vice President,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

Returning from vacation I note your letter of August 28th, addressed to Mr. Phelps, which he acknowledged on the 29th, and I appreciate the completion of these negotiations. I am confident that our agreement will prove of continuing and lasting benefit to both of our organizations.

Relative to the appointment of officials to represent our respective Companies, there is certainly no occasion to question the individuals you have nominated and we shall be very happy to cooperate with them.

In behalf of Krebs, I would offer for your approval Mr. Phelps and the writer as alternates, representing the official of the Company; Mr. J. F. Daley, our Production Manager; and Dr. J. E. Booge, Technical Director. I would also like to suggest Mr. M. L. Hanahan, our Assistant Technical Director, as an alternate for Dr. Booge, if necessary.

I hardly think it will be necessary for an official to be present at all of the discussions, after the machinery is set up to move smoothly through our respective technical representatives. I will be very glad to come in, at your convenience, to discuss arrangements for the first session.

With kindest regards, I am

Very truly yours,

C. H. RUPPRECHT
PRESIDENT.

CHR:s

Exhibit 285

Letterhead of

NATIONAL LEAD COMPANY

New York, September 26, 1933.

CONFIDENTIAL

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Street
Newark, New Jersey

Dear Mr. Rupprecht:

I am in receipt of your favor of the 6th advising us of the Krebs representation on the joint committee for exchange of information.

The representatives of the Titanium Pigment Company on this Committee will consist of the same parties as advised under date of August 28th with the addition of Dr. G. W. Thompson as alternate for Mr. W. F. Meredith, and Mr. A. S. Moses as alternate for either Mr. J. E. Barton or Mr. W. F. Washburn.

I would suggest a communication with Mr. W. F. Meredith at an early date to arrange for the initial meeting.

With kindest regards,

Yours very truly

W. C. BESCHORMAN
Executive Vice President.

Exhibit 286

Blind copies to:

Messrs. T. S. Grasselli—Cleve.
Wm. Richter—Wil.
M. F. Chase—New York
T. R. Hanley—Wil.
H. H. Ewing—London
Dr. Sparre—Wil.
Foreign Relations Dept.—Wil.

} Not shown on M. F. Chase's copy

October 9, 1933.

Dear Dr. Blumenfeld:—

I beg to acknowledge receipt of your letter of September 18th, 1933. I regret very much that apparently some misunderstanding remains in your mind as to the relationship between Krebs Pigment & Color Corporation and Societe Terres Rares and you.

Our position in respect to the subject matter of your letter is simply this:

Krebs Pigment & Color Corporation purchased all of the assets of Commercial Pigments Corporation, on August 1, 1931, free of any contractual obligations. Included in these assets were the patents and inventions to which Commercial Pigments Corporation was entitled under their agreement of March 24, 1927 with Societe Terres Rares and you. You will note by reference to this agreement that Commercial Pigments Corporation was entitled to all inventions, patentable or not, relating to Titanium Oxide, which you or the French Company, discovered or possessed. The patents and inventions received by Krebs Pigment & Color Corporation from the Commercial Pigments Corporation were in the same category as its buildings, plants and physical property.

There is not nor has there ever been any contractual relationship between Krebs Pigment & Color Corporation

Exhibit 286

and Societe Terres Rares and you. Such a relationship did exist between you and Societe Terres Rares and Commercial Pigments Corporation but was not assumed by Krebs. This position, you will recall, was made clear to you by Messrs. Ticknor and Chase upon their visit to you in France in August 1931, when they stated that you would have to make a new arrangement with the Krebs Pigment & Color Corporation. Moreover, as we have previously advised you, the agreements between Commercial Pigments Corporation and your Company, were not assignable.

The Krebs Company received no inventions or patents from Societe Terres Rares or from you. All patents and inventions, with the rights to obtain patents therefor, were received from the Commercial Pigments Corporation and were included in the property purchased by Krebs from that Company.

In answer to the specific statements of your letter of September 18th, this Company has taken no patents on information received from your company. All of our patents are based on inventions made prior to August 1, 1931 and previously communicated to Commercial Pigments Corporation. Our correspondence since that date dealt only with formal matters of patent procedure on inventions previously owned by Commercial Pigments Corporation.

Therefore, since all our rights in patents and inventions were obtained from Commercial Pigments Corporation as part of the assets of that Corporation, we cannot recognize any obligation arising from contracts existing between Commercial Pigments Corporation and Societe Terres Rares and you.

Assuring you again of my sincere regard and with cordial good wishes, I am

Sincerely,

C. H. RUPPRECHT
PRESIDENT.

CHR:s

Exhibit 287

Letterhead of

TITAN COMPANY, INC.

Paris, October 11th, 1933.

W. C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman:

Upon leaving for Germany yesterday and referring to his letter No. 13, Dr. Jebsen has asked me to send you the enclosed copy No. 6 of a memorandum entitled "Short outline regarding the relations in the Titanium industry," which has been sent to the members of the Board in the British Titan Products Co.

Yours very truly,

S. J. HENRIKSSEN

Exhibit 287

Short Outline Regarding the Relations in the Titanium Industry

1) Between the parties of the National Lead Company's group

2) Between the parties of the Blumenfeld group

3) Connections between parties of both groups.

1) National Lead Company's Group.

Titanium Pigment Company Inc.—Titan Company Inc.

Agreement re technical cooperation and division of the world's markets.

The agreement provides for cooperation in periods of 10 years, to be announced 5 years before expiration. Term for expiration: December 31, 1946.

National Lead Company is the dominant shareholder in both companies.

Titanium Pigment Company has an exclusive right to the countries of the North-American Continent, and a non-exclusive right to the countries of South-America.

Titan Company Inc. has an exclusive right in all countries not mentioned above, and a non-exclusive sales right to the South-American countries.

The Company has agreements with various subsidiary and associated companies regarding technical and commercial cooperation in specific markets within its territory, as follows:

Exhibit 287

Titangesellschaft

Territory: Exclusive rights: Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Roumania, Yugoslavia, Bulgaria, Greece, Turkey, Japan, China, Spain, Portugal, Poland, Danzig,

Non exclusive rights: South America (excl. Guiana).

Duration: 30 years from December 31, 1927, depending upon certain reservations.

Prolongation of agreement in periods of 10 years, provided no announcement within 6 months before the expiration of a 10 years period.

British Titan Products Co.

Territory: British Empire including British Protectorates and Mandated Territories (except the Dominion of Canada, Newfoundland, British Honduras, Demerara, Falkland Islands and the West Indies and islands geographically appurtenant to the continent of North America) and Egypt.

Duration: 30 years from February 16, 1933, depending upon certain reservations. Thereafter any party may retire on 12 months notice.

Société Industrielle du Titane

Territory: France with colonies, dependencies, protectorates and mandated territories.

Duration: To December 31, 1941. Prolongation in periods of 10 years provided no determination within 6 years before the expiration of a 10 years period.

National Lead Company has controlling share interest.

Titan Co. A/S

This Company acts as agents for Titan Company Inc. in the markets in which the above named companies do not operate. Its subsidiary

Société Belge du Titane acts as agent for Belgium, Holland, Luxemburg and Colonies to these countries.

Titan Co. A/S's shares are owned substantially by the same interests as Titan Company Inc.'s.

2) Blumenfeld Group

The below information is based for the greatest part on verbal information acquired from time to time and is therefore subject to possible corrections.

Société de Produits Chimiques des Terres Rares, France

The Blumenfeld patents are principally held by this Company, which has arrangements with the following companies regarding commercial and technical cooperation:

Exhibit 287

Verein fur Chemische & Metallurgisshe Produktion, Aussig.

Commercial and technical cooperation with exchange of licenses and technical experience.

Territory: *Exclusive rights:* Germany with Danzig and Sarre - District, Czechoslovakia, Poland, German Austria, Hungary, Jougoslavia, Roumania, Russia.

Fabriques de Produite Chimiques de Thann & de Mulhouse.

Territory: Exclusive rights: France.

(Mr. Blumenfeld managing director).

This company is also exporting to various countries.

Societa Amonima Titanium (Montesatini)

Territory: Exclusive rights: Italy.

Is also exporting to various countries under rights from Mr. Blumenfeld, not clearly defined.

Krebs Pigment & Color Corporation (Du Pont).

This company has acquired the Blumenfeld patents for U.S.A., but no agreement exists regarding future exchange of licenses and technical experience.

Exhibit 287

3) Connections Between Parties of Both Groups.

Titanium Pigment Co.—Krebs Pigment & Color Corp.

Agreement regarding cooperation as submitted to board of British Titan Products Co.

Territory: It is understood that the Krebs Corp. will not manufacture or sell ouside the American Continent.

Duration: May be terminated by either party at any time after Dec. 31st, 1933, upon three years' notice.

Titanesellschaft—Verein fur Chemische & Metallurgisshe Produktion, Aussig.

Agreement under discussion regarding commercial cooperation.

Territory: Germany with Danzig and Sarre-District, Czechoslovakia, Poland, German Austria; Hungary, Jougoslavia, Roumania, Russia.

Duration: Until Dec. 31, 1936. Prolonged in periods of 2 years if not terminated within 6 months of the expiration of any period.

An extension to a technical cooperation has been under consideration, in which case the duration of the first period is foreseen to be to the end of 1939 with same term of notification.

October 1933

1584

Exhibit 288

Letterhead of

TITAN COMPANY, INC.

Paris, October 18th 1933.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

RE KREBS AGREEMENT AND I.G.

Dear Mr. Beschorman,

Referring to my letter of August 9th, I enclose copy and translation of a letter from I.G. of October 16th. This represents the supplementary letter I, in my letter of August 9, considered desirable.

As the various questions now should be clear, I suggest that a letter from the National Lead Company be sent to the I.G. Farbenindustrie Akt. Ges., expressing appreciation of the way in which they have met the situation and informing them that the agreement between the Titanium Pigment Co. and Krebs Pigment & Color Corporation has been concluded.* I suggest this letter be sent to me and I will forward the same, as I did with your letter of July 21st.

I beg to suggest that a letter also be sent to the British Titan Products Company, informing them of the agreement having been made.

I will now have to take up the matter with Société Industrielle du Titane, in order to get a resolution passed

*I presume then that this is the case. (?)

there, approving the proposed arrangement, and will inform you of this in due time.

In order to have matters in formal order, I suggest that a resolution also is passed in Titan Co. Inc., dealing with this matter. Titan Company Inc. is the Company who has made the agreements with the various European companies, and is the instrument through which the National Lead Company acts in these matters towards the European associates (apart from the question of my personal interest).

I was in Frankfurt the day Germany denounced their membership in the League of Nations, and Hitler published his manifest and his speech. It will interest you that the public was very calm and there were no demonstrations in this connection. From Germans I gather that the general sentiment was a relief that the situation now was made clear and they were generally in hope that this would bring the disarmament question to a final settlement. Hitler has forbidden political meetings and demonstrations and has evidently the country at present in his hands.

General business conditions in Germany show a distinct improvement as far as internal business is concerned. This seems, by the way, to be the case also in England and France, in spite of all political unrest.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 288

Translated from German.

I. G. Farbenindustrie Akt. Ges.

Frankfurt (Main) 20
October 16th 1933.

Dr. Jebsen
26 Rue de la Pépinière
Paris

We beg to refer to our letter of August 7th this year, and take pleasure in confirming that by delimitations in the sense of the first paragraph of the above mentioned letter are meant territorial delimitations and not delimitations of the nature of the technical subjects (sachlicher Natur). As far as the delimitations re the technical subjects of the agreement (sachliche Vertragsgebiet) are concerned, we agree to the definition as expressed in art. 1 of the agreement between the Titanium Pigment Company and the Krebs Pigment & Color Corp.

Yours very truly,

I. G. Farbenindustrie Aktiengesellschaft

(sign.) Weber-Andreae (sign.) .....

Exhibit 288

Kopie

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Frankfurt (Main) 20

Jur. Abtlg. 16. Okt. 33.

Herrn
Dr. Jebsen
26 Rue de la Pépinière
Paris

Wir nehmen Bezug auf unser Schreiben vom 7. August d. Jrs. und bestätigen Ihnen gerne, dass unter Gebietsabgrenzungen im Sinne des ersten Absatzes des erwähnten Schreibens Territorial-Abgrenzungen gemeint sind und nicht Abgrenzungen sachlicher Natur. Was das sachliche Vertragagebiet betrifft, so sind wir mit der Definition, wie sie in Art. I des Vertrages zwischen Titanium Pigment Company und der Krebs Pigment and Color Corp. bezeichnet ist, einverstanden.

Mit vorzüglicher Hochachtung

I.G. FARBENINDUSTRIE AKTIENGESELLSCHAFT.

(gez.) Weber Andrae (gez.) .....

Exhibit 289

October 23, 1933.

Mr. S. J. Henrikssen, Asst. Secretary
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Mr. Henrikssen:

I beg to acknowledge receipt of your letter of the 11th instant with enclosure of memorandum entitled "short outline regarding the relations in the Titanium industry". We are very glad indeed to have this information.

Yours very truly

Executive Vice President.

Exhibit 290

November 2, 1933.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

In compliance with yours of October 18th—No. 21—I am enclosing herewith a letter addressed to the I. G. Farbenindustrie for you to deliver to them in the usual course. Also enclosed you will find copy of my letter to the British Titan Products Company for your information.

I am glad to note your report on general business conditions in Germany, as well as France and England.

When you are next in London ask Edward deGreeff to let you read his copy of a letter which he wrote me on October 19th, giving his reactions to German conditions. It is the most enlightening letter or report that I have ever seen.

With kindest regards.

Yours very truly

W. C. BESCHORMAN
Executive Vice President.

P. S. I have asked Mr. Cole to prepare a form of resolution to be adopted by the Directors of Titan Co., Inc., approving the Krebs-Titanium Agreement, in accordance with your suggestion, and enclose the same herewith. Please let me have your approval or criticism of this resolution as promptly as possible and formal action will be taken accordingly.

Exhibit 290

November 2, 1933.

I. G. Farbenindustrie Aktiengesellschaft
Verkaufagemeinschaft Chemikalien
20 Gruneburgplatz
Frankfurt (Main) Germany.

Dear Sirs:

We take pleasure in advising that the suggested cross-licensing agreement between the Titanium Pigment Company, wholly owned subsidiary of National Lead Company, and the Krebs Pigment and Color Corporation, a subsidiary of E. I. duPont de Nemours & Co., has been completed and signed, and is now in effect.

We want to express to you our appreciation of the way that you have cooperated with us and met the situation so far as this contract applies to the I. G. territory. We are very certain that the confidence imposed in us in this matter will rebound to your benefit in the future.

We are just having the pleasure of a visit from Dr. Raspé of Titangesellschaft. He was in Baltimore yesterday, and is still there today in company with our Mr. Washburn, spending all of his time in the Krebs Plant learning all that they have therein. I have also arranged for him to have the courtesy of the Krebs Company in visiting their large lithopone plant at Newark on his return to New York.

With kindest regards,

Yours very truly

Executive Vice President.

Exhibit 290

November 2, 1933.

Mr. W. S. Robinson, Chairman of the Board,
British Titan Products Company Limited
95 Gresham Street
London, England.

Dear Mr. Robinson:

We take pleasure in advising that the suggested cross-licensing agreement between the Titanium Pigment Company, wholly owned subsidiary of National Lead Company, and the Kregs Pigment and Color Corporation, a subsidiary of E. I. duPont de Nemours & Co., has been completed and signed, and is now in effect.

We want to express to you, and through you to the Board, our appreciation of the cooperation vouch-safed us on the part of your Company, and am very confident that you will have no cause in the future to regret your action.

With kindest regards,

Yours very truly

Executive Vice President.

Exhibit 291

TITAN COMPANY, INC.

Minutes of a Special Meeting of the Board of Directors held December 13, 1933.

A Special Meeting of the Board of Directors of TITAN COMPANY, INC. was held at 111 Broadway, New York, on the 13th day of December, 1933, at 2 o'clock in the afternoon, pursuant to the following written waiver of notice signed by all the Directors and fixing the time, place and purpose of the meeting.

Waiver of Notice.

We the undersigned, being all the Directors of Titan Company, Inc., do hereby waive any and all notice whatsoever of a Special Meeting of the Board of Directors of said corporation and of the time, place and purpose thereof, and do hereby designate and fix the 13th day of December, 1933, at 2 o'clock in the afternoon as the time, and No. 111 Broadway, in the Borough of Manhattan of the City of New York as the place, of said meeting, and we do hereby consent that any and all business may be transacted at said meeting that may be deemed desirable by the Directors present thereat.

Dated December 13, 1933.

E. J. CORNISH
F. M. CARTER
W. C. BESCHORMAN
G. JEBSEN

There were present William C. Beschorman, Fred M. Carter and Edward J. Cornish, constituting a majority and quorum of the Board.

Exhibit 291

The President, Mr. Cornish, occupied the chair, and the Secretary of the Company acted as Secretary of the meeting.

Upon separate motions the following resolutions were each unanimously adopted:

RESOLVED, that this corporation, as successor in interest of Titan Co. A/S under that certain Agreement between said Titan Co. A/S and The Titanium Pigment Company, Inc., dated July 30, 1920, hereby consents to and approves that certain Agreement between said The Titanium Pigment Company, Inc. and Krebs Pigment & Color Corporation dated January 1, 1933, submitted at this meeting, particularly in the respects in which the provisions of said Agreement dated January 1, 1933, do not strictly conform to the requirements of said Agreement dated July 30, 1920.

RESOLVED, that Gustav Jebsen of 26 Rue de la Pepiniere, Paris, France, a Vice President of this corporation, or failing him Alfred J. Thompson of Thames House, Queen Street Place, London, be and they hereby are authorized to act as the representatives of this corporation, as a Member of British Titan Products Company Limited, at any meeting of that Company or at any meeting of holders of any class of shares of that Company, and to exercise the same powers on behalf of this corporation as if they were respectively individual Members of said Company.

There being no further business the meeting adjourned.

M. DOUGLAS COLE
Secretary.

Exhibit 292

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

November 2, 1933.

CONFIDENTIAL

W. C. Beschorman, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:

One of the Departments of the du Pont Company, having an office in Kobe, Japan, sends through to us the attached paragraphs, in which I thought you might be interested.

This does not give me any immediate concern, however, knowing that the Japanese have flooded the American market with some pretty low-price stuff, and particularly under the recent conditions where currency favored them, I would not be surprised if one of these days we find them trying to come into this market with their Titanium products also.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:s
Encl.

Exhibit 292

COPY

Dai Nihon Jinzo Hiryo will manufacture Titanium Oxide:

The manufacture of Titanium Oxide was started in Japan last year in a small mill at Azuma Cho, Mukijima Ku, Tokyo. But this concern was obliged to liquidate because it could not make profits.

The Sakai Kagakum Kogyo in Osaka, discovered ores at Awaji Island, and began experiments, and the Dai Nihon Jinzo Hiryo K.K., also began to experiment with this material. Both of them have completed their investigations, and are now preparing to start manufacture.

The Dai Nihon Jinzo Hiryo has built a mill on its Oji mill site, at a cost of Y50,000, and will install equipment to produce 30 tons a month. The mill will be in operation in October, and in November will have an output of 5 tons, and in December, 20 tons. The total capacity will be reached in January, or February, 1934.

Ore is being obtained in Fukushima, Chosen, Yamaguchi, and other parts of South-West Japan, but as the ores are all different, they must be treated in different ways. Recently 200 tons of Titanium White were imported from Singapore, and this will be used as raw material at first.

Exhibit 293

November 27, 1933.

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Avenue
Newark, New Jersey.

Dear Mr. Rupprecht:

I am enclosing you letter received from Paris under date of the 15th enclosing translations of German and Japanese letters as to the position of the Titanium industry in Japan. I thought these would be of interest to you. Please return at your convenience.

Yours very truly

W. C. BESCHORMAN
Executive Vice President.

Exhibit 294

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

November 29, 1933.

W. C. Beschorman, Exec. Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

I appreciate very much your memorandum of November 27th, sending me translations of German and Japanese letters relative to the Titanium industry in Japan.

Apparently they are moving along to develop the manufacture of Titanium Oxide in Japan, and my only hope is that before they get to the point of having excess capacity to ship to this country, a better exchange situation will have developed, so that we will not be faced with any worries with respect to importations. I hear about so many Japanese products which are underselling American producers, first, due to their own low costs, and then aided largely by favorable exchange.

Thanks very much for the opportunity to read the attached translations.

Very truly yours

C. H. RUPPRECHT
PRESIDENT.

CHR:s
Encl.

Exhibit 295

Letterhead of
WESTERN UNION

May 5, 1937

C. P. Garesche
Titanium Pigment Corporation
Carondalet Station, St. Louis, Missouri.

Dupont is begging another hundred tons of twentyfive per-cent B for shipment direct to their paint plants Can you stretch a point and supply it Promised an answer in the morning

W. C. Beschorman

Exhibit 296

Copy to P. Southard—Office
J. F. Daley— "

June 21, 1937

MR. L. C. REED
OFFICE

Attached is National Lead's confirmation of purchase of 25,000 gross tons of M.K. ilmenite for shipment from Colachel, India next season.

This will dispose of all the M.K. ilmenite; therefore, it will not be necessary for Krebs to bring in any of this grade of sand; in other words, all the ilmenite which we will purchase for shipment next season will be confined to the "Q" grade.

National will arrange for their own steamers to move this ilmenite from Colachel. Details for handling will be the same as they were for last season.

We are to receive our 5% commission, and you are to invoice National Lead Company on each lot of ilmenite when outturn weights at point of delivery are established.

Z. PHELPS

ZP/ed

Exhibit 296

COPY

Letterhead of

NATIONAL LEAD COMPANY

June 17, 1937

E. I. du Pont de Nemours & Co.
Krebs Pigments Dept.,
Wilmington, Delaware.

Attention Mr. Z. Phelps

Gentlemen:

This will confirm our telephone arrangement of yesterday afternoon by which we have purchased 25,000 G. T. (2240 lbs. each) of M. K. ilmenite, for shipment from Colachel, India, at a price of 20 shillings per G. T., f. a. s. vessels for loading in bulk.

The quality of this ore is guaranteed to be not less than 53.75% TiO_2 and any moisture in excess of 1% is to be deducted from the settlement weight. Settlement weights are to be unloading weights at New Orleans or Sayreville, N. J. Settlements are to be made as promptly as possible after unloading weights and ore analyses are available.

We are sending you this letter in duplicate so that you may sign both copies, retaining one for your files and returning one to us.

Very truly yours,

(SGD) C. F. GARESCHE, Manager
National Lead Company,
Titanium Division

ACCEPTED BY

Z. PHELPS
E. I. du Pont de Nemours & Co.
6/21/37

Exhibit 297

Letterhead of

E. I. du PONT de NEMOURS & COMPANY

July 28, 1937

C. F. Garesche, Manager,
Titanium Division, National Lead Company,
111 Broadway,
New York City.

Dear Mr. Garesche:

Upon receiving your letter of July 26th we again communicated with Travancore Minerals Company in London to insist that they supply you with 6,000 tons of Quilon ilmenite for shipment between October 1st and December 31st, 1937 (your option) and were pleased to receive authority today to sell you this lot of ilmenite. In order to accommodate you, it has been arranged for Travancore to put in some more equipment which makes it possible to supply you with this ilmenite.

In accordance with our telephone conversation of this morning, this letter will confirm our sale to your company of 6,000 tons Quilon ilmenite at a price of 20 shillings per gross ton f. a. s. steamers for loading in bulk at Koilthottan, India. This lot of Quilon ilmenite is guaranteed to contain not less than 59.25% TiO_2 and any moisture in excess of 1½% is to be deducted from the outturn weights on which settlement is to be based. Due to having rougher weather at Koilthottan, it is necessary for us to have more tolerance as to moisture content than for the M. K. ilmenite previously sold you for shipment from Colachel. Settlement weights are to be the unloading weights at New Or-

leans or Sayreville, N. J. Terms, payment is to be made as promptly as possible after unloading weights and analysis of ilmenite are made available.

We are sending you this letter in duplicate so that you may sign both copies, retaining one for your files and returning one to us.

We wish to again thank you for favoring us with this business.

Yours very truly,

Z. PHELPS

Z. PHELPS, ASST. GENERAL MANAGER

Accepted by:

C. F. GARESCHÉ

ZP/dd

1191

Exhibit 298

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City, N. Y.

April 25, 1939.

Dear Mr. Garesche:

Referring to our telephone conversation of today—

Unless you advise to the contrary, we will consider that we have a definite appointment to meet Messrs. Stranad and Doyle, and yourself at 11:30 on next Tuesday morning, May 2nd, in Mr. Lesser's office, International Freighting Corporation, in the Whitehall Building at 17 Battery Place, New York.

Our principal purpose of this meeting is to discuss arrangements for the movement of the ilmenite which we have sold you for shipment from India during the coming shipping season. We would like for all of you to have lunch with us at that time.

Looking forward with much pleasure to seeing you next week, I am

Yours very truly,

Z. PHELPS

Z. PHELPS, Asst General Manager

ZP/dd

Exhibit 299

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City, New York.

May 20, 1940.

Dear Mr. Garesche:

This is to confirm our agreement that this company will supply and your company will purchase "Q" ilmenite upon the terms and conditions set forth in this letter.

The quantity shall consist of 70,000 gross tons, which quantity may be increased as follows:

Lot 1—You may elect to purchase an additional 10,000 gross tons by so notifying us in writing on or before June 15, 1940.

Lot 2—You will advise us not later than January, 1941 as to whether or not you desire to purchase an additional quantity of 10,000 gross tons; and after we correspond with Travancore Minerals Company, a mutual agreement will be reached as to the exact quantity of additional ilmenite to be covered by this lot.

All of the above ilmenite is for shipment from India between July 1, 1940 and April 7, 1941. The price is 21 shillings per gross ton free alongside steamer for loading in bulk at Port of Koilthottam. Shipments are to be made in approximately equal monthly quantities, but subject to your option to defer shipments during any period in which

the ocean freight rate from India to the United States exceeds $20 per gross ton. The chartering of your vessels for loading on specified dates is to be mutually agreed upon in accordance with our previous practice.

In event you exercise this option to defer shipments, such unshipped balance of ilmenite against your total tonnage purchased that is produced by Travancore Minerals Company and is stored at the close of the season, will be held for your account. On May 31, 1941 we are to bill you at 80% of the invoice value of these Ilmenite concentrates which are to be stored for your account, and you are to make prompt settlement on receipt of our invoice. In event you elect to exercise your option to defer shipments because of high ocean freight rate, it is understood that movement of the unshipped balance as of April 7, 1941 is to be completed with reasonable promptness during the following months when the ocean freight rate is not in excess of $20.

Travancore Minerals Company has received sanction from the Indian Government to permit shipments through the protected Port of Cochin during the monsoon season, and thirty days' advance notice is to be required on these shipments to permit moving the ilmenite from Koilthottam to this protected port. On such shipments that you make from the Port of Cochin, the following extra charges (over your base price of 21 shillings f.a.s. Koilthottam) are to apply:—

On your purchase of 70,000 gross tons: The extra charge per gross ton will be one shilling three pence on shipments up to 12,000 gross tons; and on any tonnage in excess of this quantity, the extra charge will be two shillings six pence.

Exhibit 299

If you exercise your options as to additional Lots 1 and 2, your extra charges will be one shilling three pence on a total quantity of 12,000 gross tons plus one-tenth of the excess of your purchases over 70,000 gross tons; and on any tonnage in excess of this total quantity, the extra charge will be two shillings six pence.

The quality of this "Q" ilmenite is to be substantially the same as supplied you last season, and is guaranteed to contain not less than 59.5% TiO_2. Any moisture in excess of 1.5% is to be deducted from the outturn weights (at port of discharge) on which settlement is to be based.

Settlements (in the form of pounds sterling as required by the British Government—terms cash) are to be made promptly after the unloading weights and ore analysis are available. In event a cargo is lost while enroute, prompt settlement is to be made, based on the quantity shown in the shipping papers. If, after being shipped a cargo should be held in any foreign port for as long as four months, then payment based on 95% of the shipping weights shall become due. Settlement for the balance shall be made (basis, outturn weights) when each cargo reached destination.

In the event of force majeure or other causes beyond the control of either party which prevent the delivery or the entry into this country of ilmenite, quantities so affected may be cancelled by written notice to the other party, provided that any such cancellation by National Lead shall be effected prior to the time the material is either delivered alongside steamer at Koilthottam or delivered to carrier for transportation to Cochin.

Exhibit 299

We greatly appreciate your favoring us with this ilmenite business, and you can depend upon us to render the best of service by supplying uniformly high quality ilmenite.

We are sending you this letter in duplicate, and request that you promptly note your acceptance on one copy and return same for our files.

Yours very truly,

Z. PHELPS

Z. Phelps, Asst. General Manager

ACCEPTED: May 23, 1940

By:

C. F. GARESCHE

Manager, Titanium Division

Exhibit 300

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

March 14, 1941

Mr. C. F. Garesche,
Titanium Pigments Corp.,
111 Broadway,
New York City, N. Y.

Dear Mr. Garesche:

I find that our Purchase Order No. NZ-2025, covering 100 tons of your standard quality Titanox AA, for immediate shipment to us at Baltimore, was mailed under separate cover to your New York Office. We want to again express our appreciation for supplying us with this pigment at this time.

In accordance with our arrangment made by telephone, we are entering your order for 200 gross tons of Quilon Indian ilmenite which we will ship to Titanium Pigments Corporation at Phoenix, New Jersey, Raritan River Railway Delivery, when we discharge our next ilmenite cargo that arrives at Port of Wilmington. The price on this ilmenite will be $33 per gross ton, freight allowed to Phoenix, New Jersey, terms cash. Railroad weights to be used as basis for determining the quantity shipped.

We will load this ilmenite into gondola flat-bottom railroad cars; and as you suggest, we will fill the car to within about one foot of the top so as to reduce to a minimum any wind loss of the ilmenite.

If you care to send us your regular formal order for this ilmenite, please address same for the attention of the writer at Wilmington.

Yours very truly,

Z. PHELPS

Z. Phelps, Asst. General Manager

ZP/dd

Exhibit 301

March 17, 1941

Mr. Z. Phelps, Assistant Gen. Manager
Krebs Pigments Department,
E. I. duPont de Nemour & Company,
Wilmington, Del.

Dear Mr. Phelps:

Yours of the 14th as well as your Order No. MZ-2025 are acknowledged.

Everything has been arranged for prompt shipment of this pigment from our warehouse stock and in our bags.

We are very glad to be able to help you out to this extent and only regret that we could not give you as much as you desired.

Yours very truly,

Manager

Exhibit 302

September 8, 1937

Mr. C. F. Garesche, Manager
Titanium Division, National Lead Company
111 Broadway, New York, N. Y.

Dear Mr. Garesche:

I have made an appointment with Mr. Rupprecht for Thursday morning, September 16th, at 10:30, at which time we will outline a programme for utilizing both forces —Du Pont and Titanium—instead of one.

Mr. Rupprecht will have Dr. Booge with him, and I would like you to arrange for you and Mr. Turner to be in my office at that time.

Very truly yours,

W. C. Beschorman
Executive Vice President

Exhibit 303

October 1, 1941.

Mr. F. W. Rockwell, Chairman
Executive Committee,
National Lead Company,
Building

Dear Mr. Rockwell:

We have just received authorization from DuPont to proceed with the purchase of the 4th unit of milling machinery to serve their requirements. This will mean that the mill building must be extended at an estimated cost of $63,000.

We are recommending that we be authorized by the Executive Committee to extend this building to provide space for a 5th unit which we feel will be necessary for our own use within three years' time. This extension can be done more economically at this time as shown by the following figures:

If 2 units are to be erected separately, they will cost $63,000 each

If 2 units are to be erected simultaneously, they will cost 115,000.

Therefore, a 5th unit for our future use will cost net $115,000 less $63,000, or $52,000.

Not only will we save $11,000, but we estimate that we may be in position to save at least two months' time in getting a 5th unit into operation when the need arises. We, therefore, recommend that the Executive Committee authorize us to prepare a C&R to include the building of a 5th unit.

Yours very truly,

GARESCHE

Manager.

Exhibit 304

17th July 1931.

W. D. Ticknor Esq.,
President,
Commercial Solvents Corporation,
230 Park Avenue,
NEW YORK CITY, U.S.A.

Dear Ticknor:

Following our conversation on the telephone yesterday, which really dealt with the subject matter of two letters from you and one from Mr. Chase dated July 7th, in view of what you told me I have arranged to leave everything in abeyance pending Mr. Chase's arrival.

However there is one matter with which I did not deal and which requires explanation. I refer to the purchase of the D.G.A. stock of Ilmenite. The history of this transaction is as follows:—

We received a letter from Ziegler dated 29th May stating that the I.G. had made a firm offer for their patents of Marks 30,000 (£1,500) together with an offer to take over part of their machinery at half cost price. Ziegler explained however that he was more interested in selling their stock of sand at a reasonable price. The matter could not be left over for long so he asked if we were prepared to make an offer. At that time, as you know, you had just left and Mr. Chase was still over with me.

We were considering the whole of the Titanium situation, and we felt that if the Auer patents got into the hands of the I.G. that group of patents, numbering some 87, added to the National Lead patents, might make it quite awkward for us. On the other hand if we had the Auer patents as well as the Blumenfeld patents the boot was on the other

foot, and if we succeeded in reaching an agreement with the National Lead Company, their patents plus the Blumenfeld patents plus the Auer patents would be a very formidable setup against anybody attempting to enter the Titanium field.

Blumenfeld, whom we consulted, expressed the view that the Auer patents were worth at least £2,000, and probably cost very much more than that figure to take out and maintain in force up to that date.

Mr. Chase was strongly of opinion that in these circumstances it was highly desirable for us to get hold of the Auer patents and I must say that I thoroughly agreed with him.

The next question was as to how to do it. I think it was Mr. Chase's suggestion that this should be done officially by T.M.C. We estimated that we should be able to sell the bulk of the sand to Aussig at a profit; we should make a loss on the rest of the sand but the total loss would not amount to the value of the patents, which should be distributed among the Blumenfeld licensees according to territory, each paying a proper proportion of the total cost, on some basis to be mutually agreed.

There was however, no logical reason why T.M.C. should buy the Auer patents. Neither was there any good reason why they should buy the stock of the D.G.A. sand. This only amounted to 4,600 tons spread over two years, and the threat of that quantity on the market was not a serious one from their point of view. The object in getting T.M.C. to do it was that they had the necessary machinery for looking after the patents and already had relations with the D.G.A. extending over a considerable period of time. The whole idea however was that T.M.C. should do this for the convenience of the Blumenfeld licensees and on the

understanding that the deal might be profitable to them, but that at any rate it would not involve them in any loss.

The contract naturally had to be ratified by the Board of T.M.C. and when the matter was put up to them they rather naturally asked what they had to gain by it, and only agreed to the arrangement on the understanding that Commercial Pigments Corporation should guarantee them against any loss. In view of what had taken place I gave them the guarantee they required.

It was thought at that time that the Auer patents would be divided up quickly and the whole matter settled. Dr. Blumenfeld and Montecatini agreed to pay their share on the basis of figures mentioned by Mr. Chase in his letter of 21st July/30, but Montecatini felt that the division of patents proposed was not equitable and that Aussig were getting too big a share. Aussig never expressed any opinion one way or the other.

From then on negotiations with the National Lead Company have been dragging along and nothing has been done in regard to these patents except that the American patents have been assigned to Commercial Pigments Corporation. Meanwhile T.M.C. has been standing the cost of Marks & Clerk's charges for dealing with the various applications and the renewal and working fees as they became due.

Of the total of 4,600 tons of sand there have actually been disposed of at the present time 2,780 tons, on which the net loss, subject to possible adjustment with S.T.R. on the last 1,000 tons shipped, amounts to £400. There still remains 1,820 tons to dispose of. The bulk of this is the Brazilian sand about which there have been some questions, but as I wrote you in my letter of July 10th I do not think that this material is unusable at all, but some allowance may

have to be made on the price which may mean a further loss, with the result that the total loss may or may not be covered by the price paid by the various Blumenfeld licensees for the Auer patents.

What is worrying me is that this question of the Auer patents is dragging on, and unless an early settlement is made the various Blumenfeld licensees will lose interest and it will be found impossible to deal with the situation.

I think you will agree however that as far as T.M.C. is concerned they only put through this deal to oblige the Blumenfeld licensees and therefore it is only logical that they should not be called upon to stand any loss in connection with the deal.

Yours very truly,

Exhibit 305

Letterhead of

TRAVANCORE MINERALS COMPANY, LTD.

WAB/F 9th December, 1931.

Krebs Pigment & Color Corporation,
256, Vanderpool Street,
Newark, N. J.
U. S. A.

Attention: Mr. Carl H. Rupprecht.

Gentlemen,

In the Spring of 1930 the Auer Company decided to stop the manufacture of titanium pigments. They had a large number of German patents and a smaller number of patents in many of the other countries. In addition they had a stock of Ilmenite. The Auer Company had entered into negotiations with the I. G. who offered them 15,000 marks for the patents, but would not take their ilmenite. We finally offered Auer 50 shillings a ton for the stock of ilmenite if they would throw in the titanium patents. The price of the ilmenite was figured on a basis of practically breaking even, if the ilmenite were shipped to Aussig or Thann. This offer was accepted by Auer and it was decided to offer the Auer patents to the various Blumenfeld licensees, the basis of payment to be determined in a way which would let us out without loss on the resale of ilmenite acquired from Auer.

The American patents were transferred directly to the Commercial Pigments Corporation. The Canadian patents were forwarded to the Commercial Pigments Corporation but no transfers have been made as it was not known

whether Dr. Blumenfeld would want them or not. The renewal fees on the issued patents have had to be paid and the prosecution of the various applications, many of which have been opposed by the I. G., has caused us to spend a considerable amount of money. The matter has been discussed a number of times with Dr. Blumenfeld, but he never has reached a decision as to whether or not he wishes these patents. Last summer in discussing this matter with Dr. Blumenfeld he was told that if he did not want the German patents that there seemed to be no reason why we should not offer them to the Titan Company, as undoubtedly they would pay something for them and we should be released from the expense of maintaining them. Dr. Blumenfeld objected to this, but on the other hand refused to make any firm commitment himself. Not knowing whether the disposition of these to the Titan Company would affect any plans that you might have in mind, we are calling this to your attention as we think that when Dr. Blumenfeld returns we should settle once for all the policy to be followed.

To date we have expended some £750., principally for the maintaining of the German patents and that in addition to this there has been a loss of some £360. on the ilmenite sold. There are still 1800 tons of sand to be sold on which there is very likely to be some further loss. The total loss to us to date is, at the present rate of exchange, about $4,000.00., which is only a very little more than the tentative price agreed upon ($3,500.00) for the American patents. The $3,500., however, was based upon receiving about $7,000.00 for all the European patents.

We have offered very liberal terms to the Blumenfeld licensees permitting them to pay for them over a term of

years. The real point at present we believe to consider is whether in the event that Dr. Blumenfeld and Dr. Mayer of Aussig do not wish these patents if it would in any way embarrass the Krebs Company if the German ones were offered to the I. G. or the Titan Company.

Yours very truly,

For TRAVANCORE MINERALS COMPANY LIMITED,

W. A. BURTON
Managing Director.

Exhibit 306

December 22, 1931.

Travancore Minerals Company, Ltd.,
Aldwych House, Aldwych,
London, W. C. 2, England.

Gentlemen:

Replying to your letter of December 9th, in connection with the Auer Company German patents, it would be our idea that Dr. Blumenfeld should be pressed to either conclude negotiations for the acquisition of these patents, or definitely state that he is not interested. If we understand your letter correctly, this would be necessary before you would be entirely in the clear to negotiate the sale of these German patents elsewhere. We note Dr. Mayer's name is also mentioned, but presume he is in some way coupled with Dr. Blumenfeld in your negotiations.

As to any embarrassment which would be caused the Krebs Corporation if the German patents were offered to the I. G. or the Titan Company, we do not anticipate that there would be any such condition. However, we would respectfully ask that you communicate with us further before any approach is made to either the I. G. or the Titan Company, in the event of the Blumenfeld-Mayer interests turning these patents down. By this we mean that in order to review thoroughly the conditions as they may stand at the time, we would appreciate your advising us as soon as you have a final decision from Messrs. Blumenfeld and Mayer, thus permitting us to again consider the situation as far as it concerns the Krebs position, before the patents are offered to either the I. G. or the Titan Company.

We appreciate your bringing this to our attention, and presume action as above will be agreeable to you.

Very truly yours,

President.

CHR:s

Exhibit 307

COPY

Mr. W. D. Ticknor, 4th August, 1932.
President,
Commercial Solvents Corporation,
New York.

Dear Ticknor,

It is I think necessary to bring you up-to-date in regard to the situation which exists in regard to the arrangements made in the summer of 1930 for the acquisition by Travancore Minerals Company of the D. G. A. patents and stock of ilmenite sands.

May I remind you that this matter has been dealt with at various times. This history is more or less contained in:

Our cable 504	May 6th 1930
Your cable 5004.	May 8th 1930
Our cable 506	May 10th 1930
My letter to American Ilmenite Corporation	June 23rd 1931
Your letter	July 7th 1931
My letter to you	July 17th 1931.

I do not think you have had a copy of the letter which I gave to Travancore Minerals Company guaranteeing them against loss, dated May 6th 1930, but I enclose a copy herewith. This is the guarantee to which I referred in my letter of June 23rd and again in my letter of July 18th, 1931.

At the time of the purchase of the patents it was I think well agreed between you, Mr. Chase and myself that

it was extremely desirable that the Auer patents be acquired. At the same time the deal proposed by the Auer company had the additional advantage that it had the effect of removing their stock of ilmenite sands from the market. The quantity of ilmenite sand in question was comparatively small and the other directors or T. M. C. were not inclined to bother with them. After you left Mr. Chase and I discussed the matter thoroughly and we agreed that as the principal object of the deal was to acquire the patents to strengthen the position of the Blumenfeld licensees in their negotiations with the National Lead-I. G. group, Travancore should not be called upon to risk any loss by the transaction. At the time we figured that the patents would be taken over by the various Blumenfeld licensees almost at once at a price which would more than cover any loss which might be made on the purchase and sale of the sand. It was on the strength of this that I gave the guarantee in question.

Nobody I think at that time foresaw that there would be any difficulty in regard to the quality of the sand, so that it looked at the time as though we might make a small loss on the sand which would be more than balanced by the value we should obtain when the patents were distributed among the Blumenfeld licensees.

Now, however, I feel that we have got to clear the situation with the various interested parties. The losses have been carried on the books of Travancore as an asset representing the cost of the patents to T. M. C. From what I gather from Mr. Chase the relations with the National Lead Co. are now quite cordial and the whole reason for the acquisition of the patents has become a dead issue. We do not need the patents so far as C. P. C. are

concerned to strengthen our position and the other Blumenfeld licensees are much in the same position. Meanwhile the dispute with the D. G. A. as to our responsibility for taking over the Brazilian sands has arisen. I believe that we are on fairly safe ground there. We have recently got a sample of the Brazilian sand direct from the D. G. A. and we submitted it to Mr. Powell of Johnson & Mathey for analysis and he found at once that it differed in its behaviour from Travancore sand in that it contains more impurity, which comes out when treated with water in a colloidal form, which would interfere with the clarification. This bears out what Thann and Aussig have told us.

When Mr. Chase and I saw Mr. Ziegler in Berlin, he suggested that the only course for us now was to resort to arbitration. Mr. Powell believes that the Brazilian ilmenite can be treated in such a way as to make it useable. Besides the 1700 tons or so which we still have to take off them direct, the D. G. A. have a further tonnage of 100-1200 tons which they cannot use either. If they find that the sand can be treated at a fairly reasonable cost I do not believe Ziegler would resort to arbitration, but in return for being shown how to treat his stock of sand he would be willing to treat the sand he owes us so as to make it useable and extend the time during which we have to take it, so that we can probably dispose of it without further loss to Aussig after the D. G. A. have treated it.

Now I agree with you that if we have to go to arbitration and incur a loss on the Brazilian sand owing to a faulty agreement, the responsibility for that attaches to myself and Mr. Leo who made the agreement—in other words it lies with Travancore—but we must post our col-

Exhibit 307

leagues in the T. M. C. on the situation which we have not yet done.

C. S. C. now have no direct interest in the situation and I consider it essential that the situation should be cleared up and C. S. C. absolved from their guarantee. The deal has served its purpose and contributed to the working out of the general position at a cost which is really not large, all things considered.

I have discussed this matter very fully with Mr. Chase and he knows exactly how it is proposed to deal with the situation. He has promised to explain the whole matter to you and then see the Krebs company with a view to giving the Travancore Company a quid pro quo on the American sand purchases which will enable us to transfer the losses to date to an item under the heading "Cost of acquisition of Auer patents" which can be amortised in a short period at so many shillings per ton of ilmenite over the period necessary to absorb the loss completely. If Krebs are willing to fall in with this suggestion, as Mr. Chase thinks they undoubtedly will, I can then go to the Board of Travancore and have them give me a letter agreeing that the guarantee which I gave them has been fulfilled.

I do therefore consider it essential that this matter should be set right at the earliest possible opportunity and hope that it will be possible to clear it up in the manner suggested to the satisfaction of all parties.

Yours very truly,

W. A. BURTON (Signed)

Encl.

Exhibit 308

7th September, 1932.

Mr. W. D. Ticknor,
President,
Commercial Solvents Corporation,
NEW YORK.

Dear Ticknor,

re; Travancore Minerals Co. and the arrangement with the D. G. A.

Many thanks for your letter of August 29th. Whilst there are some things in your letter which put an entirely different light on the situation from that in which we had viewed it from here, at any rate I now understand what your wishes are in the matter and shall make every endeavor to get the situation cleared up as soon as possible.

One thing is quite certain and that is what is contained in the second paragraph, viz. that the condition of Travancore Minerals Co. to-day is almost entirely I should say due to your individual efforts directly or indirectly, and this fact will facilitate what would otherwise be a very difficult task for me.

As regards the various Blumenfeld licensees Aussig have told us that they are not interested in the patents at all. Montecatini have not replied to my last letter but I shall be surprised if they evince any great interest. As far as France is concerned Dr. Blumenfeld has definitely told us that only two of the patents are of any interest to him and then only of theoretical interest. That does not apply to the British situation at all. I take it that you are not interested in the British situation and that it does not

matter now whether we sell the British patents to Blumenfeld or the I. G. or anybody else.

However, one thing is quite certain and that is that the patents are a continuing source of expense to Travancore, that it is perfectly anomalous for Travancore to own them at all and if they cannot find a purchaser then the whole lot had better be dropped and the loss cut.

I shall take up this matter with Sir Hugo Hirst directly on my return from my holiday and I hope to be able to give you better news in regard to it.

Yours very truly,

WILLIAM A. BURTON

Exhibit 309

October 14, 1932

MEMORANDUM ON AUER PATENTS

The Auer patents were purchased by the Travancore Minerals Company Limited in May 1930. They were acquired in connection with an arrangement whereby Travancore agreed to purchase from the Deutsche Gasgluhlicht Auer Gesellschaft the latter Company's accumulated stock of Ilmenite on the understanding that Auer was definitely abandoning their program of engaging in the production of Titanium Oxide and would transfer all their Titanium patents to Travancore.

The Auer Company was the pioneer company in the manufacture of gas mantles. In connection with this they bought large quantities of Monazite, some of which they had obtained from Travancore and some from Brazil. Probably due to the fact that the suppliers of Monazite were also producers of Ilmenite they became interested in the use of Ilmenite for the manufacture of Titanium Oxide. They also had an idea that raw or not completely separated sands could be brought to Germany and profitably separated there. In fact, they purchased a considerable tonnage of mixed Ilmenite and Monazite. A large part of the sand purchased by Travancore has been separated from this mixed sand.

They had erected a small titanium oxide plant and had offered some of their product for sale. They had also exported a small quantity to the United States.

Auer had spent considerable money in trying to develop a Titanium Oxide process and at the time of their decision to abandon their work in Titanium, owned a large number

of German patents, and a smaller number of English, French, Canadian, Italian, Scandinavian and United States patents. They had pending in Germany, a large number of applications and one or two in the United States.

When the opportunity came to acquire all their patents and pending applications, and stock of sand for a reasonable price for the sand, it seemed desirable to make the deal especially as it was thought that the re-sale of the sand could be accomplished without loss, and that the patents would be acquired for nothing.

At the time the Auer Company made its offer for the sale of the sand and patents, Commercial Pigments was attempting to bring about some working agreement between the various titanium producers in Europe. It was thought that the ownership of these patents and applications, being in hands friendly to the Blumenfeld interests, would be of assistance in bringing about a working agreement between the Blumenfeld licensees and the Titan Company licensees.

Blumenfeld expressed his opinion that the German patents were of value which opinion was confirmed by the fact that both Blumenfeld and the I. G. were actively opposing some of the pending applications in Germany. I felt that some of the U. S. patents had value and this opinion has been confirmed by the fact that one of them has been cited against the National Lead in the recent negotiations.

On our suggestion Travancore accepted Auer's offer. The deal as proposed by Auer could only be handled by Travancore. There was no way to separate the price that was to be paid for the sand and the price that was to be paid for the patents. The basis of the entire deal, so far as Auer was concerned, was the sale of the sand.

Exhibit 309

It was the intention to immediately sell the patents to the various Blumenfeld licensees. A schedule of prices was prepared and a figure of $3,500 was tentatively placed on the U. S. patents. This, however, was only to be paid if the other licensees paid the amount called for in the schedule.

At first everyone was agreeable to take over their allotted patents. They appeared to remain agreeable to doing this so long as negotiations looking to general titanium arrangements in Europe were proceeding.

In the meantime the U. S. patents, in order to have transfer expense, were assigned directly to Commercial Pigments. The European ones pending settlement of purchase by the Blumenfeld licensees were assigned to Travancore.

Apparently as time went on, the European licensees were content to let Travancore hold them as they considered them in friendly hands. The I.G., however, did not suspend their opposition actions in Germany and Travancore was put to the expense of contesting the oppositions and of paying the working fees and taxes on all the patents except the U. S. patents. I am not sure of the exact amount that Travancore has expended to date, but I think it is something less than £2,000. Of course, Travancore has received some indirect benefits and still owns the patents, but has a charge for patents on their books which they would like to clear up.

The American patents were transferred to Krebs. There is, however, some payment, not to exceed $3,500, due on them. Travancore is concerned with the current expense of up-keep of the European patents and if nothing is to be done with them, wishes to abandon them.

Blumenfeld and Aussig have recently said that they do not want them and I presume that so long as Travancore

holds them they will never want them. The I.G. were approached this summer and have them under consideration. In the meantime, Aussig has bought one German patent for £50, and Blumenfeld, I understand, has offered £100 for two French and one or two English patents.

If Krebs wishes to keep any of the U.S. Auer patents as part of their patent position, they are bound to pay something to Travancore for them. If Krebs wishes to negotiate any arrangement with Blumenfeld, the control of the Auer European patents would be helpful. Probably Blumenfeld and Aussig's attitude would be changed if they felt these patents were held adversely to them.

At the best, the Titanium patent position in England is not very sound for anyone. It has been reported that the National Lead, the Imperial Smelting, and the I.C.I. have completed arrangements to engage in the manufacture of Titanium Oxide in England. We have also been advised that Blumenfeld, Barking and LaPorte are about to join forces to enlarge the Barking operations. Whether they expect to have other interests affiliated with them is not known, but at one time it was thought Goldfields Consolidated would join with them.

If these two groups do go ahead with their plans, any patents that might be considered adverse to either or both, would have a value and could probably be used to promote the interests of Krebs.

Travancore wishes (a) to stop further expense involved in the upkeep of European patents, and (b) to determine and write off any loss due to the purchase of the Auer patents.

It seems to me that at the present time, Krebs could well afford to assume whatever slight expenses are involved

in maintaining the European patents until such time as they could designate to Travancore what disposition should be made of them and pay Travancore the maximum sum of $3,500 for the American patents. This action will permit Travancore in a large measure to recoup the expenses that they have been put to in maintaining the European patents. The balance of the expense probably Travancore would be perfectly willing to write off.

Once the right of determining what should be done with the European patents is in the hands of Krebs, by reason of their assuming from now on the upkeep and taxes, they undoubtedly could trade them, either to the National Lead for the account of the I. G. or to Blumenfeld, very advantageously.

In view of the new tariff relations between England and Canada, and almost certain starting of Titanium Oxide manufacture in England, perhaps the Blumenfeld Canadian patents will now take on additional value. The question of acquiring them might well be reconsidered.

You will recall, I think, we urged a year ago that these patents be purchased if the purchase could be made upon reasonable terms. The same thing, I think, applies now to the European Auer patents. I am, therefore, strongly of the opinion that it would be wise for Krebs to make the above arrangement with Travancore; that is, pay Travancore $3,500 for the American patents and assume the working costs and taxes on the European patents until such time as their value can be determined.

MFC:BH

Exhibit 310

COPY

Blind copies to:

T. S. Grasselli, Pres.—Cleve.
Wm. Richter, Gen. Mgr.—Wilmington.
W. U. Geisinger, Treas.—Office
W. D. Ticknor, Pres., Com. Solvents Corp.—New York.

Letter No. 163. November 7, 1932.

Travancore Minerals Company, Ltd.,
Aldwych House, Aldwych,
London, W. C. 2, England.

Gentlemen:—

In response to your inquiry as to whether we were interested in the Auer patents, from the standpoint of clarifying this situation we have given the matter thorough consideration and are pleased to submit the following proposition:

Krebs Pigment & Color Corporation offers to pay Travancore Minerals Company, Ltd. the sum of $3500.00, for which Krebs will receive and assume ownership of all Auer patents now in force and patent applications outstanding, as were acquired by Travancore Minerals Company, Ltd. from Deutsche Gasgluhlicht Auer Gesellschaft under the terms of the agreement between those two Companies, dated August 7, 1930.

For the present, Travancore Minerals Company, Ltd. shall continue to carry and look after all patents other than those in the United States for the account of Krebs, with the understanding that Krebs will bear all carrying, work-

ing and legal expenses in connection therewith, effective as of this date. It is further understood that Travancore Minerals Company, Ltd. agrees to hold all of these patents and applications for account of Krebs, and to assign or otherwise dispose of them, as may be directed by Krebs at any time in the future.

If the above proposition is acceptable to Travancore Minerals Company, Ltd., we would ask that they kindly signify their acceptance by signing in the space so designated below.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:s
ACCEPTED
For and on behalf of
Travancore Minerals Company, Ltd.

(Sgd.) W. A. Burton.
Managing Director

Exhibit 311

Newark, New Jersey,
Nov. 29, 1932.

DR. G. LUTZ—CLEVELAND:

AUER PATENTS

After talking with you this morning I received a letter from Travancore, as per copy herewith, to which was attached copy of their letter of November 22nd to you, and which I presume is the letter you had in mind when talking with me. I have replied as per copy attached.

In looking over their letter to you I notice that several of the patents which they mention as requiring renewal or working payments, are among those which are to be abandoned, according to the joint report of Dr. Booge and yourself. No doubt your reply to them will take care of this, and I assume the $200 you mentioned this morning covers those that remain.

In connection with the matter of working, I am not familiar with the procedure of doing so by advertising, etc., however, Travancore did say that they had Thann for France and Montecatini for Italy, do some nominal working for their account, which was rather inexpensive. So long as these patents remain in Travancore's name they may be able to continue their present working operations without disturbance to us. The fact of the matter is, however, that we do not want to have any communication with Thann or Montecatini, as Krebs, for the reason that we have not entered into any arrangement with Blumenfeld as yet.

C. H. RUPPRECHT.

CHR:s
Encl.

Exhibit 312

Newark, New Jersey,
Dec. 9, 1932.

DR. FIN SPARRE, DIRECTOR,
DEVELOPMENT DEPT.—WILMINGTON.

Attached is copy of a letter of November 25th from Travancore Minerals Company, Ltd. attached to letter of 1/20/33 to W. M. Reisinger, which I will endeavor to explain as hereafter:

Mr. Burton was here a while ago, at which time we arranged to take over from Travancore all issued Auer patents and pending applications, for the sum of $3500. This included six (6) U.S. patents, which had not been assigned to us, and on which Commercial had never completed settlement, and four (4) Canadian patents as well. All of these had been acquired by Travancore as part of a deal whereby they agreed to relieve Auer of a quantity of Ilmenite Sand upon termination of Auer's activities as titanium oxide manufacturers.

A preliminary study of the patents has been made by Dr. Lutz and we have already arranged to abandon about half of the foreign applications. There were originally eight (8) British patents, of which four (4) have been abandoned and four (4) remain.

You will note that Sir Hugo Hurst, Chairman of the Travancore Board, wants to be assured that Travancore would have the right to operate under these patents without cost, in the event that this should ever be of interest to them in England. Off hand I see no reason to refuse this request, and consider it very doubtful that Travancore will ever be interested in the manufacture of titanium oxide in England, but I am questioning whether our granting their

request would ever in any way embarrass us with I.C.I. I should think not, for the reason that we are of course not obligated to pass these patents over to I.C.I. without negotiations, and furthermore, it would be non-exclusive, as far as Travancore is concerned.

Of the four (4) patents, there is only one that we consider to be of any real value, and even that is doubtful. It corresponds to one of our U. S. patents covering the addition of an alkaline compound to raw TiO_2 prior to calcination, to enable removal of chromium by rendering it soluble during calcination, so that it can be washed out later. Two of the other patents cover pressure hydrolysis, which we consider of no value, and the third, removal of chromium from waste sulphuric acid, which is in the same category.

I would appreciate very much getting your opinion on this, but inasmuch as we have now acquired these patents, I presume allowing Travancore to operate under them is a matter which would practically constitute a licensing arrangement, and require Finance Committee approval. I would also appreciate getting your opinion on the latter.

C. H. RUPPRECHT.

CHR:s
Encl.

Exhibit 313

Letterhead of

KREBS PIGMENT & COLOR CORPORATION.

CC—Dr. J. E. Booge—Office

Newark, New Jersey,
January 13, 1933.

DR. G. NUTZ, MANAGER,
PATENT DIVISION—CLEVLAND.

ITALIAN AUER PATENTS

Supplementing my letter of January 12th, with which I forwarded some correspondence between Travancore, London Office, and Montecatini in Italy, I had an opportunity to see Mr. Chase late yesterday and he tells me that the Montecatini process is almost identical with Commercial.

Briefly, as I recall it, they externally heat Ilmenite in their attack; allow mud to settle; and pump liquor to some sort of cooling drums to crystallize out the Ferrous Sulphate, the liquor then being evaporated in some sort of tall evaporators—I think he referred to these as the Kessner or Kessler type. The hydrolysis procedure is the same as ours, passing to a continuous dryer and calciner, wet ground in Burr stone mills, and then through the finishing stage.

Mr. Chase also feels that the process under the Auer patent #208,128, which covers complete process, runs pretty much parallel with what Montecatini is doing on this. It would probably be a good idea for you to compare this Auer patent and process thoroughly with existing Blumenfeld patents in Italy, under which he is working.

Exhibit 313

There apparently is some good reason why they would manifest any interest whatsoever in this particular Auer patent, possibly being fearful that its sale to someone else might permit a competitor to start up in Italy against them without any embarrassment, or possibly they may have some ideas that the Auer patent might be used to render some of their other patents invalid. There may be a number of other such reasons, and before we do any selling it would certainly be well to know where we stand in this respect, as the ownership of the Auer patent might be a very valuable weapon in our hands, even if we have to pay to keep it alive for a while, should we find some occasion to use it in any possible negotiations abroad in the future.

Nothing like that seems anywhere near likely to be probable, or on the horizon at the present time, but to have the patent thoroughly evaluated against his other Italian patents would at least put us in the position where we know what we are doing.

C. H. RUPPRECHT.
C.H.R.

CHR:s

Exhibit 314

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CC—Dr. J. E. Booge—Office.

Newark, New Jersey,
May 16, 1933.

DR. G. LUTZ, MANAGER,
PATENT DEPT.—CLEVELAND.

AUER PATENTS

French Patent 545097—Dec. 26, 1921
German Patent 504500—Apr. 15, 1928

Note your letter of May 11th, with copies of correspondence from Marks & Clerk under date of May 2nd, relative to the patents mentioned. I am somewhat uncertain as to just what to say in connection with working these two patents, and inasmuch as the dates are respectively July 12th and July 17th, am wondering if it would be wise to hold off for a few weeks.

The situation is just this—under our National Lead agreement we are obliged to give their foreign associates first call on patents, and in the case of the German patents will probably ask them whether they are interested, in which case a price would be set. If they are not interested, the patents will be abandoned. The agreement has not yet been signed, and we are expecting momentarily to hear that they are prepared to do so.

As to the French patent, we asked a reservation from National Lead to permit us to try to close with Blumenfeld in France and Donegani in Italy. London Office has been

written, but to-date we have heard nothing. If Blumenfeld turns down the French patents they are to be offered to National Lead's foreign associates, and if they are not interested, will be abandoned.

Unless it is imperative that the nominal working charges of slightly over £17 be paid on these two patents at once, it would be advisable to wait, even if we had to cable finally, rather than spend the money now and abandon before the due dates in July. Furthermore, I am questioning whether we have the right now to go through with this nominal working by advertising in these countries, without first having offered to National Lead's associates.

I agree with you that we would probably have to maintain them until we conclude our present deals, but in view of the dates, do you not think that we can hold off, in the hope that something final may happen within the next few weeks?

C. H. RUPPRECHT.
C.H.R.

CHR:s

Exhibit 315

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CC: Dr. J. E. Booge, Newark.

Newark, N. J.,
Sept. 20, 1933.

Dr. G. Lutz, Manager,
Patent Department,
The Grasselli Chemical Co.,
Cleveland, Ohio

CONFIDENTIAL

CZECHOSLOVAKIAN PATENT 20129
DATED JANUARY 15, 1924—AUER

Note your letter of September 18th, and there is no change in the status of these Auer patents insofar as the maintenance is concerned.

The National Lead agreement was signed just two weeks ago, and since that time, the executives through whom we will function have been on vacation. I had written them on April 18th, listing the foreign Auer patents, and advised them that all were available for consideration except those in Italy and France on which disposition had been made.

I am writing to Dr. Thompson today asking whether he can promptly determine whether or not his foreign associates are interested in any of these patents. While I am afraid, judging from past experience that replies from I. G. will not be very fast coming through, that we will not have disposition in time to avoid another payment on this Czechoslovakian patent, I am inclined to risk letting this

slide in view of the fact that we will probably have disposition so soon after November 15th. Does this mean we have until November 15th to make payment? If so, I would suggest that we hold it off in the hope that something may have happened on disposition before then, and we can, of course, if necessary, cable authorization to pay. My idea is to hold this off as long as possible, and inasmuch as I doubt very much that I. G. will be at all interested in paying for these patents or even taking them over on the basis of maintenance charges, I question whether we ought to go to any additional expense. How do you feel about that?

C. H. RUPPRECHT.
C.H.R.

CHR:MW

Exhibit 316

COPY

TITAN COMPANY, INC.

Paris, October 6, 1933

DR. G. W. THOMPSON
National Lead Company
111 Broadway,
New York City, U.S.A.

Dear Dr. Thompson:

Many thanks for your letter of September 25th with enclosed copy of letter from Mr. Rupprecht.

We dealt with those patents from the Auer Company when Mr. Beschorman was here.

Titangesellschaft informed us that they had no interest in the same. (The Travancore Minerals had offered them in 1932. At that time Titangesellschaft, as well as Mr. Ravnestad, were of the opinion that they were not worth buying.)

Titan Co. Inc. has also no interest in the patents.

Considering that the British Titan Product Company's organization, early May, was entirely new and unfamiliar with the Titanium industry (Mr. Stopford, the works manager, started in the company on May 1st), the question was not submitted to them.

At the present time I do not feel entitled to answer for the B.T.P. without having referred the matter to their organization. This will be done immediately by Mr. Ravnestad and I shall soonest inform you correspondingly, in case there still is a possibility of acquiring the patents and B.T.P., against expectation, should show an interest.

Exhibit 316

Thanking you very much for your trouble in these matters, I am, with my best regards,

Yours very truly,

(signed) G. JEBSEN

P.S. A Patent Committee, consisting of Mr. Ravnestad and Mr. Stopford, has been nominated by the B.T.P. Board, to deal with B.T.P.'s patent matters submitting more important questions to the Board.

Exhibit 317

COPY

NATIONAL LEAD COMPANY

111 Broadway

New York

November 8, 1933

CONFIDENTIAL

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool St.,
Newark, New Jersey

Dear Mr. Rupprecht:

Replying to your letter of November 2nd:

I enclose copy of letter received from Dr. Jebsen dated October 6th. I should have sent this to you sooner. You will see from his letter that the I.G. are not interested in the Auer patents.

Your letter inquires only about the I.G.'s interest. I have been assuming that the British people would also be expected to pass on the Auer British patents if there are any.

If I hear further from Dr. Jebsen, I shall be glad to communicate with you.

Yours very truly,

(Sgnd). G. W. THOMPSON

Enc.

Exhibit 318

Letterhead of
KREBS PIGMENT & COLOR CORPORATION

CC—Dr. J. E. Booge—Office.

Newark, New Jersey,
November 15, 1933.

DR. G. LUTZ, MANAGER,
PATENT DEPT.—CLEVELAND.

Attached you will find letter from Dr. Thompson of National Lead Company, acknowledging my letter of November 2nd, to the effect that I.G. are not interested in any of the Auer patents we had submitted to him.

In my letter of April 18th, copy attached, I listed the Auer patents that we were keeping active, and included in this list everything as of my record at that time. What this now amounts to is that the patents in Austria, Germany, Switzerland, Czecho-Slovakia, Poland and Norway can be immediately abandoned.

The Italian and French patents, as you know, have been offered to Montecatini and Blumenfeld respectively, and are still in a state of negotiations, being handled by the London Office. There is nothing to do on these two groups except to wait until something happens, and we are regularly following up the London Office.

The Great Britain patents must remain in force until the British associate of I.G. and National Lead Company passes upon them. Dr. Jebsen, in his letter to Dr. Thompson, indicates that he doubts the British people will be interested, but until we find out we will just have to hold on.

Consequently, I think my letter of April 18th lists all patents now effective; but you will no doubt check this promptly, and proceed with abandonment of all except those in Italy, France and Great Britain.

I am glad that this much is solved, even at this late date, and the costs have to go to experience and "profit and loss". It was a bad inheritance.

CHR:s

C. H. RUPPRECHT.

Exhibit 319

Blind copies to:

Dr. G. Lutz—Cleve.
Dr. J. E. Booge—Office

November 15, 1933.

CONFIDENTIAL

Dr. G. W. Thompson, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Dr. Thompson:

I have your letter of November 8th, enclosing copy of letter from Dr. Jebsen advising that I. G. are not interested in any of the Auer patents submitted to you in our letter of April 18, 1933.

I further note that the British patents are being submitted to the British Titan Product Company for their consideration, and this is entirely in order. I presume, therefore, that we will hear further from you relative to the British patents.

In view of I. G. having no interest in these Central Europe patents, we will probably proceed at once with abandonment, as it would seem useless under the circumstances to pay the renewal and working costs for no avail.

I appreciate very much your clearing this situation with I. G., which enables us to decide upon final disposition.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:s

1235

Exhibit 320

COPY

NATIONAL LEAD COMPANY

111 Broadway

New York

December 5, 1933

CONFIDENTIAL

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Street,
Newark, New Jersey

Dear Mr. Rupprecht:

I just heard from Dr. Jebsen that our British associates are not interested in acquiring your Auer patents. I think therefore you can consider that none of our European associates are in any way interested in these patents.

Yours very truly,

(sgnd) G. W. THOMPSON

Exhibit 321

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CC—H. H. Ewing, Mgr.—London Office.
Foreign Relations Dept.—Wil.

Newark, New Jersey,
December 6, 1933.

CONFIDENTIAL

DR. G. LUTZ, MANAGER,
PATENT DEPT.—CLEVELAND.

I have just been informed by National Lead Company that their British associates would not be interested in acquiring our Auer patents. It is therefore in order to proceed with abandonment of the four patents in Great Britain, which were listed in my letter of April 18th, of which you have copy, under the following numbers:

214483
234518
309597
309598

Inasmuch as I. C. I. is associated with the National Lead British organization, it of course means that they would have no interest in the patents for themselves.

We are, therefore, justified in proceeding promptly with abandonment, and just as soon as we have so instructed Marks & Clerk, I would ask that you inform me so that I can write Travancore. You recall Travancore requested that they be considered as entitled to a non-exclusive license on these British patents as long as we kept them in effect. However, just as soon as we abandon them, that is all done away with, and we should so inform them.

This, therefore, leaves us with simply the French and Italian patents to close out.

C. H. RUPPRECHT.

CHR

Exhibit 322

February 11, 1933

Memorandum for Technical Committee:

Leuchs German patent 533,326.

The Technical Committee at its meeting February 8, 1933 decided that it would not be advisable to acquire an interest in U. S. patent 1,853,626, but upon final review, it appeared that the principal reason why the Mecklenburg and Blumenfeld patents 1,758,528 and 1,851,487, respectively, were granted may have been because the Leuchs German patent, though applied for at a much earlier date, was not published until September 11, 1931, and therefore may have an important bearing on the validity of the Mecklenburg and Blumenfeld patents referred to.

The matter was discussed briefly with Mr. Peck who assures me that as far as affecting the validity of the Blumenfeld and Mecklenburg patents, the filing date (convention date) Nov. 27, 1925, would hold. Mr. Peck also suggested the possibility that if the Leuchs U. S. patent could be shown to have been limited by unsound references, that re-issue might possibly be obtained.

As this Leuchs patent seems to have a definite disclosure which would anticipate the Blumenfeld and Mecklenburg features of separately preparing accelerators of titanium precipitation, it is recommended that the Leuchs patent and related patents be submitted to Mr. Peck for study and opinion.

L. E. BARTON

cc: GWT
WFW
ASM

Exhibit 323

MEMORANDUM TO TECHNICAL COMMITTEE
AUGUST 12, 1933

Leuchs U. S. Patent 1,835,636 April 12, 1932
Preparation of Basic Titanium Solutions and Precipitation of Titanium Compounds

Our investigation of this patent and process has not resulted in the production of satisfactory products, and it is doubted if the patent is valid in view of prior patent literature.

Notwithstanding these adverse features, the question of purchasing this patent, which has been offered to us, should receive careful consideration as to whether, in view of the prior art and our own patent applications, ownership would strengthen the general patent structure.

In consultation with Mr. Peck relative to this case, he suggested that this Leuchs Patent might possibly be reopened and broader claims inserted, if it could be demonstrated that the patent has been limited by unsound references. Therefore, in case we decide to purchase this patent, it might be desirable to have the file wrapper carefully reviewed by Mr. Peck.

In order to facilitate consideration of this matter, the following abstract of the file is given:

Review:

This patent was brought to our attention by the Titan Company in their letter of May 31, 1932, with which they enclosed copy of the corresponding German Patent No. 533,326. In that letter they refer to prior patents which they believe would be infringed by working Leuchs' process. They also inform us that the inventor would be willing to

Exhibit 323

sell his right in the United States patent. Under date of July 7, 1932, they sent us file wrapper in the United States case 1,835,626, April 12, 1932.

After investigation of the process by Dr. Plechner under Project No. 95, we wrote to the Titan Company under date of February 25, 1933, reporting the unsatisfactory results but expressing our wish to further investigate the process in view of the competitive patent situation relating to the precipitation of titanium pigments (Mecklenburg and Blumenfeld).

In a letter dated July 25, 1933, the Titan Company requests our further consideration and decision.

Nature of Leuchs Process and Results of Investigation:

Leuchs Patent refers to the precipitation of titanium hydroxide by a "suitable base, preferably magnesium oxide." (Lines 38 and 39, page 1.) The titanium hydroxide is separated by filtration and redissolved in another part of the titanium solution. (See lines 48 to 53, page 1.) The resulting charge is then heated to near boiling point to precipitate about 90% of the titanium. The accelerating effect of the added titanium hydroxide is apparently recognized by Leuchs. (See lines 98 to 100, page 1, and lines 1 to 4, page 2.)

Report by Dr. Plechner, No. 1—Project 95, shows that the process though tried in various applications did not yield pigments of good quality, but it was observed that the precipitation by hydrolysis was greatly accelerated.

Referring to more recent work which is covered by Report No. 2—Project 95, Dr. Plechner states:

"As is pointed out in Report No. 2 of this project, the type of precipitation obtained by the method of Leuchs is

similar to that obtained by the Blumenfeld, Dahlstrom, or Leverkusen methods. However, whereas in the Leverkusen process Na_2CO_3 equal to but 1.25% of the TiO_2 in solution is required to effect acceleration of the precipitation, in the Leuchs method considerably more than 5% of the TiO_2 must be precipitated as orthotitanic acid and redissolved in the remainder of the Ilmenite solution in order to obtain accelerated precipitation."

Mr. Turner, in his letter of August 9, 1932, states:

"Summarizing all of the information which we now possess and including Dr. Plechner's report No. 2 on Project 95, I may say that there is no essential difference in the progress of reactions between the Leverkusen and Leuchs processes. However, we did not succeed in obtaining satisfactory products by means of Leuchs' process as described in his patent, although we introduced certain modifications. Of course there is a possibility that if we continue our study of this process we will eventually obtain satisfactory products. Nevertheless, even in such case, indications are that consumptions of reagents will be considerably larger than in the Leverkusen process and that the process will be much more difficult to carry out."

Patent Situation:

Mr. Turner in his letter to me January 24, 1933 included a translation of a memorandum from A. J. Ravenstad referring to Leuchs' Patent as follows:

"This patent covers a process for the preparation of pure titanic acid through the hydrolytic precipitation of a solution which is obtained either by dissolving orthotitanic acid in sulphuric acid or by dissolving Ilmenite.

Exhibit 323

"The orthotitanic acid is obtained from titanium solutions by precipitation with a base, for instance, milk of magnesia. In a letter of Titan Ges., of December 23, 1931, the question is asked whether the Titan Ges. should purchase this patent.

"We possess the information that the I.G. Patent Department protested on May 6, 1929 against the patent application L. 64,576, on which this patent is based. This protest was based substantially on our German Patent 310,502. On the basis of decision of November 25, 1929, a patent was granted in spite of our protest.

"In our letter of December 17, 1929, we wrote the I.G. Patent Department that we do not consider this decision correct and that we recommend to enter a complaint. Since our letter of December 17, 1929, we have not heard further in this matter, either from the I.G. or from the Titan Ges.

"The patent was published on September 11, 1931. As we see it, it is impossible to follow the German Patent 533,326 without interfering with our German Patent 310,502, since the fundamental characteristic of Leuchs' patent is hydrolysis of heated basic solutions (under "basic" we understand: less sulphuric acid than corresponds to the formula $Ti(SO_4)_2$). These characteristics are protected by our German Patent 310,502. It is well known to any chemist that orthotitanic acid can be precipitated by means of milk of magnesia from titanium sulphate solutions, and that this titanic acid is soluble in sulphuric acid.

"We cannot see how Leuchs' Patent can be of any value to the Titan Ges. In the final decision of this question it is important for us to become acquainted with the correspondence with the Complaint Department as well as with the reasons for the latter's decision."

Exhibit 323

For discussion of Leuchs' process in comparison with Mecklenburg, and Blumenfeld, see memorandum to Technical Committee February 15, 1933.

L. E. Barton.

LEB:MCY

CC GWT
WFW
ASM

Exhibit 324

Rm. 1814

August 17, 1933

Ste Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Re: *U. S. Patent No. 1,853,626—Dr. Karl Leuchs*

Gentlemen:

Your letter of July 25, 1933 in the above was considered by the Technical Committee at its meeting today.

Since our letter to you February 25, 1933, to which your attention is again called, we have further investigated the Leuchs' process, and while it appears that colloidal titanium oxide is not present when orthotitanic acid up to 50% of the total titaniuin oxide is dissolved in Ilmenite solution and the active acid made up to 18% sulphuric acid, colloidal titanium oxide does appear when such solutions are boiled.

While we consider the Leuchs' process unimportant from a technical and commercial standpoint, and the validity of the patent is questionable in view of the prior art, the fact remains that in the operation of the process precipitation is accelerated and a good yield obtained and, according to our investigations, the course of reactions as indicated by phase diagrams is similar to that of Blumenfeld and, therefore, Leuchs' Patent may be an anticipation of the Blumenfeld and Mecklenburg Patents.

All considered, we are of the opinion that the Leuchs' Patent should be purchased if it can be obtained at a very nominal figure, and shall be glad if you will negotiate and

advise us as to the cost. We shall then be able to reach a definite decision in the matter.

Very truly yours,

TITANIUM PIGMENT CO., INC.

W. F. MEREDITH
President.

LEB:MCY

CC GWT
WFW
PCP
LEB

Exhibit 325

August 31st, 1933.

Mr. Z. Phelps, Vice President,
Krebs Pigment & Color Corporation,
256 Vanderpool St.
Newark, N. J.

Dear Mr. Phelps:

This is to acknowledge and thank you for your letter of August 30th, 1933, with comments relative to Leuchs U. S. Patent 1,853,626.

Notwithstanding that the claims are very limited, and that our review of the patent literature indicates that there is a little question of the validity of Leuchs' patent, we have taken the matter up with our associates the Titan Company, to get the inventors idea of price.

When we hear from them we shall advise you further.

Yours very truly,

TITANIUM PIGMENT CO. INC.
L. E. BARTON

LEB/MC

CC—Mr. Beschorman
Dr. Thompson.

Exhibit 326

Letterhead of

NATIONAL LEAD COMPANY

New York, November 23, 1933.

Mr. William F. Meredith, President
Titanium Pigment Company, Inc.

Dear Sir:

At the regular meeting of the Board of Directors held today the following resolution was adopted.

RESOLVED, that the proposed expenditure of the sum of $1250. by Titanium Pigment Company, Inc. toward the purchase of Leuchs United States Patent No. 1853626, in conformity with letter of Mr. William F. Meredith, President, dated November 20, 1933, be and it hereby is approved.

Yours respectfully,

M. DOUGLAS COLE
Secretary.

Exhibit 326

BOOK D—page 444

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, November 23, 1933, at 11:15 o'clock A. M.

Present: Messrs. E. F. Beale, L. T. Beale, Beschorman, Carter, Caselton, Cornish, Croft, Meredith, Rockwell, Sidford, Taylor, Thompson and Warshow.

RESOLVED, that the proposed expenditure of the sum of $2000. by the Titanium Pigment Company, Inc., for the purchase, jointly with Krebs Pigment and Color Company for a total price of $4000., of a certain group of patents and patent applications relating to titanium pigments owned by Dr. F. v. Bichowsky, in conformity with letter of Mr. William F. Meredith, President, dated November 20, 1933, be and it hereby is approved.

RESOLVED, that the proposed expenditure of the sum of $1250., by Titanium Pigment Company, Inc. for the purchase, jointly with Krebs Pigment and Color Company for a total price of $2500., of Leuchs United States Patent No. 1853626, in conformity with letter of Mr. William F. Meredith, President, dated November 20, 1933, be and it hereby is approved.

Exhibit 327

Letterhead of

TITAN COMPANY, INC.

ARd/GK

9th. February 1934.

Titanium Pigment Co. Inc.,
111 Broadway,
New York

Dear Sirs,

Leuchs U. S. Pat. No. 1.853.626

We refer to your letter of November 28th, 1933 and beg to inform you that Dr. Leuchs is willing to assign the above patent for $2500.—

For your information, we enclose copy of a letter received in this connection from a Mr. F. Reinhold, acting on behalf of Dr. Leuchs.

We should be obliged to know in which manner you should like to have this assignment carried out, probably it will be the best way to have such documents prepared by your Patent Attorneys or Messrs. Dorsey & Cole.

In the meantime, we will inform Dr. Leuchs that we have written you in this case and that our representative in Berlin is Dr. G. Winterfeld.

Looking forward to your further information,
We are,

Yours very truly,

Per TITAN Co. INC.
ANDREAS RAVNESTAD

Exhibit 327

COPY

Berlin.
January 18, 1934.

Dr. G. Jebsen,
26 rue de la Pepiniere,
Paris.

Re: U. S. Patent No. 1,853,626 (Leuchs).

The "Titangesellschaft m.b.H., Leverkusen" has advised Dr. Leuchs, the owner of the above patent, that your American business associates wish to purchase this patent and that they are ready to pay the amount of $2500. The firm told Dr. Leuchs to communicate with you in this matter.

Dr. Leuchs has given me power of attorney to take care of the case. He accepts the offer of your business associates. In exchange for paying the purchase sum stated above he will turn over his American patent document and also a transfer declaration certified by the consul's office.

Will you please let me know the exact name and residence of the purchaser of the patent in order that I may make out a transfer document? Furthermor , kindly advise me in which way the payment of the sum and the handing over of the document should be carried out. It would seem to be the most convenient procedure, if you or the Titangesellschaft commission a representative residing in Berlin to take care of the matter.

Very truly yours,

F. REINHOLD.

Translated by
H. Espenschied
February 23, 1934

Exhibit 328

Ste Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Re: U. S. Patent No. 1,853,626—Dr. Karl Leuchs

Gentlemen:

We have received your February 9th letter in the above matter enclosing copy of Mr. E. Reinhold's January 18th letter who is acting as Dr. Leuchs representative in regard to the Assignment of the above U. S. Letters Patent to ourselves.

We enclose draft Assignment (with copy for your files) which we believe will be found in proper form. Dr. Leuchs should execute same opposite the seal and acknowledge the execution of this document before the U. S. Consul at Berlin, all as indicated in pencil.

We also enclose remittance for $2500 to the order of Dr. Leuchs, and we understand that your Berlin representative, Dr. G. Winterfeld, will act as our agent in this transaction. Then kindly return the executed Assignment to us for recording in the United States Patent Office.

Very truly yours,

TITANIUM PIGMENT COMPANY INC.

President.

Exhibit 329

COPY

Leuchs Patent

Rm. 1814

March 13, 1934

Ste. Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Re: U. S. Patent No. 1,853,626—Leuchs

Gentlemen:

By registered mail we sent you under date of March 9, 1934 our letter regarding Leuchs Patent No. 1,853,626, enclosing our remittance for purchase of same, and papers which we wish to have signed in connection with our efforts to re-open the case for the inclusion of broader claims.

In view of the very limited time within which we must lodge the new application papers in the United States Patent Office, we shall be greatly obliged if you will cable us the name of the steamship on which the signed papers will be mailed. This will enable Mr. Peck, our Patent Attorney, to make arrangements with his Washington representative to assure prompt action when the steamer arrives.

Very truly yours,

TITANIUM PIGMENT CO., INC.

W. F. MEREDITH
President

LEB:MCY

cc: GWT
WFW
PCP
LEB

Exhibit 330

COPY

Leuchs Patent

TITAN COMPANY, INC.
7 West 10th Street
Wilmington Delaware U. S. A.

Paris, 26th. March 1934.

REGISTERED

ARd/GK.

Titanium Pigment Co. Inc.,
111 Broadway,
New York N.Y. U.S.A.

Per Steamship "Berengaria"

Dear Sirs:

Re: U. S. Patent No. 1,853,626—Dr. Karl Leuchs

Referring to your letters of 9th. and 13th. March we enclose herewith the following documents:

a) Letters Patent Deed U. S. Patent No. 1.853.626—Karl Leuchs

b) Original Assignment of U. S. Patent No. 1.853.626 signed by Dr. Karl Leuchs on March 22nd. and the signature being certified by the U. S. Consul in Berlin on the same date.

c) Original Re-issue Application Papers comprising Petition, Specification, Claims, and Oath signed by Dr. Karl Leuchs on March 22nd. and certified by the U. S. Consul in Berlin on the same date.

d) Re-issue Assignment signed by Dr. Karl Leuchs on March 22nd. and certified by the U. S. Consul in Berlin on the same date.

e) Further, we enclose copy of a letter of March 22nd. from Dr. G. Winterfeld to Dr. Karl Leuchs confirming that the transfer is limited to the Patent Rights in U. S. A.

The reason for this letter (e) is that Dr. Karl Leuchs did not feel sure that the re-issue assignment, in view of its wording was limited to the patent rights in U. S. A. We hope you are in agreement with this letter.

You will note that the re-issue assignment has been certified by the U. S. Consul instead of only being witnessed. Instruction given to this effect has apparently been overlooked in Berlin, but we hope this will be of no importance.

We have done our utmost to have the matter settled and the papers sent to you as soon as possible. We received the papers enclosed from Berlin this morning and the next rapid steamer for U. S. A. is the "Berengaria" leaving on the 28th inst.

We are, accordingly, cabling you as follows:

"MAILING PAPERS LEUCHS PATENT BERENGARIA".

and hope the papers will reach you safely in due time.

Yours very truly,

Per TITAN CO. INC.
s/ Andreas Ravnestad

Exhibit 331

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CONFIDENTIAL July 6, 1934.

W. F. Meredith, President,
The Titanium Pigment Company, Inc.,
111 Broadway,
New York City, New York.

Dear Mr. Meredith:

We hereby offer to purchase from you, for the sum of $1250.00, the entire right, title and interest in and to U. S. Letters Patent No. 1,853,626, issued in the name of Karl Leuchs, covering process of manufacturing titanium oxide suitable for use as a pigment.

We further propose that, in the event of your acceptance of this offer, the license which you will possess under said patent by reason of our contract of January 1, 1933 shall not be subject to the royalty provisions of the latter agreement.

If this offer is acceptable to your company, kindly so indicate by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:s
Accepted, July , 1934

THE TITANIUM PIGMENT COMPANY, INC.
By
President.

Exhibit 332

July 9, 1934

CONFIDENTIAL

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Street
Newark, New Jersey

Dear Mr. Rupprecht:

I am enclosing herewith copy of your letter of July 6th relative to the Leuchs patent which has been signed as accepted by Mr. Meredith.

The next step I presume is for you to make payment of the $1,250.00 and then to have an assignment agreement drawn up. Perhaps you had better do this and send it to me. I will have Mr. Meredith sign it and turn it over to Mr. Peck or return it to you for filing. I shall then direct Mr. Peck to turn over to you all the papers in the case, particularly those relating to re-issue.

Yours very truly,

G. F. THOMPSON

Enc.

Exhibit 333

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

July 20, 1934.

CONFIDENTIAL

Dr. G. W. Thompson, Vice President,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Dr. Thompson:—

This will acknowledge your letter of July 9th, enclosing executed copy of our letter of July 6th accepting our offer with respect to the purchase of the entire right, title and interest in and to U. S. Letters Patent No. 1,853,626, issued in the name of Karl Leuchs, and herewith am enclosing check for $1250.00 to cover.

There is also attached assignment agreement in duplicate, the original of which I believe should be returned to us, with all papers in the case.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:s
Encls.

Exhibit 334

August 15th, 1934.

CONFIDENTIAL.

Mr. Z. Phelps, Vice President,
Krebs Pigment & Color Corp.
256 Vanderpool St.
Newark, N. J.

Dear Mr. Phelps:—

Answering your letter of August 9th, would say that it was received during my absence from town.

As you requested I am enclosing original assignment from Karl Leuchs to the Titanium Pigment Company. This assignment has already been recorded in the United States Patent Office, April 6th, 1934.

Yours very truly,

TITANIUM PIGMENT CO. INC.

President

WFM/MC
Enc.

Exhibit 335

Rm. 1814

Mr. F. v. Bichowsky, Consulting Chemist
P. O. Box 116
Glendale, California December 6, 1933.

Dear Sir:

Your letter of October 7, 1933 made it necessary to reconsider the entire matter of patents and pending applications held by you personally, and also by the Titania Corporation. After consideration by our Patent, Research, and Development Departments, I am advised that the group of patents owned by you personally, including pending applications, as far as can be judged from meager description, are not likely to prove important in any of our operations, and the price you name, $37,500.00, is so far out of line with our ideas that it seems almost useless to proceed in the matter.

Notwithstanding those conditions, I have been authorized to make you an offer of $4,000.00 for your personally-owned patents, Nos. 1,900,203, 1,902,204, and 1,915,393, and any which may result from patent applications now pending, under the conditions that we shall first have an opportunity to inspect the file wrappers in the pending applications, Nos. 590,639, 600,075, and 603,685, and also have your assurance that there are no applications pending other than those stated in your letter of October 7, 1933.

I am advised that upon further consideration it does not appear that any of the patents of the Titania Corporation will be of any interest to us, and we are therefore not now considering their purchase.

Very truly yours,

TITANIUM PIGMENT CO., INC.

LEB:MCY
cc: WCB
LEB

W. F. MEREDITH
President

Exhibit 336

Letterhead of
TITANIUM PIGMENT CO., INC.
Rm. 1814

January 23, 1934.

Mr. W. F. Meredith, President
Titanium Pigment Company, Inc.
Building

Re: *Bichowsky Patents*

Dear Mr. Meredith:

Mr. F. von Bichowsky's letter to you December 30, 1933, was considered by the Technical Committee at its meeting January 17, 1934.

It is noted that Mr. Bichowsky does not care to consider selling his personally-owned patents for the sum of $4,000.00, which we suggested, but would consider a royalty agreement, should we care to make such a proposal, and would, after a small payment of "earnest money", permit us to inspect the file wrappers of two applications now in the course of prosecution.

The Technical Committee is of the opinion that no additional offer should be made at this time, though should Bichowsky's pending applications result in interesting patents, the matter might be taken up again later. However, it is desired to give the matter a little further consideration, after which the Committee will advise you more definitely.

We have sent for copies of U. S. Patent 1,943,497 January 16, 1934, and also the file wrapper.

Very truly yours,

L. E. BARTON

LEB:MCY
L. E. Barton

cc: GWT, WFW, ASM

Exhibit 337

Titanium Comm.

October 10, 1934.

Dr. J. E. Booge, Research Director—White Pigments
Krebs Pigment & Color Corporation
256 Vanderpool Street
Newark, New Jersey

Dear Dr. Booge:

I am pleased to send you herewith, two lists as follows:

1) List of the United States Patents owned or controlled by the Titanium Pigment Company.

This list is complete as of October 1, 1934.

2) List of the British, French and German Patents owned by the Titanium Pigment Company or its Affiliates.

This list is as complete as I am able to make it. I do not believe there are any important omissions.

The column marked T. Case. No. will have no significance to you, except in the event you desire to know what United States Patents may be equivalent to the respective foreign patents. If you desire such information, I will be glad to prepare a list of the United States Patents and the equivalent T. Case number, so that by comparison of the T. Case number you will be able to ascertain the equivalent patents.

I will be happy to receive similar lists of the Krebs Patents when you have had opportunity of completing same.

Very truly yours,

CHARLES F. KAEGEBEHN

CFK:MCY
Encls.
cc: GWT
WFW
JLT

Exhibit 338

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

October 17, 1934.

CONFIDENTIAL

Mr. C. F. Kaegebehn,
Titanium Pigment Company,
105 York Street,
Brooklyn, N. Y.

Dear Mr. Kaegebehn:

This will acknowledge with thanks your letter of October 10th, enclosing list of U. S. Patents owned by the Titanium Pigment Company, and of British, French and German patents owned by the Titanium Pigment Company or its affiliates. I am attaching herewith two lists of the U.S. Titanium Patents owned by Krebs Pigment & Color Corporation. The second list groups them as to subject matter and may be of some interest to you. I find, however, that we do not have available any lists of foreign patents controlled by our associates.

I believe that it would also be of some interest for us to cross-check our complete list of U.S. Patents relating to titanium. I am consequently going to obtain another copy of our list, which is, to the best of our knowledge, complete and suggest that it might be of interest for you to check it against your list. If you would prefer to send us a copy of your complete U.S. list and have us check it against ours, we would of course be glad to do so. If I do

not hear from you to the contrary I will, within the next week or 10 days, send you a copy of our complete list.

If you desire anything else along these lines please do not hesitate to call on me.

Very truly yours,

KREBS PIGMENT & COLOR CORPORATION

J. E. BOOGE
JAMES E. BOOGE,
RESEARCH DIRECTOR—WHITE PIGMENTS.

JEB:MP

Exhibit 339

Gardner License Arrangement

October 18th, 1937

Mr. W. C. Beuchorman—Executive-Vice-President
Mr. C. F. Kaegebehn—Patent Department

Dear Mr. Beschorman:

Mr. Robertson has advised me that he received from Dr. Gardner this morning, a letter in which Dr. Gardner acknowledges that we have a non-exclusive license in all his U. S. patents now in force, as well as in pending applications. The only exception noted by Dr. Gardner is with respect to artificial silk developments, wherein the Tubize Chatillon Corporation has an exclusive license.

Dr. Gardner's statement says that the Titanium Pigment Corporation not the National Lead Company has a non-exclusive license, but this is probably not a serious discrepancy because the intention of Dr. Gardner is quite clear.

The fact that Dr. Gardner acknowledges our rights to extend to patents not limited to titanium developments, would, in my judgment, give us rights in his lead phthalate developments. This last letter from Dr. Gardner thus goes beyond his original letter of February 19th, wherein he speaks of our rights as pertaining to titanium pigment developments.

In this connection, I would like to bring to your attention the fact that the Krebs Pigments Division of E. I. DuPont DeNemours & Co. appears to be interested in the titanium phthalate developments. From the agreement between ourselves and DuPont and our arrangement with

Dr. Gardner, it does not appear that we are in a position to grant a sub-license to DuPont. Consequently, if DuPont wish to go into the titanium phthalate developments in a commercial way, they will probably have to deal with Dr. Gardner, and our part as set forth in the DuPont Agreement, will be to use our best efforts to obtain for DuPont a non-exclusive license on the most favorable terms possible.

I call this to your attention in the event that Mr. Ruprecht raises the question.

Yours very truly,

CFK:le

c.c. Mr. C. F. Garesché
Mr. D. W. Robertson

Exhibit 340

cc: Dr. J. E. Booge

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

KREBS PIGMENTS DEPARTMENT

Newport, Delaware
October 30, 1939

MR. J. P. HANCOCK
ROOM #1094
DU PONT BUILDING

PATENTS 2,099,019 and 2,127,664

The above U. S. Patents were assigned to Titanium Alloy Company which is a subsidiary of National Lead Company. The first of these, #2,099,019, Kinzie—11/16/37 relates to a process for improving a pigment, e.g., TiO_2 by precipitating zirconium oxide thereon. The second, #2,127,664, covers a process for preparing a synthetic TiO_2 material which Kinzie *et al* Aug. 23/38 is stated as useful for pigment purposes.

Due to the nature of these processes and their bearing on titanium pigments, it is my belief that we should be licensed to operate by virtue of the agreement with National Lead Company. To my knowledge we have no statement from National Lead Company that we have the right to operate these processes and I am suggesting that we consider the proprjety of calling this to the parent company's (N.L.Co.) attention.

We are not operating such a process and have no plans to infringe the claims of these patents, so the matter is not an urgent one.

(Signed) R. M. McKinney
R. M. McKINNEY
Research Division Head

RMMcK/mtw

Exhibit 341

I. C. I. Patents—relating to the treatment of titanium pigments to prevent fading of artificial silk dyes.

June 1st, 1937

Mr. W. C. Beschorman—Executive Vice President
Mr. C. F. Kaegebohn—Patent Department

Dear Mr. Beschorman:—

A situation is arising which, I believe, should be brought to your attention.

The I. C. I. applied for certain British patents for:

a) the treatment of titanium dioxide with various salts, particularly chromium salts, to render the titanium dioxide inactive against the dyes with which artificial silks are tinted;

b) the use of this treated titanium dioxide pigment in artificial silk.

Separate British patents were taken out to cover the methods just mentioned in a) and b). It was therefore possible in Great Britain for I. C. I. to turn over to British Titan Products Company rights in the patent relating to the treatment of titanium pigments.

However, I. C. I., under its arrangement with DuPont, turned over the United States rights in the processes of both a) and b) above to DuPont, and DuPont filed in the United States a single application covering both the treatment of titanium dioxide and the preparation of artificial silk in which the treated TiO_2 is employed.

The situation is therefore this:

I. C. I. developed a treatment of titanium dioxide, rights to which should have been turned over to British Titan

Exhibit 341

Products, so that they, through Titan Company, Inc., could give us the United States rights in the process. This process, however, has been made part of a patent application now pending in the U. S. Patent Office in the name of DuPont.

The I. C. I. have suggested that we await the grant of U. S. patents before settling the question of our rights. I have discussed this matter with Mr. Turner, and we are in agreement that to await the grant of U. S. patents before establishing our position is not in the best interests of the National Lead Company, nor will it help in any way to clarify the situation which today exists in the United States with respect to DuPont's patents covering compositions in which titanium dioxide is used; which situation was made the subject of my memorandum to you of May 27.

In the opinion of Mr. Turner and myself, steps should be taken, at once, to acquaint DuPont with the fact that we have rights in their pending application, at least to the extent of the process of treating titanium dioxide. It appeared to us to be better to attempt to reach an understanding with DuPont before the patent issues, rather than to wait until after it issues. This situation might be used as a wedge to open up the whole question of the DuPont use patents covering titanium dioxide.

Yours very truly,

CFK:le

c.c. Dr. G. Jebsen
Dr. G. W. Thompson
Mr. J. L. Turner
Mr. C. F. Garesché

Exhibit 342

COPY

British Titan Products Co. Ltd.,
Billingham.

CJS/SL/75743

27. August 1937.

Imperial Chemical Industries Ltd.,
Commercial Research Department,
Millbank,
LONDON, S.W. I.

For the attention of Mr. E. D. Catton.

Dear Sir,

I. C. I. Patent Cases 2455 etc.

With reference to discussion between Mr. Catton and the undersigned on the 24th instant and to your memorandum on the stalilisation of Titanium Oxide used for Delustring Rayon, dated 20th August 1937, which Mr. Catton handed to the undersigned, we have discussed the matter with Mr. Beschorman, the Executive Vice President of the National Lead Company of America, who is in London and he confirms that the National Lead Company are prepared to deal with the U.S. Patent under this case, when granted, if it is assigned to the National Lead Company as though the whole of the patent came completely within the scope of the cross-licensing arrangement between National Lead Company and DuPont de Nemours, that is that they would grant DuPont full rights under the patent.

We understand that with this agreement, you consider it likely that you would agree to assign the American

Exhibit 342

Patent under these patent cases to the National Lead Company when granted. We should be pleased to receive a formal communication from you making this offer.

In the memorandum you refer to the assignment of the patent to B. T. P. This can be done if you prefer this method, although it may be simpler to assign it direct to the National Lead Company.

In regard to points 3 and 4 of the memorandum, we are willing to refund any patent expenses incurred by you in the prosecution of the patent and we agree that no action in regard to the assignment of the patent should be taken until the U. S. Patent has been granted, although as stated previously, we should like to have a letter confirming your agreement to assign this patent to B. T. P. or National Lead Company at your early convenience.

Yours truly,

for BRITISH TITAN PRODUCTS CO. LTD.

Exhibit 343

COPY

British Titan Products Co. Ltd.
Billingham
Copy of letter from:

IMPERIAL CHEMICAL INDUSTRIES,
Commercial Research Derp.,
Millbank, SW.1.

C. J. Stopford, Esq., 30. August 1937.
British Titan Products Co. Ltd.,
Billingham.

Dear Sir,

BRITISH PATENT CASE 2455, Etc.

Many thanks for your letter of August 26., confirming that the National Lead Co. would be prepared to deal with the U.S. patent under the above cases as though the whole of the patent came completely within the scope of the cross-licensing arrangement between National Lead Co. and Du Pont de Nemours, and that they would grant du Pont full rights under the patent, if it is assigned to them. I am obtaining confirmation from our Legal Department that in these circumstances we would agree to assign the American patent to the National Lead Co. when granted, and will let you have a formal communication as soon as I have obtained confirmation from the Legal Department.

Yours faithfully,
for
IMPERIAL CHEMICAL INDUSTRIES LTD.
(sgd) E. D. CATTON.

Exhibit 344

Chromium-Treated Titanium Pigments

December 10, 1937

Mr. W. C. Beschorman—Executive Vice President
C. F. Kaegebehn—*Patent Department*

Dear Mr. Beschorman:

I beg to report on my discussion of this matter with Mr. Hancock, Patent Attorney for the Krebs Division of E. I. du Pont de Nemours and Company.

The enclosed copy of my letter to Dr. Jebsen explains that the U.S. application has to be divided into three applications; one of which, specific to a treatment of titanium pigments with chromium salts, is to be assigned to us. This is in line with the obligations of I.C.I., who will have to turn over to du Pont their artificial silk developments. They are obligated to turn over to British Titan Products Company Ltd. only developments in the preparation of titanium pigments.

The division of the U. S. application into three cases facilitates keeping the respective rights of all parties separate and distinct.

I should like to call your attention to the fact that under this arrangement, which is in my judgment so far as we can go under our Agreements, du Pont stands to own patents covering the use of chromium treated pigments in the manufacture of artificial silk; and thus, in a certain sense, to dominate the use of the products prepared under the patent which we will acquire. In such matters in the past, du Pont has taken the position that they will not use such U. S. patents to interfere with our sales, but will grant to our customers a license for a nominal royalty.

Mr. Hancock and I do not feel that the matter is of sufficient importance at this time to raise this question. Mr. Hancock feels it will be very difficult to settle the matter with the various departments of du Pont, other than Krebs, until the actual value of the patents and the products are known. Consequently, I have only mentioned this point to you so that, if in the future any interest develops in chromium treated pigments, for use in artificial silk, you may wish to take up with Mr. Rupprecht the attitude of du Pont with respect to the U.S. patents.

Yours very truly,

CFK:RC
enc.

Exhibit 344

December 10, 1937

Dr. G. Jebsen
26 rue de la Pepiniere
Paris-Se-France

RE: Chromium-Treated Titanium Pigments
Cases T. 175-178

Dear Dr. Jebsen:

Upon receipt of your letter of November 23rd, I took up the matter further with E. I. du Pont. The situation with respect to the United States application, Serial No. 51,372 is as follows:

At present, the U.S. application contains three patentably distinct features:

a) The treatment of rayon delustered with TiO_2 with chromium salts;

b) Preparation of artificial silk or similar articles of regenerated cellulose containing TiO_2 pigments treated with chromium salts; and

c) Retreatment of TiO_2 pigments with chromium salts.

The U. S. Patent Office has requested that the U.S. application be divided so that the claims drawn up to each of these three features will be contained in separate applications.

As we understand the obligations of I.C.I., that company is obligated to turn over to du Pont for the U.S. its developments in artificial silk; and to British Titan Products Company Ltd. its development in the manufacture of

titanium dioxide pigments. Consequently, it is proposed that the divisional application covering the treatment of titanium dioxide pigments be assigned to National Lead Company in accordance with the lines agreed upon.

As soon as the divisional application has been filed, du Pont will advise us of the date of filing, the serial number, etc., and we will prepare an assignment document to be executed by I.C.I. vesting title to the application and subsequent patent in the National Lead Company. When this document has been executed and returned to us, we will advise du Pont by letter that they are entitled to an non-exclusive license under the application and in the patent which may issue.

Yours very truly,

CFK:RC
cc: Mr. Beschorman

Exhibit 345

COPY

January 19th
1938

E. I. Du Pont De Nemours and Company
Krebs Pigments Division
Wilmington, Delaware

Attention: Mr. John P. Hancock
Legal Department—
Patent Division

Re: U. S. Applications Covering the
Chromium-Treatment of
Titanium Pigments

Gentlemen:

This letter will confirm our understanding of the present arrangement regarding the U. S. applications relative to the Chromium-Treatment of Titanium Pigments and the developments leading up to it.

The Imperial Chemical Industries, Ltd., whose employees developed the chromium-treatment of titanium pigments in relation to the use of such treated pigments in the manufacture of artificial silk, is under contract to the British Titan Products Company to turn over to that company all its inventions relating to the manufacture of titanium pigments. British Titan Products Company, is, in turn, obligated to Titan Company, Inc. to turn over rights in all such inventions relating to the manufacture of titanium pigments for countries outside of Great Britain. Titan Company, Inc. is obligated to turn over such rights to the National Lead Company for the United States and Canada.

Exhibit 345

Apparently, inadvertently, Imperial Chemical Industries placed at the disposal of Du Pont the development of chromium-treated titanium pigments, not only for their use in artificial silk, but also with respect to their manufacture.

The original U. S. application was numbered Serial No. 758,684, to which a continuation case—U. S. Serial No. 51,272—was filed on November 23rd, 1935. In December, 1936, this situation was first brought to the attention of National Lead Company by Titan Company, Inc., inquiring what rights National Lead Company would desire in the U. S. application. National Lead Company replied that they desired full rights for the United States and Canada to that part of the U. S. application relating to the treatment of titanium pigments to which they were entitled through their arrangement with Titan Company, Inc. It was suggested that the U. S. application be assigned to National Lead Company and that Du Pont be granted a license thereunder. This proposal was made to Imperial Chemical Industries and met with their approval (letters of August 27th, 1937—British Titanium Products Company to Imperial Chemical Industries, attention of Mr. E. D. Catton, and the reply thereto of August 30th, 1937, with official confirmation of Imperial Chemical Industries given British Titan Products Company in letter of November 18th, 1937, signed by T. Bradley, for Solicitor).

Conversations were had with Mr. John P. Hancock, Patent Attorney of the Krebs Pigments Division of E. I. Du Pont De Nemours and Company, on November 5th, 1937 and December 9th, 1937, to determine the most expeditious manner of handling the situation. These conversations developed the following facts: the pending U. S.

application related only to the manufacture of artificial silk to which National Lead Company receives no rights from Imperial Chemical Industries. Since the application, however, discloses the preparation of chromium-treated titanium-pigments, in which National Lead has rights, Mr. Hancock agreed to have filed a divisional application covering specifically the preparation of chromium-treated titanium pigments and to have papers executed assigning this application and the patent which may result therefrom to the National Lead Company, it being understood that E. I. Du Pont is to enjoy a non-exclusive license in the U. S. patent, when and if issued.

The foregoing summarizes the situation to date and confirms the fact that National Lead Company will grant to E. I. Du Pont De Nemours and Company a non-exclusive license in any U. S. patent which may be granted on the basis of the development by Imperial Chemical Industries in chromium-treated titanium pigments as set forth in U. S. Serial No. 758,184 and in any continuation or division thereof.

Yours very truly,

NATIONAL LEAD COMPANY

C. F. KAEGEBEHN

CFK:lo

cc. Mr. W. C. Beschorman
Mr. C. F. Garesché

Exhibit 346

Cases T. 175—T. 176—Chromium-Treated TiO_2

April 30th, 1938

Dr. W. W. Flechner—Titanium Division

Mr. C. F. Kaegebehn—Patent Department

Dear Dr. Flechner:—

For your information, the status of the above-identified cases is as follows:

The parent application was filed on November 23rd, 1935, in the name of Harry Donald Mudford, assigned to Imperial Chemical Industries. A divisional application—Serial No. 202.879—was filed on April 19th, 1938 in the name of the same inventor. Both these applications will be assigned by I. C. I. to National Lead Company, subject to a non-exclusive, royalty-free, irrevocable license to be enjoyed by E. I. Du Pont. The parent application—Serial No. 51.272—was allowed a month ago. We are preparing the necessary assignment documents and will pursue this matter in accordance with this memorandum.

Yours very truly,

CFK:lo

c.c. Mr. C. F. Garesché

Mr. J. L. Turner

Exhibit 347

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

May 31, 1938

J. B. Henrich, Jr., Esq.
c/o National Lead Company
111 Broadway
New York City.

Re: *Proposed License Agreement—*
Mudford U. S. Applications

Dear Mr. Henrich:

This will acknowledge and reply to your letter of May 17th, enclosing form of proposed license to du Pont under the above I. C. I. applications which are to be assigned to National Lead.

I have gone over the contra and have the following suggestions to make regarding its provisions:

Article 1. It is noted that the grant in this article is limited to the right of du Pont to practice the inventions throughout the United States only. Unless reasons exist of which I am unaware; it would be preferable to modify the grant to include the right in du Pont to practice "throughout the United States, its territories and possessions."

It is also noted that you have incorporated in this Article 1 the language of the agreement of January 1, 1933 between Titanium Pigments and Krebs, with respect to purchasers of products from du Pont being privileged to use the same. This language appears to be unduly broad

and I believe it would serve our purposes if the following language were adopted in lieu of the January 1, 1933 clause:

> "it being further understood and agreed that all purchasers from du Pont of any claimed product, intermediate or final, of manufacture under the license hereby granted shall be privileged to use the product so purchased for the purposes described and/or claimed in the aforesaid applications for letters patent or any patent or reissue arising therefrom."

Article 2. This article might be modified to conform with the change suggested in Article 1, i.e., in lieu of "throughout the United States", language such as "throughout the United States, its territories and possessions" or "throughout the licensed territory" should be employed.

The following amendments to certain ensuing Articles of the agreement are also suggested, each of which is self-explanatory:

Article 3, line 6, after "NATIONAL" insert "at NATIONAL'S expense".

Article 6, line 4, after "infringers" insert a comma and add "but shall be under no obligation to do so,". The proviso clause appearing at the end of this Article 6 might be substituted by the following:

> "provided, however, that NATIONAL *at its election* may bring suit against infringers in its own name and/or join with DU PONT, *but only upon the written consent of* DU PONT, in other than a nominal capacity." (The emphasized portions indicate the changes suggested.)

Exhibit 347

Article 7, line 7, after "NATIONAL" insert "at NATIONAL'S expense"

If the proposed changes are acceptable to you, it would be appreciated if they would be incorporated in the license contract prior to its execution.

I have not procured the necessary consent of du Pont to enter into the agreement, but I can foresee no difficulty upon adoption of the proposed changes. Therefore, and provided the agreement is otherwise acceptable to you, it might be executed by your company prior to submission to us for like execution.

Very truly yours,

E. I. DU PONT DE NEMOURS & Co.

By JOHN P. HANCOCK

JOHN P. HANCOCK

JPH:H

Exhibit 348

June 7, 1938.

Mr. J. P. Hancock
E.I. du Pont de Nemours and Company
Wilmington, Delaware.

Re: Proposed License Agreement—
Mudford U.S. Applications

Dear Mr. Hancock:

This will acknowledge receipt of your letter of May 31, 1938 relating to the proposed license to be granted by National Lead Company to Du Pont under the Mudford U. S. patent applications.

We have considered the changes suggested by you in the proposed license agreement and have found no objection to them. We are, therefore, drawing up a new license agreement embodying the changes recommended by you and shall forward it to you when we receive the executed assignment of the Mudford U. S. patent applications from Imperial Chemical Industries Ltd.

Yours very truly,

NATIONAL LEAD COMPANY

JBH:RC

Exhibit 345

October 27, 1938

Mr. John P. Hancock
E. I. Du Pont de Nemours & Company
Wilmington, Delaware

RE: License Agreement—Mudford U.S. Patent Applications 51.272 and 202.879—Manufacture of Artificial Silk.

Dear Mr. Hancock:

Further to our letter of June 7, 1938, we wish to inform you that we have received a duly executed assignment of the above-identified applications from Imperial Chemical Industries, Ltd. We are therefore, enclosing herewith an original and a carbon copy of a License Agreement between National Lead Company and Du Pont under the above patent applications. These agreements have been duly executed by National Lead Company and we would appreciate your having them executed by Du Pont and returning the carbon copy to us for our files.

We note that U.S. Patent Application No. 51.272 has already issued as U. S. Patent No. 2.152.491 on October 11, in the name of Imperial Chemical Industries Ltd. We would appreciate it if you would arrange to have application No. 202.879, which is still pending, issue in the name of National Lead Company in accordance with the terms of the assignment from I.C.I.

Yours very truly,

JBH:RC
encls.

Exhibit 349

LICENSE AGREEMENT

THIS AGREEMENT made and entered into this 25th day of October 1938 by and between NATIONAL LEAD COMPANY, hereinafter referred to as NATIONAL, a corporation organized and existing under and by virtue of the laws of the State of New Jersey, with its principal place of business at 111 Broadway, New York, New York, and E. I. DU PONT DE NEMOURS AND COMPANY, hereinafter referred to as DU PONT, a corporation organized and existing under and by virtue of the laws of the State of Delaware with its principal place of business at Wilmington, Delaware.

WITNESSETH THAT

WHEREAS, NATIONAL is the owner by assignment of the entire right, title and interest in and to the following United States applications filed by Henry Donald Mudford as inventor and entitled MANUFACTURE OF ARTIFICIAL SILK,

U. S. Pat. Appl. Serial No. 51,272—filed November 25, 1935 (Now U. S. Patent No. 2,152,491 dated October 11, 1938)

U. S. Pat. Appl. Serial No. 202,879—filed April 19, 1938 (which is a division of the above U. S. application Ser. No. 51,272)

WHEREAS, DU PONT desires to obtain and NATIONAL is willing to grant, a non-exclusive, non-assignable, royalty-free license to practice the inventions and to manufacture, use and/or sell the products described in the aforesaid patent applications throughout the United States, its territories and possessions.

Exhibit 349

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth and other good and valuable considerations, the receipt whereof is hereby acknowledged and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

1. NATIONAL hereby grants to DU PONT, its subsidiary companies present and future, a non-exclusive, royalty-free, non-assignable license under the aforesaid patent applications entitled MANUFACTURE OF ARTIFICIAL SILK, to-wit:

U. S. Pat. Appl. Serial No. 51,272—filed November 23, 1935 (Now U. S. Patent No. 2,132,491 dated October 11, 1938)

U. S. Pat. Appl. Serial No. 202,879—filed April 19, 1938 and under any and all U. S. Letters Patent that may be obtained thereupon and all divisions, reissues and extensions thereof, to practice throughout the United States, its territories and possessions, any process disclosed or claimed in said patent applications and to make, use, and/or sell throughout the United States, its territories and possessions, any products described and/or claimed in said patent applications, it being further understood and agreed that all purchasers from DU PONT of any claimed product, intermediate or final, of manufacture under the license hereby granted shall be privileged to use the product so purchased for the purpose described and/or claimed in the aforesaid applications for Letters Patent or any patent or reissue arising therefrom. The license herein granted shall extend

to the full end of the term for which Letters Patent may be subsequently granted in the United States on the above-mentioned patent applications.

2. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in DU PONT shall be subject to the right of NATIONAL or any of its controlled subsidiaries to freely use and employ said inventions comprised within said patent applications throughout the United States, its territories and possessions.

3. DU PONT, during the period of this license acknowledges any patent or patents which may subsequently issue as result of the aforesaid applications, as good and valid and agree not to directly or indirectly contest the validity of such patents, nor to assist others in any infringing operation, but as far as reasonably possible agrees to assist NATIONAL at NATIONAL's expense, in maintaining the validity of each of said patents.

4. It is understood and agreed that the herein created license shall pertain to the MANUFACTURE OF ARTIFICIAL SILK applications hereinabove set out and to such patent or patents as may issue thereupon and to all reissues and extensions thereof, and that no rights whatsoever are granted herein under any other inventions, patent applications, and/or patents now owned or hereafter acquired by NATIONAL.

5. NATIONAL shall be under no obligation to defend DU PONT against suits by infringement arising out of DU PONT's operations under the license herein granted, nor

shall NATIONAL be liable to any extent for damages assessable against DU PONT by virtue of any such infringement.

6. In the event any Letters Patent which may issue as a result of the aforesaid applications are infringed by a third party, then DU PONT shall have the right to bring suit against such infringers, but shall be under no obligation to do so, and for the purpose of said suit shall have the right to sue in NATIONAL's name, or include NATIONAL as a nominal party-plaintiff with NATIONAL's prior written approval thereof. NATIONAL shall be under no obligation to be other than a nominal party to said suit and under no obligation to share the expenses of such suit, provided, however, that NATIONAL, at its election, may bring suit against infringers in its own name and/or join with DU PONT, but only upon the written consent of DU PONT, in other than a nominal capacity.

7. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by DU PONT and NATIONAL, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where NATIONAL elects to bring suit in its own name DU PONT agrees to assist NATIONAL at NATIONAL's expense to obtain evidence to be used by NATIONAL in the prosecution of suits by infringement hereunder to the extent to which DU PONT is reasonably able to do so, and to otherwise assist NATIONAL in the prosecution of such suits to the same extent.

Exhibit 349.

7. This agreement shall be binding upon and inure to the benefit of the parties hereto, their successors, assigns and legal representatives.

NATIONAL LEAD COMPANY

FLETCHER W. MARSHALL
President

E. I. DU PONT DE NEMOURS AND COMPANY
Krebs Pigments Department
General Manager

C. H. RUPPRECHT

ATTEST:

H. O. BATES
Secretary

ATTEST:

E. A. HOOVER
Asst. Secretary.

Exhibit 350

KREBS PIGMENT & COLOR CORPORATION
256 VANDERPOOL STREET
NEWARK, NEW JERSEY

January 9, 1934

CONFIDENTIAL

Adrian D. Joyce, President,
The Glidden Company,
Cleveland, Ohio

Dear Mr. Joyce:

This will confirm my conversation with you in New York yesterday, during which I explained our patent situation on Titanium Dioxide, with the suggestion that it might be advisable for your Patent and Technical people to discuss the matter with our staff.

I understand you will take this matter under advisement and inform me when it will be convenient to have an appointment. You mentioned that it would probably be preferable to hold such conference in Cleveland, and this would be entirely agreeable to us.

Meanwhile, I am attaching hereto a list of the Titanium Dioxide patents owned by Krebs Pigment & Color Corporation.

Yours very truly,

/s/ C. H. RUPPRECHT
President

Exhibit 351.

COPY

NATIONAL LEAD COMPANY

111 Broadway

New York

May 9, 1934

Mr. Adrian D. Joyce, President
The Glidden Co.
Cleveland, Ohio

Dear Mr. Joyce —

I did not get very far in my effort to secure an additional supply of TiO_2 for you. Our Titanium people are so far backordered that they simply cannot take on any new obligations until the books are cleared.

The best suggestion I can make is that the matter rest for sixty days, and at that time it be taken up again and the situation surveyed.

I am sorry that I cannot give you a more satisfactory answer.

With my very kind regards,

Yours very truly,

F. M. CARTER (Signed)
President

Exhibit 352

Ste. Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

May 11, 1934

Re: Brit. Pat. Spec. No. 406,580—Metals & Thermit Corp.

Gentlemen:

We have given careful consideration to your letter of April 20, 1934, and submit the following reply.

British Patent Specification No. 406,580 is equivalent to United States Patent 1,947,226 to Hartmut W. Richter which, although it is unassigned, we understand to be owned by interests of the Metals and Thermit Corporation. The processes described in both are identical and the claims are similar in scope. It is one of a group of eight patents which, as will be shown later, may possibly furnish the basis for an attempted entry into the manufacture of titanium pigments in the United States. We are engaged at present in an exhaustive study of the patents owned and controlled by the Titanium Pigment Company, with particular reference to which of our patents may be infringed by any of this group.

As to the patent in question. You have undoubtedly noted that the process disclosed is an addition of a basic sulfuric acid solution of hydrated titanium oxide prepared from unreactive forms; e.g., rutile, to an acid solution of titanium in sulfuric acid in order to facilitate precipitation of titanium hydrates and to increase the yield. As we view this process, the addition of the basic solution to the acid solution accomplishes two ends: (1) reduces the acidity and, (2) furnishes a seed or nuclei for the precipitation.

Although we have not yet completed our study, it appears to us that certain of our United States Patents may possibly be infringed by this patent. These are:

Exhibit 352

1. U. S. P. 1,333,819. Mar. 16, 1920. To Jebsen covering the preparation of basic titanium solutions and the solutions themselves.

2. U. S. P. 1,288,863. Dec. 24, 1918. To Fladmark covering the precipitation of titanium hydrates by boiling concentrated solutions at atmospheric pressure.

As to the seeding effect of the addition of a basic solution to an acid solution of titanium sulfate, it appears that this feature may infringe,

British Patent 388,998 to I. G. Farbenindustrie covering the use of solutions of ortho-titanic acid to titanium sulfate solution in order to facilitate precipitation,

and also our application No. 697,304.

These references are possibly not the only ones pertaining to the case but are offered to you as suggestions should you decide to prosecute your opposition to grant.

As to the Metals and Thermit Company. We can supply the following information.

It was first incorporated in the State of New Jersey, in the U. S. A. as the Goldschmidt Detinning Company. In 1916 it acquired all the stock of the Goldschmidt Thermit Company and 1918 changed its name to Metals and Thermit Corporation. At present the company, in addition to its detinning operations, makes and markets "Thermit" a welding compound. It is capitalized for about six million dollars, has a surplus of about one-half million dollars, and is regarded as in sound financial position. It is also regarded as possessing an experienced management and favorable bank and trade relations. Prior to the war it was connected with the Goldschmidt interests in Germany but whether such connection exists today we cannot state.

Exhibit 352

Recently the Metals and Thermit Corporation entered into an arrangement with The Glidden Company, a concern manufacturing paints, lacquers, lithopone, etc., whereby a new company—The American Zirconium Company—was formed, whose purpose is, we learn, to engage in the manufacture of titanium pigments. Our information is that a plant is being constructed to this end at Baltimore, Maryland. Their intention is, we understand, to operate eventually on rutile (Mr. Fred W. Cohen, Vice-Pres. of Metals and Thermit is also connected with the American Rutile Company, owners of large rutile deposits in West Virginia), but in the beginning will probably operate on ilmenite. The patents which the American Zirconium Company controls are as follows:

1s	No. 1,640,952.	Aug. 30, 1927.	S. J. Labowsky.	Assigned to Metals & Thermit.
2s	" 1,793,501.	Feb. 24, 1931.	"	Unassigned.
3s	" 1,843,427.	Feb. 24, 1932.	"	Assigned to Metals & Thermit.
4s	" 1,888,993.	Nov. 29, 1932.	"	" " " " "
5s	" 1,922,328.	Aug. 15, 1933.	M. L. Rhodes.	Unassigned.
6s	" 1,931,662.	Oct. 24, 1933.	"	Assigned to Glidden.
7s	" 1,932,687.	Oct. 24, 1933.	M. W. Richter.	Unassigned.
8s	" 1,947,226.	Feb. 13, 1934.	"	"

In view of this situation, it may be of importance, to say the least, to oppose the Patent Specification No. 466,980 filed in the British Patent Office.

We are watching developments very closely and will be glad to keep you advised and to assist in any way with the contemplated opposition to grant.

Very truly yours,

Titanium Pigment Co., Inc.

W. F. Meredith, President

CFK:MGY cc: GWT, WFW, PCP, CFK

Exhibit 353

May 17th, 1934.

Mr. Adrian D. Joyce, President,
American Zirconium Corporation,
Baltimore Trust Building,
Baltimore, Md.

Dear Mr. Joyce:—

We have been advised that you propose to enter into the manufacture of Titanium pigments, and in fact, are commencing the construction of a plant in Baltimore. We presume that our advice is correct.

I am taking the liberty of calling your attention to the fact that we own and control a great many patents covering processes of manufacture and uses of Titanium pigments. We will be glad to furnish you with a list of these patents. We believe that they control important steps for the economical manufacture of Titanium pigments, and we think we should advise you of this fact. Our friendly relations with you personally would make us regret exceedingly if we had to take action later on for the infringement of any of these patents.

We will be glad to discuss this patent situation with you and your people at any time you may select.

Yours very truly,

TITANIUM PIGMENT CO. INC.
President.

WFM/MC
CC—Mr. Carter
Dr. Thompson.

Exhibit 354

COPY

June 19, 1934

Mr. F. M. Carter, President
National Lead Company
111 Broadway
New York City

Dear Mr. Carter:

I am attaching copy of a letter I have received from our Vice President, Mr. W. J. O'Brien, covering his report of the meeting of your technical representatives with the technical men from our organization to discuss the patent situation. I am sure that if you will read this carefully you will be convinced that in manufacturing Titanium Pigments according to our processes, we will not come in conflict with the patents of the Titanium Pigment Company.

You doubtless have received a report from Dr. Thompson, and I will be glad to have a copy of this at your convenience. I will also be glad to make an appointment at your convenience to discuss any matters not clearly understood.

With my personal regards, I am

Yours truly,

ADRIAN D. JOYCE (Signed)
President

ADJ:CS

Exhibit 355

August 10, 1934

Dr. G. W. Thompson, Chief Chemist
National Lead Company
Research Laboratories
Building

Dear Dr. Thompson:

Pursuant to instructions received from you over the telephone on Thursday, July 19, I have given the statement made in your letter to Mr. Carter of July 9, 1934, second page, first paragraph, careful consideration and investigation, and beg to comment as follows.

This statement is contained in a paragraph, the intent of which is to refute certain paragraphs contained in the introductory section of Mr. O'Brien's letter to Mr. Joyce of June 26, 1934. The paragraphs written by Mr. O'Brien to which the paragraph in your letter specifically applies, are as follows:

> "It is my opinion that the art of making titanium oxide pigment was very well advanced and covered by patents prior to the time the Titanium Pigment undertook the manufacture of titanium oxide. The National Lead Company became interested in the manufacture of titanium oxide around 1921 at Niagara Falls. They took over the Titanium Pigment Company and acquired, among other patents, the Barton and Rossi patents. Subsequently, they acquired the patents of the Norwegian Company including Goldschmidt, Jebsen, Farup, Fladmark, Olsen and Forland, and Nielson. They also acquired Wrigley & Spence and certain other British patents.

Even before this, there were certain other patents such as the Weintraub patent, which because of its date, was not of interest to the Titanium Pigment Company. At any rate it was not acquired.

"In addition to these patents there is a great deal of literature as far back as 1828 concerning the chemistry and technology of titanium oxide and its recovery from ilmenite sands. In fact, a study of the whole art of the chemistry and technology involved in the preparation of titanium oxide shows that the field has been a very prolific one during the last hundred years, and as a result of this work there is a tremendous mass of data and patents. As a consequence, any of the unexpired patents or patents on which there might be some possibility of infringement, are not basic patents but are patents pertaining to some particular phase in operation.

"Many of these patents are very questionable where there is any invention involved due to the prior art and knowledge already existing. Of course, questions pertaining to the validity of these patents could only be settled by court action. Unfortunately, there has been no litigation involving titanium oxide processes, and the validity of these patents has never been tested out in court."

In reply to the above quotation, your letter contains the following paragraph:

"With this position we most certainly differ. The history of the manufacture of titanium pigments presents competent evidence that the inventions covered by unexpired patents which we now own re-

sulted in the production of titanium pigments vastly superior through having greater commercial value to those produced prior to such inventions, and with greater economy of production. It is our contention that the prior art discloses a searching and groping for what was ultimately attained by the patents on which the strength of our present positions rests." (underscoring mine).

The last sentence of the above is the one for which, as I understand it, you wish me to find confirming data from the early records of the Titanium Pigment and National Lead Company.

Before going into the data which I have been able to collect, I should like to comment briefly on the relation between the above quoted paragraph in your letter, and the paragraphs taken from Mr. O'Brien's letter.

The first part of Mr. O'Brien's letter is a general introduction leading up to a detailed discussion of the individual steps in the proposed process of the American Zirconium Company, as revealed to us on June 15, 1934. This discussion sets the stage, as it were, for what follows, namely, a detailed discussion of those patents owned by the Titanium Pigment Company which might possibly have a bearing on certain steps in the proposed process of the American Zirconium Company. Mr. O'Brien attempts to develop the idea that the prior art understood how to manufacture satisfactory titanium oxide pigments.

The paragraph in your letter which is in question was written to refute these remarks of Mr. O'Brien. In its way, it is as general as his statements. The phrase, "patents on

which the strength of our present position rests," refers to the entire group of some sixty-eight patents which we now own or control.

The inference may be drawn that inasmuch as the remaining portion of your letter refers specifically to only four out of these some sixty-eight patents, as follows,

U. S. P. #1,288,863 Fladmark
" 1,333,849 Olsen and Forland
" 1,333,819 Jebsen
" 1,348,129 Goldschmidt

the phrase, "patents on which the strength of our present position rests," refers only to these four patents. Such inference, however, does not appear to be warranted from the study of both letters when viewed in the light of the above comment, namely, that the statement contained in your letter is part of a general refutation of equally general contentions contained in the introductory part of Mr. O'Brien's letter.

Viewed in this light, it is not difficult to find confirming data in the early records of the National Lead and Titanium Pigment Company. If the statement be restricted as applying only to the four above mentioned patents, then the task is more difficult, inasmuch as the fact is that the Titanium Pigment Comany did not immediately place into operation the processes contained in these four patents, and did not actually offer pure titanium oxide to the paint trade until 1925 and, even then, did not produce such pure titanium oxide from a process based upon these patents. In 1925, pure titanium oxide was offered to the paint trade manufactured by a process based upon methods worked out by Messrs. Barton and Ryan, which were not based on

the four patents discussed in your letter to Mr. Carter. Nevertheless, these methods constitute today part of the patent structure "on which the strength of our present position rests."

Consequently, there is very little data available concerning the manufacture of pure titanium oxide prior to 1925, and the quality of the product.

On the other hand, because production started on composite pigments, principally Titanox-B, there is ample evidence that the quality of the product was not comparable to the present day pigment. It appears to be sound reasoning to conclude that since the early composite pigments were inferior to the present day pigments, the quality of the titanium oxide which could have been produced in the early days was even more inferior, relatively, to the present day pure titanium oxide.

Our present process for manufacturing pure titanium oxide is to a large extent based upon the processes disclosed in the patents to Jebsen, Fladmark, Olsen and Forland, and Goldschmidt, inasmuch as the ore is attacked by insufficient sulfuric acid to form normal sulfates, the solution is reduced to a definite concentration of titanous sulfate, hydrolysis is effected by heating a concentrated solution, and the hydrated precipitate is calcined to obtain a crystalline structure. It therefore seems logical to contend that the economy of manufacture, and the quality of our present day titanium oxide is due, in a large measure, to the recent change in our manufacturing processes. The fact that these processes were not introduced for so many years after we acquired these patents, may be somewhat embarrassing, but not necessarily injurious to our legal position with respect to them.

Exhibit 355

It is my opinion that we should not be concerned too seriously with the statements made either in Mr. O'Brien's letter to Mr. Joyce, or in your letter to Mr. Carter, for several reasons. In the first place, your letter is clear in disclaiming any future responsibility for the statements made therein with respect to whatever legal position we may take relative to our patents. In the second place, should the developments with the American Zirconium Company reach the litigation stage, we would have to be guided entirely as to the manner of presenting our case and as to the kind of evidence offered by us to support our case, by our legal representatives.

Attached, hereto, is a table showing the quality of our present day pigments compared with those made in the past, as obtained from our early records. The sources from which this data was obtained are given.

In preparing this letter, I have consulted with Messrs. Turner, Washburn, and Barton, who are in agreement with the statements made herein.

Respectfully yours,

CHARLES F. KAEGEBEHN

CFK:MCY
Encl.

Exhibit 355

Possible Processes of American Zirconium Company, and Preliminary Survey of Pertinent Titanium Pigment Company Patents.

I. TiO_2 from Ilmenite.

a) According to prior art.

First: The preparation of a solution of titanium and iron in sulfuric acid by digesting ilmenite in an excess of sulfuric acid than would be required by all base-forming elements present in the ilmenite, and dissolving in water. Subjecting this solution to an uncontrolled reduction treatment and heating the solution at atmospheric pressure, without removing ferrous sulfate, to effect hydrolysis.

Discussions

If the hydrolysis is accomplished by boiling a solution of titanium and iron containing more than 80 grams TiO_2 per liter, it might infringe U.S.P. No. 1,288,863 Dec. 25, 1918 to Fladmark.

If the reduction is carried out to a point where a sufficient amount of titanium is reduced to titanous condition in order to insure against reoxidation of ferrous iron to ferris during hydrolysis, it might infringe U.S.P. No. 1,333,849 Mar. 17, 1920 to Olsen and Forland.

In view of the disclosures of Weintraub U.S.P. No. 1,014,793 and Barton U.S.P. Nos. 1,196,030, 1,196,031, there may be some difficulty in sustaining Fladmark's Patent.

If ferrous sulfate is removed by crystallization, it will infringe U.S.P. No. 1,338,473 Apr. 28, 1920 to Wrigley and Spence.

Exhibit 355

II. TiO_2 from Ilmenite and Rutile.

a) According to Rhodes Patent No. 1,922,328 Aug. 15, 1933.

First: The preparation of a rutile seed crystal by forming a sodium titanate, neutralizing this with hydrochloric acid, and adding the solution in which are suspended the rutile seed crystals to a titanium sulfate solution. Rhodes gives a typical formula of this solution as:

TiO_2	250 gr.	per liter.
Iron	25 "	" "
H_2SO_4	575 "	" "

(It will be seen that such a solution is slightly basic, it is concentrated as to TiO_2 content, and has apparently been freed from ferrous sulfate). The mixed solutions are hydrolyzed by boiling at atmospheric pressure.

Discussions

Early Spence Patents may protect Zirconium for the preparation of a titanate from 1 molecule of NaOH and 1 molecule of TiO_2 as rutile, forming $NaTiO_3$. However, if 1 molecule of NaOH is used to 2½ molecules of TiO_2 as rutile, which is the most economical procedure, then it will infringe U.S.P. No. 1,929,521 Oct. 10, 1933 to Ryan and Knoff.

If Rhodes prepares a concentrated basic solution from ilmenite, removes ferrous sulfate, after a reducing treatment, he will probably infringe U.S.P. Nos. 1,338,473 Apr. 28, 1920 to Wrigley and Spence, and 1,333,819 Mar. 16, 1920 to Jebsen.

If he reduces the ferric iron to ferrous and sufficient titanium to titanous to insure against reoxidation of iron, he might infringe U.S.P. No. 1,333,849 Mar. 17, 1920 to Olsen and Forland.

If he hydrolyses by boiling a solution containing more than 80 grams TiO_2 per liter, he will probably infringe U.S.P. No. 1,288,863 Dec. 25, 1918 to Fladmark.

If he removes iron as ferrous sulfate crystals, he will infringe U.S.P. No. 1,338,473 Apr. 28, 1920 to Wrigley and Spence.

b) According to Richter's Patents Nos. 1,932,087 and 1,947,226.

First: The preparation of nuclei from rutile by forming a sodium titanate, launching this with water, and dissolving the separated TiO_2 in 50% H_2SO_4 to form solutions of 90 to 300 grams TiO_2 per liter and which are basic in character, and adding this solution to an acid solution of titanium from ilmenite.

Discussions:

Richter can probably form a titanate of the formula $NaTiO_3$ but, if he uses 1 molecule of NeON to 2½ molecules of TiO_2, as rutile, he will infringe U.S.P. No. 1,929,521 Oct. 10, 1933 to Ryan and Knoff.

If the solution resulting from the treatment of the sodium titanate with 50% sulfuric acid is basic, he will infringe U.S.P. No. 1,333,819 Mar. 16, 1920 to Jebsen.

If the solution contains more than 80 grams per liter and is hydrolyzed by boiling, he will infringe U.S.P. No. 1,288,863 Dec. 25, 1918 to Fladmark.

If the mixed solution, i.e. the acid solution from ilmenite and the basic solution from the titanate, contains less

sulfuric acid than necessary for all base forming elements, he will infringe U.S.P. No. 1,333,819 Mar. 16, 1920 to Jebsen.

If the solution contains more than 80 grams TiO_2 per liter and is hydrolyzed by boiling, he will infringe U.S.P. No. 1,288,863 Dec. 25, 1918 to Fladmark.

If, in adding to the acid solution from ilmenite, Richter leads in his basic solution from rutile in such a way as to preserve a more or less constant concentration of titanium during hydrolysis, then he will probably infringe U.S.P. No. 1,773,727 Aug. 26, 1930 to P. Farup.

III. TiO_2 from Rutile.

a) According to Labowsky's Patents Nos. 1,640,952, 1,793,501, 1,843,427, and 1,888,993.

First: Lubowsky prepares a magnesium titenate from a fusion or a fritting of rutile and magnesia, treats the resulting titanate with sulfuric acid, dissolves the cake in water, removes magnesium sulfate by chilling to O°C. to induce crystallization, reduces ferric iron to ferrous and some titanium to titanous, and precipitates TiO_2 by heating under pressure.

Discussions:

If Labowsky's titanium solution, after reduction, and removal of magnesium sulfate is basic, he will probably infringe U.S.P. No. 1,333,819 Mar. 16, 1920 to Jebsen.

If he reduces the solution to have sufficient titanous ions to insure against subsequent reoxidation of iron, he will probably infringe U.S.P. No. 1,333,849 Mar. 17, 1920 to Olsen and Forland.

If he hydrolysis by heating under pressure, he will probably infringe U.S.P. Nos. 1,402,256 Jan. 3, 1912 and 1,410,056 Mar. 21, 1922 to R. H. Buckman.

IV. Treatments and Conversion of the Hydrated Titanium Precipitates from any of the foregoing processes.

a) Calcining in the presence of a small amount of sodium titanate, according to Rhodes' U.S.P. No. 1,931,682.

Discussion:

The product from such treatment may possibly infringe U.S.P. No. 1,697,929 Jan. 9, 1929 to L. W. Ryan.

b) Calcining to yield a pigment of cryptocrystalline structure; having good paint qualities.

Discussion:

Such a step would probably infringe U.S.P. No. 1,348,129 July 28, 1920 to Goldschmidt.

c) Any treatment with phosphoric acid or phosphorous compounds to reduce, after calcination, a pigment of superior qualities.

Discussion:

Such a procedure would probably infringe one or more of the following patents:

U.S.P. No. 1,360,737. Nov. 30, 1920. P. Farup.
" " 1,412,027. Apr. 4, 1922. W. E. Washburn.
" " 1,820,988. Sept. 1, 1931. L. W. Ryan.
" " 1,916,236. July 4, 1933. L. W. Ryan.

d) Removal of SO_3 from hydrated titanium precipitates.

Exhibit 355

Discussion:

If an alkali-metal salt whose sulfate is water-soluble, is added to the pulp and the resulting sulfate washed out, it will infringe U.S.P. No. 1,361,867 Dec. 14, 1920 to Jebsen.

If a base is added prior to calcination, to form a pigment containing a titanate, one or more of the following patents will probably be infringed:

U.S.P. No. 1,436,164. Nov. 21, 1922. V. M. Goldschmidt.
" " 1,363,468. June 15, 1920. Nielson & Goldschmidt.
" " 1,363,469. June 15, 1920. Nielsen & Goldschmidt.

C.F. Kaegebehn
June 13, 1934.

MCK.

Exhibit 356

December 20, 1934.

Mr. Adrian D. Joyce
Colonial Hotel
Mt. Clemens, Michigan.

Dear Mr. Joyce:

I am glad to hear that you are at Mt. Clemens and trust that your stay there will be very beneficial for your sciatica.

At our Board Meeting today the proposition submitted to us by you to accept common stock in the American Zirconium Company and a membership on the Board of Directors of that Company in exchange for a non-exclusive license under our Titanium patents for the life thereof was discussed.

During the discussion several legal points as affecting our ownership of the stock were brought out which necessitate submission of same to our counsel before any final conclusion can be drawn. In a general way I may say we are in agreement in principle on your proposition.

I am leaving tomorrow afternoon for the holidays but will be back in New York on the morning of January 2nd and trust we can bring this matter to a conclusion very quickly thereafter. When will it be convenient for you to come to New York after January 2nd?

With kindest personal regards, and wishing you the Compliments of the Season, I am,

Yours very truly

W. C. BESCHORMAN
Executive Vice President.

Exhibit 357

COPY

Outline of an understanding arrived at today between W. C. Beschorman and A. D. Joyce covering the matter of exchange of licenses under certain patents relating to Titanium Pigments.

Briefly, it is understood that the Titanium Pigment Company, Inc. will grant to the American Zirconium Corporation a non-exclusive license under patents owned or controlled by the Titanium Pigment Company, Inc., or patents under which the Titanium Pigment Company are permitted to grant sub-licenses; and that the American Zirconium Corporation will grant non-exclusive licenses to the Titanium Pigment Company, Inc. for all patents and processes that they own or control in connection with the manufacture of Titanium pigments, together with an exclusive license to the Titanium Pigment Company, Inc. to make use of these processes and patents in the foreign field.

It is the purpose of this exchange of licenses to permit the Titanium Pigment Company, Inc. and the American Zirconium Corporation to manufacture Titanium pigments under processes developed or used by either of these concerns so far as it is in the power of either concern to grant permission for the use of such manufacturing processes.

The territory in which the American Zirconium Corporation can use these licenses being limited to the United States and its possessions.

The American Zirconium Corporation, in payment for licenses and rights to use processes used and developed by the Titanium Pigment Company, Inc., shall transfer to the Titanium Pigment Company, Inc. 10% of the total issue

of common stock of the American Zirconium Corporation. Inasmuch as there seems to be a possibility of a law suit in connection with the validity of the American Zirconium Corporation's patents and processes, or for violation by it of other patents not mentioned in this memorandum, then it is understood that the American Zirconium Corporation will undertake to pay to the Titanium Pigment Company, Inc. in lieu of dividends 10% of the annual profits of the American Zirconium Corporation after the payment of dividends on the American Zirconium Corporation's preferred stock, and without taking into consideration any of the expenses or costs or judgments for which it is rendered liable in connection with any such infringement suits, and during the pendency and until final settlement of same.

This memorandum is initialled on two copies as evidence of our understanding and is to be put in contract form by the Titanium Pigment Company, Inc. and is then subject to approval by the Boards of Directors of the respective companies and by the attorneys for said companies.

W. C. B. (Signed)
A. D. J. (Signed)

New York
February 14, 1935.

Exhibit 359

DRAFT

CONFIDENTIAL

February 20, 1935.

Adrian D. Joyce, President;
The Glidden Company,
c/o Hotel El Conquistador,
Tucson, Arizona.

Dear Mr. Joyce:—

Following our conversation in New York on February 14th, relative to your application for a license for your subsidiary, American Zirconium Corporation, under our patents covering Titanium Dioxide Pigments, the matter has been very thoroughly reconsidered and we have now prepared a form of license, as attached, setting forth definitely the final terms acceptable to Krebs Pigment & Color Corporation. If approved by you we are required to submit this proposed license to the Executive and Finance Committees of E. I. du Pont de Nemours & Company for final authorization, which procedure has been explained to you.

As I have stated to you previously, we believe our patent position to be of such strength and value as to be worth considerably more than the modified terms under which we are now offering you a license, but since negotiations have already been under way for some considerable time we are desirous of bringing the matter to a close, and are, therefore, submitting the attached license to you as our final proposition.

You will note that we are presenting this proposal on the basis of a much modified royalty schedule at definite rates per pound, and also on a percentage of spread between

an arbitrary cost of 8¢ per pound on our own published carload selling price to the general trade, with the condition that the first named shall in no case exceed amounts equal to the percentages shown of the difference or "spread" between this specified manufacturing cost and selling price, except where quantities exceed the annual quantities specified under the terms of the agreement.

Relative to your suggestion that provision be made to have our license include rights under any of our future patents in the Titanium Dioxide Pigment field, and that we would also be granted rights under any of your patents now issued or which may be issued, we regret that this is not of interest or acceptable to us. If either of us have patents in the future which are of interest to the other, they should be subject to negotiation, and we believe you will find us entirely reasonable with respect to any situations which may so arise. However, we are sorry that any blanket allowance of rights under future patents cannot be considered by us, and if at any time you have anything of value in the patent field, we will be very glad to discuss the same with you.

I hope that the proposed license agreement as now presented will be found satisfactory and acceptable, and that upon your return East we will be able to bring these negotiations to a speedy conclusion.

Trusting that your stay in Arizona will prove most beneficial in ridding you of your sciatica trouble, and with kindest regards, I remain

Very truly yours,

CHR:s
Encl.

President.

Exhibit 359

I

Amount of royalty American Zirconium Company Inc. would pay Krebs on basis of ½¢ to 1½¢ per pound as per schedule in proposed license:

	Quantity per Year	Rate of Royalty	Amount of Royalty	Average Royalty Rate
First	1,000 Tons	½¢ per pound	$ 10,000	.500¢ per lb.
Next	1,000 Tons	¾¢ per pound	15,000	.625¢ per lb.
Next	1,000 Tons	1¢ per pound	20,000	.750¢ per lb.
Next	1,000 Tons	1¼¢ per pound	25,000	.875¢ per lb.
Next	1,000 Tons	1½¢ per pound	30,000	1.000¢ per lb.
Next	1,000 Tons	1½¢ per pound	30,000	1.083¢ per lb.
Total	6,000 Tons		$130,000	

II

Rates of royalty American Zirconium Company Inc. would pay Krebs on basis of spread between arbitrary manufacturing cost of 8¢ per pound and Krebs' published carload selling price to general trade of 17¢ per lb. (a spread of $180.00 per net ton) to arrive at same amount of royalty annually as would be derived from the suggested "cents per pound" basis:

	Quantity per Year	% of Spread	Amount of Royalty	Avg. % of Accumulated Spread
First	1,000 Tons	5.56	$ 10,000	5,56
Next	1,000 Tons	8.33	15,000	6.94
Next	1,000 Tons	11.11	20,000	8.33
Next	1,000 Tons	13.89	25,000	9.72
Next	1,000 Tons	16.67	30,000	11.11
Next	1,000 Tons	16.67	30,000	12.03
Total	6,000 Tons		$130,000	

Exhibit 359

III

Rates of royalty American Zirconium Company Inc. would pay Krebs on basis of spread between arbitrary manufacturing cost of 8¢ per pound and Krebs' published carload selling price to general trade of 17¢ per pound (a spread of $180.00 per net ton) to provide a royalty to Krebs 25% greater than would be derived on the suggested "cents per pound" basis:

	Quantity per Year	% of Spread	Amount of Royalty	Avg. % of Accumulated Spread
First	1,000 Tons	6.94	$ 12,500	6.94
Next	1,000 Tons	10.42	18,750	8.68
Next	1,000 Tons	13.89	25,000	10.42
Next	1,000 Tons	17.36	31,250	12.15
Next	1,000 Tons	20.83	37,500	13.89
Next	1,000 Tons	20.83	37,500	15.05
Total	6,000 Tons		$162,500	

IV

Rates of royalty American Zirconium Company Inc. would pay Krebs, by rounding out percentages in schedule under III:

	Quantity per Year	% of Spread	Amount of Royalty	Avg. % of Accumulated Spread
First	1,000 Tons	7.00	$ 12,600	7.00
Next	1,000 Tons	10.00	18,000	8.50
Next	1,000 Tons	14.00	25,200	10.38
Next	1,000 Tons	17.00	30,600	12.00
Next	1,000 Tons	21.00	37,800	13.80
Next	1,000 Tons	21.00	37,800	15.00
Total	6,000 Tons		$162,000	

Exhibit 360

CC—Mr. Wm. Richter—Wil.
Mr. C. H. Lyman—Office

CONFIDENTIAL

March 21, 1935.

MR. W. F. HARRINGTON—WILMINGTON
MR. A. B. ECHOLS "

LICENSE AGREEMENT—AMERICAN ZIRCONIUM CORP.

At the Board Meeting held March 18th I reported that a letter had gone forward to Mr. Adrian D. Joyce, President of American Zirconium Corporation, The Glidden Company subsidiary, submitting our final proposition on a licensing agreement under our Titanium Dioxide patents, for which they had applied. This had been reviewed and approved by the former members of the Krebs Board, but it was suggested that copies, as attached, be sent to you for your information.

The letter directs attention to the fact that the proposed license is subject to final approval by the Executive and Finance Committees.

You will note that the salient points are a royalty payment based on tonnage, with a definite restriction of the tonnage which can be produced.

There is also attached a Guaranty of Performance upon the two stockholders of American Zirconium Corporation, namely, The Glidden Company and Metal & Thermit Corporation.

C. H. RUPPRECHT.

CHR:s
Encls.

P. S.—C. H. Lyman:—The extra copy of the above mentioned attachments requested by you is enclosed herewith.

C. H. R.

Exhibit 361

March 27, 1935

Mr. W. C. Beschorman, Executive Vice-Pres.
National Lead Company
111 Broadway
New York, N. Y.

Dear Mr. Beschorman:

I beg to call your attention to a situation which I believe has a bearing upon our relations with the American Zirconium Corporation. I have been informed that there has appeared an advertisement in a British Scientific Journal to the effect that British Patent No. 351,841 owned by the Metals and Thermit Corporation was offered for sale of license to the British chemical industries.

This British Patent is apparently equivalent to United States Patents Nos. 1,793,501 and 1,888,993 both to Simon Lubowsky and assigned to the Metals and Thermit Corporation.

Under the terms of the 1920 Agreement, any license or sub-license which we may give in the United States must be conditional upon a similar grant of license under foreign patents owned by the licensee or sub-licensee to our foreign affiliates. That is to say, if an understanding has been reached with the American Zirconium Corporation, this particular British Patent in question should be offered gratis to the British Titan Products Company.

In this connection, may I respectfully suggest that, if it is contemplated to exchange licenses under future patents, provisions be made for us to inspect the pending applications of the American Zirconium Corporation. If our negotiations with the American Zirconium Corporation are following the lines of the 1920 Agreement, copies of such

applications should be sent through us to the Titan Company, Inc. in Paris, so that our foreign affiliates may reach a decision as to whether they desire licenses under corresponding foreign patents. The decision as to filing these foreign patents should rest with the Titan Company, Inc., in order that no foreign competition may develop based upon patents originally issued to American corporations which may be our licensees or sub-licensees, and which have been assigned by them to European companies who are competing with the group with which we are affiliated.

Very truly yours,

Titanium Pigment Co., Inc.
Secretary,
Patent Committee

CFK:MCY

cc: GWT
JLT

Exhibit 362

March 27, 1935.

Mr. Adrian D. Joyce, President
The Glidden Company
1963 Union Trust Building
Cleveland, Ohio.

Dear Mr. Joyce:

It has just come to my attention that the British Patent #351,841 owned by the Metals and Thermit Corporation is advertised in a British Scientific Journal as being offered for sale of license to the British Chemical Industries.

This British patent is apparently equivalent to United States Patents #1,793,501 and #1,888,993 both to Simon Lubowsky and assigned to the Metals and Thermit Corporation. We understand that the American Zirconium Company is operating under these patents.

In accordance with our proposed license to the American Zirconium Company all foreign patents owned either by The Glidden Company, the Metals and Thermit Corporation or American Zirconium Corporation applying to the Titanium field should be assigned to the Titanium Pigment Company, and we would consider it a breach of faith if prior to the signing of our License Agreement any of these foreign owned patents were alienated.

Very truly yours

W. C. Beschorman
Executive Vice President.

Exhibit 363

Letterhead of

THE GLIDDEN COMPANY

March 28th, 1935

Mr. W. C. Beschorman,
Executive Vice President,
National Lead Company,
111 Broadway,
New York City.

Dear Mr. Beschorman:

I am just in receipt of your letter of March 27th concerning British patent 351,841, owned by Metal and Thermit Company. I immediately called Dr. Hirschland, presi'ent of Metal and Thermit and asked him about this. He said to me that he had no information about the subject but will immediately investigate it. He also said for me to assure you that the patent referred to will not be sold and that his company will not do anything that could be construed as a breach of faith.

Dr. Hirschland said he could not understand the advertisement, but that he will immediately take steps to make sure the advertisement is withdrawn if it is a patent that his company owns.

Thanking you for calling this to my attention, I am

Very truly yours,

ADRIAN D. JOYCE
President

ADJ:Q

Exhibit 364

June 3, 1935.

Mr. C. J. Stopford, General Manager,
British Titan Products Company,
Billingham, England.

Dear Mr. Stopford:

Apropos of the matter of the opposition filed by the British Titan Products Company to British Patent 406,580 of the Metal & Thermit Corporation, we can now definitely inform you that the British Titan Products Company is in a position to secure a license under this patent.

It will, therefore, probably be advisable to abandon the opposition.

The Metal & Thermit Corporation has informed us that they also own British Patent No. 351,841 which is also at your disposal for license.

We are writing to Titan Co., Inc. at this time, acquainting them of the recently signed Agreement with the American Zirconium Corporation and inquiring as to how they wish the exchange of licenses to be carried out. We have requested a complete schedule of foreign patents and applications owned or controlled by the American Zirconium Corporation and its parent companies. The Glidden Company and the Metal & Thermit Corporation. To date we have received the desired information from Metal & Thermit and negotiations are progressing with the Glidden Company and the American Zirconium Corporation.

We are sending the schedule of Metal & Thermit patents to Titan Co., Inc. It appears to us that the transfer of licenses can probably be carried out most conveniently by handling the patents of each of the three companies as

a group. Accordingly, unless you would like specific information directly from us, we will carry on all future correspondence relative to this matter with Titan Co., Inc.

With very kind regards, we are,

Very truly yours,

TITANIUM PIGMENT CO., INC.

Secretary,
Patent Committee.

CFK:AJ

Exhibit 365

Dr. G. Jebsen,
For Mr. Andreas Ravnestad,
c/o Titan Co. Inc.,
26, rue de la Pepiniere,
Paris, 8e—France.

June 7, 1935.

RE: Foreign Applications and Patents Now Owned by the Glidden Company and the American Zirconium Corp.

Gentlemen:

With future reference to the exchange of rights in foreign patents and applications of the American Zirconium Corporation concerning which we wrote you on June 3, 1935, we have just received information concerning this matter from the American Zirconium Corporation and the Glidden Company.

We are advised that neither The Glidden Company nor the American Zirconium Corporation has or has had any foreign patent applications in the titanium field. Consequently, there are no patents available to you from either company. The patents available to you are the two French, the two British, and one Norwegian discussed in our letter of June 3, 1935. The applications available to you are those U. S. applications now owned by the American Zirconium Corporation, the first of which was sent you with our letter of June 4, 1935.

Very truly yours,

TITANIUM PIGMENT CO., INC.

Secretary,
Patent Committee.

CFK:AL

Exhibit 366

Letterhead of

TITAN COMPANY, INC.

SA/LA

Paris, 13. June 1935

Titanium Pigment Co. Inc.
105 York Street
Brooklyn N. Y.

Att. Mr. C. F. Kaegebehn

Dear Sirs,

British Patent Spec. No. 406.580 Metal & Thermit Corp.

We beg to refer to our letter of 8th June 1934 by which we informed you that we intended to file an application for revocation of the above patent.

In view of your negotiations with the American Zirconium Co. (who controls the Metal & Thermit Corporation's titanium patents) which we, according to information from Mr. Stopford,, understand includes your taking over the rights under the British patents of this company, we have refrained from taking any action against the above British patent.

Yours very truly,

Per Titan Company Inc.

Andreas Ravnestad

Exhibit 367

June 14, 1935.

Mr. Milton Zucker, Patent Dept.,
The Glidden Company,
Cleveland, Ohio.

Dear Mr. Zucker:

This will acknowledge receipt of your letter of June 12 and the copies of the three U. S. applications of the American Zirconium Corporation as follows:

Bousquet et al	Ser. No. 6098	Feb. 11, '35
Allen & Bousquet	Ser. No. 6130	Feb. 11, '35
Little	Ser. No. 721,970	Apr. 23, '34

These, together with the three applications previously received and acknowledged, correspond with the list furnished us with your letter of May 31.

We thank you very much for your prompt attention in this matter and will again write you as soon as our foreign affiliates have had the opportunity of examining these applications.

Very truly yours,

TITANIUM PIGMENT CO., INC.

Secretary,
Patent Committee.

CFK:AL

Exhibit 368

June 14, 1935.

Dr. G. Jebsen
For Mr. Andreas Ravnestad,
c/o Titan Co., Inc.,
26, rue de la Pepiniere,
Paris, 8e—France.

RE: American Zirconium U. S. Ser. Nos. 6098, 6130, and 721,970.

Gentlemen:

Pursuant to Article V, Sections (a) and (b) as amended of the Agreement of 1920, and pursuant to Article VIII of our Agreement with the American Zirconium Corporation, we enclose herewith one copy of each of the following three U. S. patent applications owned by the American Zirconium Corporation:

Bousquet et al.	Ser. No. 6098	Feb. 11, 1935.
Allan & Bousquet	Ser. No. 6130	Feb. 11, 1935.
Little	Ser. No. 721,970	Apr. 23, 1934.

With the receipt of these three applications the American Zirconium Corporation has discharged its obligations to us up to the present time; that is to say, when the Agreement was concluded, the American Zirconium Corporation had only six patents pending. Together with the three applications previously sent you, these will complete the group.

We suggest that you assign new T Case numbers to these applications. Will you advise us as promptly as possible in what foreign countries you may wish applications

to be filed, and at the same time send to us any documents necessary to enable you to file the applications.

Very truly yours,

TITANIUM PIGMENT CO., INC.
Secretary,

Patent Committee.

CFK:AL

Exhibit 369

COPY

(ORIGINAL IN C. H. LYMAN'S SECRETARY'S FILES)

July 18, 1935

To : FINANCE COMMITTEE

FROM: EXECUTIVE COMMITTEE

LICENSE TO AMERICAN ZIRCONIUM CORPORATION (SUBSIDIARY OF THE GLIDDEN COMPANY) UNDER TITANIUM DIOXIDE PROCESS PATENTS OF KREBS PIGMENT & COLOR CORPORATION:

At a meeting of the Executive Committee, held yesterday, the above subject was discussed in detail with Messrs. C. H. Rupprecht, President, Krebs Pigment & Color Corportion, and Wm. Richter, General Manager, Fabrics & Finishes Department, as a result of which it was moved and unanimously carried that, subject to approval of the Finance Committee, the following resolution be adopted:

RESOLVED, that the granting of a license to American Zirconium Corporation under the titanium dioxide process patents of Krebs Pigment & Color Corporation be approved, on the basis of a royalty payment of 2% on Krebs carload selling price to the general trade, with restriction of tonnage which Licensee could produce, i.e., not more than 3,000 tons per year for three years beginning with 1935; not more than 6,000 tons per year for six years beginning with 1938; and not more than 9000 tons per year over the balance of the license period, which would run to the expiration of Krebs patents in the year 1950.

EXECUTIVE COMMITTEE

By M. D. Fisher

Secretary

Exhibit 369

American Zirconium Corporation (subsidiary of The Glidden Company) applied to Krebs Pigment & Color Corporation for a license under Krebs Titanium Dioxide process patents. It is believed that American Zirconium Corporation infringe a number of Krebs patents, but no proof is available, and it would be necessary to institute Court Interrogatory proceedings against American Zirconium Corporation to develop definite proof.

Negotiations between Krebs and American Zirconium Corporation have reached the point where Krebs' proposals have been rejected and counter proposals offered, all of which were discussed with the Executive Committee. As a result of the discussion the Committee approved granting of a license to American Zirconium Corporation on the basis of a royalty payment of 2% on Krebs carload selling price to the general trade, with restriction of tonnage which Licensee could produce, i.e. not more than 3000 tons per year for three years beginning with 1935; not more than 6000 tons per year for six years beginning with 1938; and not more than 9000 tons per year over the balance of the license period, which would run to the expiration of Krebs patents in the year 1950.

Based on Krebs present carload selling price, a 2% royalty on a production of 3000 tons per year would yield $20,400; on 6000 tons per year $40,800; and on 9000 tons per year $61,200. As selling prices are expected to decline over future years, these figures will be correspondingly lower.

License does not call for any exchange of information, know-how or future developments, and is confined entirely to Krebs' present issued patents in the pure titanium dioxide field. Any subsequent developments now in process or any patent applications in the extended titanium field are not included.

Exhibit 370

Letterhead of

TITAN COMPANY, INC.

SA/GK Paris, 25th. October 1935

Titanium Pigment Co. Inc.,
P. O. Box 58,
South Amboy N. J. U. S. A.

C. F. Kaegebehn, Esq.,

Dear Sir,

American Zirconium Corporation and Titanium Pigment Co. Inc.'s Agreement

At the end of the copies received from you, of Articles VIII and XIII of the above agreement we read the following:

> Art. VIII . . . "or sell the product t' reof throughout the full term of any patent granted thereof".
>
> Art. XIII . . . "shall continue and remain in force throughout the full term of said respective Letters Patent".

It appears that the expression "full term" refers to the life of the patent in Art. XIII but it is not quite clear to us whether this expression refers to the scope of the patent or the life of the patent in Art. VIII and we should be obliged if you would let us have your opinion to this question.

We should also like to know under which conditions the Agreement can be terminated sooner than the 7th. August 1951 as mentioned in the beginning of Art. XIII.

Exhibit 370

7. Who has to pay the expenses involved in the maintenance of patents which have not expired at the termination of the agreement?

Yours very truly,

Andreas Ravnestad
per Titan Company Inc.

Exhibit 371

November 7, 1935.

Dr. G. Jebsen,
For Mr. Andreas Ravnestad,
c/o Titan Company, Inc.,
26, rue de la Pepiniere,
Paris, 8e.—France.

American Zirconium Corporation—
Titanium Pigment Company Agreement.

Gentlemen:

Your letter of October 25, 1935 has been received. We have given thought to the three inquiries made by you concerning the interpretation of Articles VIII and XIII of the agreement between the American Zirconium Corp. and the Titanium Pigment Company. Our comments are as follows:

1.) As to the expression "full term" referring to patents as used in Articles VIII and XIII.

We interpret the expression "full term", as used in both articles to refer to the life of the patent. As used in the phrase quoted by you, we interpret its meaning to be that the exclusive licenses granted under this article are of such a nature as to permit us or our licensees to make, use, and sell the products of invention falling within the scope of any patent included in the License Field, throughout the full term (life) of the patent.

2.) Termination of the agreement prior to August 7, 1951.

Exhibit 371

We attach hereto copy of Article X which covers the only possibility of terminating the agreement prior to August 7, 1951. The first part of Article XIII refers, in our opinion, to Article X:

3.) As to expense of maintaining unexpired patents at the termination of the agreement.

There is no provision in the agreement to cover this point. However, it appears to us that the expense of maintaining any patent which has not expired at the termination of the agreement will devolve upon the party having title thereto. That is to say, where American Zirconium has through us turned over to yourselves or your European associates the right to file foreign applications for a given invention which applications mature into patents which are still in force at the expiration of the agreement, it will devolve upon you or your European associates who have taken title to the patent to maintain the respective patents. The Metal and Thermit Corporation has indicated with respect to its foreign patents that they are willing to convey title to you and accordingly, the expenses of maintaining these patents devolve upon you. The American Zirconium Corporation in turn has indicated that it will not file applications in any foreign countries but will give to you, through us, the right to file corresponding foreign applications and will convey complete title to you, so that the patent may issue in your name or in the name of one of your European associates. Should such patent issue and the agreement terminate prior to the expiration of the patent, then according to our interpretation; the expense of maintaining the patent, now your property, will devolve upon you.

In other words, we fully expect that in the future, all foreign patents issuing out of inventions made by American Zirconium Corporation will become the property of the Titan Company Inc., or one of its European associates and accordingly, the expense of prosecution and maintenance of such patents will devolve upon you or your European associates.

We trust that we have answered clearly questions raised by you. If any further questions occur, we will endeavor to answer them to the best of our ability.

Yours very truly,

TITANIUM PIGMENT COMPANY, INC.
C. F. KAEGEBEHN

Secretary,
Patent Committee.

CFK:PS

Exhibit 371

ARTICLE X

"In the event of any violation or failure of performance on the part of either party hereto of any of the terms and conditions of this agreement to be performed or assumed by it the other party may by notice in writing mailed to the delinquent party of such delinquency, and unless such delinquency has ceased and satisfaction therefor been made within six months after the mailing of such notice the other party may at its option terminate the license or licenses granted such delinquent party hereunder by notice in writing to that effect mailed to the delinquent party as its last known post office address. Such termination of any license or licenses as in this Article hereof provided shall not release the delinquent party hereunder which may have accrued at the date of such termination, nor terminate any license or licenses granted by the delinquent party hereunder."

Exhibit 372

Letterhead of

TITAN COMPANY, INC.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Paris, April 8th 1936.

Dear Mr. Beschorman,

Re definition of the Licensed Field.

Many thanks for your letter of March 9th.

The definition of the Licensed Field in the 1920 agreement reads as follows:

"Licensed Field": By this designation as hereinafter "employed is meant to be included all substances, ma- "terials, or compositions consisting of or containing "above two percent. (2%) of titanium, or a com- "pound, or compounds, thereof, unless such sub- "stances, materials, or compositions contain by weight "more than five per cent. (5%) of a metal other than "titanium in its purely metallic (i.e. chemically un- "combined) state, and also to be included all apparatus, "methods, and processes, useful in the obtainment or "manufacture or use of said substances, materials, or "compositions in so far as said apparatus, methods "and processes may be employed in the production of "said substances, materials or compositions excepting "as aforesaid."

The definition in the American Zirconium Corporation agreement reads as follows:

Exhibit 372

"1. DEFINITIONS. (a). The designation "Licensed "Field" wherever herein employed means and includes "(1) all methods, processes and apparatus in the field "of manufacture and use of all titanium compounds "containing in chemical, mechanical or physical com- "bination two per cent (2%) or more of the element "titanium, and mixtures of such compounds, *which* "*can be used as pigments*, whether or not adapted for "other uses; and (2) all such titanium compounds and "mixtures thereof, *which can be used as pigments*, "whether or not adapted for other uses."

You will note that this last definition is limited to matters relating to pigments, and this is an essential difference, in my opinion, from the 1920 agreement.

Without having consulted anybody of our associated companies, I feel certain that they will share my opinion, although there may be a difference as to the importance which can be laid to future possible developments of Titanium compounds which are not pigments.

There is no doubt a wide field of possibilities in this respect, but, as everything concerning inventions and technical developments, it contains an element of gambling.

There are so many sides to the question of the importance and consequences of the wider definition of the Licensed Field, that it will take too long to go into it here.

In this connection, I will draw your attention to the definition of the Licensed Field, applied

1) in the agreements with the I. G. Farbenindustrie;

2) in the agreement with the British Titan Products Company, as well as the scheduled agreement No. 2 of the 1933 agreements for the formation of the British Titan Products Company.

Exhibit 372

Please note the reservation made by I. C. I. in this agreement and also article 11 of the Main Agreement of February 16th 1933.

I had a considerable amount of discussions with the I. C. I. regarding the reservation made, as they wanted to be free with regard to other compounds than pigments. You will note that article 11, however, provides for I. C. I. not dealing in or manufacturing such compounds, so that they cannot exploit any inventions in this direction except by selling them to us, and it has been verbally explained that such sales will be made on a very reasonable basis. We will in fact be the only buyer.

I drew the attention of the Board of Titan Company Inc. particularly on the position of the I. C. I. in my report for the year 1932, page 3.

Personally I mean that our concern should only take advantage of these stipulations in cases where

1) a considerable outlet for titanium compounds is involved;

2) a considerable profit can be expected and the invention is not due to a specific knowledge acquired through long years work by firms like the I. G. and I. C. I. If, however, such specific knowledge has been acquired, our justification to have it given to us is so small that it will only create a considerable antagonism with our partners.

Looking forward to your news, I am, with kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 372

P. S.—I the above I drew your attention to the definition of the Licensed Field applied in the agreements with the I. G. Fabenindustrie and the British Titan Products Company. The English one is a translation of the German and I should much appreciate if you will note the difference between this definition and the one in the 1920 agreement.

The 1920 definition includes, speaking in a popular way, processes for products made of titanium compounds and these products themselves, provided they contain 2% of titanium or more. This was of course impossible for the I. G. Farbenindustrie to accept, as it would include processes and products concerning for instance paper, artificial silk, etc., if it happens that they contain more than 2% of titanium.

I suppose this letter would be too long if I should enumerate the reasons and arguments which speak for the definitions as applied in the German and English agreements and which made the respective firms accept them, but we can perhaps take this up on my next visit to New York.

I am trying to arrange for my departure from here early May, as we agreed upon and, looking forward to see you all, I will inform you as soon as I am able to fix the date.

Exhibit 373

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, April 22nd 1936.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re definition of Licensed Field.

I refer to my letter of April 8th, to which I should have added that I.C.I.'s objection to the Licensed Field including all Titanium compounds was, as you will remember, partly due to their arrangements with Du Pont by which Du Pont has a first call on I.C.I.'s inventions for U.S.A. and the Canadian Industries Ltd. for Canada, so that the consequences of Article 11, mentioned by me, only pertain to the other territories.

The matter was discussed at that time and, in view of the arrangements you had on the way with Du Pont, approved.

In this connection, it should be remembered that I.C.I. is not licensed under any of our groups' Titanium patents but has only the 17% interest in the B.T.P. and its technical organisation is by far not so close to B.T.P.'s Titanium manufacture as the I.G. Farbenindustrie's organisation is to Titangesellschaft.

With kindest regards,

Yours very truly,

G. Jebsen.

Exhibit 374

Letterhead of

THE GLIDDEN COMPANY

April 18, 1936
(Dict. 4-17)

Mr. W. C. Beschorman, Vice President,
National Lead Company
111 Broadway,
New York, N. Y.

Dear Mr. Beschorman:

I am sorry I found you away when in New York a few days ago.

Mr. Joyce mentioned to me a conversation you had with him recently regarding the reported sales position of the American Zirconium Corporation representative concerning titanium prices when soliciting business from Endicott-Johnson. I have looked into this and shall speak to you about it at the first opportunity.

With kind regards, I am

Very truly yours,

P. E. SPRAGUE

PES:Q

Exhibit 375

May 7, 1936.

Mr. Adrian D. Joyce, President
The Glidden Company
Cleveland, Ohio.

Dear Mr. Joyce:

My attention has been called to the fact that the Harshaw Chemical Company are selling Rex Products Company, Pittsburgh, Pennsylvania, Titanium dioxide, enamel grade, for paint purposes at 16½¢ FOB Pittsburgh. Further that you are selling the Harshaw Chemical Company.

It has always been the policy of the Titanium industry to refuse to sell any off-grade Titanium dioxide or enamel grade, to anybody for paint purposes. In other words, nothing but the first quality product has been sold to paint people.

We trust that you will arrange with the Harshaw people to stop the sale by them of off-grade products to the paint industry.

Kindly let me hear from you.

Yours very truly,

W. C. Beschorman
Executive Vice President.

Exhibit 375

Letterhead of

THE GLIDDEN COMPANY

1963 Union Trust Building

Cleveland, Ohio.
May 8, 1936

Mr. W. C. Beschorman
Executive Vice President
National Lead Company
111 Broadway
New York, N. Y.

Dear Sir:

Your letter of the 7th has been received during Mr. Joyce's absence on a business trip in Europe. We are investigating the matter to which you refer and will have the information for Mr. Joyce upon his return to the office, which will be about May 20.

Thanking you for your letter, we are

Yours very truly,

G. C. Vannatta
Secretary to the President

Exhibit 376

COPY

DU PONT

E. I. DU PONT DE NEMOURS & COMPANY
(INCORPORATED)
WILMINGTON, DELAWARE

Fabrics & Finishes Department

November 12, 1937

C. H. RUPPRECHT, GENERAL MANAGER
KREBS PIGMENTS DEPARTMENT

Mr. Adrian Joyce telephoned me from Cleveland this afternoon about titanium dioxide.

He says they have been making 3000 tons for 1935-36-37 and next year (1938) are going over to 6000 tons. He says to make the switch they will be practically closed down in January and February, which will preclude their making their 6000 tons next year.

He says they have already made to-date in this year their full quota of 3000 tons and ask permission to run full for the balance of this year in order to have something to ship in January and February when they are shut down.

The net of this is that they want permission to lump 1937-38 for a grand total of 9000 tons, making more than 3000 tons this year and less than 6000 tons next year.

I promptly told him I was not even remotely connected with the pigment business, but would be glad to give you the message when you returned here next week, and that he could expect to hear from you.

WM. RICHTER.

WR:s

Exhibit 377

COPY

Blind copies to:

Messrs. S. L. Abrams, Legal Dept.
C. H. Lyman, Office

DU PONT
E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

KREBS PIGMENTS DEPARTMENT
REGISTERED MAIL

November 18, 1937

CONFIDENTIAL

Adrian D. Joyce, President,
American Zirconium Corporation,
1396 Union Trust Building,
Cleveland, Ohio.

Dear Mr. Joyce:—

Under Article I (b) of our agreement of January 1, 1935 the maximum quantities of titanium dioxide which American Zirconium Corporation is licensed to make under our patents during the years 1937 and 1938 are 3,000 tons and 6,000 tons, respectively. In our telephone conversation of today you explained that contemplated expansion will necessitate the shutting down of your plant during part of next year, with the result that the quantity so produced in 1938 will be less than 6,000 tons. In order that you may build up a stock to carry you over this shut-down period, you have requested the right to produce titanium dioxide under our patents in excess of 3,000 tons during the cur-

rent year, the amount of such excess to be equalized by a corresponding reduction in the quantity which you are licensed to produce in 1938.

In view of the special circumstances explained by you, we are agreeable to such a modification of the contract. Accordingly, the calendar years 1937 and 1938 will be treated as one period and during that period you are hereby licensed to produce under the contract an aggregate quantity not to exceed 9,000 tons, in lieu of the maximum quantities stated in the agreement with respect to each of those years.

As you can understand, we are always reluctant to make any change in the provisions of such a contract. Our consent to this modification should not be regarded as a precedent for waiving any of its provisions, and we must ask that in future you strictly adhere to the maximum quantities specified in the contract.

Please indicate your acceptance of this amendment of our contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. RUPPRECHT
GENERAL MANAGER.

Accepted November , 1937
American Zirconium Corporation
By (Signed) Adrian D. Joyce
President

Exhibit 378

SJH:HS. Paris, 2th January 1938.

I. D. Hagar Esq.,
Titanium Pigment Corporation,
114 Broadway,
New York, N. Y., U. S. A.

Dear Mr. Hagar:

RE: OFFERS IN SWEDEN OF OFF-COLOURED TiO2.

Titan Co. A/S have lately on several occasions met offers of TiO2 in Sweden from Witco Limited, London. This TiO2 is offered at £60/0/0 per 1000 kgs. net, C. I. F. Scandinavian harbours, in casks of 250 kgs. each, per 1-ton lots.—This price is about £9/0/0 below the lowest price of "KRONOS" TiO2 in Sweden.

Titan Co. A/S have recently obtained a sample with the following characteristics:

TiO2 content	97.5—
Tinting strength (Reynold's)	1030
Colour, paste	13¼ dirty orange.

Having in mind previous correspondence with you about off-coloured TiO2 pigment, it occurs to us that these offers in Sweden may relate to such an off-coloured grade similar to your ceramic TiO2.

We have communicated regarding the matter with B. T. P., who informs us that they are not certain that any connection exists between Witco and the Glidden Company apart from the fact that about eighteen months ago Witco made a special point of putting a Titanated Lithopone on the British market, which B. T. P. understood was manufactured by the Glidden Company.

Exhibit 378

If this assumption is right, we wonder if the TiO2 now offered by Witco does not also originate with the Glidden Company, in which case the export from America is contradictory to your agreement with the Glidden Company.

As the offers of off-coloured pigment are rather disturbing in our markets, we should highly appreciate it if you would kindly go into this matter and see what can be done. We realize of course the necessity of quoting low prices, if off-coloured pigment is to be gotten rid of, but we wonder if its sale might be limited to consumers who would not make a business of reselling abroad.

Thanking you in advance for your cooperation, we wish to take the opportunity to express the I. G.'s as well as our own special appreciation for the way you have investigated the case of the Butcher Company of Los Angeles. The content of your letters of Dec. 16th and 28th was transmitted to Francfort, who will communicate again with their representative in Hong Kong.

Very truly Yours,

TITAN COMPANY INC.
S. J. HENRIKSSON

Copy:

Mr. Beschorman,
Titan Co. A/S.

Exhibit 379

Letterhead of

TITANIUM PIGMENT CORPORATION

Mr. W. C. Beschorman
Executive Vice-President
National Lead Company
111 Broadway
New York, N. Y.

February 25, 1938.

Dear Mr. Beschorman:

Under date of January 12, Mr. Henrikssen of the Titan Company, Inc., wrote to me, with a copy to yourself, regarding the offer in Sweden of off-colored titanium oxide by Witco, Ltd., London, at £60/0/0 for 1,000 kilograms net c.i.f. Scandinavian Harbors in one ton lots; this price being about £0/0/0 below the lowest price of Kronos TiO_2 in Sweden. I have estimated the offer by Witco at approximately 13-6/10 cents a pound on the basis of exchange effective in late January as against 15-65/100 cents a pound for Kronos.

You will recall that I discussed this matter briefly with you before you departed on your trip, and you requested me to bring the matter to your attention in a memo after your return in order that you might take it up with Mr. Joyce at the first opportunity.

You are probably aware of the fact that Witco, Ltd., is the English Branch of Wishnick-Tumpeer, whose main offices are in New York, and who act as selling agents for Glidden's lithopone and colors, as well as their titanium oxide.

Exhibit 379

In addition to this, I am informed through Mr. Everett Boughton, Vice-President and Sales Manager of R. T. Vanderbilt Company, that Wishnick-Tumpeer entered into a contract with A. G. Spaulding & Bros. Company, Chicopee Falls, Mass., wherein they agreed to supply less than carload quantities of titanium oxide at the carload price when combined with other materials, presumably colors and lithopone, to make up carload shipments. This is a point which ought to be taken up promptly and vigorously with Mr. Joyce. If there is anything that you wish me to do in this connection, please let me know.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. HAGAR
General Sales Manager

IDH:ELB

Exhibit 380

March 1, 1938.

Mr. I. D. Hagar, General Sales Manager
Titanium Pigment Corporation
111 Broadway, New York, N. Y.

Dear Mr. Hagar:

Replying to yours of the 25th I am enclosing you copy of letter written Mr. Joyce today.

Very truly yours,

Executive Vice President.

Exhibit 380

March 1, 1938.

Mr. Adrian D. Joyce, President
The Glidden Company
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:

We are in receipt of a complaint from our European associates that Witco, Ltd. London, are offering off-colored titanium oxide in Sweden at considerably below the local market.

We understand that Witco, Ltd. is the English Branch of Wishnick-Tumpeer, of this City, who are the selling agents for your lithopone and colors and titanium oxide for the Zirconium Company. Evidently they have made offers through their London Company for the sale of pure titanium dioxide; you will note from the License Agreement between the Zirconium Company, Glidden Company and Metal & Thermit on one side and National Lead Company on the other that this is not permitted.

Kindly let me hear from you regarding this matter.

Very truly yours,

W. C. BESCHORMAN
Executive Vice President.

Exhibit 381

Letterhead of

THE GLIDDEN COMPANY

March 4, 1938

Mr. W. C. Beschorman,
Executive Vice President,
National Lead Company
111 Broadway
New York, N. Y

Re: Witco Ltd. Sales of Titanium Dioxide

Dear Mr. Beschorman:

This will acknowledge your letter of March 1, addressed to Mr. Joyce who is at present in Honolulu.

I am pleased to advise that no off-colored or standard Zopaque is being handled by Witco nor any other selling organization outside of this country. There has been no deviation from the terms of the license agreement referred to.

With kind personal regards, I am

Very truly yours,

P. E. SPRAGUE

PES:Q

Exhibit 381

March 8, 1938.

Mr. P. E. Sprague, Vice President
The Glidden Company
1396 Union Trust Building
Cleveland, Ohio.

Dear Mr. Sprague:

Thank you for yours of the 4th.

I am very glad to have your assurance that the report of offerings by the Witco Company are not of your material.

With kindest regards,

Very truly yours,

Executive Vice President.

Exhibit 382

COPY

Letterhead of
NATIONAL LEAD CO.

June 16, 1939

Dr. G. Jebsen
Societe Industrielle du Titane
26, Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your letter of June 1st and regret to learn that you have had a cold and grippe. I trust you have fully recovered by now and are feeling quite yourself again.

I am glad to note that the titanium business is going so well in England, and am glad to report that it has been very strong with us. May was our largest month on record.

We had a pleasant visit from Mr. Stopford who must now be nearing his home.

Mr. Kaegebehn I presume is now with you and I am sure the information gathered on his trip will be well worthwhile.

I think I met some of the Kuhlmann people while in Paris. I would be inclined to agree with you that the time had not yet arrived when a factory could justify itself in France.

At a meeting yesterday, Mr. Jewett, President of The Glidden Company, asked me if we had any connection with the Italian titanium company. He said he was sailing the last of July and expected to see them while abroad. I wonder what he has in mind. You know The Glidden Company

has a license from us to produce up to 6,000 tons until 1941; then they step up to 9,000 tons which they are preparing their factory to turn out when the time arrives.

I note what you have to say about Dr. Kühne taking over other jobs, about which I would like to write him but think it best I do not as one never knows how a letter will be interpreted going into Germany. He will certainly have his hands full with the extra work.

I had thought some that I might go abroad the end of August so as to spend a little time with you in September, but I would have to be back here by the time of our September Directors' meeting on the 26th so may not be able to get away, but will let you know as soon as my plans are definite.

If your plans are definite, would like to know what they are as it may be I will go to the Pacific Coast late in October, returning by the middle of November, and would like to make my plans coincide with yours.

With best personal regards,

Sincerely,

F. W. ROCKWELL

President

P. S. Have heard nothing from Mr. Brindley for some months. Is there anything interesting in developments along the line of disposing of Wilhelmsburg?

F. W. R.

Exhibit 383

Letterhead of

THE GLIDDEN COMPANY

June 30, 1939

Mr. Fletcher W. Rockwell, President,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Rockwell:

At the last Directors' Meeting at New York we discussed somewhat the Washburn attack, and I advised you at the time that we would like to secure permission to witness the operation of the Washburn attack. Your Mr. Garesché and others have been very cooperative with us, however, we have not been able to personally inspect the equipment in operation. You kindly asked me to write you about this.

I understand the next Directors' Meeting of the American Zirconium Corporation will be held in Baltimore, and I hope to have the pleasure of showing you through our titanium oxide unit.

Appreciating very much your cooperation in this matter and with kind personal regards, I am

Very truly yours,

W. J. O'Brien
Vice President.

WJO'B-B

Exhibit 384

Letterhead of

THE GLIDDEN COMPANY

July 26, 1939

Mr. Fletcher W. Rockwell, President,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Rockwell:

On June 30 I wrote you regarding the possibility of our inspecting the Washburn attack at your New Jersey plant. We discussed this at the last Directors' Meeting of the American Zirconium Corporation, and you advised me that you would take care of the matter.

We are quite anxious to see this Washburn attack in actual operation as we are very much concerned over the fume nuisance created by this operation and learn methods for taking care of same. I would appreciate very much your arranging an inspection of this operation.

Thanking you for your cooperation in the matter, I am

Very truly yours,

W. J. O'BRIEN
Vice President.

WJO'B-B

Exhibit 385

July 27, 1939

Mr. W. J. O'Brien, Vice President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. O'Brien:

I am in receipt of your letters of June 30th and July 26th, and will reply to them early next week when Mr. Garesché returns from vacation.

Regretting I have been unable to give you an earlier reply, I remain

Sincerely,

President.

Exhibit 386

(Copy)

NATIONAL LEAD CO.
111 Broadway
New York

August 1, 1939

Mr. W. J. O'Brien, Vice President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. O'Brien:

Referring to the matter of your inspecting the Washburn attack in actual operation at one of our plants, I have to tell you that it would be contrary to our cross-licensing agreements.

I would like to suggest that after you have your installation made, if you would like us to send a man to your plant for a day or two to run a few attacks I would be glad to make such an arrangement, and will await your wishes in the matter.

Yours very truly,

(Signed) Fletcher W. Rockwell
President

Exhibit 387

Letterhead of

THE GLIDDEN COMPANY

August 16, 1939.

Mr. Fletcher W. Rockwell, President,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Rockwell:

I wish to acknowledge your letter of August 1 regarding my request for an inspection of the Washburn attack in actual operation at one of your plants. I am very sorry indeed to hear from you that you would not be able to grant this request advising that it is contrary to your cross-licensing agreements.

It was my understanding that the National Lead Company owned the patents covering the Washburn attack and that these patents are listed in the agreement between the American Zirconium Corporation and the Titanium Pigment Company, Inc. If these are the facts, I am therefore at a loss to understand your position on the matter.

Your attention is particularly called to Article 6 on page 7 in the agreement between the Titanium Pigment Company, Inc., and the American Zirconium Corporation, where each party agrees, etc., to do certain things. In view of my lack of understanding as to the workability of this agreement, particularly Article 6 on page 7. I believe that this situation should be clarified in a general discussion at our next Directors' meeting. I am sending a copy of this letter to Dr. Hirschland and to Mr. Joyce so that they

will be advised that this matter will be brought up for discussion.

Thanking you for your cooperation in this matter and with kind regards, I am,

Very truly yours,

W. J. O'BRIEN
Vice President.

WJO'B-B

Exhibit 388

Mr. W. J. O'Brien's Request to Inspect Washburn Attack
August 21st, 1939
Mr. C. F. Garesché
Mr. C. F. Kaegebehn—Patent Department

Dear Mr. Garesché:

Article VI. of the contract of May 6th, 1935 between the Titanium Pigment Company, Inc. and the American Zirconium Corporation, referred to in Mr. O'Brien's letter of August 16, 1939, reads as follows:

> VI. Each party hereto agrees, to the extent that its prior obligations to other licensors do not prevent, to cooperate with the other by imparting semi-annually to such other party full and accurate information in detail as to knowledge obtained by it in and applicable to the "Licensed Field", since its last report hereunder, and to permit such other party to adopt, apply and use the same; *provided*, however, that neither party shall be obligated hereunder to impart or otherwise disclose to the other party, or to permit the other party to adopt, apply or use any knowledge, information, method, process or apparatus acquired by it from any third party under or pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof."

Article VI. does not specifically provide for plant inspections by representatives of the contracting parties. It does, however, carry the implication that, broadly construed, such visits might be permitted under such contract if such visits were necessary to impart to the other "full and accurate information in detail as to knowledge obtained" within the Licensed Field where such knowledge can be imparted with-

Exhibit 388

out breach of prior obligations. This question appears to be one of a narrow, as opposed to a liberal construction of the language and spirit of the agreement. Since this agreement was concluded, neither party has furnished the other the semi-annual reports which are specifically provided for, and should we in this case stand upon a literal interpretation that a visit to our plant is not included in the scope of this clause, the American Zirconium Corp. would be equally within its rights to demand from us semi-annual reports as to our progress within the Licensed Field, which by definition in Clause I. is a very broad field. You will notice that there is no qualification as to what knowledge shall be exchanged according to Article VI., but that it is described as "full and accurate information in detail". This would presumably cover not only progress within the plant, but also research results, patent proposals, etc.

Mr. O'Brien is correct in stating that we own the patents covering the Washburn attack. Furthe more, the unique design and technique of operation of the Washburn tank is our development. We are free to impart knowledge of this phase of our process without breach of any prior obligations.

In this connection I may recall to you that the American Zirconium Corporation have taken a very broad view with respect to their rights in the Verduin interference matter and have waived their right under the fluoride claims of the Plechner-Hixson patent. It is, therefore, possible that they have a right to expect from us a liberal attitude in another direction.

I trust this gives you the information you desire, and that my gratuitous comments are not amiss.

Yours very truly,

CFK:JL

Exhibit 389

Letterhead of

NATIONAL LEAD COMPANY

August 22, 1939

Mr. F. W. Rockwell, President
National Lead Company,
Building

Dear Mr. Rockwell:

I am returning herewith Mr. O'Brien's letter to you of August 16th.

I had Mr. Kaegebehn extract Clause VI. which I quote as follows:

> "Each party hereto agrees, to the extent that its prior obligations to other licensors do not prevent, to cooperate with the other by imparting semi-annually to such other party full and accurate information in detail as to knowledge obtained by it in and applicable to the "Licensed Field" since its last report hereunder, and to permit such other party to adopt, apply and use the same; *provided*, however, that neither party shall be obligated hereunder to impart or otherwise disclose to the other party, or to permit the other party to adopt, apply or use, any knowledge, information, method, process or apparatus acquired by it from any third party under or pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof".

This is the article to which Mr. O'Brien refers and upon reading it you will note that there is no obligation on our part to permit their men to visit and inspect our plant

or equipment. The only obligation is to impart semi-annually "full and accurate information in detail—and to permit the other party to apply and use the same—provided, however, that neither party shall be obligated hereunder to impart or otherwise disclose—any knowledge, information, method, process or apparatus acquired by it from any third party—pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof."

We have apparatus and process in operation at our plant which we have no right to impart to American Zirconium, and we feel that their request to permit them to inspect our plant is beyond their rights under the agreement.

We have given them detailed blueprints showing the construction of our Washburn tank and have given them detailed instructions regarding its operation. This is really as far as we need to have gone. However, we have already offered to lend them an operator to show them how to work it when their equipment is ready to start. We have already gone beyond our obligations in the contract, but not to the extent that we have gone contrary to our prior obligations to others. If we permit inspection of the equipment in our plant, we feel we would be violating our prior obligations.

Yours very truly,

C. F. GARESCHÉ.
Manager

Exhibit 390

COPY

September 15, 1939

Mr. Lammot duPont, President
E. I. duPont de Nemours & Company
Wilmington, Delaware

Dear Mr. duPont:

One of our associated companies, the American Zirconium Corporation, is manufacturing Titanium Dioxide under an arrangement with the Krebs Pigment and Color Corporation, a subsidiary of your company. Under this arrangement the American Zirconium Corporation pays a royalty based on the total quantity of Titanium Dioxide made in each calendar year and the American Zirconium Corporation is restricted to 3,000 tons per annum from 1935 to 1937 inclusive, 6000 tons per annum from 1938 to 1943 inclusive and thereafter 9000 tons per annum.

I find that due to war conditions and the generally increased use of Titanium Dioxide in industry that we are handicapped by being held down to 6000 tons per annum until the close of 1943. I am writing to ask if your company will be willing to permit us to increase our production to 9000 tons per year with the beginning of 1940. It is my understanding that licenses are being granted to other manufacturers without limitation as to quantities to be produced and, therefore, I hope you will give favorable consideration to the matter of increasing the allotment of the American Zirconium Corporation.

Thanking you for giving this your careful consideration and with my personal regards, I am

Yours truly,

ADRIAN D. JOYCE (Signed)
President

ADJ:G

Exhibit 391

DU PONT
E. I. DU PONT DE NEMOURS & COMPANY
Incorporated

September 19, 1939

MR. C. H. RUPPRECHT:

The attached speaks for itself. I am somewhat at a loss to understand why Mr. Joyce takes this up with me—apparently without having taken it up with you first, but perhaps this is due to the fact that I knew Mr. Joyce personally when he was with the Sherwin-Williams Company years ago. Presumably, I should reply to Mr. Joyce.

Will you advise me what should be said? Perhaps I should answer promptly, and say that I had turned the matter over to you.

s/ L. DU PONT
President.

LduP/MD

Exhibit 392

[Attached to following letter]

9/20/39

Mr. Garesche

For your blue pencil FWR
Think it is good—CFG

September 20, 1939

Mr. W. J. O'Brien, Vice President
The Glidden Company
1396 Union Commerce Bldg.
Cleveland, Ohio

Dear Mr. O'Brien:

In reply to your letter of August 16th in which you say you think the matter should be discussed at the next Board meeting of the American Zirconium Corporation:

I have no objection to that being done but if the matter is to be discussed intelligently, I would like to have our people present who are most familiar with all the agreements in connection with the Titanium patents and licenses.

If it would be convenient for you, Mr. Joyce or any other of your people who wish to come to our office before or after the Zirconium meeting, I would be very glad to arrange for our people to be present, and I think it would be a better place to discuss the matter than at the Board meeting.

If you will let me know what your wishes are, I will be glad to plan accordingly.

Yours very truly,

President

Exhibit 393

COPY

September 20, 1939

MR. LAMMOT DU PONT, PRESIDENT:

Replying to your letter of September 19th, I am returning Mr. Joyce's letter of September 15th, and am likewise at a loss to understand why he should have sent it to you.

I suggest, and consider it definitely desirable, that you acknowledge this letter and state that the matter is being turned over to me.

All of the negotiations on the American Zirconium Corporation license were conducted by Mr. Joyce and myself, and there have been occasions since then to talk about certain phases of it.

There is no justification for making any change, and as far as we are concerned the statement he makes in the last part of his second paragraph is erroneous.

I regret that he bothers you with this, and if you will turn it over to me I will follow it through with him.

C. H. RUPPRECHT

CHR:s.
Encl.

Exhibit 394

E. I. Du Pont de Nemours & Company
Wilmington, Delaware.

September 21, 1939

Mr. Adrian Joyce, President
The Glidden Company
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:

Your letter of September 15th, in regard to the arrangement between the American Zirconium Corporation and our Krebs Pigment and Color Corporation, was duly received.

Not being familiar with the details of this matter, it is necessary for me to refer it to our Krebs Pigment Department, which, as you know, is in charge of Mr. Rupprecht. I trust that it may be possible to adjust the matter to your satisfaction.

Yours sincerely,

L. DU PONT (signed)
President.

LduP:MD

Exhibit 395

COPY

September 25, 1939.

Mr. Adrian Joyce, President
The Glidden Company
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:

Mr. Lammot du Pont has submitted your letter of September 15th to me for attention, as all pigment activities are centralized in this department.

We have given your request careful and serious consideration and regret that we believe that no change should be made at this time in the tonnage provisions of your license.

With respect to the last sentence in the second paragraph of your letter, it is obvious that you have been misinformed as to the terms of licenses we are granting to other manufacturers under our Titanium Patents.

Please be assured that I shall be very glad to meet you at any time to discuss the subject further, if you so desire.

Meanwhile, with kindest regards, I am

Yours very truly,

C. H. RUPPRECHT (Signed)
C. H. RUPPRECHT, GENERAL MANAGER

CHR:DD

Exhibit 396

Letterhead of

THE GLIDDEN COMPANY

September 25, 1939

Mr. Fletcher Rockwell, President
National Lead Company
111 Broadway
New York City

Dear Mr. Rockwell:

Mr. O'Brien has been telling me of his correspondence with you regarding matters pertaining to Titanium Dioxide. I think it would be well if we could have an opportunity of discussing these matters with you prior to the holding of the Directors' Meeting of the American Zirconium Corporation on October 4. Accordingly, Mr. O'Brien and I will plan on coming to New York on October 3. If you will kindly write me stating at what hour you can see us for a discussion of these matters, we can arrange accordingly.

Looking forward with pleasure to seeing you, and with my personal regards, I am

Yours truly,

ADRIAN D. JOYCE
President

ADJ-V

Exhibit 397

COPY

October 13, 1939

Mr. C. H. Rupprecht
Krebs Pigment & Chemical Division
E. I. duPont de Nemours & Company
Wilmington, Delaware

Dear Mr. Rupprecht:

Concerning the matter we discussed when we were together in New York, I will appreciate it if you will let me hear from you about this as soon as you have had time to consider it in all its aspects. I am hopeful that this subject can be dealt with in a way that will be mutually satisfactory.

With my personal regards, I am

Yours truly,

ADRIAN D. JOYCE (Signed)
President.

ADJ-V

Exhibit 398

E. I. duPont de Nemours & Company
Wilmington, Delaware.

October 23, 1939.

Adrian D. Joyce, President
American Zirconium Corporation
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:

Having been away from the office a good deal of last week, was delayed in replying to your letter of October 13th.

The matter we discussed in New York concerning license granted to American Zirconium Corporation has been very carefully considered, and I regret to say that I cannot see any good reason for changing the decision as expressed to you in my letter of September 25th and again at our interview.

Am sorry that we are unable to meet your wishes in this respect, and remain, with personal regards

Very truly yours,

C. H. RUPPRECHT (Signed)
General Manager

CHR:S

Exhibit 399

COPY

October 26, 1939.

Mr C. H. Rupprecht, General Manager
Krebs Pigment Department
E. I. duPont de Nemours & Company, Inc.
Wilmington, Delaware

Dear Mr. Rupprecht:

I am in receipt of your letter of October 23 and very much regret that you feel you are unable to meet our wishes in respect to increasing our quota of titanium oxide beginning with January 1, 1940.

In your letter you state that you can see no good reason for changing your decision. I was under the impression that I had explained to you quite carefully that with the limited production we now have, particularly in view of the cost of added safety requirements demanded by the City of Baltimore in connection with our operations, that it is extremely difficult to make any profit on the limited tonnage of titanium dioxide we are permitted to manufacture.

With the added expense due to the Wage and Hours Act and the increased cost of selling, unless we can increase our volume of production we are faced with definite losses. When you consider that we have an investment in fixed assets of $1,000,000 in our plant and that we are employing a large number of laborers, and that in the event we cannot operate the plant profitably we will suffer a loss not only of our investment but also of our organization, and our workers will be deprived of the means of earning a livelihood; on the other hand, if we are permitted to increase

our production to 9000 tons, we will immediately expend a considerable additional amount for additional facilities and will not only be able to furnish employment to more workers in our manufacturing operations, but during our building operations we will employ a good many men who are now unemployed. It seems to me that the duPont Company should be interested in the same way as our company and others are interested in trying to reduce unemployment and endeavoring in every way possible to cooperate for a return of prosperity.

If we could be permitted to increase our production to 9000 tons it would not only put us on a profitable basis but it would permit us to take care of our customers and of the requirements of The Glidden Company and its subsidiaries. At the present time we are unable to supply our customers with their full requirements and at the same time take care of the requirements of our affiliated organizations. I find too that we are unable to purchase the finished product from your company because of your inability to supply additional quantities. I also learn that this is true of the National Lead Company's subsidiary, the Titanium Pigments Company.

If there is some good reason with which I am not familiar, why you cannot permit us to increase our quota on January 1, 1940, will it be satisfactory to you for us to increase our quota under our license agreement on June 1, 1940? Surely the profit we pay you as royalty will equal your manufacturing profit because this royalty is net to you. We have always paid the royalty promptly and would continue to do so, and inasmuch as your permission to manufacture an additional quota will permit us to per-

form a definite service in supplying our customers, I sincerely hope you will reconsider your decision.

There are still some other good reasons which I could give you in a personal conversation which I think would have some bearing on your decision, and I will appreciate it if you will again consider the matter in the light of what I have written. If for some reason you prefer a later date than June 1, 1940, then we could possibly adjust our plans to September 1, 1940 but we would very much prefer the date of June 1st.

I will anxiously await your decision.

Yours truly,

ADRIAN D. JOYCE (Signed)
President

ADJ:V

Exhibit 400

COPY

E. I. duPont de Nemours & Company
Wilmington, Delaware

November 1, 1939

Adrian D. Joyce, President
American Zirconium Corporation
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:—

I have your letter of October 26th and regret that after considering the various reasons you offer, which are approximately those discussed in our last conversation, we still cannot see any justification for changing the terms of our original license to you.

All of us are faced with increased costs beyond our control these days, and at your present tonnage we do not feel that there is any question of cessation of operations and consequent unemployment. Incidentally, I know of no organization anywhere which has done more to extend employment or which has endeavored more to promote prosperity in our country that our own Company and I feel it definitely unfair to suggest that we are limiting such progress because of our maintaining that the terms of the license agreement, entered into in all good faith, should be continued.

A long term agreement such as this one should not be modified or changed repeatedly because of what may be temporary conditions, and I feel very certain that present inflated demands, not alone for titanium products but prac-

tically all materials, are of a temporary nature and will not continue over any period of time.

Incidentally, I would bring to your attention a fact that surprised me, in that you are producing an amount of titanium dioxide considerably short of the tonnage authorized by your license. Your royalty payments have been on the following basis for the first three quarters of this year:

1st Quarter	1245.925	tons
2nd "	1345.800	"
3rd "	1081.737	"
Total	3673.462	"

Assuming an average quarterly basis against 6000 tons a year, you would operate at 1500 tons a quarter. There is a deficiency of 827 tons at this rate, which you could have produced over this period, or 2327 tons you can produce during the last quarter to reach the 6000 ton annual figure. This is a considerable additional tonnage which you would have available for your trade.

Of course, I shall be glad to discuss this further at a mutually convenient time, but under conditions as above, I continue to feel that any modification in our license is not justified.

With kindest regards, I remain

Yours very truly,

C. H. RUPPRECHT (Signed)
GENERAL MANAGER

CHR:S

Exhibit 401

COPY

November 2, 1939

Mr. C. H. Rupprecht, General Manager
Krebs Pigments Division
E. I. du Pont de Nemours & Co., Inc.
Wilmington, Delaware

Dear Mr. Rupprecht:

I have your letter of November 1 and I am very glad that you have been giving consideration to the various reasons I offered in my letter of October 26. Apparently these reasons were not sufficiently convincing to have you alter your decision. I hope you will give me an opportunity of meeting you and talking these matters over because I am sure that if we can get together I can show you that we are confronted with a very serious situation.

You touch upon a very vital point in the fourth paragraph of your letter when you bring to my attention that we are producing an amount of titanium dioxide considerably short of the tonnage authorized by our license.

In this connection I would call your attention to the fact that when we made the long term agreement our company had had no experience in the manufacture of titanium dioxide and therefore could not know at what points manufacturing could be made profitable and compatible with sales. We now know that you cannot arbitrarily fix upon certain arbitrary tonnage amounts and build plants that will work out these arbitrary figures productively and profitably.

Exhibit 401

To illustrate that point, in order to produce 6,000 tons per annum, a manufacturing policy must be worked out which will take into consideration the usual hazards of the industry including breakdowns and unforeseen manufacturing difficulties, with the result that the capacity must be for a much greater tonnage. We now know that to produce 6,000 tons to the best possible advantage, we must have a maximum capacity of approximately 9000 tons. Naturally, because of the increased investment to build a 9000 ton unit, the company has hesitated to do this because at times a 9000 ton unit will "click" and actually produce at the rate of 9000 tons.

We are desirous of observing our contractual obligations and therefore come to you to ask that our minimum quantity be raised. I find that our company has paid the duPont Company approximately $27,000. for 1939, and over a period of years our royalty arrangement should prove to be very profitable to the duPont Company.

There are certain other matters that have a very important bearing on this subject, and inasmuch as I find it necessary for me to be in New York on Wednesday, November 8, I would like very much to arrange to meet you there at that time, at an hour that will suit your convenience, and discuss this subject a little more in detail. I do not want to try your patience but I do want to get all these matters before you because I am confident that it is your desire to be fair and just.

If the weather is good on Tuesday, November 7, I will fly down to New York arriving there about 5 P. M. so that if it would suit you better to see me in the evening of November 7 at the Biltmore Hotel, this could be arranged.

Exhibit 401

I will look forward to receiving a telegram from you if this appointment will meet your convenience. With my personal regards, I am

Yours truly,

ADRIAN D JOYCE (Signed)
President

ADJ:V

Exhibit 402

COPY

E. I. DU PONT DE NEMOURS & COMPANY
WILMINGTON, DELAWARE.

Nov. 9, 1939.

REGISTERED MAIL

CONFIDENTIAL

Adrian D. Joyce, President,
American Zirconium Corporation
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:—

This will confirm our conversation of yesterday, November 8th, in New York, relative to Article I, Paragraph (b), of our agreement of January 1, 1935, under which American Zirconium Corporation is licensed to manufacture certain quantities of titanium dioxide under our patents.

Inasmuch as it appears from your production to-date that you will fall short of 6,000 tons production authorized for the calendar year 1939, we are agreeable to changing the quantities specified for the two 12 months periods ending December 31, 1939 and December 31, 1940, to a total quantity of 12,000 tons over the two years, instead of 6,000 tons in each of these two years. This will enable you to carry over into next year any quantity short of 6,000 tons produced in the year ending December 31, 1939.

It is, of course, further understood that our consent to this additional modification cannot be regarded as a precedent for waiving any of the provisions of the contract.

Exhibit 402

Please indicate your acceptance of this amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. Rupprecht, (Signed)
GENERAL MANAGER.

CHR:S

Accepted, November 11, 1939.
American Zirconium Corporation
by Adrian D. Joyce (Signed)
President.

Exhibit 403

Letterhead of

AMERICAN ZIRCONIUM CORPORATION

May 8, 1941

Mr. Garesche
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Garesche:

In talking with our patent attorney, Mr. Charles Oliver, he advises us there are some difficulties encountered in handling the exchange of information between our two companies relative to patent applications. In looking the agreement over I find that Article VI states:

> Each party hereto agrees, to the extent that its prior obligations to other licensors do not prevent, to cooperate with the other by imparting semi-annually to such other party full and accurate information in detail as to knowledge obtained by it in and applicable to the "licensed Field" since its last report hereunder, and to permit such other party to adopt, apply and use the same: *provided*, however, that neither party shall be obligated hereunder to impart or otherwise disclose to the other party, or to permit the other party to adopt, apply or use, any knowledge, information, method, process or apparatus acquired by it from any third party under or pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof.

Exhibit 403

I find further that we have been living up to this agreement in giving you copies of applications two months after filing, as called for in Article VIII. By receiving these applications at this early date you are fairly well informed as to what we are doing. However, I find that we have never received similar information from you, nor have we received a semi-annual report as to what work your laboratory has been doing in the licensed field.

Your company's failure to send this information has no doubt been an oversight, and we would very much appreciate receiving these reports at an early date.

Very truly yours,

W. J. O'BRIEN
Vice President

Exhibit 404

May 23, 1941

Mr. W. J. O'Brien, Vice President
American Zirconium Corporation,
6401 St. Helena Ave.,
St. Helena, Baltimore, Md.

Dear Mr. O'Brien:

Since receiving your letter of May 8, 1941, we have given the matter of exchange of technical information very careful consideration.

The purpose of specifying in Article VIII of the Agreement that you should send copies of your patent applications to us two months before filing is not in order to inform us of what you are doing, but is for the purpose of enabling us to forward the applications abroad to permit the filing of corresponding foreign applications as we may desire and as provided in Article VIII.

As far as I am able to ascertain, neither party to the agreement ever exchanged semi-annual reports covering its work within the Licensed Field. It appears that the reason for this was that we are so bound by prior obligations that it was virtually impossible to prepare such reports without including information which we had no right to give. The same problem exists today. Nevertheless, whenever we could, we have endeavored to inform you fully on whatever matters were of interest to you and which were strictly our own to give. For instance, you will recall that we furnished you blueprints and even the services of one of our engineers in connection with the installation of the Washburn tank. Another instance which might be mentioned is in connection with the use of the Micronizer, a development which is our

own and which we turned over to you with complete information concerning its use in processing titanium pigments.

We suggest as a way of meeting the obligations of Article VI that both companies prepare and submit semi-annual questionnaires to the other, covering points of particular interest to each party and that we exchange such questionnaires and answers. In this way we are sure all developments of particular interest practiced by both parties would be disclosed to the other.

We should be glad to have your comments.

Yours very truly,

Manager

cc Mr. Kaegebehn

Exhibit 405

NATIONAL LEAD COMPANY
111 Broadway
New York

Mr. Fletcher W. Rockwell
President
National Lead Company
Building

May 26, 1941

Dear Mr. Rockwell:

With reference to my memo of today concerning the American Zirconium Company, I beg to add that the agreement between American Zirconium Company and Titanium Pigment Company, Inc. (the National Lead Company) of May, 1935, contains a Clause XII, according to which neither of the parties shall have any right or power to assign the agreement or licenses in whole or in part, except to a successor to the entire business and good will of such party and then only with the consent in writing of the other party first had and obtained. (Exceptions are made for countries outside the United States of America, its territories and dependencies in view of the provisions for Titan Co. Inc. and our non-American associates).

Consequently, if continued unsatisfactory management should bring the company to liquidation, the National Lead Company is at liberty to discontinue the agreement, provided no moral obligations unknown to me are in the way.

As there has been considerable talk about the limitation of the American Zirconium's production to three, six, and nine thousand tons made through the license agreement with DuPont de Nemours, I have been trying to find infor-

mation concerning this, but without success. Mr. Garesche has verbally informed me that as far as he knows, these limitations are the following:

3000 tons of TiO_2 for the first three years
6000 " " " " " next " " "
9000 " " " " " following three years

As this limitation probably starts with the beginning of manufacturing operations in early 1936, I assume that there will be no limitation after January 1, 1945.

I understand further that there is no cooperation between the American Zirconium Company and the DuPont de Nemours Company.

In case of a disruption in the connections between the American Zirconium Company and the National Lead Company, the first mentioned will probably have to stand on its own feet. It seems too early yet to know whether it will be able to do so—it all depends upon what management is provided for.

Yours very truly,

G. JEBSEN
G. JEBSEN

GJ:RK

Exhibit 406

RE: American Zirconium Company—National Lead Company

The most important item in the relations between the National Lead Company and the American Zirconium Company, respectively, the Glidden Company, is the license agreement providing for exchange of licenses under patents—existing patents as well as future patents. This agreement lasts until the end of 1951. The agreement provides that it is not transferable except in the case of a transfer of the entire business of the American Zirconium Co. and in that case only with the National Lead Co.'s approval of the successor. When the National Lead Co. and Metal & Thermit Corp. sell their shares to the Glidden Co., this company becomes the owner of all the shares of the American Zirconium. The sale of the shares has been done because the cooperation between the companies has been unsatisfactory. For that reason it is logical that the National Lead Co. ceasing as a shareholder also wish to cease a cooperation as regards exchange of future licenses. Faced with such a proposal, Mr. Joyce will have to weigh in his mind the possibilities of the value of future licenses received from the National Lead Co. against the value of licenses which he grants. Normally, considering the organizations and the amount of money which the two companies spend on research work, it is to be expected that the National Lead Co. will produce considerably more technical developments than the American Zirconium-Glidden Co.

However, it happens sometimes that the research staff of a small organization has hit on a special development and overestimates the importance of this. In addition to this, Mr. Joyce's companies would be free to exploit these future

developments in South America and Canada—and abroad when the war is over. If Mr. Joyce, influenced by his research staff, has this opinion—well and good. If he has not, I do not think that any representative of the National Lead Co. will be able to influence him in this direction.

There is another aspect to the case which presumably must be in Mr. Joyce's mind, namely, the inconvenience and extra expenses involved by a continued operation of the American Zirconium Co. instead of a transfer of the whole business to the Glidden Co. According to Mr. Cole, the license agreement cannot be transferred without the National Lead Co.'s approval, even if the Glidden Co. has acquired all the shares of the American Zirconium Co.

The advantages of a dissolution of the American Zirconium weighed together with the advantages and disadvantages of losing future exchange of licenses with the National Lead Co. may be sufficient for Mr. Joyce to follow this course. However, he may wish to accomplish the transfer of the business to the Glidden Co. without losing the future exchange of licenses, in which case Mr. Joyce presumably first will see the deal regarding the shares being consummated without mentioning or taking up the question of the transfer of the business, respectively, the dissolution of the American Zirconium Co. The situation will, I believe, be particularly improved for Mr. Joyce if the share transaction as indicated by Mr. Rogers takes the form of a reconstruction dissolving the Zirconium Co. by exchange of shares of this company for Glidden shares to the purpose of saving taxes for the sellers. This seems to me to involve an acknowledgment and approval by the National Lead Co. of the Glidden Co. as successor.

If this idea has not been brought to the attention of Mr. Joyce, he may have in mind to dissolve the American

Zirconium Co. after having acquired all the shares and it seems to me that particularly if some time elapses during which the Zirconium Co. has operated under 100% ownership of the Glidden Co., it would be very difficult for the National Lead Co. to decline its approval of the Glidden Co. as successor.

Considering this situation, the course to follow by the National Lead Co. seems to me to be *now in connection with the sale of the shares* to inform Mr. Joyce (the Glidden Co.) that the National Lead Co. would like to see the license agreement terminated as regards future exchange of licenses on the grounds that the cooperation as partners or shareholders in the enterprise has been a failure and the license agreement was made in connection with the creation of that partnership. This will put Joyce on notice that the National Lead Co. is not willing to accept the Glidden Co. as successors to the American Zirconium Co. as regards the license agreement with the following two advantages:

a. It will put the National Lead Co. in a better position to deny its approval of a transfer of the license agreement to Glidden.

b. Joyce may be more inclined to agree to terminate the license agreement now.

Sept. 29, 1941

Exhibit 407

Mr. Beschorman

SOUTHERN MINERAL PRODUCTS CORPORATION,
120 Broadway,
New York.

APRIL 8th, 1935.

Mr. William F. Meredith, President
Titanium Pigment Co. Inc.
111 Broadway,
New York.

Dear Sir:—

This has reference to your two letters, dated February 13 and February 21, the first being addressed to Southern Mineral Products Corporation, Piney River, Va. and the second to 120 Broadway, New York, both of which have been acknowledged.

We also acknowledge your letter of March 27, addressed to this office.

Our operations with respect to Titanium Dioxide at Piney River are still on an experimental basis and we have not yet established any definite plan of procedure. In view of this situation, it would seem inadvisable to discuss any particular process steps or patents at this time.

We shall be glad, however, to know your ideas as to any general license arrangement and any basis for same which you may have in mind in case we should see the possibility in the future of adopting any steps in our process which may be covered by your patents.

Yours very truly,

(signed) A. A. COREY, Jr.
President.

Copy

Exhibit 408

April 10th, 1935.

Mr. A. A. Corey, Jr. President,
Southern Mineral Products Corporation,
120 Broadway,
New York, N. Y.

Dear Sir:—

Your letter of the 8th instant is at hand.

We have been informed that you have not only manufactured but sold titanium dioxide, and we believe you could not have done so without infringing one or more of our patents. Of course, if that is a fact, you are liable in damages, or we can begin action to enjoin you from continuing.

We must therefore ask you to discontinue the manufacture of titanium dioxide until license under our patents has been arranged or non-infringement thereof clearly established.

If you desire to take up the matter as to obtaining a license from us, we will be glad to meet you at any time.

Yours very truly,

TITANIUM PIGMENT CO. INC.

President.

WFM/MC

Exhibit 409

Southern Mineral Product Corp., New York, N. Y.

September 23, 1935

Mr. C. H. Rupprecht, President,
Krebs Pigment & Color Corp.,
Wilmington, Delaware.

Dear Mr. Rupprecht:

In line with the conversation had between yourself and the writer in our offices on Friday, the 20th, we will accept your offer, which you made subject to the approval of your Board, to purchase from us our entire stock of Titanium Dioxide consisting of approximately 903,425 pounds as per the list you submitted at a price of 10 cents per pound net, f.o.b. our Works, Piney River, Virginia, this material to be supplied to you in containers in which it is now packed.

It is our understanding that you will take the bulk of the material promptly. As to the remainder of such material we will be glad to store it for you at our Works at Piney River without charge for a period of three months. As per our understanding it will be satisfactory to us for you to make payments as shipments are made.

In consideration of this purchase by you we will not during the life of any patent or patents relating to the manufacture of Titanium Dioxide, now owned or controlled by you, manufacture any Titanium Dioxide by any process infringing any such patent or patents. No claim within your control shall be made against us for past infringement, if any, of such patents.

We further agree that if Southern Mineral Products Corporation shall resume the manufacture of Titanium Di-

oxide, representatives of Krebs Pigment & Color Corporation shall have the right to inspect operations from time to time in order to determine whether Southern Mineral Products Corporation is infringing such patents.

I enjoyed your visit very much and wish to thank you for your courtesy.

With kindest regards,

Very truly yours,

Vice President

WAM:H

Exhibit 410

Letterhead of

DORSEY & COLE

Mr. Charles F. Kaegebehn, September 30, 1936.
Titanium Pigment Co., Inc.,
P. O. Box 58,
South Amboy, N. J.

Re: Light Reflectance Control.

Dear Mr. Kaegebehn:

I am herewith enclosing a copy of my letter to Prof. Hardy in response to his letter of August 24th, incorporating a portion of your letter of September 25th.

What you have told me about the International Printing Ink Co. being about to enter the titanium pigment field is not only extremely interesting but has given me some thought. If there is any feature of the business having to do with color, such, for example, as is involved in the Washburn case, which we have just filed, or in the application of Du Pont's subsidiary which we had before us in preparing the Washburn case, or if analysis by light rays becomes of importance, I think the chances are about 100 to 1 that Goldthwaite by reason of his previous experience with Hardy in the automatic music field would retain Hardy as an expert in these fields. I know that Hardy is subject to be retained by industrial concerns, for my recollection is that he is under a yearly retainer by the General Electric Company, and I know that while we were working with him in the automatic music field he was very careful to make it clear that he could not do anything for Goldthwaite which

would conflict with the interest of the General Electric Company. I do not believe that Hardy is doing anything at all for Goldthwaite now in the automatic music field, for that matter, was turned over to the Wurlitzer people for commercial development.

It would certainly be wise for the Titanium Pigment Co. to consider seriously retaining Hardy for a nominal fee and possibly as a matter of gesture getting him to do a little work for them in connection with the new branch of their laboratory devoted to light analysis. We would thus have the jump on the International Printing Ink Co. when the time comes to force that company into a license in the event that any of the Titanium dioxide patents under which the Titanium Pigment Co. are licensed or to which they have title are infringed. I believe having Prof. Hardy on our side in such negotiations would have quite an influence on Goldthwaite, for he certainly has a high opinion of Hardy.

Yours truly,

FRANK C. COLE

FCC:J
Enclosure. 1.

Exhibit 411

October 2, 1936.

Letter No. 555.

Titan Company, Inc.,
c/o Mr. Andreas Ravnestad,
26 Rue de la Pépiniére,
Paris, 8e, France.

Attention: Dr. Gustav Jebsen
Re: General Patent Situation

Dear Sirs:

The International Printing Ink Corp. is a consolidation of a number of printing ink companies brought about by Dillon & Read, a large private banking house here, and having as its president du val R. Goldthwaite, a former member of the firm of Dillon & Read. Goldthwaite's policy is to reduce the manufacture of printing ink to a scientific perfection, to improve the manufacture in all particulars, so far as is possible, and to obtain patents on the new processes involved and the products resulting from the experimentation and development work undertaken by him.

A few years ago in pursuing this policy, The International Printing Corp. purchased the United Pigments and Color Co., having in mind to include in the development program the manufacture of suitable pigments, among them titanium dioxide.

The foregoing was told me by Goldthwaite himself. The following was told me by Mr. Kaegebein.

After the United Pigments and Color Co. was purchased by the International Printing Ink Corp. it took over a man by the name of Ryan who was formerly Director of Research for the Titanium Pigment Co., and also a Dr.

Exhibit 411

Cauenberg, who, I infer, was one of the engineers of Titanium Pigment Co., either in research or in production. United Pigments and Color Co. has purchased the plant of the Seven Minerals Product Co. at Piney River, Virginia, a plant, as I understand it, to be devoted to the manufacture of titanium dioxide pigment which pigment is to be placed on the market for general pigment purposes, in no way limited to the manufacture of printing ink.

The patents on the pigment to be put out by the Seven Minerals Product Co., Mr. Kaegebehn has learned, have been allowed, at least some of them, and are about to be issued, quite possibly in the names of Ryan or Cauenberg, or as joint patents of these two former employees of Titanium Pigment Co.

The last time that I talked with Mr. Goldthwaite, I should say two years ago anyway and possibly more, he told me it was his understanding that the titanium dioxide pigment field was open and that whatever patents there were of a fundamental nature were either expired or of no value. I told him that he was entirely mistaken in regard to this. He implied that the source of his information was an opinion on the part of Mr. Neave, a member of the firm of Fish, Richardson & Neave, which he had rendered for Du Pont, and which in an undisclosed manner had come to Goldthwaite's attention. At the time of this conversation with Goldthwaite, my recollection is that the patent situation between Krebs and the Titanium Pigment Co. had either just shortly been settled or was still in process of negotiation, and it is quite possible that Goldthwaite had obtained a distorted view of Neave's report which may very well have been rendered and considered from a stand-

point of material for use by Krebs in endeavoring to obtain the most advantageous position possible under the proposed licenses and sub-licenses from the Titanium Pigment Co.

The situation has elements of considerable interest and possible trouble, but until the patents of the International Printing Ink Corp.'s subsidiaries are issued, it would be very difficult for the Titanium Pigment Co. to ascertain just what processes were being employed by the Seven Minerals Product Co., and, of course, even when the patents do issue we have no assurance that the processes outlined in the patents are those actually being followed by the Seven Minerals Product Co. As soon as the product appears on the market, it will, of course, be subjected to the most careful examination by the Titanium Pigment Co. with a view of determining whether or not any of the Titanium Pigment Co. product patents under which it is licensed or which it owns are infringed. Of course, the patents to issue to the Seven Minerals Product Co. are also to be carefully examined with a view of determining whether or not there are any claims which should be copied in pending applications of the Titanium Pigment Co. if this be possible or whether new applications should be filed and the claims inserted therein for purposes of interference.

Taking over employees from a competitor who are skilled men and who bring with them inventions which are really owned by the competitor has been severely criticized in this Circuit, both in the Eastern District which includes Brooklyn, and in the Southern District which includes New York.

It is very unfortunate that the patent on Case T-18 expires next July, for I haven't the slightest doubt that the product to be put on the market by Seven Minerals Product

Exhibit 411

Co. will infringe that patent. At the last talk I had with Goldthwaite above referred to, he stated that great hiding power was very essential in pigments employed in the manufacture of ink and that the analysis of his own staff showed that the Krebs product had greater hiding power than the product of the Titanium Pigment Co. and that for that reason the International Printing Ink Corp. was purchasing the Krebs product. Since that time the Titanium Pigment Co.'s product has been vastly improved. In any event, Goldthwaite was quite emphatically warned by me that if his company went into the manufacture of titanium dioxide, he was bound to run into patent trouble and that he must not rely on the expiration of the early patents because of the fixed policy on the part of Titan Co. A/S and Titanium Pigment Co. of obtaining patents on all improvements and that many of these improvements were commercially essential in the manufacture of pigments.

Yours truly,

COLE

FCC:J

cc: CFKaegebehn, Esq.

Exhibit 412

FILE COPY

Blind copies to:
Mr. C. H. Biesterfeld—Patent Div.—Bldg.
Mr. J. P. Hancock " " "
Dr. J. E. Booge—Newport

November 19, 1936.

CONFIDENTIAL

J. Allegaert, President,
Virginia Chemical Company,
c/o United Color and Pigment Co.,
Newark, New Jersey

Dear Mr. Allegaert:—

Our attention has been drawn to the announcement of the purchase by Virginia Chemical Company of the titanium dioxide plant of Southern Mineral Products Company at Piney River, Virginia.

As it has been our Company's policy to advise the industry of our patent holdings in the titanium field, we are, therefore, attaching hereto such a list which may be of interest to your Company.

We will be glad to discuss our patent situation with your Patent and Technical people and to arrange for an appointment after you have had an opportunity to consider the matter.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s
Encl.

Exhibit 413

Letterhead of

UNITED COLOR AND PIGMENT COMPANY, INC.

November 24, 1936.

Carl H. Ruprecht, General Manager,
E. I. duPont deNemours & Company,
Krebs Pigments Division,
Wilmington, Del.

Dear Carl:

Thank you for your letter of the 19th which accompanied a list of your patents in the Titanium field. I appreciate your giving me this information.

We will promptly investigate the list and make sure that in our study of the existing patents we haven't overlooked any of yours.

With reference to your kind offer to discuss the patent situation with us, I will be very happy to communicate with you further.

With kind regards, I remain

Sincerely yours,

JOHN ALLEGAERT

JA/M

Exhibit 413

Checked *in red* by J. P. Hancock of Legal Dept. for corrections.

11/19/36

1,357,690	11/2/20	Coffelt O. T. Process for the Recovery of Titanium from its Ores
1,489,183	4/1/24	Weizmann and Blumenfeld Production of Titanic Acid
1,504,669	8/12/24	Blumenfeld J. Titanium Compound
1,504,670	8/12/24	Blumenfeld J. Titanium Compound
1,504,671	8/12/24	Blumenfeld J. Titanium Compound
Reissue 17,429	9/10/29	Blumenfeld J. Preparation of Titanium Hydroxide
Reissue 17,430	9/10/29	Blumenfeld J. Preparation of Titanium Hydroxide
1,600,772	9/21/26	O'Brien W. J. Lithopone & Process for Producing the Same
Reissue 16,956	5/8/28	Blumenfeld J. Titanium Pigment
1,600,773	9/21/26	O'Brien W. J. Lithophone & Process for Producing the Same
1,633,621	6/28/27	Blumenfeld J. Filtration of Solutions and the Like
1,639,423	8/16/27	Blumenfeld J. Preparation of Pigments and Paints
1,649,496	11/15/27	Specht N. Process for the Manufacture of Titanic Oxide
1,655,940	1/10/28	d'Ans J. et ál Process of Preparing Titanic Oxide from Titan Ores
1,707,248	4/2/29	Blumenfeld J. Process for the Manufacture of Titanium Oxi
1,707,257	4/2/29	de Rohden C. Production of Titanium Tetrachloride
1,709,999	4/23/29	O'Brien W. J. Method of Producing Lithophone
1,750,287	3/11/30	Specht N. Process of Producing Permanent Paints
Reissue 18,790	4/4/33	Mecklenburg W. Production of Titanium Dioxide

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1,766,592	6/24/30	Blumenfeld J. Production of Composite Pigments Containing Titanium Dioxide
Reissue 18,854	5/30/33	Blumenfeld J. Production of Titanium Oxide
1,797,760	3/24/30	de Rohden C. Production of Titanium Compositions
1,827,691	10/13/31	Specht N. Process of Treating Ores of Titanium Containing Chromium & Recovering the Sulphuric Acid
1,832,666	11/17/31	Specht N. Process for the Manufacture of a Brown Pigment Containing Titanium from Sludge of Titanium
1,836,275	12/15/31	O'Brien W. J. Method of Producing Improved Lithopone
1,845,633	2/16/32	Specht N. Process for the Purification of Impure Dioxide of Titanium Containing in Particular Chromium
1,846,188	2/23/32	de Rohden C. Production of Titanium Pigments
1,851,487	3/29/32	Blumenfeld J. Preparation of Titanium Hydroxide
Reissue 19,594	5/28/35	Leuchs Process of Manufacturing Titanium Oxide Suitable for Use as a Pigment
1,864,504	6/21/32	O'Brien W. J. Composite Pigment
1,885,187	11/1/32	de Rohden C. Production of Titanium Pigments
1,885,921	11/1/32	Kubin C. Process for Reducing the Oil Absorption of Titanium Dioxide Pigment
1,885,934	11/1/32	Mayer M. Art of Producing Oxides of the Fourth Group Metals
1,892,693	1/3/33	Blumenfeld & Mayer Preparation of Titanium Pigments
1,899,572	2/28/33	Kubelka P. Method of Dissolving Titanium Tetrachloride in Aqueous Solvents
1,899,573	2/28/33	Kubelka P. Process of Preparing Clear Solutions of Titanium Chloride

Exhibit 413

1,899,574	2/28/33	Kubelka P. Process of Preparing Concentrated Clear S tions of Titanium Chloride
1,902,203	3/21/33	von Bichowsky Process of Preparing Titanium Dioxide
1,902,204	3/21/33	von Bichowsky Process of Producing Pigments Contai Titanium
1,915,393	6/27/33	von Bichowsky Method for Producing Titanium Sulph
1,922,816	8/15/33	McKinney R. M. Preparation of Stabilized Titanous Salt Solut
1,931,380	10/17/33	Haber and Kubelka Production of Titanium Dioxide from Titan Tetrachloride
1,931,381	10/17/33	Haber and Kubelka Production of Titanium Dioxide from Titan Tetrachloride
1,937,037	11/28/33	Hanahan M L Process of Making Titanium Oxide of Texture
1,975,339	10/2/34	von Bichowsky Method for Improving Pigments Containing T nium
2,026,862	1/7/36	Blumenfeld and Mayer Preparation of Titanium Pigments
2,031,750	2/25/36	von Bichowsky Method for Purifying Titanium Subo Materials
2,044,941	6/23/36	Hanahan Titanium Dioxide of Fine Texture
2,045,836	6/30/36	Coffelt Titanium Product and Method of Making Same
2,046,054	6/30/36	Booge Blended Pigment
2,047,208	7/14/36	Krchma Process of Reducing Titanium Sulphate Liq
2,049,504	8/4/36	Krchma Cyclic Process for Reducing Titanium Sulp Liquors

Exhibit 414

FILE COPY

March 1, 1937.

C. R. MUDGE, DIRECTOR
LEGAL DEPARTMENT

PROPOSED LICENSE—VIRGINIA CHEMICAL COMPANY
TITANIUM DIOXIDE PATENTS

Virginia Chemical Company, a 100% subsidiary of The International Printing Ink Corporation, has requested a license under our patents for the manufacture of pure titanium dioxide.

We are disposed to grant such license, restricting the same to patents as would be described in a schedule, and which would include only patents of the Krebs Pigments Department. In this way it would make certain that any possible use or application patents of other departments would not be involved.

It is planned to negotiate this license on the same basis as that which was executed with American Zirconium Corporation, under which Licensee would be limited as to the tonnage which could be produced in any calendar year over the life of the patents, and including a royalty of 2% of our published carload selling price.

In view of the fact that the license would cover only patents in the titanium dioxide field held by this department, it is felt that the matter will be of no interest to any other department. However, it is requested that the usual approval of other departments be secured.

C. H. RUPPRECHT.

CHR:S

Exhibit 415

Letterhead of

E. L. DU PONT DE NEMOURS & COMPANY

March 9, 1937.

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Company,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:—.

Enclosed herewith is a copy of proposed license under our patents in the Pure Titanium Dioxide field, and in accordance with telephone conversation today with your Mr. Sklarz I understand it will be agreeable to you to meet me at the Uptown Club in New York at one o'clock on Friday afternoon, March 12th, for further discussion.

I was very sorry to hear of your illness and hope you are recovering rapidly. In the event you feel you cannot keep the appointment for Friday, please let me know, or, if it would be more convenient for you under the circumstances, I could arrange to meet you in Newark at the same hour.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s
Encl.

Exhibit 416

Letterhead of

E. I. du Pont de Nemours & Company

Newport, Del.
March 11, 1937

CONFIDENTIAL

Mr. C. H. Rupprecht
Room 12408
Nemours Bldg.

Quality of Calcium Base Pigment from Virginia Chemical Co.

We have received two samples of calcium base titanium pigment from the Virginia Chemical Co. A quart jar was received on February 15th followed by a very small envelope sample at our conference of February 25th.

The results of our tests on these two samples will be shown in the table below. It will be noted that both color and strength are low and that the envelope sample represents no improvement over the previous larger sample. In my opinion this pigment is not salable in competition with Titanox-C and "Ti-Cal" due particularly to the low color.

Code	Date Rec'd.	T. S.	Color	O. A.	% TiO_2
T 122	2-15-37 Jar	185	12	(22.0)	29.8
T 2(561	2-25-37 Envelope	183	12	—	29.1
Ti Cal L O		200+	18	12	30
Ti Cal H O		200+	18	19	30

J E B
J. E. Booge
Technical Director

JEB:DEE

Exhibit 417

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

April 12, 1937

CONFIDENTIAL

John Allegaert, President
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:—

As per telephone conversation of this morning, am enclosing a revised copy of proposed license under our patents in the pure titanium dioxide field. An additional Article has been inserted, which becomes Article III.

I understand you will have had sufficient time to go over this by Friday of this week, and would like to get together with me at that time. I will call you on Thursday, April 15th, and make a definite time appointment for the 16th.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s
Encl.

Exhibit 418

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

CONFIDENTIAL

April 21, 1937.

John Allegaert; President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert,

As per our telephone conversation of this morning, relative to the proposed license under our patents in the pure titanium dioxide field, we are agreeable to certain of your suggestions and offer additional ones, as per the following:

Article II, paragraph (a)—It will be agreeable to change this paragraph in accordance with your suggestion to read as follows:

> "(a) Virginia shall pay to du Pont a royalty at the rate per pound specified in paragraph (b) of this Article on the total quantity of all titanium dioxide, including the titanium dioxide content of all compounds, mixtures and other products, produced by Virginia during each calendar year throughout the period of this agreement; subject, however, to the provisions of Article III hereof."

Article II, paragraph (b)—We are unable to consider your request that the words "on each and every pound of

titanium dioxide" be eliminated from this paragraph. While the elimination of this phrase would not change the meaning of the contract, we believe that it does serve to clarify the provisions of the Article as a whole.

Article III—We are suggesting that the paragraph as presented to you in our last draft remain unchanged and become paragraph (a) of this Article, to which will be added a paragraph (b) reading as follows:

> "(b) If du Pont does not notify Virginia in writing on or before that the absence of such infringement under said existing process has been determined to du Pont's satisfaction, Virginia may cancel this agreement ab initio by so notifying du Pont in writing within ten (10) days after said date."

Write one way or other

Article V will remain as is, except that the second sentence will be changed to read:

> "The termination of this license for any cause prior to its normal expiration (other than cancellation in accordance with the provisions of paragraph (b) of Article III) shall not affect the provisions of this Article or release or discharge Virginia from the admission and estoppel herein set forth."

Article VII will remain unchanged except that the following words will be added at the beginning of the paragraph:

> "Unless cancelled in accordance with the provisions of paragraph (b) of Article III", etc.

Exhibit 418

Article VIII—We are agreeable to your suggestion and will add the following words to the end of the paragraph:

> "except to a corporation into or with which Virginia shall be merged or consolidated, or which shall acquire all or substantially all of its assets."

Unless I hear from you to the contrary, will see you on Saturday morning, April 24th, at 10 o'clock, as arranged.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s

Exhibit 419

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Copy: Mr. C. H. Biesterfeld

May 7, 1937.

MR. C. H. RUPPRECHT, GENERAL MANAGER,
KREBS PIGMENTS DEPARTMENT.

I enclose herewith two forms, complete except as to Schedule "A", to be submitted as alternatives to Virginia Chemical Corporation.

lestroyed & ewritten sent /aCHemCo /12/37

The first form permits Virginia to cancel the agreement if du Pont or the arbitrators fail to determine that Virginia's existing process does not infringe the patents enumerated. Upon such cancellation all admissions and estoppels become null and void.

Not sent out : remains ttached

The second form grants to Virginia the option to obtain a license in the form attached thereto. This method makes it unnecessary to include in the license itself any provisions for determination of the infringement question or any provisions for cancellation if Virginia is not satisfied with such determination.

These forms have been reviewed with Mr. Biesterfeld and are satisfactory to him.

S. L. ANDREAS

SLA:T

Exhibit 420

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

May 12, 1937.

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:

As mentioned to you on the telephone today, am enclosing herewith a copy of revised draft of proposed license under our patents in the pure titanium dioxide field.

I shall be very much disappointed if this agreement as now presented does not fully cover the several questions raised by you in our last discussion. The new Article III of this draft appears to me to adequately accomplish this.

I will expect to hear from you the beginning of next week with respect to a further conference.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s
Encl.

Exhibit 421

Memorandum of the conference of May 21st, 1937—between representatives of the National Lead Company and the Virginia Chemical Company.

Those present:

Mr. John Allegart—President—United Color & Pigment Co.

Mr. L. W. Ryan—Director of Research—National Pigments & Chemical Co.

Mr. R. W. Byerley—Attorney for United Color & Pigment Co.

Mr. Milton Zucker—Attorney for Interchemical Corporation.

Dr. G. Jebsen—Vice-President—Titan Company, Inc.

Mr. J. L. Turner—Director of Research—Titanium Division—National Lead Co.

Dr. W. W. Plechner—Assistant to Mr. Turner.

Mr. C. F. Kaegebehn—Manager—Patent Department—National Lead Co.

This meeting was called at the suggestion of Mr. Turner to discuss the technical questions arising from a possible infringement by the Virginia Chemical Company of National Lead Company patents relating to the manufacture of titanium dioxide pigments.

Exhibit 421

After opening the meeting, Mr. Ryan gave a summation of the process now in use by the Virginia Chemical Company who, he stated, is producing about one ton per day of titanium dioxide-calcium sulfate pigment. (Description as given by Mr. Ryan and transcribed from stenographic notes is attached hereto, marked "Appendix I."

Mr. Allegart then suggested that we point out to them which claims of our patents we consider would be infringed by such a process as described by Mr. Ryan. Mr. Kaegebehn replied that the process described by Mr. Ryan varied in many essential points from the process previously described by Mr. Ryan at the meeting of March 2nd, held in Mr. Beschorman's office and, consequently, a further study of this method would be necessary before any detailed discussion of infringement of our patents entered into it. Mr. Byerley expressed regrets that we should find this necessary, but Mr. Turner replied that he would prefer to inspect the plant of Virginia Chemical Company before giving an opinion in the matter. At this time there was no objection to representatives of National Lead Company visiting the plant of Virginia Chemical Company. Since no question of infringement was taken up, consideration was given to various aspects of the proposed license arrangement, from which the following are of interest:

1.—Virginia Chemical Company is willing to pay a royalty when and if infringement of our patents is proven. If no infringement is proven, they are agreeable to enter a cross-license arrangement, based upon the understanding that, should we develop something of interest, they will pay royalty for it.

2.—They would prefer that the licensed field be so restricted as not to include substances whose essential characteristics are not dependent upon titanium dioxide; e. g. they would like to have excluded printing ink and titanated lithopone. As to titanated lithopone, they would be willing to agree not to ship this material to Europe, provided they be given permission to export it to Canada.

3.—They do not wish to be excluded from export of finished articles. Dr. Jebsen described the situation in the various affiliated companies with respect to finished articles, which reassured the representatives of Virginia Chemical Company on this point.

By this time Mr. Allegart objected to a visit by the representatives of the Titanium Division to the plant of Virginia Chemical Company. He thought we ought first to give them some indication as to which patents of ours we thought they might infringe, then, if they could not convince us of non-infringement, they would be very willing to permit us to inspect the plant or to witness a pilot plant operation. It was then agreed that the representatives of National Lead Company would study the process as outlined by Mr. Ryan and select patents which were considered might be infringed. Mr. Allegart offered to answer any and all questions which might be desired by the representatives of National Lead in order to select such patents, and if desired, to furnish samples of their materials at any stage of their process.

The meeting adjourned with the understanding that Mr. Turner would write to Mr. Ryan after he had had the opportunity to consider the process as described by Mr. Ryan.

Exhibit 421

After adjourning, Mr. Zucker, in reply to a question of Mr. Kaegebehn, stated that Dr. Merwin of the Geophysical Laboratory had suggested the term "anhedral." Dr. Merwin was formerly under a retainer to the Titanium Pigment Company.

Exhibit 422

Letterhead of

E. I. DUPONT DE NEMOURS & COMPANY

THIS IS THE ONLY COPY

Newport, Del.
June 8, 1937

Mr. C. H. Rupprecht
Nemours Bldg.

AGREEMENT WITH VIRGINIA CHEMICAL CO.

In accordance with our conversation, I have gone over Virginia's patent 2,066,074 on Titanium-Calcium Pigment as related to our Blumenfeld re-issue 18,854 on Slow Addition Process. Two claims in our Blumenfeld re-issue (claims 7 and 8) contain a minimum time limit of 2' 45"; the specification sets up no strict limits but might be taken as disclaiming times of less than 5 minutes. Virginia, on the other hand, in oral discussion, claims that the most rapid addition is best and disclaims any plan to use slow addition in the Blumenfeld sense. On this basis I assume that they would be willing to limit themselves to a period of addition of less than 5 minutes and probably less than 2' 45". In such case, they should agree to the following disclaimer in the agreement which might be inserted after Section II

> "This agreement shall not include Titanium-Calcium pigment manufactured by the process described in U. S. P. #2,066,074, such process including the rapid mixing of titanium sulfate solution and calcium sulfate slurry in a period of less than 2' 45". (du Pont shall have the right to inspect Virginia's Titanium-

Calcium pigment manufacture to determine that the above process is in use.)"

The stipulation in parentheses concerning duPont's inection of the plant may or may not be acceptable to Virnia. If included, the way will, of course, be open to check on possible infringement from time to time. If not cluded, du Pont will still have the right to challenge Virnia on departure from the stipulated process should evince develop.

Obviously the above paragraph in the agreement will ve the door open, whereas, if we admit non-infringement w, Virginia will have a free hand in the future.

We shall also be perfectly willing to extend the same vilege to our other licensee, The American Zirconium Co.

J. E. Booge
Technical Director

B:DEE

Exhibit 423

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

June 16, 1937.

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:—

As per telephone conversation today, I am enclosing herewith a revision of Article III of the proposed license under our patents in the pure titanium dioxide field, which was submitted with our letter of May 12, 1937.

The adoption of this Article would necessitate two other changes: the omission of the parenthetical clause in Article V, and the deletion from Article VII of the words "unless cancelled in accordance with the provisions of paragraph (c) of Article III".

When you have had opportunity to look this over please advise, and I hope it will be found a satisfactory solution for the questions which have arisen.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s
Encl.

Exhibit 423

III.

(a) It is recognized by du Pont that the manufacture of calcium base titanium pigment by the process described in United States Letters Patent No. 2,066,074 and Application for United States Letters Patent Serial No. 138,404 (as submitted by Virginia to du Pont under date of July 7, 1937), where such process includes the rapid mixing of titanium sulfite solution and calcium sulfate slurry within a period of less than two minutes and forty-five seconds (2′ 45″), does not infringe any of the claims of the Letters Patent licensed hereunder. It is agreed, therefore, that titanium pigment solely by means of such calcium base process or modifications thereof which do not infringe any of said claims shall be free not only from the quantity limitation set forth in paragraph (b) of Article I hereof, but also from the royalty obligations set forth in Article II hereof.

(b) Virginia shall permit the representatives of du Pont at all reasonable times to make a full inspection of Virginia's manufacturing operations for the purpose, and only for the purpose, of verifying that all or part of such operations conform to the process and speed limits referred to in paragraph (a) of this Article.

Exhibit 424

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

July 8, 1937.

CONFIDENTIAL

DR. J. E. BOOGE—NEWPORT:

In connection with the proposed license to the Virginia Chemical Corporation, you will recall that we re-wrote this so that if they confined themselves to the process described in their Patent No. 2,066,074 for the rapid mixing of titanium and calcium sulphate slurry, within a period of less than 2 minutes and 45 seconds, we would consider they do not infringe our patents, we, however, to be permitted to look over their operations from time to time.

They have, meanwhile, called my attention to the fact that they have another Application in the Patent Office which they would like us to review with respect to freedom from our patents, and if we so consider, include this Application Serial No. 138,104 with their issued Patent No. 2,066,074 in Article III of our agreement. In other words, if they practice within the Application and the issued Patent they will be considered free from our patents.

They also raise the question about 2 minutes and 45 seconds, claiming that the Blumenfeld patent gives an example of 4 minutes.

I am sending you their letter of July 7th, together with copy of their Application Serial 138,104, which they have submitted for our examination. Will you kindly look these over at your very earliest convenience and return all of the attachments to me with your reply.

Exhibit 424

Perhaps you will want to discuss this with Messrs. Biesterfeld and Hancock.

In any event, I would like to have it get some preferred attention, so we can get this matter behind us.

C. H. RUPPRECHT.

CHR:s
Encls.

Exhibit 425

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Newport, Del.
July 12, 1937

CONFIDENTIAL

Mr. C. H. Rupprecht
Wlm. Office

LICENSE TO VIRGINIA CHEMICAL CO.

This will reply to your letter of July 8th on the above subject.

Patent Application No. 138,104—This application covers a process for producing gypsum for use in connection with the titanium-calcium pigment process covered by U. S. Patent 2,066,074. This application also describes a slightly modified process for making the titanium-calcium pigment. The principal changes in the hydrolysis step are use of *70°C* in place of 65° and use of an *alkaline* calcium sulphate slurry.

Altho we have not evaluated this slightly changed process and altho it is slightly more in the direction of infringing our hydrolysis patents, I believe that it will be satisfactory to allow use of this process by Virginia Chemical Co.

Addition Period of 2' 45"—Our reason for including an addition period of 2' 45" was the fact that certain claims in our Blumenfeld slow addition patent (Re-issue #18,854) specify this period of 2' 45". In view of the inclusion of this particular period in the claims, it seems obvious that we should not change the period to 4'. It may be pointed out

Exhibit 425

that the Virginia Chemical Co. representatives stated positively in conference that they plan to use *immediate* mixing and that the faster the mixing the better the quality. In view of this statement I question whether the difference between 2′ 45″ and 4″ is a critical one with them.

For your information, I am inclined to agree that they have a good argument in favor of increasing the time to 4′. The Blumenfeld specifications trend definitely in this direction altho, as stated above, the Examiner allowed certain claims with the shorter addition period. The specifications give examples both for 2′ 45″ and 4′ and state that 2′ 45″ does not yield as good results as the 4′ period. My own opinion is that we should hold out for 2′ 45″ as long as possible but, if agreement cannot be reached on this basis, we would have to concede the 4′ period to the Virginia Chemical Co.

JEB
J. E. Booge
Technical Director

JEB:DEE

Exhibit 426

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

July 28, 1937.

REGISTERED MAIL

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:—

Herewith are original and duplicate copies of the proposed license agreement on patents in the titanium dioxide field, which I understand from our last conferences is entirely acceptable to you in its present form.

If you will return to me with the necessary signatures, I will promptly arrange to submit to our Executive Committee with recommendation for approval, and endeavor to have final execution completed as promptly as possible.

Thanking you, I am

Yours very truly,

C. H. RUPPRECHT
GENERAL MANAGER.

CHR:s
Encls.

Exhibit 427

July 29, 1937.

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

PROPOSED LICENSE TO VIRGINIA CHEMICAL CORPORATION UNDER DU PONT TITANIUM DIOXIDE PROCESS PATENTS AND ACQUISITION OF RIGHTS UNDER THEIR U. S. PATENT NO. 2,066,074 AND APPLICATION SERIAL NO. 138,104

Submitted herewith is proposed license to be granted to Virginia Chemical Corporation (100% subsidiary of International Printing Ink Corporation) under du Pont titanium dioxide process patents, effective October 1, 1937.

Virginia Chemical Corporation sometime ago purchased titanium dioxide plant orginally erected by Vanadium Corporation at Piney River, Virginia, and in processing will utilize ilmenite from ore deposits adjoining the plant, which were, however, retained by Vanadium, who will supply the ore.

Virginia Chemical Corporation has developed a process for the manufacture of calcium base titanium pigment, which is covered by their issued U. S. Patent No. 2,066,074 and U. S. Application Serial No. 138,104, which has been thoroughly investigated by us, and indications on laboratory or small scale plant basis are that our patents are not infringed when producing the calcium pigment. However, Virginia is desirous of obtaining a license under our pure titanium dioxide patents as listed in Schedule "A" attached to proposed license. We believe it advisable to grant such non-exclusive license, and the agreement as hereto attached has been accepted by them.

Exhibit 427

Following are the principal features of the agreement as proposed:

1 — Limitation of tonnage which Virginia can produce under our patents expiring 1950, whereby they are limited to 3,000 tons per year for the first three years; 6,000 tons per year for the next six years; and 9,000 tons per year thereafter. Such limitation covers titanium dioxide as such, and included in the quantity allowed is the titanium dioxide content of any mixtures, compounds, etc. Quantity limitations apply as long as Virginia operates wholly or partly under any of the claims of the patents covered by the license.

2 — Virginia pays royalty of 2% on Krebs average published carload selling price, with minimum royalty of ¼¢ per pound. At present price this would not $18,200 per year on 3,000 tons; $36,400 on 6,000 tons; and $54,600 on 9,000 tons.

3 — Titanium dioxide in calcium base pigment, if produced under process described in Virginia's Patent No. 2,066,074 and Application Serial No. 138,104, is excepted from tonnage limitation and royalty provisions mentioned in Paragraphs 1 and 2, but subject to verification by du Pont through regular plant inspections at any time.

4 — Virginia admits validity of Krebs patents and is not released from this admission if license is terminated before its normal expiration.

5 — Virginia is bound to make royalty payments on all titanium dioxide produced for a period of ten years, but can then terminate upon showing proof that they do not infringe claims of any unexpired patents covered by license.

Exhibit 427

6 — Virginia is licensed only under pure titanium dioxide patents issued to du Pont to-date on present type of anatase crystal structure pigment, and does not receive any rights under patents on tinted titanium dioxide, blended pigments, and titanium dioxide of rutile crystal structure.

7 — In addition to royalty payments, du Pont receives non-exclusive, royalty-free license under Virginia's Patent No. 2,066,074 and Application 138,104 for producing calcium base titanium pigment.

8 — Du Pont admits validity of Virginia's Patent 2,066,074 and any patent which may issue against their Application 138,104, but effective only so long as du Pont is licensed under said letters patent.

This license has been approved by Patent Division and Legal Department.

It is recommended that the license in its complete form as herewith be approved, and the Management authorized to execute.

C. H. RUPPRECHT
GENERAL MANAGER

Exhibit 428

NATIONAL LEAD COMPANY

Subject VIRGINIA CHEMICAL COMPANY INFRINGEMENT MATTER

Date February 17th, 1938

To Mr. W. C. Beschorman—Executive Vice-President

From Mr. C. F. Kaegebehn—Patent Department

In Reply to

Dear Mr. Beschorman:—

On February 1st, I conferred with Mr. Kimball regarding the possibility that the Virginia Chemical Company were infringing our patents in their manufacture of pure titanium dioxide. Since the Virginia Chemical Company is not making composite calcium sulfate pigment at this time, I did not take up with Mr. Kimball in detail whether or not in his judgment claims of our calcium sulfate composite pigment patents would be infringed by a process such as they have described to us.

We do not have in our possession any detailed information concerning the complete process employed by this company for making pure titanium dioxide; consequently, we can only assume that their initial step, that is the digestion, is the same as they described to us as part of their process for making calcium sulfate composite pigment. The most important patent we have relating to this step is the patent covering the so-called Washburn Digestion Method. Careful consideration of the claims of this patent in rela-

tion to the digestion step of Virginia Chemical Company's process as described to us led Mr. Kimball and myself to believe that we cannot assert that they will infringe the claims of this patent. If their digestion step is exactly as they have described it, limitations introduced in the claims of our patent which were necessary in order to secure allowance render those claims too limited to cover their procedure. Apparently, their technique was developed having in view the entire file history of the prosecution of our patent.

Mr. Kimball and I then considered the next step, and I presented to Mr. Kimball Mr. Turner's recommendation that we get in touch with Virginia Chemical Company, stating that our examination of their calcium sulfate process would, in our opinion, infringe certain of our patents, and further inform them that we had learned that they were now manufacturing only pure titanium dioxide, and request from them the details of their process of manufacturing this material. Mr. Kimball thought that this would probably be the best procedure, provided we were reasonably convinced that the Virginia Chemical Company people would be frank with us.

If you feel this is the proper procedure, a letter might be sent along the lines of the draft attached hereto which, although not drafted by Mr. Kimball, is based upon the conclusions reached at my conference with him. On the other hand, probably this could be just as well taken care of by a telephone call by you to Mr. Pitman.

In this connection, may I recall the attitude of Virginia Chemical Company as expressed by Mr. Allegart, viz., that they were willing to enter into a royalty-free, cross-licensing agreement, containing the proviso that they would pay roy-

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alty in the event they would avail themselves of the processes of any of our patents. If an investigation of their process for making pure titanium dioxide indicates that they are not infringing our patents, might it not be a good thing, from point of view of competition, to have beforehand some understanding on this point?

Yours very truly,

C. F. KAEGEBEHN

CFK:lo
enc.

Exhibit 429

NATIONAL LEAD CO.
111 Broadway
New York

COPY

March 2, 1938

Mr. John Allegart, President
United Color & Pigment Co., Inc.
158 Mt. Olivet Avenue
Newark, New Jersey.

Dear Mr. Allegart:

The recent experimental investigation conducted by the Research Laboratories of our Titanium Division of your process for the manufacture of titanium dioxide-calcium sulfate pigment, including an examination of samples from various steps of your process furnished by Mr. L. W. Ryan has convincingly demonstrated to us that such a process infringes certain of our patents.

Since our last conversation in this matter, we have been informed that you have turned to the manufacture of pure titanium dioxide. We do not have any details of your process for making the pure dioxide. However, since we hold many patents relative to the manufacture of pure titanium dioxide as well as composite pigments, it seems more than probable that at least some of them are being infringed by you. We suggest, therefore, that you will want to furnish us with a complete description of your process, in order to bring the question of licenses, etc., to a speedy conclusion.

Yours very truly

(Signed) W. C. BESCHORMAN
Executive Vice President.

Exhibit 430

COPY

Mr. Garesché

UNITED COLOR AND PIGMENT COMPANY, INC.
General Office and Plant, Newark,
N. J.

Mr. W. C. Beschorman, Executive Vice President
National Lead Company
111 Broadway
New York City.

March 4, 1938

Dear Mr. Beschorman:

Thank you for your letter of March 2nd.

We are surprised that the study made by your Research Laboratory leads you to the conclusion that our process for the manufacture of titanium dioxide calcium sulfate pigment infringes certain of your patents.

Our legal and technical people are completely convinced, based on their investigation, that our process is free of any infringement. However, since our efforts have been turned to titanium dioxide, rather than calcium base pigment, it would probably be logical to postpone our discussion of the calcium base pigment until such time as we actively consider its manufacture.

We have made a detailed patent study in the titanium dioxide field and are of the opinion that our process does not infringe any of your patents. We shall be very glad to endeavor to demonstrate this to you either by sending you the details of our process, or by a joint technical discussion of the subject at a mutually convenient time. If you will be good enough to let me know which approach you prefer, we shall be guided accordingly.

Very truly yours,

JAGGP

(Signed) JOHN ALLEGAERT

Exhibit 431

May 7th. 1938.

COPY

I = Digestion Step
II = Treatment of Digestion Cake
III = Hydrolysis
IV = Treatment of Hydrate
V = Calcimation
VI = After Treatment
VII = Composite Pigments
VIII = Miscell.

Mr. John Allegart, President,
United Color & Pigment Co.,
158 Mount Olivet Avenue,
Newark, New Jersey.

Dear Mr. Allegart:

Pursuant to the understanding reached in the course of your conversation with Mr. Garesché and me, I present herewith a list of U. S. Patents now in force which are owned or controlled by National Lead Company, and which cover or are applicable to the manufacture of titanium dioxide pigments:

	Patent Number	*Date*
V	1.389.191	Aug. 30, 1921
VII	1.409.648	March 14, 1922
V	1.412.027	April 4, 1922
VIII	1.436.164	Nov. 21, 1922
VIII	1.501.587	July 15, 1924
VIII	1.539.996	June 2, 1915

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	Patent Number	*Date*
II	1.619.036	March 1, 1927
VII	7.680.316	Aug. 14, 1928
I	1.695.270	Dec. 18, 1928
VIII	1.697.929	Jan. 8, 1929
III	1.738.765	Dec. 10, 1929
III	1.758.472	May 13, 1920
III	1.773.727	Aug. 26, 1930
VIII	1.816.388	July 28, 1931
III	1.820.987	Sept. 1, 1931
III	1.820.988	Sept. 1, 1931
I	1.831.852	Nov. 17, 1931
VIII	1.847.539	March 1, 1932
VIII	1.849.153	March 15, 1929
VIII	1.850.154	March 22, 1932
VIII	1.850.286	March 22, 1932
I	1.852.510	April 5, 1932
I	1.856.565	May 3, 1932
VIII	1.878.013	Sept. 20, 1932
I	1.889.027	Nov. 29, 1932
VIII	1.891.210	Dec. 12, 1932
I	1.891.911	Dec. 27, 1932
VII	1.906.739	May 2, 1933
VII	1.906.730	May 2, 1933
III	1.916.236	July 4, 1933
I	1.919.425	July 25, 1933
VIII	1.929.521	Oct. 10, 1933
VIII	1.934.778	Nov. 14, 1933
VIII	1.941.285	Dec. 26, 1933
III	1.957.528	May 8, 1934

Exhibit 431

	Patent Number	*Date*
VIII	1.969.061	Aug. 7, 1934
V	1.995.580	March 26, 1935
III	2.034.923	March 24, 1936
VIII	2.039.432	May 5, 1936
III	2.055.221	Sept. 22, 1936
VII & III	2.055.222	Sept. 22, 1936
VIII	2.068.294	Jan. 19, 1937
VIII	2.084.826	June 22, 1937
VI	2.084.917	June 22, 1937
VIII	2.084.918	June 22, 1937
III	2.091.799	Aug. 31, 1937
III	2.098.278	Nov. 9, 1937
VIII	2.111.460	March 15, 1938
VIII	2.113.945	April 12, 1938
VIII	2.113.946	April 12, 1938

Should it so happen that you do not have readily available copies of all these patents, please call me on the telephone and it may be that I shall be able to supply the necessary copies at once.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

cc: Mr. C. F. Garesché
Mr. J. L. Turner

Exhibit 432

Notes on Conference of June 1st, 1938 with Representatives of the Virginia Chemical Company—Conference held in Mr. Garesché's Office—111 Broadway, New York City —Those Present: Messrs. J. Allegart, L. W. Ryan, M. Zucker, C. F. Garesché, J. L. Turner, Dr. W. W. Plechner and Mr. C. F. Kaegebehn.

Mr. Ryan described the process used by the Virginia Chemical Company for the manufacture of titanium dioxide somewhat as follows:

Dried and ground ore (native variety) which has been previously leached with 15 to 20 percent sulfuric acid to remove as much phosphate as possible, together with some gangue, micaceous matter and a little iron, is employed. The ore is ground to a fineness so that about 90 percent will pass through a 325 mesh screen. The leaching raises the TiO_2 content of the ore from about 42 to 48 percent.

85 percent sulfuric acid is first poured into the digestion chamber which is a tall, cylindrical vessel having a conical bottom and equipped with valves for steam and air. The vessel, according to Mr. Ryan's statement, is substantially that known as the "Washburn Tank." After the sulfuric acid, the ore is charged into the digestion tank. The ratio of ore to acid is approximately 1 part of ore to 1.6 parts H_2SO_4, calculated as 93 percent acid. The ore-acid mixture is stirred by the injection of air and the temperature thereof raised by injecting steam. When the temperature reaches between 125° to 130° C., dry, powdered starch is dumped on top of the mixture, the air and steam being shut off at this point. The quantity of starch is about 100 lbs. for a digestion batch of about 2 to 3 tons. The starch sets

off the reaction. Mr. Ryan made the analogy of a spark touching off a heap of gun powder. The reaction is the usual exothermic one and attains a maximum temperature of about 175° C. The recovery of TiO_2 is stated by Mr. Ryan to be a little over 97 percent.

When the reaction is complete, the mass is cooled to about 80° C. by blowing air through it. This cooling requires about 2 hours. The reaction mass is then dissolved in water. Mr. Ryan stated that no acid was used to facilitate the dissolution because they had developed a particular technique which prevented hydrolysis and brought about a satisfactory dissolution of the mass. After dissolution, the supernatant liquor is separated from the residue, settled with the addition of clay alone, without the addition of any other settling agent, cooled to crystallize ferrous sulfate which is then removed, and finally concentrated by vacuum evaporation to about the following composition:

16% TiO_2
about 1 part $FeSO_4$ to 1 part TiO_2
6 to 7 grams per liter reduced titanium
Sulfuric acid content of about 75% of that theoretically required to combine with all the titanium

The precipitation, according to Mr. Ryan, was a straight Blumenfeld precipitation, effected by running the concentrated hydrolysis liquor into warm water and thereafter boiling the mixture for about 6 to 7 hours until a recovery of about 95 percent TiO_2 was attained. During the boiling, Mr. Ryan stated that additions of water were made to keep the volume of the hydrolyzing solution constant.

Exhibit 432

When hydrolysis was complete, the precipitated hydrous titanium oxide was filtered and washed. Mr. Ryan stated that the washing process was a series of filtration and repulping operations. A reducing agent—zinc dust—was added during this washing process, together with some sulfuric acid as a 3 percent solution; this to constitute a bleaching treatment. When the washing was complete, a little potassium carbonate was added and the whole calcined in the usual way. The calcined material was then subjected to wet milling, using sodium silicate as the dispersing agent, after which it was flocculated with magnesium sulfate. Thereafter, the product was washed and dried and ready for marketing.

Mr. Kaegebehn then briefly described the patents owned and controlled by National Lead Company, relating to the manufacture of titanium dioxide as listed in his letter to Mr. Allegart of May 7th, 1938 and classified in his memorandum to Dr. Plechner of May 9th, 1938.

Of the patents listed, the following:

U. S. Patent No. 1.889.027—Washburn Digestion Method Patent

U. S. Patent No. 1.412.027—Titanium Dioxide Pigment Containing Phosphate Patent

were considered to be infringed by the above-described process of the Virginia Chemical Company in the opinion of the representatives of National Lead Company. Interpretations of these patents were exchanged. The representatives of the Virginia Chemical Company thought they did not infringe according to their interpretation of the

claims of the patents; the representatives of National Lead Company maintaining that their interpretation of the claims of these patents indicated an infringement by Virginia Chemical Company.

Attention of the Virginia Chemical Company representatives was called to the allowed application Serial No. 136,502, for which final fee was paid on May 24th, 1938, covering the addition of water during hydrolysis. Attention was further directed to application Serial No. 79,003 which contains allowed claims and which relates to the use of zinc dust alone, without use of added acid, as a bleaching agent for hydrous titanium oxide.

With respect to the above-mentioned patent applications, Mr. Allegart stated that it was possible that they might infringe the claims of these applications, particularly the water-addition case, but they would endeavor to avoid infringement by discontinuing the practice which infringed rather than to pay a royalty because they felt that neither the water-addition nor the use of zinc dust as a bleaching agent were essential in their process.

The meeting concluded in an exchange of views between Mr. Garesché and Mr. Allegart. Mr. Allegart expressed the willingness of Virginia Chemical Company to enter a full reciprocal exchange on a royalty-free basis. Mr. Garesché expressed the belief that Virginia Chemical Company would profit to a greater extent than National Lead Company in such an arrangement and, therefore, Virginia should appreciate the value of the rights which National could give them and be willing to accept a royalty basis for such rights.

It was agreed that both parties would consider further the interpretation of the patents and applications which

Exhibit 432

Virginia Chemical Company might infringe, as noted above, and thereafter another conference will be held finally to determine whether or not there existed an actual infringement and to endeavor to reach a basis for concluding an arrangement between the companies.

C. F. Kaegebehn—Manager
Patent Department
National Lead Company
June 3rd, 1938

Exhibit 433

PROPOSED LICENSE TO VIRGINIA CHEMICAL COMPANY
August 19, 1938
Mr. C. F. Garesché
C. F. Kaegebehn—Patent Department

Dear Mr. Garesché:

In connection with the proposed grant of license to Virginia Chemical Company, we have first to consider our obligations under the Agreement of 1920. Article XIV of this Agreement gives us the right to grant licenses but it obligates us to impose upon the sub-licensees certain obligations therein enumerated. These are the following:—

(a) The sublicensees must grant to Titan Company, Inc. exclusive licenses under any patents which it may own or in the future possess in the territory of Titan Company, Inc.

(Virginia Chemical Co. has already expressed its willingness to accept this obligation—in fact, they have indicated their readiness to turn over complete title to their inventions and patents to us for the territory of Titan Co. Inc.
In connection with this obligation however, we shall have to inquire into this situation in Canada which, however, does not effect Titan Co. Inc. but does effect C.T.P.)

(b) The sublicensee must obligate itself promptly to inform us when they file patent applications in the United States so that we can take the necessary steps to protect the

interests of Titan Company, Inc., in Titan Company Inc.'s territories with respect to such inventions.

(Virginia Chemical Co. has already expressed its willingness to accept this obligation.)

(c) Virginia Chemical Co. must obligate itself not to contest the validity of any patents under which it obtains a license.

(This is more or less a formal obligation because under the law a licensee is estopped from contesting the validity of a patent under which he has a license. In any event, Virginia Chemical Company has expressed its willingness to accept this obligation.)

(d) The Virginia Chemical Co. must undertake to respect the sales territory of Titan Co. Inc. and appoint National Lead Company its agent for the sale of its products in the territory of Titan Co. Inc.

(National Lead Co. has already obligated itself to appoint Titan Co. Inc. its agent for Titan Co. Inc.'s territory so that this obligation really means that Virginia Chemical Co. is appointing Titan Co. Inc. its agent through National Lead Co.

The manner of establishing this territorial obligation causes us some concern due to the present tendency with regard to division of world-wide territory into fields of sale. Virginia Chemical Co. has already indicated its willingness not to compete with Titan Co. and Titan Company's associates in their respective territories, but the manner of expressing

this obligation so as not to controvert in letter or spirit the various U.S. anti-monopoly laws is a matter for careful legal consideration.)

(e) Virginia Chemical Co. must obligate itself to place at our disposal for Titan Co. Inc. and its associates technical information regarding its process which may or may not be susceptible of being patented.

(Virginia Chemical Co. has already indicated its willingness and, in fact, desire to exchange the "skill of the art". However, we have to consider here our obligations with respect to Du Pont. Nevertheless, it appears to us possible to work out an arrangement whereby Virginia Chemical Co. can exchange with Titan Co. through us and through visits of Titan Company's representatives to Virginia Chemical Co.'s plants; and visits of Virginia Chemical Co.'s representatives to Titan Company's plants. a scheme whereby the obligations of this section can be met.)

(f) Virginia Chemical Co. must obligate its employees to assign their inventions to Virginia Chemical Co. so that it may in turn grant us licenses.

(This appears to be a rather formal requirement and in all probability Virginia Chemical Co. does bind its employees to assign their inventions to the company.)

Article XIV of the Agreement of 1920 contains provisions with respect to the payment of royalties and the keeping of accounts in the event National Lead Company has to

pay royalties on the production of the licenses to Titan Company, Inc. Since National Lead Company no longer pays any royalties to Titan Co. In. these provisions have no effect on the Virginia Chemical Company situation.

With respect to the scope of the "licensed field" within which National Lead Company and the Virginia Chemical Company will exchange patent rights, this question has already been considered with Virginia Chemical Co. They have indicated their readiness to exchange licenses with respect not only to titanium pigments, but titanium compounds generally, thus meeting the requirements of the "licensed field" of the Agreement of 1920. The only exception requested by Virginia Chemical Co. is titanated lithopones.

With respect to the royalties which we may obtain from the Virginia Chemical Co., Mr. Beschorman first mentioned the figure of 2 per cent on the list price set by National Lead Company.

With respect to the limitation of production clause, Mr. Beschorman mentioned, for the first period of three years, a production of 3000 tons of TiO_2 per year; for the second period of three years a production of 6000 tons of TiO_2 per year; and for the third period of three years a production of 9000 tons of TiO_2 per year.

With respect to the royalty and the limitation of production clauses, these figures were based upon the belief existing at that time that Virginia Chemical Co. intended to market composite calcium sulfate pigment. If the present contemplated license is to include rights for Virginia Chemical Co. to manufacture all types of titanium pigments, the royalty and limitation of production clauses should specify that they apply to the titanium dioxide content whether

sold as the pure dioxide or in the form of a composite pigment.

About May, 1937, we prepared a draft of a license agreement, copy of which was submitted to Virginia Chemical Company. This license agreement was based upon the Agreement of 1920 and our agreement with American Zirconium Corporation. We have had one conversation with Mr. Zucker, attorney for Virginia Chemical Co., regarding this license agreement. The conversation was largely directed to matters of form because no agreement had been reached with respect to the important clauses covering royalty and limitation of production. At this time, we feel that this draft agreement will have to be considerably modified, particularly with respect to territorial limitations. In connection with this territorial limitation idea we are in a dilemma of being obligated to protect the sales territory of our European associates, and at the same time insuring that we do not do anything counter to the American anti-trust and anti-monopoly laws.

Reference to my files discloses that we prepared an agreement between National Lead Company and Virginia Chemical Company, and a second agreement, in the nature of a guarantee agreement, between National Lead Company and International Printing Ink Corp. Mr. Beschorman sent only a copy of the first agreement, i.e., between National Lead Co. and Virginia Chemical Co. to Mr. Pitman, vice-president of the International Printing Ink Corp. on March 30, 1937. I attach hereto copy of the draft which I prepared which shows the subject matter of the various clauses of the agreement and their derivation, that is, whether they were obtained from the Agreement of 1920 or from the American Zirconium Agreement.

Exhibit 433

May I suggest that if you and Mr. Allegart reach an agreement on the royalty and limitation of production, we get together with Mr. Zucker of the Virginia Chemical Co. to devote as much time as may be necessary to preparing a new and more satisfactory draft of Agreement.

Yours very truly,

CFK:RC
encls.

Exhibit 434

September 13th, 1938

Dr. G. Jebsen
c/o Titan Company, Inc.
26, Rue de la Pépiniere
Paris — VIIIe — France

Re: Virginia Chemical Co. Matter

Dear Dr. Jebsen:—

Mr. Garesché has asked me to write you concerning our negotiations with the Virginia Chemical Company, with a view to granting them license to manufacture titanium dioxide pigments. The Virginia Chemical Company, as you know, is the subsidiary of the United Color and Pigment Company, which in turn is a subsidiary of the International Printing Ink Corporation.

As a result of recent conversations with the Virginia Chemical Co. people, a substantial agreement has been reached on all points, except the amount of royalty to be paid. Should an agreement be reached on this point, then we shall have to consider drafting a license agreement. Our problem then will be to incorporate in this agreement the obligation set forth in Article XIV of the Agreement of 1920, and to bind Virginia Chemical Co. to respect the various conditions of that Article. We do not anticipate that this will give us much difficulty, except on one point: That which concerns the territorial obligations to be assumed by Virginia Chemical Co. The Virginia Chemical Co. is perfectly willing to assume these obligations, but in view of the present attitude here in the United States regarding such obligations and their relation to our anti-

monopoly laws, there may be some difficulty in expressing this obligation in the agreement.

On August 19th I wrote a memo. to Mr. Garesché, which memo. preceded our last conversation with Virginia Chemical Co. This memo. set forth the obligations which must be imposed upon Virginia Chemical Co. and noted the anticipated difficulty with respect to the territorial obligation. I enclose herewith a copy of that memo.

Mr. Garesché will, I believe, want to discuss this question with you in the hope that you may be able to suggest some means by which Titan Company, Inc. and its European associates could be protected to the same extent as envisioned in Article XIV, while avoiding any possible conflict with our anti-monopoly laws. In this case I would not deem a purely verbal understanding desirable.

With very kind regards,

Yours very truly,

CFK:JL
Enc: 1

c.c. Mr. C. F. Garesché

Exhibit 435

Virginia Chemical

C.F.K. letter

"No longer pay royalty"—No : 10¢ ton.
We would pay on V.C.Co. production.
This clause keeps certain other clauses in effect.

Certain degree of protection by reason of exclusive license to foreign companies in foreign territory but long drawn out legal task to prove that manufactured under patents. Virginia Ch. Co. not to have the right to sublicense. Royalty clause of Art. 14 need not be embodied in V.C.Co. contract but may be at our discretion.

If V.C.Co. follows 1920 agreement they will agree to appoint N.L.Co. ~~or~~ Titan Co. Inc.—as their sole agent for introduction and sale into territories other than U.S.A. (see article VI c), (no matter to T.Co.Inc.—it may possibly be covered by a sub-letter).

Dumping Phase.

V.C.Co use of Blumenfeld patents would probably estop dumping in countries where Blumenfeld patents have been taken out (not Scandinavia & Holland or Belgium).

Dr. J. feels dumping would be harmful to T.Co. Inc. but feels impossible to evaluate it.

C.F.G.
10.7. 1938

Copy to Dr. Jebsen

Exhibit 436

COPY

Blind copies to:
Messrs. S.L. Abrans, Legal Dept.
C.H. Lyman, Office

REGISTERED MAIL

CONFIDENTIAL

October 11, 1938

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:

Under Article I paragraph (b) of our agreement of August 5, 1937 the maximum quantities of titanium dioxide which Virginia Chemical Corporation is licensed to make under our patents during the 12 months periods designated as October 1, 1937 to September 30, 1938, and October 1, 1938 to September 30, 1939, are 3000 tons for each of these 12 months periods.

In our conversation of last Friday you explained the existing conditions which prevented your producing the total 3000 tons over the first 12 months period above mentioned, and asked whether we would be agreeable to have you carry over this quantity into the second 12 months period referred to herein; in other words, permitting you to produce a total of 6000 tons in two years running from October 1, 1937 to September 30, 1939.

In view of the circumstances explained by you, we are agreeable to such modification of the contract. Accord-

ingly, the two 12 months periods of October 1, 1937 to September 30, 1938, and October 1, 1938 to September 30, 1939, will be treated as one period, and during that time you are hereby licensed to produce under the contract an aggregate quantity not to exceed 6000 tons, in lieu of the maximum quantities stated in the agreement with respect to each of these 12 months periods.

As you can understand, we are always reluctant to make any change in the provisions of such a contract. Our consent to this modification should not be regarded as a precedent for waiving any of its provisions.

Please indicate your acceptance of this amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. RUPPRECHT
GENERAL MANAGER.

Accepted October , 1938
Virginia Chemical Corporation

By (s) John Allegaert
President

Exhibit 436

DRAFT

EXACT COPY

Blind copy to:
Messrs. S.L. Abrams, Legal Dept.
C.H. Lyman, Office

October 11, 1938

REGISTERED MAIL

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:

Under Article 4 paragraph (b) of our agreement of August 5, 1937 the maximum quantities of titanium dioxide which Virginia Chemical Corporation is licensed to make under our patents during the 12 months periods designated as October 1, 1937 to September 30, 1938, and October 1, 1938 to September 30, 1939, are 3000 tons for each of these 12 months periods.

In our conversation of last Friday you explained the existing conditions which prevented your producing the total 3000 tons over the first 12 months period above mentioned, and asked whether we would be agreeable to have you carry over this quantity into the second 12 months period referred to herein; in other words, permitting you to produce a total of 6000 tons in two years running from October 1, 1937 to September 30, 1939.

Exhibit 436

In view of the circumstances explained by you, we are agreeable to such modification of the contract. Accordingly, the two 12 months periods of October 1, 1937 to September 30, 1938, and October 1, 1938 to September 30, 1939, will be treated as one period, and during that time you are hereby licensed to produce under the contract an aggregate quantity not to exceed 6000 tons, in lieu of the maximum quantities stated in the agreement with respect to each of these 12 months periods.

As you can understand, we are always reluctant to make any change in the provisions of such a contract. Our consent to this modification should not be regarded as a precedent for waiving any of its provisions, ~~and we must ask that in future you strictly adhere to the maximum quantities specified in the contract.~~

Please indicate your acceptance of this amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

GENERAL MANAGER.

Accepted October , 1938
Virginia Chemical Corporation

By .....
President

Approved by
S. L. Abrams
10/11/38.

Exhibit 437

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, October 25th 1938.

Charles F. Kaegebehn Esq.
Manager, Patent Department
111 Broadway
New York City, U:S.A.

Dear Mr. Kaegebehn,

Re: Virginia Chemical Co. Matter.

Many thanks for your letters of September 13th and 20th.

I have discussed the question with Mr. Garesché during his stay here, and may only point out to you the following, which I also mentioned in my talk with Mr. Garesché:

I do not think that a verbal understanding with firms, which are more or less unknown to our associated companies, will be welcome by these. It would anyhow put a very great responsibility on the National Lead Co. and should be rather avoided.

I have noted that in the present case you also think a verbal understanding is not desirable.

With very kind regards,

Yours very truly,

G. JEBSEN

Exhibit 438

COPY

Blind copy to:
S. L. Abrams, Legal Dept.

March 9, 1939.

REGISTERED MAIL

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:—

This will confirm our conversation of Friday, March 3rd, relative to Article I, paragraph (b) of our agreement of August 5, 1937, under which Virginia Chemical Corporation is licensed to manufacture specific quantities of titanium dioxide under our patents.

In order to afford to you an earlier and more gradual basis of increase, we are agreeable to changing the quantities specified for the two twelve-month periods ending September 30, 1940 and September 30, 1941, to the total annual quantities of 3600 tons and 5400 tons, respectively. This is in lieu of the quantities of 3000 and 6000 tons stated for these two periods in the original agreement.

It is further understood that our consent to this additional modification can not be regarded as a precedent for waiving any of the provisions of the contract.

Exhibit 438

Please indicate your acceptance of this amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. RUPPRECHT
GENERAL MANAGER

CHR:s

Accepted, March 14, 1939
Virginia Chemical Corporation

JOHN ALLEGAERT
President

Exhibit 439

COPY

Blind copy to:
S. L. Abrams, Legal Dept.

November 21, 1939.

REGISTERED MAIL

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:

This will confirm our conversation of Friday, November 17, 1939, relative to Article I, Paragraph (b) of our agreement of August 5, 1937, under which Virginia Chemical Corporation is licensed to manufacture specific quantities of titanium dioxide under our patents, and also our letter of March 9, 1939 authorizing certain modifications.

In view of the conditions explained by you, we are agreeable to a further modification from our letter of March 9, 1939 to the extent of changing the quantities specified for the two twelve-month periods ending September 30, 1940 and September 30, 1941, to the total annual quantities of 4500 tons and 4500 tons respectively. This is in lieu of the quantities of 3600 and 5400 tons provided in our letter of March 9, 1939 for these two periods.

It is, of course, understood that our consent to this additional modification cannot be regarded as a precedent for waiving any of the provisions of the contract.

Exhibit 439

Please indicate your acceptance of this further amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. Rupprecht
General Manager

CHR:s

Accepted, November 22, 1939
Virginia Chemical Corporation

By (s) JOHN ALLEGAERT
President

Exhibit 440

COPY

Blind copy to:
Mr. S. L. Abrams, Legal Dept.
Mr. J. P. Hancock, " "

REGISTERED MAIL

CONFIDENTIAL August 5, 1940

Mr. John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:

This will confirm our conversation of today, relative to Article I, Paragraph (b) of our Agreement of August 5, 1937, under which Virginia Chemical Corporation is licensed to manufacture specific quantities of titanium dioxide under our patents, and also our letter of November 21, 1939 authorizing certain modifications.

In view of the conditions explained by you, we are agreeable to a further modification from our letter of November 21, 1939, to the extent of changing the quantities specified for the two twelve-month periods ending September 30, 1940 and September 30, 1941 to the total annual quantities of 5000 tons and 4000 tons, respectively. This in lieu of the 4500 tons quantities provided in our said letter of November 21, 1939 for each of these two periods.

It is, of course, understood that our consent to this additional modification cannot be regarded as a precedent for waiving any of the provisions of the contract.

Exhibit 440

Please indicate your acceptance of this further amendment of this contract by signing and returning the enclosed copy of this letter.

Yours very truly,

Z. Y. PHELPS, ASST. GENERAL MANAGER

ZP:d

Accepted, August 7th, 1940
Virginia Chemical Corporation

By JOHN ALLEGAERT
President

Exhibit 441

November 14, 1940

Mr. C. F. Kaegebehn:
Patent Department,
National Lead Company,
Building

Dear Mr. Kaegebehn:

I am enclosing herewith a copy of Mr. Turner's letter of the 13th, as well as the mentioned letter of the same date to Mr. Corddry.

It is my thought that there is indication that the Virginia Chemical Company are infringing certain of our patents and that we should take the necessary steps to force them to cease this infringement.

Will you please give this your consideration and consult with me on the proper steps to be taken.

Yours very truly,

Manager

cc Mr. Turner

Exhibit 442

COPY

April 4th, 1941

Mr. C. J. Stopford
British Titan Products Co., Ltd.
Burlington House, Yarm Road
Eaglescliffe, Stockton-on-Tees
England

Re: British Patent No. 457,719
United Color & Pigment Co., Inc.

Dear Mr. Stopford:

We thank you for your letter of March 5th, 1941, which is very interesting.

British patent No. 457,719 apparently is equivalent to U. S. Patent No. 2,066,093 to United Color & Pigment Co., Inc. and we also have regarded the United States patent as dependent upon the United States patent in case T. 47.

United Color & Pigment Co., Inc. has a license on behalf of its subsidiary, Virginia Chemical Company, from Du Pont under the Blumenfeld patents for the manufacture of pure titanium dioxide. They do not have any license from us but we have asserted that they are infringing certain of our claims and negotiations have dragged along with them for some time. They would like us to license them under our patents for composite pigments and

Exhibit 442

straight titanium dioxide and also to impart to them the "skill of the art", which, I believe, our people are reluctant to do.

Yours very truly,

TITÁN COMPANY, INC.
C. F. KAEGEBEHN

CFK:JL

c.c. Mr. S. Andersen
Mr. C. F. Garesché

Exhibit 443

Letterhead of

INTERNATIONAL PULVERIZING CORPORATION

September 24, 1940

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City.

Dear Mr. Garesche:

I would appreciate it very much if you would have forwarded to Mr. William J. O'Brien, Vice-President of the Glidden Company, Cleveland, Ohio, a sublicense agreement covering the processing of titanium pigments, pursuant to our license agreement with your company of April 10, 1939. I have reviewed with Mr. O'Brien the sublicense agreement between your company and duPont, dated April 14, 1939; and it will be satisfactory if the sublicense with the Glidden Company is in a form similar to this.

Yours very sincerely,

A. M. STACKHOUSE
A. M. Stackhouse,
President.

CC—Mr. William J. O'Brien.

Exhibit 444

September 27, 1940

Mr. A. M. Stackhouse, President
International Pulverizing Corporation,
New Albany Road,
Moorestown, N. J.

Dear Mr. Stackhouse:

I have your letter of the 24th with reference to our granting a sub-license to the Glidden Company under our exclusive license agreement with you.

You; of course, realize that the license is not to be given to the Glidden Company, but to the American Zirconium Corp., of which Mr. O'Brien is also an officer. We have had a request from him for such a license and now have it in preparation.

I note from your letter that you have already discussed with Mr. O'Brien the details of our license agreement with DuPont. In this case, this has done no harm, as we plan to give a practically identical license to them. However, in the future, we would prefer that you did not show, or discuss, details of this license with any propective licensees. You can appreciate that such details should come from us and that there may be reasons why agreements should not in all cases be identical.

Yours very truly,

C. F. GARESCHE
Manager

Exhibit 445

Letterhead of

INTERNATIONAL PULVERIZING CORPORATION

October 2, 1940

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City.

Dear Mr. Garesche:

I would appreciate it if you would advise me whether or not it would be satisfactory to your company to sublicense the Interchemical Corporation or one of its subsidiaries under your general license agreement in reference to the processing of titanium pigments. It was my understanding that you would be willing to sublicense substantial manufacturers in this field; and it would be of great assistance to us if we could have your confirmation as to this particular company.

Yours very sincerely,

A. M. STACKHOUSE
A. M. Stackhouse,
President.

Exhibit 446

October 4, 1940

Mr. A. M. Stackhouse, President
International Pulverizing Corporation,
New Albany Road,
Moorestown, N. J.

Dear Mr. Stackhouse:

I have your letter of October 2nd inquiring as to our willingness to grant to InterChemical Corporation, or one of it's subsidiaries, a sublicense under our exclusive license from you of April 10, 1939 under U. S. Patent No. 2032827 for the processing of titanium pigments.

We have as you know already granted such sublicenses to substantial titanium manufacturers of our own selection. In view of our own considerable expenditures in adapting your invention to the field of titanium manufacture and in demonstrating its value in that field, we feel that we have already gone as far as we can reasonably be expected to go in the way of granting sublicenses under the limitation prescribed in our own license. In the circumstances, therefore, we regret that we cannot consider the grant of such a sublicense as you suggest.

Yours very truly,

Manager

Exhibit 447

Letterhead of

INTERNATIONAL PULVERIZING CORPORATION

October 29, 1940

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City.

Dear Mr. Garesche:

I wish to confirm the conversation which I had with you on the telephone from Cleveland on October 16th. I telephoned you after conversing with the Sherwin-Williams Company in reference to the application of our Micronizer for the processing of a number of its pigments; and, of course, the question of the use of the mill for titanium pigments was discussed. Although the volume of the production of Sherwin-Williams probably is negligible at this time, it is quite possible that unless we are able to include titanium pigments in a license agreement with that company we shall not be able to license it for other pigments.

When our license agreement with your company was negotiated I was under the impression that your company would be willing to sublicense any substantial producer; and I was not furnished the names of those who would be refused sublicense agreements. At that time I did not know of the several understandings and agreements which exist among the producers of titanium pigments as to the manufacture and marketing of these materials.

Exhibit 447

I do not feel that this is a matter which can seriously prejudice your company; and I would greatly appreciate it if you would reconsider your position in this matter so that I can discuss it further with Sherwin-Williams.

Yours very sincerely,

A. M. STACKHOUSE

A. M. Stackhouse,
President.

Exhibit 448

Letterhead of

INTERNATIONAL PULVERIZING CORPORATION

November 12, 1940

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City.

Dear Mr. Garesche:

On October 29th I wrote to you in reference to sub-licensing Sherwin-Williams Company in connection with the processing of titanium pigments. I have again heard from that company; and I would appreciate it very much if we could have some favorable response from you so that we can take this matter up further with that company.

With kindest regards,

Yours very sincerely,

A. M. STACKHOUSE

A. M. Stackhouse,
President.

Exhibit 449

November 13, 1940

Mr. A. M. Stackhouse, President
International Pulverizing Corporation,
New Albany Road,
Moorestown, N. J.

Dear Mr. Stackhouse:

Your letters of October 29th and November 12th are acknowledged.

We note your statement that you were under the impression that our company was willing to sub-license any substantial producer. We can only say that there was no basis for such an impression, as it was never our intention. You must appreciate that under our license you have granted to us the exclusive use of your system of pulverizing for our industry, together with the right to sub-license to others, but who those others shall be, is solely in our discretion.

In order that our right to sub-license be not minimized in value, we must insist that you do not discuss with others the fact that we have sub-licensed certain people, or even the extent to which we and others in our industry are utilizing your invention.

It is our suggestion that where others may be interested in obtaining a license for the processing of titanium materials, that you merely say to them that you are sorry, but you are not in position to negotiate on that product with them, for the reason that you have already granted an exclusive license to us.

Exhibit 449

We trust you will appreciate our position in the matter and do nothing which will in any way be detrimental to our enjoyment of the exclusive license for which we have contracted with you.

Yours very truly,

Manager

Exhibit 475

No. 1614

January 8, 1934.

Mr. J. L. Turner, Research Laboratories, Bklyn., N. Y.

L. E. Barton

CONFIDENTIAL

Dear Turner:

I have your letter of January 4, 1934, relative to the set of methods for the Krebs Corporation.

Our relations with the Krebs Corporation make it necessary for us to reciprocate in regard to the matter of exchange of methods, as we planned, and I personally think it would be a great mistake not to include some reference to the testing of our pigments by observing their properties in vehicles.

I am in agreement with you and Robertson that we should not send them the mass of data which Robertson has compiled for use in our own laboratories in connection with our research work, but I believe we should include one or two, according to Robertson's judgment, comparatively simple tests which we use in a routine way for first rough classification of pigments into good or bad. I believe it will eventually react to our advantage if the simple methods supplied are an improvement on such methods as have been given to us by Krebs. If such methods as we supply indicate superiority over competitor products, I cannot see that this makes any difference, for they already know all about our products and probably are as competent as we in the evaluation of pigments.

I understand that Jacobson has been using in a routine way a vehicle designed by Robertson, and that the method

and materials employed by him have given better results than can be obtained by use of the vehicle recommended by Krebs for texture and dispersion tests. It would seem to me that to supply such a method would be entirely satisfactory, but, at any rate, I would like to have Robertson select a proposed method or methods to be inserted in the set we are preparing for the Krebs Corporation. As soon as I have this, I will submit it to the Technical Committee and others before sending it to Krebs.

Very truly yours,

LEB:CGY
cc: BUR
GWT

Exhibit 476

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

"CONFIDENTIAL" February 19, 1934

Mr. L. E. Barton,
Titanium Pigment Company,
111 Broadway,
New York, N. Y.

Dear Mr. Barton:

A question has come up as to how much information your company may have upon the production of a rutile type of pigment TiO_2 of increased hiding power. I shall appreciate very much a brief summary of your company's experience along this line and your own opinion as to the possibility of producing white rutile TiO_2 pigment commercially.

Our own previous work has indicated extreme difficulty in producing a *white* rutile pigment from titanium sulphate solutions—by high temperature calcination the rutile crystal form can be produced but is accompanied by loss of color. On the other hand, white rutile can be produced from titanium tetrachloride solutions but the process seems to be too expensive for competition with present TiO_2.

Very truly yours,

KREBS PIGMENT & COLOR CORPORATION.

JAMES E. BOOGE,
White Pigments — White Pigments.

JEB:MP

Exhibit 477

Rm. 1814

February 23, 1934.

"CONFIDENTIAL"

Dr. J. E. Booge, Research Director—White Pigments
Krebs Pigment & Color Corporation
256 Vanderpool Street
Newark, New Jersey

Dear Dr. Booge:

I have your letter of February 19, 1934, on the subject of making white Titanium Oxide having Rutile structure.

Judging from the second paragraph of your letter, I might summarize the situation by saying that our experience has apparently been quite similar to your own. We know that by calcination at higher temperatures there is a tendency to the formation of Rutile structure, and an increase in hiding power, but with a decrease in the brightness of the product.

Some years ago we conducted a large amount of experimental work at Niagara Falls on the addition of materials to the titanium compounds prior to calcination, with the object of accelerating the conversion of octahedrite to Rutile at lower temperatures. We found that the development of Rutile structure could be accelerated without excessive temperatures, yielding products which were of fair color and good hiding power, and which showed by X-ray examination the presence of a considerable amount of Rutile.

An application for patent was filed covering the process, but was finally rejected on the Blumenfeld French Patent

Exhibit 477

602,053, which I believe corresponds to your United States Patent 1,892,693, granted to Blumenfeld January 3, 1933.

Our present industrial methods of making Titanium Oxide may be said to include the step of accelerating the conversion of octahedrite to Rutile by the addition of small amounts of salts prior to calcination. However, in the effort to maintain maximum brightness, we probably do not develop a large amount of Titanium Oxide having the Rutile structure. Possibly further study along this line may result in improvement of hiding power without sacrifice of color.

I shall be very glad to discuss this matter further with you at the next meeting of the Titanium Committee.

Very truly yours,

TITANIUM PIGMENT CO., INC.

L. E. BARTON

LEB:MCY

Exhibit 478

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

October 19, 1936.

CONFIDENTIAL

W. C. Beschorman, Exec. Vice President,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

We have recently heard from abroad that a chalk resistant titanium dioxide pigment is on sale in Germany, which is reported as containing 1% of a treating agent which serves to reduce the natural chalking tendency of the pigment.

Inasmuch as I understand your associate in Germany to be the only producer of titanium dioxide in that country, I am wondering whether you have heard of it, and if so, would it be possible to obtain a sample for us? We would be interested in examining the product.

Possibly you know all about it. At any rate, if not, you might want to look it up for yourselves, and we would certainly be glad to examine such product.

Trust this finds you feeling real well and everything going nicely, and with kindest regards, remain,

Very truly yours,

C. H. RUPPRECHT
General Manager.

CHR:s

Exhibit 479

October 20, 1936.

Mr. C. H. Rupprecht, General Manager
Krebs Pigment Department
E. I. DuPont de Nemours & Co.
Wilmington, Delaware.

Dear Mr. Rupprecht:

I am in receipt of yours of the 19th regarding information from abroad regarding a chalk resistant Titanium dioxide pigment which is on sale in Germany.

Frankly, I knew that they were working on an improvement which would retard the chalking of Titanium dioxide but I had not been advised that the experiments had been completed to the point where it would be on sale there, at the present time. I will look into this matter and advise you just as soon as I hear.

If your happen to be up this way the latter part of this week, or next week, I shall be very glad to see you as there are one or two matters I would like to take up with you.

Very truly yours

W. C. Beschorman
Executive Vice President.

Exhibit 480

Letterhead of

TITAN COMPANY, INC.

Paris, October 21st 1937.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Many thanks for your cable of yesterday, as follows:

"YOURS NUMBER TWENTYSEVEN
"INFORMATION FROM BOOGE REGARDING
"OUR ARRANGEMENTS ABSOLUTELY
"CORRECT AND YOUR ACTION IN FOLLOWING
"THIS LINE IS PERFECTLY SATISFACTORY.

I am glad to note its content and will have it in mind when Dr. Booge and Mr. McBerty visit me on Monday and Tuesday next week.

I am enclosing, for your information, copy of my letter to Mr. Stopford of October 13th regarding the same matter, which may interest you.

With kindest regards,

Yours very truly,

G. JEBSEN

I had not in mind to doubt the correctness of Dr. Booge's information.

Exhibit 480

Paris, October 13th 1937.

GJ/AK

C. J. Stopford Esq.
British Titan Products Company Ltd
Billingham
Co. Durham

Dear Mr. Stopford,

My best thanks for your letter of October 11th.

Mr. Tasker's suggestion is very interesting. It should be seriously considered. The name "Rutilox" may bring people to think it is produced from natural Rutile. It leaves a wrong impression. Otherwise it seems quite good.

I am afraid Mr. Cash has misunderstood my conversation with Dr. Booge. I asked Dr. Booge straightaway, Thursday evening, to what extent information was exchanged between the National Lead Company and Du Pont, and I referred particularly to some talk I had with Mr. Beschorman on this matter in August, regarding an extension of such exchange to research. Mr. Booge told me that about a fortnight before he left it had been agreed that exchange of information regarding research work should be undertaken as follows:

1) Information to be given when a sum of $5,000.—for equipment in a plant or pilot plant has been sanctioned—but new pigments excepted.

2) When a new quality is put on the market, information is given a week or a fortnight in advance, but no information during the development work.

This is due to the consideration that the inventor company ought to have some advantage in introducing a new quality and that in this way it will take some time for the other party to catch up with the development.

Dr. Booge told me that this was due to the commercial competition on the United States market. He thought that, as there was no competition between Du Pont and ourselves, the situation here was different and he said that he was quite willing to exchange information on Tetrachloride, with which I understood he meant pigment made from Chloride solutions. They were working with this.

I asked him how they dealt with patent applications when the second partner started in with experiments on a development communicated by the first partner. In such cases applications may easily interfere and do harm. I had the impression that they had not much experience in this respect, but Dr. Booge said that they in such cases communicated with each other and tried to cooperate. I told him that this matter would be considerably more difficult when we are on each side of the Atlantic.

Dr. Booge thought that in the Chlorine matter they had still several years of work before them, before coming to any results, he was quite willing to talk about this. I did not enter into his suggestion.

You will realise from the above that it will be contrary to the spirit of the Du Pont/National Lead Company understand to give information on our latest development of pigments with high tinting strength as well as the process

Exhibit 480

leading up thereto, at this stage, which I suppose that Dr. Booge also will realise by nearer consideration.

From a remark from Dr. Booge about the cost of a pigment from Tetrachloride, it appeared that he has no idea of our latest developments with Sulphate solutions.

I told Dr. Booge that he would be given information on everything introduced in the factory and, as I mentioned to you and Cash, I think you can also talk about the pigment containing 1% of Antimony of which I understand you have made about 20 tons in the factory.

Re Patent Meeting, Friday morning.

I met Dr. Fisher before the meeting and he made the remark that he was hopeful that any divergent opinions would be straightened out.

I told him at once that this was not the chief purpose of the meeting but this invention was of greatest importance and it was therefore desirable that it should be considered from all point of views, not only as to patenting the developments made but also to consider all possibilities of competitors finding means to get around a patent and I hoped that by bringing these people together from various companies, suggestions and possibilities might be brought forward and discussed, beyond those which had been considered by the people who had developed the matter hitherto.

Dr. Fisher told me he had not understood that the patents were of such great importance and evidently was greatly interested in having the meeting. I understood from Ravnestad that it was quite successful.

I was very glad to note the spirit generally prevailing at the meetings and particularly that the small fellings here and there did not prevent open discussion and the wish

from all sides to contribute to the best of their ability. In this manner we ought to achieve the best results in the quickest way and I am glad that you also noted that the members of the various companies get still closer together at each meeting.

I understood that Dr. Booge and Mr. McBerty hoped to arrive in Billingham at the end of this week and intended to spend one or two days of next week in Billingham, then to attend to some other things in England, and that we shall meet here on Monday the 25th. I suppose you will have heard from them by the time you receive this letter. It is rather difficult to get hotel accommodations at present and I suggest that you make your reservations as early as possible. We shall be glad to help you if you will let us know. I asked Dr. Raspe to tell Dr. Booge to advise me of his wishes in this respect, if I can be of any assistance to him in the matter. Perhaps you will be good enough to remind him of this.

With kindest regards,

Yours sincerely,

sign. G. JEBSEN

1499

Exhibit 481

November 5, 1937.

C. F. Garesche, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Garesche:

Miss Ashworth called me late yesterday afternoon, advising that you and Dr. Kuhne would spend next Monday with us here in Wilmington, and I am very glad of the opportunity to meet Dr. Kuhne and show him every possible courtesy while here.

Arrangements have been made for rooms at the Hotel, where we will of course expect you both to be our guests, and I will plan to meet you in front of the main dining room at eight o'clock on Monday morning for breakfast. We can then decide upon a program.

Of course, our Edge Moor titanium and Newport lithopone plants are both in close proximity to Wilmington, and the morning could be spent at one and the afternoon at the other. To get in Wilmington and Baltimore in one day would be considerable of a task and make it all very hurried, but, we would naturally be very glad to have Dr. Kuhne stay over if he can. Furthermore, if he would care to see our Newark lithopone plant he has a most cordial invitation to do so.

While Dr. Kuhne is here I do feel he should meet several of our Executives, although I find a number of them will be away on Monday, but I plan to invite a few to lunch that day, because we will have to take time out between

the two plants for lunch anyway, and I am hoping this will be agreeable to him.

Looking forward to seeing you both on Monday, I am

Yours sincerely,

C. H. RUPPRECHT.
C. H. Rupprecht.

CHR:s

Exhibit 482

November 9, 1937.

Mr. C. H. Rupprecht, General Manager,
Krebs Pigments Division,
E. I. DuPont de Nemours & Company,
Wilmington, Delaware.

Dear Mr. Rupprecht:

I want to express to you my appreciation of the many courtesies which you extended to Dr. Kuhne and me in Wilmington yesterday. Dr. Kuhne, I know, enjoyed his visits with you at both Edgemoor and Newport and, I feel, was particularly pleased that everything was shown him and that information was given him without reservation.

Again many thanks for the regal reception.

With kindest regards, I am

Sincerely yours,

C. F. Garesche

Exhibit 483

Letterhead of

TITAN COMPANY, INC.

Paris, September 8th, 1937.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111. Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I herewith take pleasure in introducing Dr. Max Mayer, formerly head of the Verein für Chemische und Metallurgische Produktion, Aussig, now adviser to the Company.

Although you have not met Dr. Mayer personally, you are from our conversations so well acquainted with his activities that I need not extend on these. Dr. Mayer told me, as you will remember, that he was particularly interested in Titanium and Sulphuric Acid in connection with his visit to the United States and I am certain you will be pleased to meet him personally and put him in touch with various members of our organisation.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 484

GJ/HS.

(RADIO FRANCE)

Copie du télégramme envoyé le
Copy of cable sent

21 Decbr. 1937

GARESCHE
LEADCO
NEWYORK

FRIENDLY BUSINESS RELATIONS BUT NO TECHNICAL EXCHANGE BETWEEN KUEHNE AND MEYER IN TITANIUM MATTERS STOP KUEHNE AND I AGREE MEYER SHOULD NOT SEE TITANIUM FACTORY LETTER FOLLOWS

JEBSEN

Exhibit 485

January 6, 1938

Dr. G. Jebsen,
Ste: Industrielle du Titane,
26 Rue de la Pepiniere,
Paris, France

Dear Dr. Jebsen:

On January 4th, Dr. Mayer visited our sulphuric acid plant at Sayreville. We showed him everything about the process which was of interest to him. We also took the occasion to have a group of our technical men meet with him to discuss improved methods for making sulphuric acid, as well as technical difficulties that were being encountered. We found Dr. Mayer to be very keen, and I am sure that our men were stimulated by the conference with him. We also showed him through our Research Laboratory, but did not take him through any portion of our titanium plant, explaining to him that certain licensing agreements did not give us the right to do so.

In our discussion with him, he told us that Aussig had developed a method for making a rutile pigment from sulphate solution. Although the details of the process are secret, he did say that no halogens were used, but that the pigment was precipitated under such conditions that upon calcination the anatase was converted into 100% rutile. He claims the resultant pigment is about as bright as the regular anatase produced at Leverkusen, but not quite as bright as the Aussig product. Its tinting strength is 160 vs. 110 for anatase. It has a slight yellow cast. By this method there is no waste acid disposal problem, other than that which is entailed in the anatase process. He said they are

now building a small scale plant for the production of this pigment which will produce from 300 to 400 kilos per day. I asked him if there was any objection to passing this information back to you, and he said there was none. If you have any more information regarding this pigment, we would appreciate having it.

I appreciate the situation as regards closer cooperation with the Blumenfeld group and feel that if it can be accomplished along the lines you indicate, it would be well worthwhile. When the matter has become more crystallized, I am sure you will wish to present it to Mr. Beschorman for his thoughts.

Dr. Mayer will be in the United States until late March and we will probably see more of him. We enjoyed meeting him and believe that we have handled the situation just as suggested by you. Our relations have been very cordial, and I feel that we both have been benefited by the discussions.

Wishing you a very Happy New Year, and with kindest regards, I am

Yours very truly,

(signed) C. F. GARESCHE
Manager

cc- Mr. Beschorman

Exhibit 486

Letterhead of

E. I. Du Pont de Nemours & Company

Copy to J. E. Crane
W. R. Swint
C. H. Rupprecht
E. A. Rykenboer

January 7, 1938

Dr. F. Sparre, Director
Development Department

In New York yesterday I met Dr. Max Mayer, General Director of Verein für chemische und metallurgische Produktion. Aussig a/ Elbe, Germany. I believe representatives of this company have been to see us before but never Dr. Mayer. Sometime in the next month or two he is going to come down here and I promised to bring him to you and you would see that he met the proper people, including the Foreign Relations Department, and possibly members of the Foreign Relations Committee, and also the individual departments involved.

He says his company is keenly interested in synthetic resins and of course I told him that we likewise had an interest in this and therefore had something in common and that we would be glad to discuss it with him.

He also told me that in the electro-chemical operations they have a wide interest and no doubt R. & H. or possibly other divisions of the Company might be interested.

I understood him to say also that they have done a lot of work in the use of ethylene and other gases from petroleum.

And finally, they are interested in pigments. Dr. Mayer said he would like very much to see our Baltimore and

Exhibit 486

Wilmington Titanium plants. As you may know, he is on the Blumenfeld side of the Titanium patents and it was his representative that originally constructed the Baltimore plant for Mr. Ticknor. I undertook to tell him with respect to Titanium that I doubted very much whether he could have permission to see our Titanium operations. He then suggested that he is also interested in Lithopone.

When he volunteered the information that they are very definitely opposed to doing business with the I.G. on Titanium, I pointed out to him that we had some sort of relationship with National Lead and that inasmuch as National Lead were close to I.G. on Titanium he could very well see that discussions back and forth between us on Titanium would interfere with his own very definite, set policies. I, therefore, took the liberty of very definitely discouraging any hope that he might entertain of getting anywhere with our Krebs Pigments Department on this score, even though I assured him that in the beginning and in the end this was entirely Mr. Rupprecht's province and that I had nothing whatever to do with it. I felt that this would make it easier for Mr. Rupprecht when Dr. Mayer finally put in an appearance here.

Dr. Mayer said that they have their costs on Titanium down to a point where they make a kilo for 16¢, which would be under 8¢ a pound. He was somewhat apologetic about this cost, explaining that they only make 1000 tons per annum, and adding that if they had an output like ours he could really make a cost.

He also says that they have practically and definitely worked out the Rutile method of manufacture.

WR:M

WM. RICHTER

Exhibit 487

Patent Interferences November 17, 1938.
Mr. G. F. Garesché, Manager
J. L. Turner

Dear Mr. Garesché:

The following is a history of recent patent interferences which have occurred or are expected to occur in the near future with the Krebs Division of the duPont Company:

1. The first case came up some time ago and at that time did not arouse any suspicion on our part with regard to the policy which the Krebs Company intended to pursue. On November 5, 1936, we filed an application in the name of Asgaard (our Case T164, Application U. S. Ser. No. 109,315, filed November 5, 1936) which dealt with the treatment of titanium dioxide pigment with alkali metal aluminates, principally sodium aluminate. On November 2, 1937 the Krebs Company filed an application in the name of McKinney (U. S. Ser. No. 172,378, filed November 2, 1937) dealing with the same subject. The two applications were placed in interference by the United States Patent Office as a result of which we compared our laboratory notebooks with their's and conceded the priority to Krebs. However, it may be noted that Krebs did not file a patent application until a year after we did and in the light of subsequent developments it might be well argued that they did not recognize patentability until after we had initiated an application.

2. The second case is that of the Rutiox process patent filed by the Titangesellschaft in the name of Tillman (our Case T187, U. S. Ser. No. 204,838, filed April 20, 1938). As you remember, Dr. Jebsen on his last visit here arranged

an exchange of patent applications between the Titangesellschaft and Krebs as a result of which in May of this year Mr. Kaegebehn mailed to Dr. Booge all of the Titangesellschaft applications then pending. On a subsequent visit to Wilmington the question of the German applications and particularly of this one came up. Dr. Booge informed me that certain claims in the patent application covered work previously done by Krebs, therefore he intended to file an application covering the same subject, and that when the case came up in interference proceedings he would then undoubtedly establish his priority. In view of Dr. Jebsen's effort to establish friendly relations between the British and German Titan companies on one side and Krebs on the other side, this contemplated action on the part of Dr. Booge disturbed me considerably and in order to clarify the situation a trip was made to Wilmington in company with Mr. Kaegebehn in order to convince Dr. Booge of the undesirable effects of the course which he intended to pursue. Our discussion at that time is best reviewed by quoting from a letter written by Mr. Kaegebehn to Dr. Jebsen.

> "Mr. Turner and I made a special trip to Wilmington to look into this situation. We found that there was no possibility of dissuading duPont from filing an application which might conflict with our application in Case T187 because, we were informed, all divisions of duPont are under specific orders from the Executive Committee to file patent applications on everything which might possibly contain patentable subject matter. In the course of this conversation, Dr. Booge admitted that they had previously regarded their work as unpatentable. The im-

plication is inescapable that the possibility of patenting was suggested to duPont by the knowledge of our application in Case T187.

"Their experimental procedure, however, differs from the application in Case T187 in that they first neutralize titanium tetrachloride with alkali and redissolve the precipitated orthotitanic acid in hydrochloric acid. This feature was specifically left out of our application in Case T187 at my request because it is in my judgment too closely related to the already patented Kubelka procedure. Dr. Booge assured me that before they file the patent applications they would consult with me in order to be sure that their case would be as free as possible from interference with Case T187, and I told Dr. Booge that at this consultation Mr. Hutz should be present as a representative of Titangesellschaft."

To-date we have not heard anything further from Dr. Booge. However, we have here a definite statement of duPont policy to the effect that they will file patent applications corresponding to ours if they find any substantiation in their laboratory work for claims whether or not they had previously recognized the patentability of such work.

3. During the latter part of August of this year we received copies of several patent applications made by Krebs. One of these is in the name of Booge (U. S. Ser. No. 215,220, filed June 22, 1938) and in claim 3 states the following:

"3. A process for producing a stable, weather-resistant and rutile-converted titanium dioxide pig-

ment comprising calcining, at a temperature ranging from about 600 to about 1100° C., titanium dioxide in substantially anatase crystalline state, in the presence of a minor amount of a zinc compound which is non-volatile under the prevailing calcination conditions."

This application is anticipated by Titangesellschaft application (our case T157, U. S. Ser. No. 137,494, filed April 17, 1931 in the name of Lederle and Brill) and two of our applications namely, Cole (Case T204 U. S. Ser No. 157,886, filed August 7, 1937) and Cole and Nelson (Case T205, U. S. Ser. No. 157,888, filed August 7, 1937). It is anticipated that the claims of the Krebs applications will lead to interference proceedings in the Patent Office with one or more of the above three applications which were made by us about a year previous. The typical claims of our patent applications are as follows:

"g. Process for preparing white pigments resistant to chalking comprising calcining a titanium compound of the group which consists of zinc titanates and starting mixtures of an oxidic zinc compound and an oxidic titanium compound yielding a zinc titanate on calcining to a temperature above 840° C. until by x-ray analysis the presence of a substantial amount of rutile can be detected" (U. S. Ser. No. 137,494—Lederle and Brill).

"1. A method for preparing a pigmentary composition containing rutile titanium dioxide, which comprises forming an intimate and uniform mixture of anatase titanium-oxygen compounds and an inorganic compound capable of reacting in the solid

phase with the said anatase titanium-oxygen compounds to form a solid combination, possessing a critical thermal stability point, and which combination is capable of decomposing on heating without change in phase, and heating the said mixture at temperatures above the critical thermal stability point of the said combination, thereby to convert anatase titanium-oxygen compounds to rutile titanium dioxide" (U. S. Ser. No. 157,886—Cole).

"1. Method for accelerating the thermal conversion of anatase titanium-oxygen compounds to rutile titanium dioxide, which comprises intimately mixing a reactive zinc compounds with anatase titanium-oxygen compounds in such proportions that the ZnO content is between from about 0.5 per cent to less than 67.0 per cent of the total weight of TiO_2 and ZnO contained in the mixture, and heating the said mixture at temperatures above the stability point of a selected solid solution of titanium dioxide in zinc orthotitanate" (U. S. Ser. No. 157,888—Cole and Nelson).

The above patent applications cover the process of manufacturing Titanox"-A-"N, C," and Ti-Pure "O" and may be considered, therefore, to be of importance in the patent structure of either company. In view of the considerably earlier filing date of our patent applications and likewise in the light of the contemplated action by Dr. Booge in the case of the Rutiox patent, it seems more than probable that our applications suggested to Dr. Bodge patentable features in their own laboratory work which they did not originally recognise. Of course, until interference proceedings are

instituted in the Patent Office, we have no means of knowing which of the two companies can demonstrate priority of conception and reduction to practice. This, however, is immaterial at this time for the question to be dealt with is that of principles rather than that of facts. The similarity of the three cases leads us inevitably to the conclusion that our patent applications called Krebs' attention to experiments which were not considered of sufficient importance to merit a patent application. However, as soon as our applications were received their abandoned experiments suddenly acquired a new value meriting the filing of patent applications in the hope that priority could be proved in interference proceedings.

4. While the above cases dealt with patent applications similar to ours and filed considerably later than ours, the following case is much more flagrant in that it deals with patent applications on a development which was successfully prosecuted by us in our plant after several unsuccessful attempts to achieve the same result were made by the Krebs Company. I am referring to two applications, namely, U. S. Ser. No. 233,747, filed on October 7, 1938 in the name of Kramer, and U. S. Ser. No. 233,749, filed on October 7, 1938 in the name of Krohma. These two applications cover circulation of mud and circulation of clarification reagent, both at digestion.

The first experiments at Sayreville on mud circulation were started on March 31, 1938, the first plant scale test being with digestion batch BD-3 on that date. On June 9, 1938, antimony clarification was started in the plant without the circulation of residues. On June 23, 1938 the first residues containing antimony were circulated. This method

of operation was made by us subject of a patent proposal. Case T97, on April 20, 1938, and a patent application has been prepared in draft form.

As a rule, process changes of the above kind are freely discussed by us in conversations with Krebs' representatives, and therefore the latter were fully advised of these developments. In the course of conversations, it has been mentioned several times by Krebs' representatives that mud circulation had been attempted by them, but with unsatisfactory results because invariably troubles in clarification occurred. When our development reached its final stage, considerable interest was displayed by Krebs both in the method of mud circulation and the reuse of antimony sulfide in clarification, especially on account of the obvious economy of the process. As a result of this, Dr. Kramer was sent here to observe the process, and stayed with us two days in the plant. This visit occurred either during the last week in August or the first week in September, and was followed by the two patent applications mentioned above, filed on October 7th.

Here again we deal with an abandoned experiment for the admitted reason that it was unsuccessful; however, as soon as a similar idea leads to successful results in our hands, patent applications are filed again in the hope that priority could be proven in the eventual interference proceedings.

5. Some time ago Mr. U. E. Bowes of the Owens-Illinois Glass Company disclosed to Mr. Meredith a process for the decomposition of ilmenite with dry hydrogen chloride gas. At that time Mr. Bowes informed us that he was not free to offer the process to us because other

parties were interested, and he had to wait for a definite answer from them before proceeding with us. Suspecting that these other parties might be Krebs Company, I discussed the process with Dr. Booge, and was informed that the Krebs Company was not approached by Mr. Bowes. However, this discussion was followed in due course by a patent application, U. S. Ser. No. 200,748, filed in 1938 in the name of Dr. Booge, covering just such a process. While, probably, it is not fair to draw any conclusions, nevertheless, this application gives the appearance of more than pure coincidence.

6. There is one case in which it might be thought that we are guilty of the same practice as Krebs. Recently we have filed an application, U. S. Ser. No. 237,462 (Oct. 28, 1938)—Nelson and Martin, which is similar to their application U. S. Ser. No. 145,930 (June 2, 1937)—Booge. Both applications cover the use of sodium pyrophosphate and hexametaphosphate as dispersing agents for titanium dioxide pigments. However, we believe that our application is broader and has greater possibility of being brought to issue because we disclose, and claim the effectiveness of sodium hexametaphosphate for dispersing titanium dioxide in water containing calcium and the possibility of pulping titanium dioxide from aqueous dispersions into oils in the presence of these phosphates. It might also be noted that the subject matter of our application is included in our patent proposals Case P56 and Case P60 of January 29, 1937, and February 1, 1937, respectively, which refutes any thought that we did not consider patenting until after seeing their application.

Very truly yours,

JLT/pr

Exhibit 488

CC: Mr. C. H. Rupprecht

December 4, 1939

CONFIDENTIAL

Mr. C. F. Kaegebehn
National Lead Company
111 Broadway
New York City

Dear Mr. Kaegebehn:

We submit herewith two copies of each of the following patent applications:

Case #956-K Ser. No. 294,654—Bichowsky & McKinney, Titanium Oxide Production

" #936-K Ser. No. 295,049—Keats, Production of TiO_2 Pigments

" #938-K Ser. No. 296,069—Keats, Production of Titanium Pigments

" #944-K Ser. No. 299,106—Peterson, Titanium Oxide Pigment Production

" #964-K Ser. No. 302,850—Star, Titanium Liquor Hydrolysis

You will note that the above applications pertain specifically to titanium compounds. Our Legal Department has called to our attention that the license field of the agreement of January 1, 1933 is limited to titanium compounds and does not permit the inclusion of processes or information relating to the production of extenders per se. Thru inadvertence on our part, some extender cases have been submitted to you but in the future we shall be required to

conform to the limitations of the license field as expressed in our agreement.

Very truly yours,

E. I. DU PONT DE NEMOURS & COMPANY
KREBS PIGMENTS DEPARTMENT

J. E. Booge
J. E. Booge
Technical Director

JEB:DEE

More informative titles of the above cases are:

Case 956-K—Bichowsky & McKinney—Rutile from Titanium Sub-Oxide

936-K—Keats—Lithium Salt Treatment of TiO_2

938-K—Keats—~~Pressure Hy~~drolysis of Titanium Salt Solutions

944-K—Peterson—Rutile by Calcination in Presence of Alkaline Earth Chloride

964-K—Stark—Negatively Charged TiO_2 Sols as Hydrolysis Nucleating Agents

Exhibit 489

December 6, 1939

CONFIDENTIAL

C. L. Garesche, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York City, New York.

My dear Mr. Garesche:—

A copy of letter from our Dr. J. E. Booge to your Mr. Kaegebehn, dated December 4, 1939, has just crossed my desk, which forwards in the customary manner a number of recent patent applications filed by us

The letter also mentions that no applications are being forwarded which refer to extenders only, and no doubt this will be brought to your attention. As a matter of fact, I have never been aware that any extender cases were being forwarded, as they certainly were not within the scope of the licensed field, as per our agreement of January 1, 1933, which covers titanium compounds containing more than 2% of the element titanium.

Apparently someone in our organization at some time simply sent extender cases along, which our Legal Department has discovered and called to our notice as being outside of the licensed field. To my best knowledge we have not received any such cases from you, nor would we expect any under the agreement.

I was surprised to learn from Dr. Booge's letter that the licensed field of the agreement had not been correctly construed by our technical people. Insofar as extender

cases and information already transmitted to you are concerned, if you desire, I shall arrange to have your right to use such information and processes officially approved.

With kindest regards, I remain

Very truly yours,

General Manager.

CHR:s

Exhibit 490

Letterhead of

NATIONAL LEAD COMPANY

December 11, 1939

Mr. C. H. Rupprecht, General Manager
Krebs Pigments Department,
E. I. duPont de Nemours & Company,
Wilmington, Delaware

Dear Mr. Rupprecht:

Since receiving your letter of December 6th, I have given careful consideration to the question of the interpretation of the Licensed Field of our agreement.

As far as I have been able to learn, it appears that the practice of exchanging patent applications relating to extender pigments began early in the cooperation. The exchange, apparently, was based upon a liberal Licensed Field interpretation, which was to the effect that if the extender pigment was intended for, or adapted to, the manufacture of composite titanium pigments, it could be construed as coming within that part of the Licensed Field which relates to methods of making titanium compositions useful as pigments, the rights exchanged being, of course, limited to the manufacture of extender pigments for use only as a constituent of a composite titanium pigment. Thus, we passed on to you copy of our still-pending application No. 5317, filed in February, 1935, which we understand described the anhydrite calcium sulfate which forms a part of both "TITANOX"-C and "TICAL". Subsequently, we both continued to exchange

extender-pigment patent applications wherever such extender pigments were intended for the manufacture of composite pigments.

It is our feeling that mutual benefits and protection result from the above interpretation of our agreement. I hope, with the limitations as outlined, that continuance of the exchange may meet with your approval.

With kindest regards,

Yours very truly,

C. F. GARESCHÉ
Manager.

Exhibit 491

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

MR. Z. PHELPS — December 18, 1939

KREBS—NEMOURS BL.

As requested, I attach copy of draft* of letter which Mr. Rupprecht might transmit to Mr. Garesche with whatever appropriate changes he considers desirable.

If Mr. Garesche continues in his position that extender inventions are embraced under our exchange, I would suggest that we refrain from further letter writing, and that Mr. Rupprecht and Mr. Garesche get together in a conference in order to iron out difficulties and come to an understanding. In fact, a paragraph might be added to the accompanying letter requesting such discussion.

We could include a paragraph in the letter to Mr. Garesche to the effect that if and when the parties produce an invention which is specifically directed to the production of a composite titanium oxide pigment, and the extender used therein is non-useful in producing the same result in other types of prime or base pigments, such invention could be considered as coming within the scope of the exchange contract. However, it might be better to refrain from committing ourselves as to such inventions in order that Mr. Rupprecht might proffer the suggestion during a conference which he may have with the Titanium pigments people.

John P. Hancock

JPH:H — JOHN P. HANCOCK

Enc.

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*"Not written" appears in longhand on face of exhibit after the word "draft."

Exhibit 491.

Mr, C. F. Garesche, Mgr.
National Lead Company
111 Broadway
New York City

Dear Mr. Garesche:

This will acknowledge receipt of your letter of December 11th regarding the scope of our January 1, 1933 exchange agreement.

As I noted in my letter of December 6th, I appreciate du Pont, in the past, has inadvertently submitted certain extender cases to your company. As to these, we desire to raise no question as to licenses. Now, however, we are required to confine our exchange to the field which is covered by our contract, i.e., to the production of titanium compounds containing 2% or more of titanium, whether said compounds are useful or non-useful for pigment purposes. As we view it, this does not embrace extender inventions per se, adapted to many, widely-varying uses, any more than it might be said to embrace the coating or zinc sulfide pigment art merely because conjoint use of titanium oxide is also contemplated therein.

We feel, therefore, that our intent to confine our future submissions to Titanium Pigments Company to those applications, the inventions of which come within the indicated licensed field, is entirely reasonable and in full compliance with our contractual undertaking. In like manner, future submissions on your part to us should be guided by similar considerations.

NOTE: "Not written" appears in longhand on face of this exhibit.

Exhibit 492

Letterhead of

NATIONAL LEAD COMPANY

Jan. 3, 1940

Baltimore and Edge Moor Trip
Mr. C. F. Garesché, Manager
F. J. Shirley

Dear Mr. Garesché:

Attached is a copy of notes made on a trip to Baltimore and Edge Moor in November. I did not have it typed at the time because of personnel comments.

Yours very truly,

F. J. SHIRLEY

enc 1

Exhibit 492

BALTIMORE

Trip Nov. 1-3, 1939

Ore Storage—

The volume of the ilmenite ore pile is being increased by making it 4' to 6' deeper overall. This added depth is being realized through the installation of a wooden retaining wall anchored in the periphery of the pile.

Ore Milling—

In order to realize a 70-ton packing rate, it was found necessary to increase the ore milling rate, sacrificing ore fineness. Currently they maintain a fineness of 14% retained on 325 mesh screen compared to past practice of 6 to 8% and to 7% to 9% at Sayreville. It was indicated that no loss of recovery at digestion has resulted, the present recovery being 92 to 93% compared to former 91½% to 92½%.

Digestion—

Digestion cakes which are solid and prove to be slow in dissolving are indicative of high recovery.

Violent reactions at digestion are said to be due to incorrect measurements of ore, acid, or weak acid.

The meters for the agitation air have given some trouble.

Venturi type air injectors installed in the bottom of the digestion tank did not live up to expectations due to the fact that they became plugged.

Hydrolysis—

The length of the steam coils in the hydrolysis tanks has been reduced by about 50% with no decrease in the

heating capacity. According to theory the last half of the coil, containing considerable condensate, did not transmit heat because of the resistance of the condensate film. We here have recently removed two coils from each of our four hydrolysis tanks as a result of Mr. Spilker's investigation in steam economy. These coils will be available for use in the new hydrolysis tank.

Steam used for preheating solutions is charged to the hydrolysis operation. Each individual hydrolysis tank is equipped with a steam meter and a check is maintained through the use of a master meter serving all tanks collectively.

Bleaching—

Schutte-Koerting live steam heaters were removed from the bleach tanks. They were replaced with 6" diameter perforated spargers. Steam at 75 p.s.i. flowing through a 1½" pipe is throttled to 25 p.s.i. at the spargers to eliminate vibration.

It is expected that the water jackets will be removed from the bleach slurry coolers. They will be replaced by salt water sprays in an effort to increase the efficiency and capacity of the coolers by increasing the rate of heat transfer. A decrease in cooling water is anticipated.

Wet Grinding—

The first of the two Proctor & Schwartz dryers has been delivered to the plant but not set up as yet.

For some unknown reason, their filtering rate on rotary filters in their wet milling department is considerably lower than ours.

Exhibit 492

Micronizers—

Approximately 600 tons of pigment corresponding to "TITANOX"-AA and "TITANOX"-A 168 grade have been micronized to date. The dust lost, due to the absence of secondary collection, averages about 7%.

Packing—

Forty-seven different types of packages are used to care for all grades of pigment and for variation in density. We use about twenty-two various kinds of bags.

Safety—

A record of 1,286 days without a "lost-time" accident was broken when an infection developed in the eye of a foreman several weeks after it had been burned with sulphuric acid. The burn occurred when the foreman looked upwards to locate a leak without the benefit of hat or goggles.

Special items of safety precaution were discussed including the observation that mirrors were used to advantage in blind gangways, etc.

Standards Engineering Dept.

The wage incentive plan has been in force for the past four or five years in the following departments:

Batch Attack
Clarification
Crystallization
Hydrolysis
Filtering
Calcination
Drying
Packing
Shipping

The mechanical and a few other departments have not yet been included under the system.

The success of such a system is based upon careful establishment of standards. Lacking experience and background, it is necessary to proceed slowly and carefully, applying motion study to each individual job rather than to departments as a whole. A standard is then set which must be correct and fair, lest the entire system be upset. A standard, so set, is maintained for an extended period, without change, of six months or more but seldom less.

Personnel—

A wage increase of 5% in the hourly payroll was made in September with each employee benefiting in some measure. A first-class operator now receives 95¢ per hour, a lead burner $1.35 per hour, and a minimum hiring rate of 56¢ per hour is established.

Athletics are encouraged by the management, the company buying all necessary equipment. However, no part is played in the promotion of such activities since it is deemed to be advantageous that the employees themselves sell the idea. Sports now included are: baseball, bowling, basketball and soccer.

Plant Union—

Several types of organizations have existed. At present they have an "Employees Bargaining Association" which replaced the former "Workers Council" with the advent of the Wagner Labor Act. The Employees Bargaining Association, which has 70 to 85% membership, is considered a vital and necessary institution. Outside unions have never made a concerted effort to organize this plant.

Exhibit 492

The officers of the Employees Bargaining Association consist of a president, secretary, and treasurer. In general, the Association is divided into groups, with each group represented on committee. Complaints are registered with the immediate foreman and communicated to the superintendent and then to the plant manager. Monthly committee meetings are held with Mr. Cantwell in attendance. Free use of all bulletin boards is available.

An employees association depends entirely on the foremen and upon foremanship for its success or failure. A newer plant presents difficulties in organizing and maintaining such an association.

Literature made available to foremen includes the Foreman's Management Library, published by the National Foremen's Institute.

Exhibit 402

EDGE MOOR

Trip Nov. 1-3,. 1939

Digestion—

The flow through the digestion stack (at reaction) is said to be of the order of 60,000 C.F.M.

Pigment Washing—

The use of Vinyon filter cloths on the Moore leaf filters may change the picture with regards to installing pre-coat filters.

Calcining—

As observed previously, the dewatering filter which feeds the calciner is equipped with electric. 'ly vibrated bars or knives running lengthwise of the filter which prevent cracking of the filter cake. This device has increased the solids content of the calciner feed about 3%. Mr. Wieneke hopes to accomplish the same results with less equipment.

A scheme under consideration involves the condensation and recovery of steam from the calciner exit gas Cottrells.

Dry Milling—

Good Housekeeping is said to provide ample justification for the use of a vacuum cleaner in the white department. It is also used for cleaning out mills, conveyors, etc. They recover approximately 50 to 60 lbs. of pigment per day which otherwise would be lost. The portable vacuum cleaner used for this purpose is made by the Spencer Turbine Blower Company of Hartford, Connecticut.

Packing—

A Risco auger type packer is to be installed at the Newport plant. This is a product of the Richardson Scale Company, Clifton, New Jersey. It uses a high speed special auger which deaerates as it packs. Dusting is eliminated by use of a pneumatic bag chuck.

Personnel—

A payroll increase of 7% was put into effect October 1, 1939 in anticipation of probable discontent.

Sample hourly wage rates of $1.25 for lead burners, and $1.02 for millwrights were indicated to be in effect, the minimum hiring rate being 60¢ per hour.

Sports are encouraged by the management especially those in which large numbers of employees may participate.

The Employees Association has a 60% membership and is considered to be for the good of all. Other types of collective bargaining are considered to be instruments for agitating over non-existant conditions.

Exhibit 493

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

C. F. Garesche, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York City, New York.

January 11, 1940.

Dear Mr. Garesche:—

I regret that my continued illness has prevented an earlier answer to your letter of December 11, 1939.

With respect to your statement as to use of your pending application No. 5317, I have asked Dr. J. E. Booge to submit a report, which I enclose for your information. From an examination of our practice over the last seven years, I find that both Companies have erred in that extender cases in a few instances were submitted, but insofar as this Company is concerned none of the Titanium Pigment Company's extended inventions have been used.

As you appreciate, the interests of this Company are so large and so complicated, that we must of necessity adhere to a strict interpretation of the licensed fields of our various agreements. Any other construction would lead to confusion and mutual dissatisfaction with all parties. Furthermore to broaden the scope of our agreement of January 1, 1933 would require approval by our Executive Committee, which I am confident could not be obtained.

I have given your letter serious consideration and believe that we must confine our exchange to the licensed field as expressed in the contract. This licensed field, as you

will perhaps recall, was drafted only after careful and long consideration by the technical people and executives of both parties.

With kind regards, I am

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s

Exhibit 493

COPY

Newport, Delaware
January 8, 1940

Krebs Pigments Department

MR. C. H. RUPPRECHT

INFORMATION ON $CaSO_4$ EXTENDER
T. P. Co. U. S. APPLICATION 5317

This will reply to your questions concerning the T. P. Co. U. S. application #5317. We have not used information from this application in our $CaSO_4$ process for "TI-CAL".

The T. P. Co. application was filed in February, 1935. Our $CaSO_4$ process was completely developed prior to the filing of the above T. P. case. Our $CaSO_4$ process was described in our own blended pigment application filed October 30, 1934 (patent issued June 30, 1936 #2,046,054). In other words, our process was completely developed and described in our application filed some four months prior to the above T. P. application.

Another point of differentiation is the fact that all the examples in the T. P. application include a large excess of sulfuric acid so that the mother liquor contains 15% to 25% free H_2SO_4. In our "TI-CAL" process we carry the neutralization much further, the mother liquor containing approximately 2.5% H_2SO_4. Obviously, we have not adopted the process described in the T. P. Co. examples. (As a matter of fact, I believe this T. P. application covers the $CaSO_4$ process used at St. Louis at that time. The T. P. Co. has since adopted our $CaSO_4$ process and is now using it at St. Louis. They have given up the process described in their above application.)

Exhibit 493

As a further sidelight on the $CaSO_4$ situation, we filed a specific $CaSO_4$ case April 20, 1935,—some two months after the T. P. case was filed. Our application described and claimed the procedure we use for making $CaSO_4$ for "TI-CAL". Our application issued as a patent in 1939 #2,151,339. The T. P. Co. application has not yet issued. The two applications were never placed in interference presumably due to the different procedures covered.

To summarize, we have not used in our $CaSO_4$ process any information from the T. P. Co. application #5317. Further, the T. P. Co. has adopted the $CaSO_4$ process described in our issued patents #2,046,054 and #2,151,339.

J. E. Booge
Technical Director

JEB:DEB

Exhibit 494

January 25, 1940

Mr. C. F. Garesché, President,
Titanium Pigment Corporation,
111 Broadway,
New York, N. Y.

Dear Mr. Garesché:

Enclosed is my file relative to Mr. Rupprecht's recent correspondence. My file copy of the Krebs agreement is also enclosed.

The notes on the "Licensed Field" situation were gotten together last evening and this morning coming down to Washington. They have not been polished up very much but I think they cover the ground fairly well. The presentation of our position could be somewhat strengthened by citing specifically the cases which, according to Mr. Rupprecht's view, would be outside the "Licensed Field" but which have already been exchanged. I will have to get such a list together early next week.

In connection with Mr. Kimball's suggestion, of a conference between the Du Pont Legal Department and ourselves, in the event Mr. Rupprecht does not see our point of view, it occurs to me that should he not wish such a conference he might reply to the effect that the legal Department has never liked this contract and he hesitates to bring it before them any more than he has to for fear they may insist upon a considerably more drastic revision. If

he does take this position, I think we should press him for a clarification of all the questions respecting the "Licensed Field" which his attitude with respect to extender pigments implies.

I hope these notes will be of assistance in preparation for your luncheon engagement with Mr. Rupprecht.

Yours very truly,

C. F. Kaegebein

CFK:jts
enc.

Exhibit 494

NOTES ON THE KREBS "LICENSED FIELD" SITUATION

The definition of the "Licensed Field" is contained in Article 1 of the agreement of January 1, 1933 which reads:

> "The term 'Licensed Field' wherever herein employed means and includes (1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds, containing two per cent (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures, thereof, which can be used as pigments, whether or not adapted for other uses, and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses."

It is somewhat awkward to define a field in terms of "in the field of . . . " wherein the word "field" itself appears. We have always considered the definition capable of supporting an interpretation broad enough to include not only methods, processes and apparatus the sole purpose of which and whose only usefulness was in the manufacture of titanium compounds as defined in the "licensed Field" definition, but also methods, processes, and apparatus which could be used in the manufacture of titanium compounds as well as in other ways. It has been our understanding that it was the intention of the parties who drafted the agreement to bring about a very complete technical cooperation in which all developments relating to the making of titanium pigments, i.e. "in the field of manufacture" of titanium pigments, regardless of whether such developments were patentable or unpatentable or whether they had

other uses outside this field, would be exchanged between the parties. Conversations I have had with Dr. Thompson and others who participated in the negotiations leading up to the agreement confirm this understanding and, I believe, Mr. Turner also has the same view obtained by him in a similar manner. It was not the intention to withhold developments which, although useful in making titanium pigments, could be described, for instance, in the claims of a patent by language which did not include the manufacture of titanium pigments.

The actual operation of the cooperation, both technical and with respect to patents, during the past six years and more has been in accord with the interpretation we place upon the "Licensed Field" definition. Engineers and technicians of the parties have visited each others plants and obtained, and given, information concerning developments: (a) strictly relative to the making of titanium pigments and (b) useful in, but not limited to, the making of titanium pigments. Under category (a) would be information concerning any phase of the process of handling the titaniferous material from pre-digestion treatments of the ore to the final finishing treatments of the pigments. Under category (b) would be information concerning extenders, methods of making, purifying and concentrating sulfuric or other acid liquors, the adaptation, installation, operation and maintenance of equipment having usefulness aside from the making of titanium pigment. Naturally, the claims of patents covering developments under category (b) would not be directed to the making of titanium pigments.

Similarly, within the patent field the parties have exchanged copies of patent applications the claims of which

might not at all include any reference to making titanium pigments. The exchange has been largely confined to applications covering extenders but in two instances: McCord's patent for purifying waste acid liquors and Weineke's improved net wash water distributor for rotary filters, we have forwarded copies of the patent applications to Krebs.

Mr. Rupprecht's recent letters state that his legal department considers that extender information is outside the "Licensed Field". It may be inferred that this position is based on the theory that since methods for making extenders are not, per se, directed to making titanium pigments they are not "in the field of manufacture" of titanium pigments. If this assumption is correct, and it is suggested that Mr. Rupprecht be asked to clarify the position of his legal department in this respect; then it must follow that so also would all other information as to methods, processes and apparatus useful in but not solely directed to, the making of titanium pigments be outside the Licensed Field. Stated another way, according to what appears to be the interpretation of Mr. Rupprecht's legal department, no information which did not have as its sole object the making of titanium pigments, regardless of whether it was useful in connection therewith, must be regarded as outside the Licensed Field.

Thus at the present time, there has developed a divergence of views regarding the scope of the "Licensed Field." Mr. Rupprecht contends that any exchange on the part of Krebs of patent information, presumably also of technical information relating to extenders and outside the scope of the "Licensed Field" as interpreted by his legal department; was inadvertent and due to an error

on the part of someone in his organization. On our part, however, we have exchanged such information consciously and deliberately in the belief that we were acting consistently with the proper scope of the Licensed Field intended by the contracting parties.

In endeavoring to resolve differences of opinion as in the present case, arbitration bodies, e.g. the Courts, invariably look to the practices which have grown up between the contracting parties. We believe that the operation of the cooperation during the life of the contract thus far lends firm support to our position and this is true irrespective of whether Krebs, at this time, contends that their acts were inadvertent and due to an improper understanding on the part of someone in their organization. The present difference will, in all probability, not be submitted to arbitration but it could be pointed out to Mr. Rupprecht that we see implications in the situation which go considerably beyond extenders and are capable of exerting a farreaching adverse effect upon the whole cooperation. It is doubted that either party would, or could successfully, maintain that the other party has profited to a greater degree than itself as a result of the past operation of the cooperation. Nor, could it be argued that a development or a patent of one party contains no contribution from the other party merely because the technique or claims thereof appears on the surface to be distinct from the prior developments or patents of the other party relating to the same subject matter. The plant visits of each party's technicians and the examination of patent applications constitute a stimulation and an invitation to make improvements on each others' developments and patents which must be regarded as mutual contributions to a

healthy rivalry beneficial to both parties. It would therefore appear reasonable to affirm that a cooperation as diverse as possible within the broadest construction of the "Licensed Field" is in the interest of both parties.

To agree, at this time, to a delimitation of the "Licensed Field" or to admit as the proper construction a more limited one than we envision would tend to make the future technical cooperation extremely difficult. From the practical point of view, how would it be possible to limit plant visits only to the inspection of those stages of the process in which titaniferous material were being treated ultimately to produce a pigment? Furthermore, it is admitted that information and licenses relating to composite pigments are to be exchanged. It is known that the properties of a composite pigment often, in a large measure, depend on the properties of the extender it contains. It would appear inconsistent to give information and licenses as to composite pigments while withholding information as to an essential part thereof. It is, in effect, giving a right to the whole while withholding a right to a part of the whole. For instance, in Booge's "blended pigments" patent there is described a preferred method of making calcium sulfate. We have a license under this patent. The making of the calcium sulfate is covered in the Sullivan patent under which, according to Mr. Rupprecht's legal department, we do not have a license. Thus, the value of our license under the Booge patent is considerably lessened. In similar situations the Courts have held that a licensee is entitled to such information, including rights in other patents of the licensor, as is necessary to make the license effective.

Exhibit 494

If, even after consideration of our position, Mr. Rupprecht feels that his legal department would still insist on excluding information as to extenders from the "Licensed Field" then it is suggested, that Mr. Rupprecht be asked to arrange a conference between his legal people and ours in order to examine all angles of the situation and to develop a construction of the "License Field" definition which can be accepted by both parties as fixing the limits of the cooperation.

C. F. Kaegebehn

Exhibit 495

February 19, 1940.

Dr. G. Jebsen,
Titan Company A/S,
Fredrikstad, Norway.

Dear Dr. Jebsen:

I want to, in strictest confidence, keep you advised of developments and progress in our cross licensing agreement with Krebs.

About three weeks ago, I had lunch with Carl Rupprecht, at which time he stated that his company was very much worried about their agreement with us, particularly insofar as it has to do with making available to each other full information regarding "skill of the art". He, therefore, has proposed that our agreement be modified to the end that this feature may be eliminated.

I told Mr. Rupprecht that we would take the matter under consideration and confer with him again, but that our feeling was that there was nothing illegal in such an agreement, it merely being for public benefit insofar as improvements were more quickly turned into lower prices to the public.

He has also raised the point that extenders do not come within the License Field, as they do not contain 2% of more of titanium and that, therefore, the licenses and information which we have to date exchanged, have been beyond what was contemplated under the agreement. We have the other point of view, i.e., that any extender which is made for the purpose of producing a pigment containing 2% or more of titanium comes within the broad scope of the License Field, but that any license which would be granted, would not permit the licensee to make an extender

to sell as such without titanium added. Our lawyers, in studying the matter, agreed with our point of view, particularly in view of the fact that we have both exchanged such information freely since the inception of the agreement. This circumstance has, we are told, much legal weight in deciding what was the intention of the agreement.

I have since had another conference with Mr. Rupprecht and have suggested to him, in view of their desires, that we would be perfectly willing to discontinue reciprocal visits to plants by our technical people, and that instead, "skill of the art" information could be transmitted from one party to the other only through a single designated official in each organization, and that even with them, plant visits would not be contemplated.

Apparently, this was not considered by him as a sufficient modification, but he has agreed to take the matter under advisement. He also agreed to assist in arranging for our legal representatives to get together and discuss the matter of extender pigments and whether or not they should be considered as having been contemplated in the contract.

Confidentially, as I see the situation, beneath the surface the Krebs company is very much chagrined by the fact that we have been making faster progress than have they. For a number of years, you know, they sold more TiO_2 equivalent than did we, but last year the situation was reversed when we sold 51.4% as their 48.6%. Their feeling is that we have benefited by Dupont's wide engineering experience and methods of plant operation, and that we have therefore progressed faster than we could have done alone. I think we can agree that there is no doubt but that we have been much benefited by the information obtained from plant visits, but we feel that they have been equally benefited, and probably even more so. It is our feeling, that an

elimination of such visits will be detrimental to both parties and that our efforts should be to maintain the status quo.

There is the other thought in our minds, that in view of our some twelve years' greater experience, we, in making available to them in the initial agreement, all knowledge acquired by us, have given them a running start and that now it would not be fair to us for them to propose elimination of this portion of the agreement, after we have given them everything that our experience had taught us.

At the moment, I cannot predict what will be the outcome, but it is more than possible that we may say to them that we do not feel their proposal is a fair one, then their alternative would be to exercise their right to cancel the agreement on three years notice. This would, of course, have an effect on your situation, insofar as you now have made available to us the cross licensing of patents. I hope that matters will not come to such a pass, but I want you to be familiar with the situation as it is developed, and I will be very pleased to have any thoughts or suggestions which may come to your mind.

Mr. Rockwell has shown me your letter of January 26th which I have read with much interest. I appreciate what trying times these are for your country and I hope the situation will work itself out without the necessity for your country being drawn into the war.

Please remember me kindly to Mrs. Jebsen. We will look forward with the hope that you will be with us next spring. In the meantime, my best regards.

Very truly yours,

C. F. GARESCHÉ

sign.

Exhibit 496

Letterhead of

NATIONAL LEAD COMPANY

March 26, 1940

Notes on Trip
Mr. L. D. Hagar, Asst. Manager
F. J. Shirley

Dear Mr. Hagar:

Attached are notes taken on a trip to Baltimore and Edge Moor the first part of February. Mr. Tipton accompanied me and is responsible for practically the entire compilation. This report, as others, is in considerable detail but contains information sometimes helpful here at the plant for reference.

The tabulation, referred to at the bottom of page 8 of the Baltimore notes, was sent to Mr. Garesché direct a few days ago.

Yours very truly

F. J. SHIRLEY

enc 1

Exhibit 496

TRIP—FEB. 5-7, 1940

BALTIMORE

Production

Current production is 75 tons per day, 40 tons regular TiO_2 and 35 tons of Y and CR grades. The plant has recently operated at an 80 ton rate.

Recent production has been of the following grades:

FF	(Regular MO)	38.5%
FF-CR	(No. 168 MO)	2.6%
LW	(WD)	17.0%
	(Regular LO)	7.0%
CRLO	(No. 168 LO)	7.4%
	(Ceramic)	6.0%
Y-CR	(AA-LO)	9.3%
	Miscellaneous grades	12.2%

Ilmenite Ore

On January 1st the estimated wind loss was reduced from 3.0% to 1.0%, which is said to correspond more nearly to the actual loss. This change applies to both plants, and will increase the reported overall recovery.

The ore mill operates 24 hours per day at an output rate of approximately 6.5 tons per hour. The milled ore contains 11 to 12% plus 325 mesh.

Digestion

The present batch charge is 41,800 lbs. of ore and 63,000 lbs. of H_2SO_4. The latter is made up of oleum 60° Bé acid, and waste acids in a proportion to give 93% strength at reaction. 8,900 lbs. H_2SO_4 in the form of waste acids is the average amount used in the initial charge, with approx-

imately 7,000 lbs. H_2SO_4 (waste) used during dissolving, for a total acid recirculation of 20%.

Digestion conversion has been poor for the past two months (91%). No attempt has been made to recirculate residue. The opinion was expressed that poor dissolving characteristics of the cake, resulting in "dirty tanks", have hurt conversion.

Consumption of scrap iron (principally tin cans and terne plate) averages .25 tons per ton of pigment packed. Eight digestion tanks are in service. The overall cycle is 24-26 hours.

Air agitation is used as follows:

800 c.f.m.—batch mixing and reaction—1 hr.
None —curing period—3 hrs.
400 c.f.m.—quench acid addition and early dissolving—4-5 hrs.
150-200 c.f.m.—dissolving period—13-14 hours.
None —discharging batch—2 hours.
Total consumption (approx.)—298,000 cubic feet.

Clarification

Three 44 ft. Dorr tanks are used for primary clarification, with copper sulfate and iron sulfide as reagents. Antimony has not been used for clarification.

Final clarification (after crystallization) is effected by two wooden presses and a rotary precoat filter. Although the rotary filter was termed an improvement when installed, it is claimed that the presses are now more economical to operate.

Vinyon cloth is used for the two solution presses and for the three mud presses. The life of the cloth in this

service is estimated to equal or better that of the hair cloth formerly used, and the initial cost is much less.

On the precoat filter a wool base cloth is used, with Dicalite Speedplus filter-aid, and the glass take-off blades previously described. Vinyon cloth has not yet been tried on this filter. Glass cloths have been tried, but were said to fail by blinding in an uneconomically short time.

The reagents used, per ton of pigment packed are:

$CuSO_4$	—.01 tons)	primary clarification
FeS	—.005 ")	
Glue	—.001 "	mud washing
Glue	—1 lb. per 10,000 gals.)	final clarification
Filter-aid	—1 lb. per 10,000 gals.)	

Crystallization

A "delayed crystallization" procedure is used at Baltimore to produce larger crystal size, which, in turn, improves washing efficiency in the Bird centrifugals. A typical crystallizer batch operation (10,000 lbs. TiO_2) follows:

Time	Solution Temp.	In. Hg.	Operation
0	50°C.	29.0	Start charging
15′	50°C.	29.0	Solution charged
25′	46°C.	29.6	Booster jet on
45′	38°C.	29.7	Cryst. started, booster off.
1 hr. 15′	38°C.	29.2	Delay period ended, booster on.
2 hrs. 15′	13°C.	29.7	Final temperature, booster off.
2 hrs. 25′	—	29.0	Crystallizer emptied.

It is felt that this procedure results in a definite benefit to filtration and washing of the crystals at a slight sacrifice of equipment capacity. The Bird centrifugals are used for copperas separation, with a through-put of approximately 20 tons of TiO_2 per day per machine, and a TiO_2 loss of 0.8 to 0.9% of the through-put. The baskets, screens, and plough flights are all of Carpenter No. 3 stainless steel. The screens in use have .010 slots.

Hydrolysis

The initial dilution ratio is 75:25. The water used is condensate, with a limit of 0.2 g. p. l. acid content. Additional water is added in the amount of 6% after the third hour and 12% after the fifth hour, both based on original batch volume.

Agitation and heat are stopped for a twenty-minute period approximately fifty minutes after the solution drop. The batch at that time is at 105° to 107° C. A total time of approximately one hour and a half from the start of the solution drop is required to reach boiling. The total boiling period is five hours for a yield of approximately 96%.

The stop agitation period is varied if the initial dilution ratio is changed. A thirty minute period is used for 80:20 ratio, 20 minutes for 75:25, 15 minutes for 72.5:27.5, and 12 minutes for 70:30. It is estimated that proper control of stop agitation can account for as much as 25% difference in filtration rate.

The steam coils in the hydrolysis tanks, as previously reported, have been cut down to a single helix coil containing 50 ft. of pipe, approximately half of that previously used. The number of coils have also been reduced to five

per tank. With 120 lb. steam the smaller heating surface is sufficient to maintain standard temperature schedules for a 12-ton batch. Steam consumption is approximately one ton of steam per ton of TiO_2 packed.

It was stated that no instances of coil failure due to corrosion or erosion of the lead covering of the copper pipe had been encountered. At Edge Moor, however, several such failures have been known.

Washing, Bleach and Treatment

No actual plant work has been done on the substitution of precoat filters for Moore filters. The nitrated cloths have very largely been replaced with Vinyon cloths. The initial cost is less, and the life is said to be five or six times that of the nitrated cloth. This is an estimate, as none have actually failed so far with service up to 200 days. The clarity of filtrate is as good or better than that from the nitrated cloth.

Disposal of filtrates is as follows:

Crude Wash

First—cloudy—to Dorr settling tank.
High acid—clear—to Mantius recovery plant.
Low acid—clear—to mud washing system.
Practically acid free—to sewer.

Finish Wash

High acid filtrate—to Cottrell sprays
Other filtrate—to sewer

Bleach acid concentration is 100 g. p. l. for regular grade, and 120 g. p. l. for Y grade (antimony treated). 60° Bé acid is used. The bleach slurry contains 370 g. p. l. solids.

No test is made for presence of reduced TiO_2, but slurry is checked for absence of ferric iron. The amount of zinc used is .0008 tons per ton of pigment packed.

The potassium treatment is 3 g.p.l. at present for the purpose of obtaining lower oil absorption. For regular grades it is ordinarily 2.5 g.p.l. In the case of Latex WD grade, 3.1 g.p.l. is used, and 2.5 g.p.l. for the Y grade. The 1% antimony oxide for the Y grade is added along with the potassium treatment. It was stated that no quality difference was observed in addition of antimony at this point as compared to its addition at the hydrolysis step.

Calcination

Standard calcination conditions are as follows:

Grade	Tons/Day	Kiln Speed	Disch. Temp.	30 ft. Temp.	Stack Temp.
Regular	40	10′	1000	750–800	400
Regular	20	15′	1000	750–800	400
Y	35	10¾′	1015	925	475
O	20	11′	880	700–800	400

A 40-ton rate is said to be the maximum which can be adequately calcined in one kiln. The research department feels that a maximum of 35 tons should be set. It was stated that no quality difference was observed in the calcination of Y grade at a 25 ton rate or at a 35 ton rate. However, the pigment of this grade calcined at a 35 ton rate has all been treated with antimony immediately prior to calcination, whereas that calcined at a 25-ton rate was treated in the hydrolysis tanks. There is thus no direct comparison.

Oil consumption for calcination of regular grade TiO_2 is approximately 56 gallons per ton at a 35 ton rate, and 60 gallons per ton at a 40 ton rate. For Y grade approximately 76 gallons per ton is consumed at a 35 ton feed rate.

Exhibit 496.

Wet Milling and Finishing

The calciner discharge is repulped in caustic treated water with a pH of 9.5 to 9.7, and pumped direct to the hydroseparator. The overflow at 180 to 190 g.p.l. solids is flocculated and collected in a thickener. The underflow at approximately 450 g.p.l. solids is sent through the pebble mill and returned to the hydroseparator.

For flocculation of the dispersed pigment 0.08% Al_2O_3 is used, plus the minimum amount of magnesium sulphate which will effect complete flocculation. This is varied to maintain a pH of 7.0 to 7.2. No sulphuric acid has recently been used at this point, although at times it has been necessary. The loss in pebble weight in the mill is approximately one ton per 720 tons of pigment packed, or 2.8 lbs. per ton of pigment.

The operation of the Proctor & Schwartz—Louisville dryer "train" has not yet been fully standardized. To date operating conditions have varied widely, but at present the feed to the Proctor & Schwartz dryer contains about 48% moisture and the discharge 20 to 25%. Steam consumption for the Louisville dryer alone was 1.4 to 1.5 tons per ton of TiO_2. On the combination of the two dryers the steam consumption has increased to 2.25 to 2.5. The estimated capacity of the combined "train" is 45 tons per day on regular grade and 35 tons per day on the CR grade (1% Al_2O_3).

The piping in the wet milling system (up to the alumina treatment step) is all of galvanized steel. This is said to be entirely satisfactory from the standpoint of contamination.

It was said that the following quality differences exist in micronized pigment as compared to roller-milled:

Exhibit 496

2 to 3 point improvement in dispersion.
Slight improvement in gloss.
Slightly poorer color (1 to 3 points).
Slightly lower oil absorption (1.0).

The micronizer rings and liners are stainless steel, the same materials being used for regular grade and for O grade. The rate of wear when grinding the latter pigment is very great.

About 8 tons per month of off-grade pigment is normally accumulated and sold as ceramic grade. At present the attempts to reduce micronizer dust loss by means of secondary cyclone collectors have resulted in accumulation of moist pigment at the rate of 8 to 10 tons per month which eventually must be returned to process.

The collection efficiency of the micronizers, using no additional or secondary collectors, has average 94 to 95%. With one secondary collector the efficiency has been increased to 98 to 99%. With the two secondary collectors in series only a short test has been made, but an efficiency of better than 99% is anticipated.

An 18" solid bowl centrifugal has been in use since August as a substitute for a hydroseparator in the processing of Y grade pigment. It is constructed of steel with a stellited flight edge. In handling approximately 720 tons of pigment about ⅛ of an inch of the stellited surface has been worn away.

It was stated that the No. 168 type pigment showed a tendency to greater agglomeration if stored for some time after packing, resulting in a high paint grit content. One hundred tons or more had been returned by customers during the past year for this reason. It was felt that the

cause was the separate preparation and washing of aluminum hydrate used for treatment, and that the fault should be corrected by precipitating alumina in the pigment slurry, followed by washing.

Samples taken at Baltimore were run for brightness-tone in an effort to determine the discoloration, if any, due to various processing operations. The results were:

Code	*Sample*	*Brightness-Tone*
Y-825-A	No. 1 kiln discharge	13-0
B	No. 1 cooler "	13-0
C	No. 1 dryer "	12-0
D	Mikro-pulverized dryer discharge (FF)	12-2
E	Micronizer feed (Y-CR)	12-2
F	Micronizer discharge (Y-CR)	12-2

The results on these samples indicate that at the time the drop in color due to Mikro-pulverizing and micronizing was negligible.

CR Grade

This process system handles about 16 tons per day. The wet-milled, thickened pulp is treated in 23-ton batches with aluminum sulfate solution of 13.2° Bé strength, equivalent to 1.0% Al_2O_3. The batch is then heated to 80° C. with agitation and held at that temperature for 16 hours.

26° Bé ammonium hydroxide is then added in sufficient quantities to adjust the pH to 8.0 +. After an additional three to four hours retention to insure uniform pH the slurry is dewatered in a plate and frame press equipped with cotton cloths. The press is filled (1500

pounds) in 2½ to 3 hours, and the press cake washed for 1½ hours. The press cake is repulped at 350 to 400 g.p.l. solids, and fed over a dewatering filter to the Proctor & Schwartz dryer. This is followed by a Louisville dryer and micronizer, for the LO grade or Mikro-pulverizer for the MO.

Y Grade

The antimony oxide (equivalent to 1.0% of the pigment) is now added in the potassium sulfate treatment tanks prior to calcination. The flow is 24 tons per day. The kiln discharge is bagged and transported to the pebble mill. The Bird centrifugal is used as a classifier, the rejects returned to the mill and the ground effluent to the CR grade aluminum treating system previously described. Pressing and drying follows the same process. All of this grade is micronized.

Personnel

The base hiring rate for labor is 56 cents per hour. Common labor pay remains in the range of 56 to 58 cents.

In the case of a workman substituting temporarily on a more highly paid job, the higher rate is not applied except for periods of eight hours or more. However, the foreman has authority to O.K. the time card for the full eight hours at the higher rate if he feels this is justified. For example, a man performing a total of 12 or 14 hours' work during a week in short periods on the more highly paid job may be compensated by the foreman specifying the higher rate for two complete eight-hour shifts.

Time and a half is paid to all hourly employees for any time over eight hours in any one day or forty hours in

any one week. Time and a half is also paid for five designated holidays to all hourly employees working on these days. This applies to shift operators as well as straight day men. No overtime rate is paid for Sunday work, unless such work brings the weekly total over forty hours.

If a man reports for work on schedule and is assigned no work, he must receive minimum pay for four hours. In practice, of course, this is very rare, as his foreman would endeavor to find some sort of useful work for the four hours' pay. If a workman is called in off schedule for a special job, he receives pay for the time actually worked, plus two hours' pay for "travel time." No overtime is paid for such work unless, as would usually be the case, it falls under the eight-hour day or forty-hour week provision.

No work clothing is supplied free of charge to any workers. Instead, either cotton or woolen clothes and gloves are supplied at half price, and replaced at this price on the basis of a "normal life" schedule. For example, cotton jumpers and trousers are sold at 78 cents on a 23-day replacement basis, and the corresponding woolen garments at $3.00 on a 90-day replacement basis. If supplied more frequently than the schedule, the worker must pay full price. The cost to the company for clothing is about $65 to $75 per month.

Goggles, respirators, rain coats, boots, etc. which might be classified as safety equipment, are supplied free of charge. All workers (and visitors) are required to wear goggles at all times when in the plant, except within a few specified offices.

Vacations of two weeks with pay are given to all employees after one year of continuous service.

Distribution of employment and rates are shown in an attached tabulation.

Exhibit 496

Mantius Concentration Unit

Present operating conditions for production of approximately 90 tons per day of H_2SO_4 at a concentration of 75° are as follows:

Weak acid feed tank—heated to 170-180°F.
Lead coils using flash steam from condensate at 5 lbs. pressure.

Analyses:

Fe —42 to 50 g.p.l.
H_2SO_4 —21.5% average
Sp.Gr. —1.29 at 80° F.
TiO_2 —6 g.p.l.

No. 1 concentrator—continuous operation

Steam pressure — 62 to 65 lbs.
Vacuum — 25 to 26 inches

No. 2 concentrator—continuous operation

Steam pressure — 80 to 90 lbs.
Vacuum — 27 to 27½ inches.

No. 3 concentrator—continuous operation

Steam pressure — 90 to 100 lbs.
Vacuum — 28 to 28½ inches.

Slurry Cooling

Air agitation, Filtros blocks.
Cooled from 180 F. to 85°F.
Spare cooler (duplicate) installed but use not necessary.
Addition at this point of copper sulfate to prevent corrosion of centrifugal; .013 lbs. Cu per 100 lbs. free acid.

Exhibit 496

No. 1 Bird Centrifugal

Feed analysis:

Sp. Cr. — 1.775 at 33° C.
117.8 g.p.l. Fe (ferrous).
15.3 g.p.l. TiO_2
1115 g.p.l. total acid.

Filtrate analysis;

63 to 65% free H_2SO_4.
1 to 2 g.p.l. TiO_2.
5 to 10 g.p.l. Fe.
Sp. Gr. 1.59 to 25° C.

Sludge analysis:

55% solids
25% free acid.

No. 2 Bird Centrifugal

Feed consists of sludge from No. 1 Bird repulped with weak acid. The filtrate is returned to the weak acid storage tank, and the sludge sent to waste. A small amount of wash is now being done by the addition of water near the discharge end. With no wash the sludge contains about 13% acid; with the wash, about 10%.

65% Acid Storage Tank

Acid heated to 200-210° F.
Lead coils, 5 lb. flash steam.

No. 4 Concentrator

Steam pressure—80 to 100 lbs.
Vacuum—28.6 inches.
Temperature—235 to 240° F.

Exhibit 496

Product Cooler

This consists of a tank equipped with lead coils through which cooling water is circulated. Agitation is furnished by air sparge. The acid is cooled to 125° F., then permitted to settle, and the clear acid drawn off to the final storage tank. This storage tank is equipped with a Dorr rake mechanism and underflow pump. The sludge from this tank and from the cooler is returned to the primary slurry cooler.

The Industrial Engineering Department is making a survey of the "impurities balance" in this system which is not yet complete. The following specific points may be of interest to the operating department:

1) It was stated that all Al_2O_3 is removed by concentration to 93% H_2SO_4.

2) .075 tons of solids per ton of H_2SO_4 settles out in the final storage tank and is returned to the primary slurry cooler.

3) The rubber diaphragm in the sludge underflow pump has been in service seven months with no replacement. However, Neoprene is recommended.

4) To avoid the effect of thermal shock on the Duriron tubes in No. 4 concentrator, it is attempted to preheat the feed nearly to operating temperature. A difference of 30-40° F. is permissible.

5) In a recent capacity test, with operating conditions as previously listed, a rate of 110 tons H_2SO_4 per 24 hours was maintained for a two weeks' period.

6) A total of 7 Duriron tubes have been replaced because of failure in operating service, three of them

in No. 3 concentrator and four in No. 2 concentrator. They were all in the bottom row, and cracked near the flange, due to "surging". There has been no indication of corrosion.

7) The condensate is removed from these tubes in series through traps to a flash chamber. From this chamber 5 lb. steam is drawn off for heating. The method is considered satisfactory.

8) The addition of copper sulfate was started at the same time that the efficiency of the slurry cooler was improved. For this reason they are not too sure of the benefits, but are still continuing the copper addition.

9) A newly designed cover has been installed on the Bird centrifugals (now standard with the Bird Company), with larger sludge openings and a larger discharge chute. This is credited with effecting a saving in power, prevention of leakage, and an increase in cake solids of 1 to 2%.

10) Prior to last September, there had been some trouble with the teeth breaking in the drive gear units on the Bird centrifugals. These were designed for 15 h.p. and were occasionally overloaded. They have been replaced with units designed to carry 25 h.p., and the drive changed from chain to Texrope.

11) The centrifugals are constructed of KA_2SMO, with stellited plough edges. The rate of corrosion of KA_2SMO is said to be greatly accelerated above 100° F.

Exhibit 496

TRIP—FEB. 5-7, 1940

EDGE MOOR

Digestion

At present one half of the digestion batches contain re-circulated residue. The batch ingredients are as listed:

Regular Batches	Material	Mud Batches
41,800	Pounds ore	40,200
24,300	60° Bé acid	13,920
None	Oleum, slurried with mud	21,080
40,000	Oleum	26,880
Balance needed (280-300 lbs. H_2SO_4)	Waste acid	None
None	H_2SO_4 with mud	800
None	Dry weight residue	1,600
None	Antimony oxide (X grade oxide, 96.0%)	60 (Estimated 50 lbs. re-circulated)

The acid concentration at the time of reaction is calculated to be 93.0%. The theoretical ratio of acid to ore is stated to be 1.50, but calculated from the above batch proportions is 1.46 to 1.47. Current conversion on the regular batches averages 90.5%. The recovery, based only on new ore input, for the mud batches ranges from 94 to 96%, averaging about 94.8%.

The re-circulation of residue amounts to 55 to 60%, based on one half the total solution flow. In operation the primary settling tank underflow at about 20% solids is

pumped into the digestion tank and mixed with part of the oleum. The temperature rises to 150-160° C. The ore is added to the 60° Bé acid and the balance of the oleum in a separate tank, slurried, cooled to 35° C., and dropped into the batch as a set-off. Two to three minutes is required for this dropping operation, which is followed by the reaction in six or seven minutes. The reaction is vigorous, and cleaner tanks are said to result than from the regular batches.

The re-circulation of waste acid to this department is about 20%. In winter about 7½% of the waste acid is added prior to reaction; in summer it is all used in the dissolving stage.

The use of air agitation for the digestion batches is as follows:

Mixing—1000 to 1200 c.f.m.	— 1 hour
Reaction—1000 to 1200 c.f.m.	— 3 to 5 minutes.
Quench acid addition—360 c.f.m.	— 4 to 5 hours.
Dissolving—180 c.f.m.	—10 to 11 hours.
Total consumption (approx.)	—288,000 cu. ft.

After the maximum reaction the air is reduced to about 100 c.f.m. for ten minutes, then shut off entirely for a three hour curing period. The total batch cycle is about twenty-four hours.

Some experimental work has been done on fine grinding of ilmenite ore. Indications are that ore particles in the range from 44 microns (325 mesh) down to 23 microns digest readily and with good recovery. It was stated that below 23 microns the particles wet poorly.

Clarification

The flow of solution is split between two 40 ft. Dorr tanks for primary clarification. The standard copper sulfate-iron sulphide coagulants are used on one system, antimony oxide and sodium sulfide on the other system.

Antimony has been used to this extent since early December, and the results have been favorable. So far each digestion batch is analyzed for antimony content and the sodium sulfide addition based on this analysis. If more antimony oxide is felt to be needed it is dissolved in heated 25% waste acid and added to the batch. Flaked sodium sulfide is used, dissolved in water at a concentration of one half pound Na_2S to the gallon. Ten per cent excess above the calculated amount is added. Glue is added at the same point, in the amount of approximately one pound per 15,000 lbs. of solution.

Crystallization

The interrupted cooling practiced at Baltimore has been used at Edge Moor, but is not now in use because of lack of capacity. A Bird continuous screen type centrifugal has been placed in parallel service with the Swenson filters, and has been in operation for about six weeks. It is equipped with .010 slots in the first two compartments, and .008 in the third or drying compartment. The throughput is about 22 tons per day, with 0.6% TiO_2 loss.

Hydrolysis

A 70:30 dilution ratio is used, with twelve minute stop agitation period. After three hours boiling a 5% water addition is made, and after five hours a 10% addition

Both of these are based on the then current volume. The steam consumption for hydrolysis, including the preheater tank, is 1.05 to 1.10 tons per ton of TiO_2 packed.

The hydrolysis heating coils have been gradually changed from the double to the single helix. There are now six single coils and two double in each tank.

Washing, Bleach and Treatment

About 80% of the filter cloths have so far been changed from nitrated cotton to Vinyon, the No. 1 weave. There has been no complete failure of these cloths after one year's service, but there has been some tendency to blind. The best previous service on nitrated cloth was 200 days. The clarity of the filtrates is as good as from the former cloths.

From the crude wash the cloudy filtrate is sent to two Dorr tanks, and the clear filtrate returned for mud washing and dissolving use in the digestion department. Other clear filtrates are sent direct to the sewer.

One hundred g.p.l. acid is used in the bleach step, with 350 to 360 g.p.l. solids. The batch is held at 85° C. for one hour. The average consumption of zinc is .05 lbs. per 100 lbs. of TiO_2, added two pounds at a time. The operators check presence of ferric iron after each zinc addition, and no excess zinc is used after full reduction of the iron. The potassium sulphate treatment is 3.1 g.p.l. in a slurry containing 370 g.p.l. solids.

Calcination

At a 40-ton calciner feed rate the rotation speed is ten minutes per revolution. Oil consumption is approximately 60 gallons per ton. The temperature ranges are as follows:

Exhibit 496

Combustion chamber	— 1100°C.
One foot	— 965°C.
30 ft.	— 855°C.
50 ft.	— 675°C.
Stack	— 420°C.

Temperature of the pigment delivered to the cooling barrel is said to be 460-470°C.

Ti-Cal Calcination

The calcination of TiO_2 at Edgemoor, where it is used primarily for the manufacture of the composite pigment, is carried out with a longer calcination zone than at Baltimore. This practice has been followed since the start of operations. It was found that with the unlined outdoor cooling barrels the effect of rapid cooling, when using short, abrupt calcination, was to develop a very blue tone. It was noticed also that the tinting strength of the finished composite pigment was lower when abruptly calcined TiO_2 was used. However, all tests indicated no difference in properties in the finished TiO_2 itself whether calcined abruptly or with a long zone.

Since the tinting strength of TiO_2 has already been developed by calcination prior to the wet blending of the composite, the consistency of the composite pigment becomes the chief aim of the final calcination. This is, of course, easier to control than is the case with our co-precipitated pigment, where calcination must be regulated to develop tinting strength of the TiO_2 as well as other properties.

The acid used for formation of calcium sulphate is 60° Bé strength. It was stated that a higher strength acid produces coarser particle anhydrite and thinner consistency

pigment. If lower strength acid is used, the anhydrite contains too much gypsum. The anhydrite currently produced contains 4-5% gypsum, an amount which is thought to be not objectionable.

Wet Milling and Finishing

Approximately 41 tons per day of TiO_2 is processed as far as the calciner feed. At that point one ton is taken out for use in manufacturing Ti-Tints. Of the 40 tons calcined, 7 tons are taken from the cooling barrel discharge to be dry-milled as the LW grade. Thirty-three tons are wet-milled, of which 20 tons are used for Ti-Cal and the other 13 tons for Ti-Bar and Ti-Tone.

Pigment is fed to the hydroseparator, with a solids concentration of 250-275 g.p.l., the overflow at 120-130 g.p.l., and the underflow 350-400 g.p.l. solids. The slurried cooling barrel discharge is fed through the pebble mill, with the addition of the hydroseparator underflow, and discharged to the 30 ft. hydroseparator. The ratio of calciner discharge to hydroseparator underflow in the pebble mill feed is approximately 3.6 to 1. The ball loss is two tons in 4 months, or approximately one pound per ton of wet-milled pigment. The total ball charge is 12 to 14 tons.

The wet milling piping is principally galvanized steel. There is a small amount of lead piping, and lead valves are used. With the addition of aluminum treatment to this department rubber-lined piping will be used for the heated slurries containing alumina and ammonia. The aluminum treatment tanks will be equipped with a three blade sweep agitator of steel, rubber-covered. This tank will be brick-lined, and so far no consideration has been given to binders other than acid-proof cement, although it was conceded

that some better material should be found to resist the alkaline solutions.

The micronizers are used only on the composite pigment. The rate has been 3000 to 4000 lbs. per hour, with a steam consumption of about 1.5 tons of steam per ton of pigment. Without a secondary collector, the dust loss has been about 5%. With two collectors in series added there has been practically no loss, but the pigment from the secondary collector has been moist and unuseable for that reason.

Expansion Equipment

The principal pieces of new equipment which are now being installed or are planned for installation at this plant are listed. It is estimated that the plant capacity will be increased to about 70-80 tons of TiO_2, of which 20-25 tons will be used for Ti-Cal, and 18-20 tons for the other composite pigments. The balance, or 30-40 tons, would be produced as finished TiO_2 in the various grades.

Department	*Addition*	*Total*
Digestion	4 tanks	8 tanks
Clarification	2 40 ft. Dorr tanks	3 tanks
	1 50 ft. " "	2 "
	1 filter press	2 presses
Crystallization ...	1 crystallizer	2 crystallizers
	1 Bird centrifuge	2 Bird centrifuges
	1 solution press	2 presses
	1 concentrator	2 concentrators
Hydrolysis	2 hydrolysis tanks	3 hydrol. tanks
	1 preheater tank	2 preheater tanks
Washing	7 Moore frames	Indefinite
	10 tanks (perhaps precoat filters)	
Bleaching	2 tanks	4 tanks
Treatment	2 tanks	4 "

Exhibit 496

Department	*Addition*	*Total*
Calcining	1 kiln	3 kilns
	1 Cottrell unit	2 Cottrell units
	1 dewatering filter	3 dewatering filters
Wet Milling	1 pebble mill	2 pebble mills
	1 hydroseparator, or 1 Bird centrifugal	2 units
	1 thickener	2 thickeners
	4 Al. treatment tanks	4 treatment tanks
	1 P&S dryer	1 P&S dryer
	1 micronizer	1–(on TiO_2)
	1 Mikro-pulverizer	1–(" ")
Miscellaneous	Increase necessary in compressed air and vacuum supply.	
Building Additions		
	Digestion building	
	Filter "	
	Kiln firing house	
	New building for dryer	
	Warehouse increase—50 to 60%.	
	Chemical mix house for treatment.	

COMPARATIVE RECOVERIES

Dept.	Sayreville		Baltimore		Edge Moor	
	Dec.	1939	Dec.	1939	Dec.	1939
Digestion	94.0	94.4	92.0	92.0	92.1	92.3
Clarification	97.9	97.7				
Crystallization	99.3	99.2	98.0	98.4	96.7	97.5
Precipitation	96.9	96.7	95.6	96.0	95.6	96.0
Washing	98.1	98.1	97.6	98.6	100.2	99.8
Calcining-Milling	97.1	97.2	98.7	97.7	100.6	100.5
Overall*	83.0	83.3	80.6	81.6	83.3	83.2

*Notes: 1)—Add 3.0% (wind loss) to Baltimore and Edge Moor figures.

2) Sayreville recovery based on *TiO_2 packed*, others on pigment packed. Sayreville 1% to 2% lower for that reason.

Materials and Supplies Consumed
(Per Ton TiO_2 Packed)

Item		Sayreville		Baltimore		Edge Moor	
		Dec.	1939	Dec.	1939	Dec.	1939
Ilmenite	(Tons)	1.97	1.97	2.07	2.04	2.00	1.98
H_2SO_4 (Total)	"	3.50	3.31	3.39	3.27	3.15	3.13
H_2SO_4 (Digestion)	"	3.06	2.97	3.06	2.96	2.89	2.90
Scrap steel	"	.20	.22	.24	.26	.25	.27
$CuSO_4$	"	None	None	.0182	.0122	.0039	.0091
FeS	"	None	None	.0063	.0067	.0051	.0077
Sb_2O_3	"	.0014	.0014	None	None	.0011	.0004
Na_2S	"	.0060	.0080	None	None	.0017	.0007
Glue	"	.0022	.0012	.0012	.0007	.0018	.0009
Filter aid (Solution)	"	.0159	.0205	.0088	.0126	.0100	.0079
Filter aid (pigment)	"	.0052	.0053	None	None	None	None
Sulph. castor oil	"	.0001	.0001	.0001	.0001	.0007	.0007
K_2SO_4	"	.0115	.0105	.0102	.0076	.0103	.0092
Zinc	"	.0025	.0016	.0005	.0008	.0006	.0006
$MgSO_4$	"	.0073	.0082	.0047	.0041	.0022	.0029
NaOH	"	.0005	.0004	.0025	.0026	.0007	.0007
Ammonia	"	.0096	.0171	.0024	.0039	.0001	.0001
Fuel Oil	Gals.	100	81	72.4	70.8	66.4	63.8
Man Hours		10.72	10.00	20.9*	21.0	12.5	12.5
Fresh water	Cu. ft.	1886	2071	1259	1163	956	1034
Salt Water	"	11410	12061	Used for cooling purposes but not measured.			
Steam	(Tons)	10.1	10.3	8.25	7.35	6.85	6.02
Electricity	(KWH)	526.6	547.1	366.2	397.4	339.0	351.2

*Manhours figured on different basis.

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Letterhead of

NATIONAL LEAD COMPANY

New York, April 18th, 1940

Dr. G. Jebsen
Societé Industrielle du Titane
26, Rue de la Pépiniere
Paris — VIIIe — France

Dear Dr. Jebsen:—

We regret exceedingly to again trouble you with matters of business at this time, but the situation appears to be of such importance, that Mr. Garesché desires that I bring it to your attention.

Within the past several months there have been certain developments affecting the National Lead Co.-Du Pont agreement which have created a situation which will be of interest to you.

A few months ago Mr. Garesché received a letter from Mr. Rupprecht in which Mr. Rupprecht stated that he had just become aware that we (National Lead Co.-Du Pont) had been exchanging information and patent rights respecting extender pigments. He contended that the Licensed Field of our agreement did not include extender pigments which contained less than 2 percent of titanium; that it was not the intention of the parties when drafting the agreement to include such materials; and that the exchange which had continued from shortly after concluding the agreement up to the present was entirely inadvertent. Mr. Rupprecht took the position that in the future the practice of exchanging information and patent rights re-

specting extender pigments should be discontinued, but he offered to obtain a formal consent and ratification by Du Pont as to those patents and patent applications which had already been exchanged.

As a result of the consideration of the nature of the reply to be made to Mr. Rupprecht's letter, it was apparent that, in the position taken by Mr. Rupprecht, there were certain implications the effect of which upon the coöperation might be far reaching and not to the advantage of either party. It had always been our view that rights were to be exchanged with respect to extender pigments but that such rights were to be strictly limited to the preparation and use of extender pigments in connection with the manufacture of composite titanium pigments and would not permit the preparation of an extender pigment for sale as such, unassociated with titanium dioxide. Such view, we maintained, was consistent with a liberal interpretation of the Licensed Field as defined in the agreement, and we contended that the practice which had been followed up to the present lent confirmation to our interpretation.

Furthermore, it appeared to us that to restrict the Licensed Field at this time by exclusion of information and rights as to extender pigment might conceivably invite in the future a restriction as to methods and apparatus not in themselves having to do with the manufacture of titanium pigments but which could be used in such manufacture in that they are useful or necessary in the preparation or treatment of materials to be used therein. It was our view that if extender pigments were to be excluded from the Licensed Field, then it would naturally follow that these other methods and apparatus might also be excluded, since they also were not actually a part of the process for the preparation of titanium pigments.

Therefore, in his reply to Mr. Rupprecht's initial letter, Mr. Garesché took the position that under a liberal interpretation of the Licensed Field extender pigments were included, that the practice which had developed between the companies indicated the intention that they should be included and expressed the hope that we would continue to exchange extender pigment patent rights and information. In his opinion it was in the interest of both parties to continue in the future as full a coöperation as in the past.

Subsequent to the exchange of letters, Mr. Garesché and Mr. Rupprecht had several conversations of an exploratory nature. As to these conversations it might be said that Mr. Rupprecht maintained substantially the attitude expressed in his letter as outlined above, and Mr. Garesché put forward our views as also outlined above. Their last conversation took place Friday, April 12th, in the course of which Mr. Rupprecht advanced a new position, along the following lines:

Du Pont was now ready to concede that rights with respect to extender pigments might be exchanged but that these rights should be restricted to use in the manufacture of composite titanium pigments, but that the agreement should be redrawn to include them. Thus, presumably rights as to the other methods and apparatus not actually part of the process for preparing titanium pigments would also continue to be exchanged. However, Mr. Rupprecht now stated that it is the attitude of Du Pont that they must withdraw from an exchange of experience. This did not come as a complete surprise; there have been indications that the Du Pont Legal Department looked with disfavor upon exchange of information and technical experience of the nature termed in this country "skill of the

art" or "know-how". Mr. Rupprecht stated that in view of the current legal interpretations of our various anti-monopoly statutes, the exchange of technical coöperation involved legal risks which Du Pont did not wish to maintain. He, therefore, proposed that the agreement be revised, eliminating the exchange of experience and suggested that each party prepare a draft of a revised license agreement so that these might be compared as an indication of the view points of the parties.

Mr. Rupprecht also stated that Du Pont would prefer not even to exchange patent applications but in view of the coöperation established with Titan Co., Inc. he suggested that Du Pont applications be forwarded to us nine months after the filing in the United States. Mr. Garesché expressed the opinion that there would not be sufficient time to permit us to consult our various foreign associates and to file corresponding foreign applications within the Convention Year. I confirmed this to Mr. Garesché and this point will have to be further considered with Mr. Rupprecht. We would particularly like to have your opinion regarding the nine months interim.

This is the present status of the situation.

It is not possible at this time to foresee in what directions, other than elimination of the exchange of experience, Du Pont may wish to alter the existing agreement, but from past indications, it may be expected that Du Pont will advance additional alterations. On our part, we will endeavor to adhere as closely as possible to the present agreement, eliminating exchange of experience and possibly re-defining the Licensed Field, specifically to include extender pigments when used to the manufacture of titanium pigments. As the situation proceeds, we will keep you fully advised.

We appreciate that the present situation can have important consequences upon the international coöperation; we are endeavoring to keep this in mind, and any comments and suggestions you may care to make will be most welcome.

Mrs. Kaegebehn and I have been very deeply concerned about the welfare of our Norwegian friends and their families. Do you have any news from "oncle" Ravnestad and Mr. Andersen?

Again sending you our very kindest regards,

Very truly yours,

C. F. KAEGEBEHN

CFK:JL

Exhibit 498

April 19, 1940

Mr. F. W. Rockwell, President
National Lead Company,
Building

Dear Mr. Rockwell:

Mr. Rupprecht of Krebs Pigment Corporation has approached us with the proposal that we agree with them to modify a particular phase of our cross licensing agreement with them, dated January 1st, 1933.

He states that it is the feeling of their Executive Committee and Legal Department that in view of the recent trend of legislation at Washington, that the feature of exchanging "know how", or the "art of manufacture" between our companies, tho in no way illegal, would be subject to criticism, and that they feel we would both be better off if we agreed to eliminate it from the contract.

Of course, any modification of the above-mentioned agreement can only be done with the approval and authorization of the Executive Committee of both companies.

Our position in our conversations has been that we are reluctant to give up the benefits which accrue to both parties from this arrangement, but if their Legal Department feels that it must be done, we would agree to explore the possibility of drawing up a mutually satisfactory new agreement eliminating "know how" from the contract. We are attaching hereto Article 3 of the agreement which covers this particular phase.

In view of the fact that it will probably be at least six months before a new agreement can be drawn and approved, we have suggested that if it was their desire, we

would consider the possibility of tentatively eliminating the exchange of "know how" immediately, pending, of course, the final approval of the new agreement confirming it, which will be approved by the respective Executive Committees.

Mr. Rupprecht has considered this and advised us that even a temporary arrangement, he feels, should have their Executive Committee's approval and it is, therefore, suggested that we each should present the matter to our Executive Committee on the basis of making the tentative arrangement for elimination of "know how", effective May 1st, 1940.

We, therefore, respectfully ask for the Executive Committee's approval of such procedure.

Yours very truly,

Manager

Exhibit 499

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

April 24, 1940.

Titanium Pigment Corporation
111 Broadway
New York City, New York
Attn: Mr. C. F. Garesche

My dear Mr. Garesche:—

This is to confirm our telephone conversation of today:

1. As of May 1, 1940 the exchange of know-how and research information between your Company and this Company will cease and terminate.

2. Both companies will proceed promptly to formulate a new agreement in lieu of the agreement of January 1, 1933, as supplemented by the agreement of January 1, 1936, which new agreement shall be limited to:

(a) The present "Licensed Field" shall be redrafted to include extenders, as applied to manufactured titanium pigments.

(b) The exchange of non-exclusive licenses on applications for U. S. Letters Patent, and patents issued thereunder, shall be effected some months (to be determined later) after date of filing of U. S. application.

(c) The offer of non-exclusive licenses to your foreign associates shall be made some months (to

be determined later) after date of filing of U. S. application.

Will you kindly signify your assent by executing the attached carbon copy, and returning it to me for our files.

Very truly yours

C. H. RUPPRECHT
GENERAL MANAGER.

Accepted:

Titanium Pigment Corporation

By .....

Exhibit 500

NOTES RE. MR. RUPPRECHT'S LETTER OF APRIL 24th, 1940

1.) The letter is addressed to Titanium Pigment Corporation; should not this be changed to "National Lead Company—Titanium Division":

2.) The termination of exchange of "know-how" and research information is clear and needs no comment.

3.) Specifying in Paragraph 2 that the proposed new agreement "shall be limited to" followed by enumeration of items (a), (b), and (c) appears to imply that the sole future basis for exchange shall be limited to what is stated under (a), (b) and (c). It is not our understanding that, in effect, what is stated under (a), (b) and (c) are changes which will be embodied in the new agreement.

4.) With respect to redefinition of "Licensed Field" to include extender pigments, should not the redefinition of the "Licensed Field" also specifically exclude treatment of materials derived from titanium pigment manufacture, as well as such other methods, processes, etc. which produce materials that are not ultimately associated with titanium dioxide. The redefinition of the "Licensed Field" will alter Article I of the present agreement.

5.) Article II of the present agreement contains four provisions:

a) The exchange of non-exclusive licenses to use all processes, methods and apparatus within the "Licensed Field", *whether or not patented or subject to patent*, but the right of sale is limited

to the United States, its colonies and possessions, present and future, Mexico, Central America, West Indies and South America.

(In recasting this provision of Article II, exchange of rights to unpatented developments will probably be excluded, but we should prefer to retain the territorial limitation of the right to sell.)

b) The right to sell intermediate products within the licensed territory of sale is granted.

(There is no reason why this should be excluded in the new agreement.)

c) The right is given to purchasers from either party of any intermediate product to use the product so purchased.

(There is no reason why this should be excluded.)

d) The last provision stipulates that each party shall be free to grant licenses to third parties.

(There is no reason why this provision should be excluded.)

5.) Article III provides for the exchange of "know-how.

(This will, of course, be excluded.)

6.) Article IV provides for the payment of royalties.

(Inasmuch as this provision of the formal agreement has already been automatically

terminated, this provision can be excluded from the new agreement.)

7.) Article V contains two provisions:

a) That each party when it gets rights within the "Licensed Field" will undertake to assist the other also to get rights.

(This provision, on its face, appears to be innocuous. It can be expected, however, that Mr. Rupprecht may wish it to be excluded because it suggests a working arrangement between the parties which goes beyond the mere exchange of non-exclusive licenses.)

b) In this provision, Krebs undertakes to offer to our foreign associates rights in their foreign patents before offering the same to anyone else.

(It is to be expected that Mr. Rupprecht will wish this to be excluded. In view of the present practice of exchanging rights by means of separate license agreements which has developed between Titan Co., Inc. and Du Pont, the retention of this provision is probably not important. Nevertheless, we should prefer that it be retained because it indicates at least an intention on the part of Du Pont to offer licenses to our associates.)

8.) Article VI is the cancellation clause.

(Presumably this will be retained.)

9.) Article VII contains two provisions:

a) Each party releases the other during the term of the agreement from any and all claims for infringing their respective patents and relinquishes their right to sue for past infringement.

(Since the grant of a license is, in effect, a waiver of the right which a patentee possesses to sue for infringement, this provision is probably not important. It apparently states no more than what is legally implied by the grant of the license. It could probably be excluded without detriment, but there is no reason for excluding it, and it could be repeated in the new agreement, if only because it appeared in the old agreement.)

b) The release given under (a) to the respective parties is extended to their customers, but the release is only for that period preceding the agreement.

(We are at present not licensed under any use patents which departments of Du Pont, other than Krebs, may develop. Thus, when we sell titanium dioxide, which may be produced pursuant to the license granted us, our customers may be exposed to suit for infringement of a Du Pont patent covering the use of titanium dioxide, which patent was not developed by the Krebs Division. This situation operates to give Krebs a sales advantage.

As to the provision which stands in the present agreement, this probably can be excluded from the new agreement since, in any event, it applied only to the acts of customers prior to January 1st, 1933. However, if we could negotiate a substitute provision which would give us the right to sell titanium dioxide for uses which Du Pont may have protected by patents developed by departments other than Krebs, the present use patent situation would be corrected.

10.) Article VIII provides that the agreement is non-assignable.

(This may be retained in the new agreement.)

Possibly the second paragraph of the letter might be re-drafted to read "which new agreement shall include: ********* followed by an enumeration of the essential features of the new agreement, and concluding with some such statement as "together with such other provisions as may be mutually agreed upon during the formulation of the proposed new agreement."

C. F. Kaegebehn
Patent Department
April 25th, 1940

Exhibit 501

Letterhead of

NATIONAL LEAD COMPANY

April 26, 1940

Mr. C. H. Rupprecht, General Manager
Krebs Pigments Department
E. I. duPont de Nemour & Company,
Wilmington, Delaware

Dear Mr. Rupprecht:

With reference to your letter of the 24th confirming our telephone conversation of that date, we have several suggestions to make, which are as follows:

The letter should be addressed to National Lead Company—Titanium Division, as it and not the Titanium Pigment Corporation, is the principal in the agreement.

As an addition to your "1 . . . terminate", we suggest the following . . . *subject to final ratification by both companies of the new agreement mentioned below under "2", when and if, it becomes effective.*

Under your "2", we suggest that there be substituted for your wording "which new agreement shall be limited to", *which new agreement shall modify the old in the following respects:* and after your paragraphs (a), (b) and (c), the following wording, *together with such other provisions as may be mutually agreed upon during the formulation of the proposed new agreement.*

With these changes, which I hope meet with your approval, I feel the form of the letter will cover the situation very nicely.

Exhibit 501

As expressed to you in our recent conference, we are reluctant to relinquish the feature of exchange of "know how" from the agreement, as we feel that it is a mutually beneficial arrangement between us, which serves to more quickly promote the development of the art and is beneficial to the consuming public. However, in view of your feeling with reference to this feature, we are willing to accede to your wishes and discontinue these exchanges of information, making it effective May 1, 1940, as indicated in your letter.

Yours very truly,

C. F. CARESCHÉ
Manager

Exhibit 502

Blind copy to:

Mr. T. R. Hanley, Legal Dept.

April 29, 1940.

National Lead Company—Titanium Division
Titanium Pigment Corporation
111 Broadway
New York City, New York

Atten: Mr. C. F. Garesché

My dear Mr. Garesche:—

This is to confirm our telephone conversations of April 24th and 29th:

1. As of May 1st, 1940 the exchange of know-how and research information between your Company and this Company will cease and terminate.

2. Both companies will proceed promptly to formulate a new agreement in lieu of the agreement of January 1, 1933, as supplemented by the agreement of January 1, 1936, which new agreement shall modify the old in the following respects:

(a) The present "Licensed Field" shall be redrafted to include extenders, as applied to manufactured titanium pigments, together with such other provisions as may be mutually agreed upon during the formulation of the proposed new agreement.

(b) The exchange of non-exclusive licenses on applications for U.S.Letters Patent, and patents is-

sued thereunder, shall be effected some months (to be determined later) after date of filing of U.S. application, together with such other provisions as may be mutually agreed upon during the formulation of the proposed new agreement.

(c) The offer of non-exclusive licenses to your foreign associates shall be made some months (to be determined later) after date of filing of U.S. application, together with such other provisions as may be mutually agreed upon during the formulation of the proposed new agreement.

3. Failure of final ratification by both Companies of the new agreement provided for in (2) hereof shall serve to cancel and terminate all provisions of this letter.

Will you kindly signify your assent by executing the attached carbon copy, and returning it to me for our files.

Very truly yours,

C. H. RUPPRECHT
General Manager.

Accepted:

National Lead Company—Titanium Division
Titanium Pigment Corporation

By (s) C. F. GARESCHÉ

Exhibit 503

April 30, 1940

Mr. C. H. Rupprecht, General Manager
Krebs Pigment Department
E. I. duPont de Nemours & Company,
Wilmington, Delaware

Dear Mr. Rupprecht:

I am returning herewith signed original of your letter of the 29th modifying the agreement of January 1st, 1933 between Titanium Pigment Company, Inc., and Krebs Pigment & Color Corporation.

Yours very truly,

Manager

Exhibit 504

Paris, May 3rd 1940

Charles F. Kaegebehn Esq.
Patent Department
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Kaegebehn,

Many thanks for your letter of April 18th, regarding the National Lead Company—Du Pont agreement.

I have read this with much interest and regret much to see that Du Pont seem inclined to withdraw more or less from the cooperation.

I took the opportunity to talk the matter over with Mr. Stopford, who was of the same opinion, and we both agreed that the term suggested by Mr. Rupprecht for forwarding patent applications to us, leaving only three months of the International Priority rights, was far too short. We agreed that it ought at least to be six months.

I shall look forward to hear further of the developments of this matter.

I am inclined to believe that both Du Pont and we will regret if the cooperation should cease.

I much appreciate the very kind sympathy Mrs. Kaegebehn and you have shown regarding the present situation.

Andersen is, as mentioned in Sweden, I assume with his wife, and both well. From his cables I gather that Ravnestad and most of our people are in Fredrikstad and well.

I have no direct news from my family and am informed that my wife and youngest boy and my mother in law are

Exhibit 504

in an hotel in the mountains—and so far safe. My eldest boy joined the Norwegian army as volunteer and has been taken prisoner, and my second boy is in Oslo.

I was rather optimistic at the beginning, that it should be possible to throw the Germans out of Norway before the autumn, trust that the English navy should be able to prevent effective reinforcements. In the last 3 or 4 days I have, however, begun to doubt, fearing that this would not be the case. Now it seems that it will be a slow process.

With kindest regards,

Yours very truly,

Sign. G. JEBSEN

Copy to Mrs. Garesché.

Exhibit 505

May 14, 1940

Dr. G. Jebsen.
For Mr. S. Andersen
Titan Company, Inc.
c/o Titan Company A/S.
Fredrikstad, NORWAY

Gentlemen:

We beg to acknowledge receipt of your letters of February 12 and 13, 1940, enclosing a revised draft of license agreement with DuPont.

The changes which you made in the original seemed to us to be quite proper with the possible exception of the alteration in Article 1, particularly the insertion of "use" in connection with the grant of the license. We were afraid that DuPont might interpret this as an endeavor to insert the right to use the products covered by the licenses in coating compositions and the like, which would conflict with their previous commitments. Accordingly, we went to Wilmington and personally discussed the revisions made by you. We are happy to advise you that the changes were made by DuPont and the drafts prepared by you were executed by them.

The document, as finally issued, bears the date of May 10th. A photostatic copy of the final executed agreement is enclosed herewith so that you may note certain corrections of a purely typograpic nature.

Very truly yours,

NATIONAL LEAD COMPANY

CFK:JM
c.c. Mr. C. F. Garesché

Exhibit 506

Letterhead of

NATIONAL LEAD COMPANY

AIR-MAIL

New York, May 27th, 1940

Dr. G. Jebsen
Titan Co., Inc.
26, Rue de la Pépiniere
Paris—VIIIe—France

Re: Proposed New Agreement
Between National Lead Co. and
Du Pont

Dear Dr. Jebsen:—

Enclosed herewith is a copy of a proposed new agreement between National Lead Company and Du Pont.

In the main, this follows very closely the previous agreement, with certain exceptions made necessary by the change in relations between the two companies.

Specifically I should like to call your attention to the following:

1.) Page 1, line 3: *New Jersey* will be inserted in the blank space.

2.) Article I terminates the previous agreement but confirms licenses already granted thereunder.

3.) Article II: The Licensed Field definition has been enlarged to include extender pigments where these are for use in connection with the preparation of composite titanium pigments. We have recently learned that there existed between Mr. Rupprecht, on the one hand, and Mr. Beschor-

man and Mr. Carter, on the other hand, an understanding that titanated lithopones, even though definable in terms of the Licensed Field definition, were to be considered as lithopone rather than titanium pigments and, hence, were not a part of the Licensed Field; we intend to put forward that this exclusion should be specifically provided for in the new agreement.

4.) Article III is the granting clause. As compared with the old agreement it does not include exchange of rights with respect to unpatented or unpatentable subject matter. It leaves open for agreement the period of months after which patent applications are to be exchanged. In line 9 F of this article the word "used" should be changed to read: *owned*. This article as it now stands would imply that the license does not begin to run until a certain number of months after the filing of the application. We intend to put forward that the license should run from the date of filing although the application is not actually exchanged until some time subsequent thereto.

In the old agreement, in the final paragraph, it is provided that either party could grant under their own patent rights to third parties licenses of the same character as granted to each other. This has been omitted in the new agreement, probably because the parties inherently possessed this right and to specifically state it might be superfluous. However, since it was in the old agreement, we see no reason why it should not be carried through into the new agreement.

5.) Article IV is substituted for Article III of the old agreement. This article provides only for the exchange of patent applications after a certain number of months from the date of filing.

6.) Article IV of the old agreement which provides for royalties has been eliminated.*

7.) Article V of the new agreement corresponds very closely to Article V of the old agreement, the only change being the insertion, in the first paragraph, that the rights to be exchanged under patent applications acquired by either party shall take place only after a certain number of months. We desire that the rights shall be exchanged as soon as either party acquires a patent application, although information regarding the acquisition shall not be transmitted to the other party until some months have elapsed. The second paragraph of this article provides for Du Pont to offer rights to the foreign associates of National Lead Company. The stipulation that these rights shall be under patents of any country of continental Europe and Great Britain is retained in the new agreement in the same form as presented in the old agreement.

We appreciate that the existence of the Japanese company bears upon this point and Du Pont is not under obligation to offer to the Japanese associate of National Lead Company any licenses.. In the past, as you know, Du Pont has always granted rights in Japan as requested by Titan Co., Inc. We are informed that Du Pont has to be very circumspect regarding patenting in Japan and relations with Japanese companies. Du Pont is so very essential to American defense activities that the War Department of the Government keeps a very close check on Du Pont's foreign relations, particularly in Japan. They are not permitted to allow Japanese visitors in any plant even remotely connected with national defense, except after first obtaining

*"Will that exclude information exchanged re knowledge of sales:" appears in longhand on face of exhibit following this sentence.

the permission of the United States Government. Hence, Du Pont would hesitate to make any commitments in advance concerning Japan. We believe, however, that their attitude with regard to granting licenses to the Japanese company will continue as in the past.

8.) Article VI: Du Pont has suggested that the cancellation period be changed to one (1) year. We will endeavor to have the three year period retained.

9.) Article VII in the new agreement is identical to Article VII in the old agreement.

10.) Article VIII is a new article providing that the rights to be exchanged between National Lead Company and Du Pont shall be limited on the part of Du Pont to the activities of their Krebs Pigments Department and on our part, to the activities of the Titanium Division of National Lead Company.

11.) Article IX corresponds to Article VIII of the old agreement.

In order that you may compare the two agreements, we enclose copy of the Titanium Pigment Co.—Krebs Pigment and Color Corp. agreements of January 1st, 1933 and January 1st, 1936.

Before coming to any agreement with Du Pont over the new agreement, we would like, if possible, to have your comments.

With very kind regards,

Yours very truly,

C. F. KAEGEBEHN

CFK:JL
Encs.

Exhibit 507

August 22nd, 1940

Dear Mr. Garesché:—

I enclose for your consideration a note commenting on the proposal from Mr. Rupprecht concerning a new agreement to replace the previous one of January 1st, 1933, between Du Pont and National Lead Company.

I am also sending this note to Mr. Rockwell.

I shall be very glad to discuss the matter with you at your first opportunity.

Yours very truly,

G. JEBSEN

C. F. Garesché, Esq.
Vice President
Titan Company, Inc.
Building

Exhibit 507

NOTES RE. DU PONT PROPOSAL FOR NEW AGREEMENT BETWEEN NATIONAL LEAD CO. AND DU PONT

It is considered preferable, to meet Du Pont's suggestions for changes in the relation with them by amending the Agreement of January 1, 1933 (Alternative I.) instead of substituting it with a new one (Alternative II.)

As regards the relations with Titan Co., Inc. and its foreign associates, a certain practice has been established on the basis of the present agreement which, as far as can be seen, does not seem to be impaired by the suggested alterations to such an extent that they are unacceptable. (With one or more exceptions of a more practical than fundamental nature.)

If, however, the old agreement is to be substituted by a new one (Alternative II.), several questions are more apt to arise:

1.) A renewed consideration of the various comments and criticisms of the agreement with Du Pont as regards the departure of this agreement from the 1920 License Agreement and its fundamental principles. (See reference below to correspondence.)

2.) Changes in the wording of certain articles in order to make clear what has been intended.

3.) The effect of losing the priorities consequent to abandoning the date of January 1, 1933 of the original agreement. (cf. 2nd paragraph, Art. V.)

If Alternative I. (amendment of the agreement of 1933) is accepted, the following comments should be considered:

Exhibit 507

ad. Art. II: Agree with the definition of the Licensed Field. If titanated lithopone shall be excluded, it ought to be mentioned.

ad. Art. III: The license should be for the life of the patents and not for a period of time, and on the sixth line "owned" should be substituted for "used".

ad. Art. IV: I understand that this is the main change contemplated and probably not a subject for discussion as regards exchange of experience and mutual visits. The period for disclosure of applications is of no interest to Titan Co., Inc. except as far as it may have a bearing on the stipulation in Art. V. For this purpose the period ought not to be more than six months.

ad. Art. V: This is the same as before with the exception of fixing a period to lapse before disclosure of applications. Regarding the stipulation in the second paragraph, this period should not be less than six months.

ad. Art. VI: The notice of one year for cancellation is a fundamental deviation from the considerations and the basis on which the I. G. Farbenindustrie gave its consent to the Agreement of January 1, 1933. It is a basic principle of the 1920 Agreement and the agreements built on this, that licenses of the scope dealt with in the Du Pont agreement should be of long duration. Three years notice should be retained.

Exhibit 507

I refer to the following correspondence:

Sender	*To Whom Sent*	*Date of Letter*
I. G. Farbenindustrie	Dr. G. Jebsen	June 20, 1933
Dr. Jebsen (Cable)	Mr. Beschorman	June 22, 1933
Extract of letter from Dr. Jebsen to Mr. Beschorman		June 23, 1933
Mr. Rupprecht	Mr. Beschorman	June 28, 1933
Mr. Beschorman	I. G. Farbenindustrie	July 12, 1933
Dr. Jebsen	M. Weber Andreae	July 21, 1933
I. G. Farbenindustrie	Dr. Jebsen	August 7, 1933

ad. Art. VII: No comments.

ad. Art. VIII: These stipulations are only apparently reciprocal and seem somewhat to National Lead Company's disadvantage.

If this Alternative I. is carried out, taking the above comments into account, I think Titan Co., Inc. should consider the question of approving the amendments, without previously consulting our European associated companies. The international situation may justify this. If Alternative II. is the only one to be considered for reasons which Du Pont may put forward, an approval by Titan Co., Inc. is a more delicate question.

It should be remembered that the Agreement of 1933 represents a drastic deviation from the fundamental principles of the 1920 Agreement. These principles had been presented to our associates as fundamentally necessary for the structure of the international coöperation which we intended to build up. They had been accepted in 1926-27 by the I. G. Farbenindustrie which in every respect con-

curred with them, and have since conscientiously adhered to and supported them. The proposal of National Lead Company to make the Agreement of January 1, 1933 with Du Pont was a very delicate matter to present to the I. G. Farbenindustrie and led to discussions and correspondence which forms an appendix of the greatest importance to the agreement.

An entirely new contract with Du Pont raises anew these questions which, however, I understand Du Pont will not be in a position to give more consideration than the last time.

The coöperation with Du Pont, as far as the European associates are concerned, has, however, been satisfactory in the years passed and it is, therefore, likely that a new agreement would be accepted even if it does not embody more in substance than the above suggested amended agreement, provided the war does not alter conditions in the international titanium structure fundamentally and provided we have the assurance from Du Pont that the spirit of coöperation within the lines drawn up, will remain the same as heretofore. But, there is a difference in the appearance and mode of handling the matter, which makes it more delicate for Titan Co., Inc. to approve a new agreement without previously consulting our associates.

If Alternative II. is inevitable, I suggest the wording of Art. V. should be changed so that it more clearly expresses the intention and lines on which the coöperation has taken place. I suggest the 2nd paragraph be worded as follows:

> "Du Pont further agrees that not later than six months after the filing of applications for United States Letters Patent it will offer to any foreign

associate of National Lead Company that may be designated by National Lead Company before offering to any other person, firm or corporation the opportunity to acquire, upon mutually satisfactory terms and conditions, an irrevocable and non-exclusive license within the limits of the Licensed Field under any applications which may be made or any patent which may be acquired regarding the invention or inventions covered by the United States application filed or issued in any country outside of North and South America * with the right to use and sell the products resulting from the use of such inventions throughout the countries of this territory as well as the countries lying south of the Panama Canal and Canada."

I beg to remark that the old agreement, in Art. V., last paragraph, uses the words "which now is or hereafter and during the term of this agreement may be owned or otherwise at the disposal of Du Pont", with reference to the patent rights to be licensed Titan Co., Inc. and its non-American associates. This wording reserves a preference to any obligations Du Pont may have previous to the date of the agreement. It will be seen that a change of the date of the agreement to 1940 instead of January 1, 1933 may have important consequences.

May I also mention the following: It seems only fair and in the spirit of the agreement that it should be extended so that the idea expressed in the first paragraph of Art. V. is applied to the coöperation concerning the territories outside the United States.

*Please note that the territories here mentioned are in accordance with verbally accepted practice, but larger than those mentioned in the 1933 Agreement.

Exhibit 507

Further considering Alternative II., we ought to have the assurance that the correspondence above referred to, particularly Mr. Rupprecht's letter of June 28, 1933, will apply also as long as the new agreement is in existence. I beg to add that I have refrained from mentioning some minor points, which I know have Mr. Kaegebehn's attention.

Exhibit 507

COPY

I.G. Farbenindustrie Akt.Ges. Translated from German.
Verkaufagemeinschaft Chemikalien

Frankfurt (Main) 20. June 1933.

Dr. G. Jebsen
Société Industrielle du Titane
Paris 8e
26 Rue de la Pépinière

Dear Dr. Jebsen,

We thank you for having sent us the draft for the proposed contract between Titanium Pigment Co. Inc. and the Krebs Pigment & Colour Corp., content of which we have read with interest.

We have carefully examined how this contract affects the interest-sphere of Titangesellschaft, and it seems to us, that at least one important point in the new contract has not been clearly expressed, namely that Krebs unconditionally have to respect the territory reserved Titangesellschaft in the License Agreement of October 1927 between Titan Co A/S and Titangesellschaft, that is that Krebs

a) shall not themselves manufacture in the territory of Titangesellschaft,

b) shall not make deliveries in this territory,

c) shall also impose upon their customers a corresponding obligation not to deliver in this territory,

d) shall grant sublicenses only to undertakings outside this territory and for use outside of this territory,

e) shall strictly observe the same limitation as under d) also regarding the experiences of which they get knowledge and which originate from Titangesellschaft.

We consider it of the greatest importance to have this point made clear, as otherwise the unbearable situation may arise for the Titangesellschaft, that Krebs compete with Titangesellschaft in the latter's territory, with T.G.'s own patent-rights and experiences, which are transmitted to Krebs through Titanium Pigment Company.

If this point is made clear, there exists, though, still a difficulty in so far as the contemplated agreement shall have a duration of only three years, so that after the termination of the agreement, Krebs is free to fight Titangesellschaft in the latter's own field, with the experience of the Titangesellschaft, acquired in the meantime.

As we, on the other hand, do not fail to recognize the great importance of the new contract for the extension of the international cooperation in the Titanium-field, and as we moreover hope that the cooperation between Krebs and the Titanium Pigment Co. will work so well that practically the termination of the contract after three years is hardly probable, we are ready to withdraw (zurückstellen) our doubts in this connection. We may, however, express the wish that our hesitation at least to some extent be taken into account, so that the duration of the new contract be fixed at—at least 5 years instead of three.

The wording of Art. 5 paragr. 2 of the new agreement does not so far quite correspond with (cover) the above mentioned basic principle, that Krebs shall not grant any licenses within the territory of Titangesellschaft and/or to

be made use of for this territory, inasmuch as the term "non exclusive license" has been used. Further, it would better correspond to the spirit of the agreement between Titangesellschaft and Titan Co A/S, if such licenses were granted Titangesellschaft free of cost, it should then be (es sei denn) that Krebs acknowledge, that also they have to pay to T.G. a corresponding compensation for the use of patent-rights originating from T.G., as it, according to information from Mr. Beschorman, seems to be intended, without we being able hitherto to find a confirmation of this in the agreement. The above mentioned basic principle that, according to the spirit of the contract between T.G. and Titan Co A/S, Titangesellschaft should be granted a license free of cost under the Krebs patents, applies also to new inventions, as such naturally practically always will result from the experiences resulting from the cooperation Krebs/Titanium Pigment Co/Titangesellschaft.

We should be obliged if Titanium Pigment Co could give us a certain reassurance also with reagrd to these points.

Asking you to transmit to Titanium Pigment Co. this our standpoint, we remain

Yours very truly,

I.G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Exhibit 507

COPY

NATIONAL LEAD COMPANY

111 Broadway, New York

The following is carbon copy of cable received this day

Paris, June 22, 1933

L.C. Beschorman Leadco New York.

Agreement Krebs acceptable to I.G. Farbenindustrie provided clearly expresses by Krebs in some form that they will respect Titangesellschafts territory not manufacture there, make no deliveries direct or by customers, give no sublicenses and no technical aid for manufacture within or for that territory Stop I.G.considers three years agreement short in view of parting with experience and suggests five years but makes it no condition

JEBSEN

Exhibit 507

COPY

EXTRACT OF LETTER FROM DR. JEBSEN TO MR. BESCHORMAN OF JUNE 23RD, 1933.

Dear Mr. Beschorman,

Monday 19th I met the I.G. people in Frankfurt. From I.G. were present:

Mr. Weber-Andreae,	one of the five commercial heads of I.G.
Dr. Kühne,	Leverkusen
Dr. Brüggemann,	"
Dr. Buhl,	I.G. lawyer, Frankfurt, former "Ministerialrat"
Mr. Borgwardt,	I.G. (manager of titanium sales).

We had first a meeting with

Dr. Mayer,	head of Verein für Chemische & Metallurgische Production *Aussig*, Czechoslovakia
Mr. Schaeffler,	from Aussig.

The agreement between Aussig and Titangesellschaft was discussed and the main points agreed upon—details to be worked out by Mr. Schaeffler and Mr. Borgwardt.

Afterwards the same gentlemen from I.G. discussed with me the draft agreement Titanium Pigment Co./Krebs.

The I.G. put forward exactly the same points, which I have laid down in my letter of March 1st to Dr. Thomp-

son, and made the same comments upon the draft as I did to you here in Paris.

I advocated the matter with the same arguments which you used, explaining the position between Du Pont and National Lead Co., the advantages of the agreement and the intentions as to the territories not licensed by the contemplated agreement—further the acceptance of the draft by British Titan Products Co. (I.C.I.).

Mr. Weber-Andreae seemed to have a fairly good knowledge of the way of cooperation between DuPont and I.C.I. He considered it, though, necessary to have a clear statement from DuPont about the important points,—not necessarily embodied in the agreement but for instance by exchange of letters between National Lead Company and Du Pont.

I hope you can arrange this without any inconvenience, particularly as it is an expression of the main points of your explanation to Dr. Kühne.

Mr. Weber-Andreae wanted also some minor points definitely included, for instance the compensation for important patents, but I got this changed to a statement from I.G. to us, not necessarily to be taken up with Krebs.

I enclose copy of a letter from the I.G. to me (with English Translation), stating I.G.'s standpoint and views.

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.....

Exhibit 507

P.P.S.—The discussions with the I.G. passed in the most friendly and cordial spirit.

It has been very difficult to translate I.G.'s letter making it exact and conveying at the same time the spirit.

I.G.'s intention has been to meet the National Lead Co.'s wishes as far as they considered possible, and to reduce to a minimum the points considered necessary to make the agreement compatible with I.G.'s interests,—expressing other important points without making them conditions.

I sent the cable with I.G.'s approval of the wording, as you might find it advisable to close with Krebs before Blumenfeld's arrival, and the other points, I presume, can be taken care of afterwards.

Exhibit 507

COPY

KREBS PIGMENT & COLOR CORPORATION

256 Vanderpool Street

NEWARK, NEW JERSEY

June 28, 1933.

CONFIDENTIAL

W. C. Beschorman, Vice Pres.,
National Lead Company
111 Broadway, New York City, N. Y.

Dear Mr. Beschorman,

We have considered the various points raised by I.G. in their cable to you with the desire, if possible, to comply with its request.

As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article 2 of the Krebs-Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

Exhibit 507

The I.G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclusive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive bases. Since all licenses received by Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of much care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Yours very truly,

(Signed) C. H. RUPPRECHT
President

1614

Exhibit 507

COPY.

July 12, 1933.

I.G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Grüneburgplatz

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subsequently to the points brought out in your letters of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both

as to use, manufacture and selling to the territory granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good co-operation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outside of their territory, which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licenses, in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these respects, which are also our own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your interests than to complicate the situation with a separate contract.

Exhibit 507

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advice from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours,

Executive Vice President

Exhibit 507

COPY.

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26 Rue de la Pépinière
Paris, France.

July 21, 1933

I.G. Farbenindustrie Aktiengesellschaft
Verkaufagemeinschaft Chemikalien
Frankfurt (Main) 20
Grüneburgplatz

Direction.

Dear Sirs:

Re: Contemplated Agreement between Titanium Pigment Co., Inc. and Krebs Pigment and Color Corporation.

I have forwarded your favor of June 20th to Mr. W.G. Berschorman, Executive Vice President, National Lead Company, and a Vice President of the Titan Company, Inc. and a director of the Titanium Pigment Co.,Inc., and beg to enclose a letter from him which he, on my request has addressed direct to you.

I hope this will meet the various points in your letter of June 20th and shall look forward to your reply.

Yours very truly,

Vice President

Exhibit 507

COPY

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26 Rue de la Pépinière
Paris, France July 21, 1933.

M. Weber Andreae, Esq.
c/o I.G. Farbenindustrie Aktiengesellschaft
Varkaufagemeinschaft Chemikalien
Frankfurt (Main) 20
Grüneburgplatz

Dear Mr. Weber Andreae:

I beg enclosed to send to you a letter addressed to I.G. Farbenindustrie with enclosures.

I have met Mr. Rupprecht, President of the Krebs Pigment and Color Corporation, who verbally has expressed to me the same views as to the future co-operation which has been expressed by Mr. Beschorman.

Considering the views and interpretations as expressed by Mr. Beschorman, and by Mr. Rupprecht in his letter to Mr. Beschorman, it seems to me that a co-operation can be looked to which will be of important benefit to Titangesellschaft.

Awaiting I.G. Farbenindustrie's answer, no agreement has been signed yet. It is considered desirable to treat the matter strictly confidential.

With kind regards,

Very truly yours,

P.S.—I will be back in Paris at the end of this month or the first days of August, and expect to leave shortly thereafter for a holiday.

Exhibit 507

COPY

Translation.

I.G. FARBENINDUSTRIE AKTIENGESELLSCHAFT,
FRANKFURT (MAIN) 20

(Legal Department)

Dr. Jebsen
26 Rue de la Pépinière
Paris, France.

August 7th 1933.

Dear Dr. Jebsen,

The point of view which the National Lead Co. has taken in the letter of July 12th 1933 signed by Mr. Beschorman, Vice President, and which appears from a letter from the Krebs Pigment & Color Corporation of June 28th 1933 signed by Mr. C. H. Rupprecht, President, of which also a copy has been submitted to us; does not formally correspond with the wishes which we expressed to you in our letter of June 20th 1933. We note though from these letters the assurance that National Lead Co. and Titanium Pigment Co. as well as their new American Contract Partner, the Krebs Pigment & Color Corporation, will loyally respect the delimitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement between Titan Co. and Titangesellschaft. Relying on this loyal promise, we renounce on the formal confirmation of the wishes expressed in our letter of June 20th 1933.

Your declaration that the duration of the agreement will not end after three years, also that the licenses which Titan-

gesellschaft will receive from Krebs, will be granted, except in exceptional cases, only against a nominal fee, more than suffice for us. The exceptional cases concern possible inventions by Krebs of especially outstanding importance. Krebs shall offer us these on reasonable conditions. Exceptionally, Krebs will though be free to utilize these especially outstanding inventions in T. G. territory in case T.G. does not accept, within reasonable time, an offer on reasonable conditions.

Our consent to the agreement between Krebs Pigment and Color Corporation and Titanium Pigment Company being closed is given with the reservation that for us, respectively Titangesellschaft, no liabilities may arise from same which are not compatible with the existing contractual obligations.

We beg to add our heartiest thanks for the trouble you have taken and remain

Yours very truly,

I.G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

(signed) Weber-Andreae (signed) Mayer-Wegelin

Exhibit 508

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

September 20, 1940

C. H. RUPPRECHT, ESQ.
KREBS - NEMOURS BLDG.

RE: AMENDMENT OF DU PONT - TITANIUM PIGMENTS AGREEMENT

Attached find three copies of a proposed working draft in amendment of the January 1, 1933 agreement between Krebs and T.P. I have discussed this draft with Mr. Biesterfeld who indicates approval in principle. Final approval from him has been deferred until after discussion with T.P. and presentation of the contract in final form. I have not had an opportunity to consider the accompanying draft with Mr. Abrams, due to the fact that he is now absent in Washington and will not return until Monday next. However, in view of Mr. Biesterfeld's approval in principle, it appears likely that Mr. Abrams may have no present objections to the proposed agreement.

I must be in Washington to interview an Examiner on Monday, but may return in the late afternoon. You indicated the arrangement of a tentative conference with T.P. and desired to be informed in this matter as quickly as possible. Hence, I am sending you the accompanying working drafts, copies of which you may desire to forward to T.P. for their consideration prior to conferring with them. If you prefer, we can await Mr. Abrams' approval before sending any copies of the draft.

In brief, the affected articles of the old agreement, I, II, III and V, are being cançeled, to be substituted by the like designated articles of the accompanying draft. These new articles embody the changes which we discussed, particularly that the Licensed Field shall include inorganic extenders; that the license exchange shall only involve issued U.S. patents and applications therefor filed by either party and pending for at least six months from their filing date; as well as pending applications which either party may purchase or acquire, rights under the latter to arise only after the expiration of six months from the date of purchase or acquisition, unless the patent in the meantime shall issue, in which event the license right thereunder immediately comes into being. Provision is also made for the exchange of pending patent specifications not later than six months after filing. Also, Japan has been included along with Continental Europe and Great Britain as a country in which we will grant a non-exclusive license to T.P. associates.

The proposed agreement also provides that to National has been assigned all the rights and obligations of T.P. under the January 1, 1933 agreement. This corresponds to the Krebs assignment, dated January 1, 1936, to du Pont. For the sake of the record, I believe a reference to a like assignment, presumably existent, on the part of National Lead should be mentioned in the agreement.

JOHN P. HANCOCK
John P. Hancock

JPH:H
Enc.

Exhibit 508

AGREEMENT

This agreement, made and entered into this day of 1940, by and between NATIONAL LEAD COMPANY (hereinafter called NATIONAL), a corporation organized and existing under and by virtue of the laws of the State of New Jersey, and having a principal office and place of business in New York, New York, and E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter called DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having a principal office and place of business in Wilmington, Delaware;

WITNESSETH,

WHEREAS, on January 1, 1933, THE TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under the laws of the State of Maine, and KREBS PIGMENT AND COLOR CORPORATION, a corporation organized and existing under the laws of the State of Delaware, entered into an agreement providing for the granting to each other of certain licenses under their respective inventions and within the "Licensed Field" defined in said agreement; and

WHEREAS, under an instrument dated January 1, 1936, by and between DU PONT, said TITANIUM PIGMENT COMPANY, INC., and said KREBS PIGMENT AND COLOR CORPORATION, DU PONT became assigned of and assumed all of the rights and obligations of the KREBS PIGMENT AND COLOR CORPORATION under said January 1, 1933 agreement without changing in any wise the scope or effect of said agreement, as more specifically provided for in said instrument;

Exhibit 508

WHEREAS, under an instrument dated 19 , by and between NATIONAL, said TITANIUM PIGMENT COMPANY, INC., and DU PONT, NATIONAL became assigned of and assumed all of the rights and obligations of THE TITANIUM PIGMENT COMPANY, INC. under said January 1, 1933 agreement without changing in any wise the scope or effect of said agreement, as more specifically provided for in said instrument;

WHEREAS, NATIONAL and DU PONT, as the respective assignees under said agreement dated January 1, 1933 between THE TITANIUM PIGMENT COMPANY, INC. and KREBS PIGMENT AND COLOR CORPORATION, desire to amend the same;

NOW, THEREFORE, in consideration of the premises and the mutual promises, covenants and undertakings hereinafter set forth, it is hereby mutually agreed between NATIONAL and DU PONT that said January 1, 1933 agreement shall be and the same is hereby amended as follows, to-wit:

1. That Articles I, II, III and V of said agreement be canceled and in lieu thereof the following Articles be substituted:

ARTICLE I

The term "Licensed Field", wherever herein employed shall be deemed to include (1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds containing two per cent. (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adopted for other

uses, and also inorganic extenders adapted for use in conjunction with such titanium compounds; and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adopted for other uses, and also inorganic extenders adapted for use in conjunction with such titanium compounds; provided, however, titanated lithopone shall not be deemed as included within said Licensed Field.

ARTICLE II

NATIONAL and DU PONT, during the term of this agreement, grant to each other, within the limits of said Licensed Field and as to which NATIONAL or DU PONT shall be free to grant such rights, an irrevocable and non-exclusive right and license, throughout the United States of America, its territories, colonies, and possessions, present and future, Mexico, Central America, the West Indies, and South America:

(a) under all original or reissue Letters Patent of the United States, now or hereafter owned or controlled by either party;

(b) under all applications for Letters Patent of the United States now or hereafter owned or controlled by either party and which have been pending for a period of at least six months from date of filing; and

(c) under all pending applications for Letters Patent of the United States purchased or acquired by NATIONAL or DU PONT from third parties, after the lapse of a period of six months' time from their date of purchase or acquisition; provided, however, that in event any such application shall issue to patent prior to expiration of said six months'

period, the license herein provided for under any such application shall be deemed to exist on and after the date of issue of said patent.

It is understood and agreed that the rights vested in the parties hereto shall include the right to sell the products resulting from the use of any licensed process, method and apparatus of manufacture described in the licensed patents and/or applications, throughout the aforesaid licensed territory.

Notwithstanding the limitations of the Licensed Field, as herein defined, it is understood and agreed that each of the parties hereto shall have the right to sell, within the licensed territory of sale specified in this Article, any and all intermediate products of manufacture under the license hereby granted, whether or not such intermediate products are intended or adapted for use as pigments.

It is further understood and agreed that all purchasers from either of the parties hereto of any product intermediate or final of manufacture under the license hereby granted shall be privileged to use the product so purchased for any and all purposes.

Nothing in this Article contained shall in any manner limit or restrict the right of either party hereto to grant third parties licenses of the same character and scope of the license granted by it under this Article.

ARTICLE III

Each party hereto agrees not later than six months from the date of filing any application for Letters Patent of the United States for any invention within the Licensed Field to make full disclosure to the other of the specifications and claims under any such application for United States Letters

Patent so filed by said party. It is understood and agreed that the disclosures contemplated by this Article shall be made only by and to officials specifically designated in writing for that purpose by the respective parties hereto.

ARTICLE V

Each party hereto agrees during the term of this agreement to use its best efforts to assist the other to acquire, on terms as favorable as possible to the other, an irrevocable and non-exclusive right and license to manufacture, use and sell, within the limits of the Licensed Field and licensed territory, under any United States original or reissue Letters Patent, or under any application for United States Letters Patent or reissue which has been pending for a period of not less than six months from its filing date, owned by or otherwise at the disposal of other companies, firms or individuals, domestic or foreign, under which such party hereto itself is licensed.

DU PONT further agrees that not later than six months after the filing date of any licensed application for Letters Patent of the United States it will offer to any foreign associate of NATIONAL that may be designated by NATIONAL, before offering to any other person, firm or corporation, the opportunity to acquire, upon mutually satisfactory terms and conditions, an irrevocable and non-exclusive license, within the limits of the Licensed Field aforesaid, under any application or patent relating to the Licensed Field filed or issued in any country of Continental Europe or in Great Britain or Japan, which now is or hereafter and during the term of this agreement may be owned or otherwise at the disposal of DU PONT.

Exhibit 508

2. It is understood and agreed between the parties hereto that except as specifically amended herein, each and all of the other provisions of said agreement of January 1, 1933 shall remain in full force and effect and that the amendment and cancelation herein provided for shall not in any manner operate to terminate, restrict or impair the licenses heretofore acquired by either party from the other under said January 1, 1933 agreement.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed, in duplicate, by their respective proper officers, duly authorized, and their respective corporate seals to be hereunto affixed as of the day and year first above written.

NATIONAL LEAD COMPANY,

By.....

ATTEST:

.....

E. I. DU PONT DE NEMOURS AND COMPANY,

By.....
General Mgr., Krebs Pigments Dept.

ATTEST:

.....

Exhibit 509

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

September 24, 1940

G. F. Garesché, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York City, N. Y.

Dear Mr. Garesché:

Pursuant to our telephone conversation of today, I am enclosing two copies of proposed draft of amendment to our licensing agreement of January 1, 1933 on titanium pigments patents.

This is, as explained, in tentative draft form and has not had the necessary approvals of our Legal and Executive Departments.

Mr. Hancock and I will be pleased to drop in at your office at 10:30 A.M. on Friday, September 27th, for discussion as arranged.

Yours very truly,

C. H. RUPPRECHT
C. H. RUPPRECHT, GENERAL MANAGER

CHR/d
enc.

Exhibit 510

Approval of I. G. (T. G.) and B. T. P. to Krebs—Titanium Pigment Co. Agreement

January 14th, 1941

Dr. G. Jebsen

Mr. C. F. Kaegebehn—Patent Department

Dear Dr. Jebsen:—

Regarding approval of the I. G. to the original Krebs-Titanium Pigment Co. Agreement, I find the following statement contained in a translation of a letter sent to you at Paris under date of August 7, 1933 from the I. G. (Legal Department), signed by Messrs. Weber-Andreae and Mayer-Wegelin:

> "The point of view which the National Lead Co. has taken in the letter of July 12th, 1933 signed by Mr. Beschorman, Vice-President, and which appears from a letter from the Krebs Pigment & Color Corporation of June 28th, 1933 signed by Mr. C. H. Rupprecht, President of which also a copy has been submitted to us, does not formally correspond with the wishes which we expressed to you in our letter of June 20th, 1933. We note though from these letters the assurance that National Lead Co. and Titanium Pigment Co. as well as their new American Contract Partner, the Krebs Pigment and Color Corporation, will loyally respect the delimitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement between Titan Co. and Titangesellschaft. Relying on this loyal

promise, we renounce on the formal confirmation of the wishes expressed in our letter of June 20th, 1933."

The letters of Mr. Beschorman of July 12th, 1933 and Mr. Rupprecht of June 28th, 1933 above referred to contain certain assurances desired by the I. G.

It is clear from the correspondence that the I. G. considered that they were approving the agreement between Krebs Pigment & Color Corporation and Titanium Pigment Company, Inc. as the contracting parties. They were informed by Mr. Beschorman in his letter of November 2, 1933 that the Titanium Pigment Co., Inc. was a wholly owned subsidiary of National Lead Company.

With respect to B. T. P.'s approval, I find that the Minutes of the Board of Directors' Meeting of that Corporation for July 29th, 1933 (Minutes No. 123) read as follows:

DEVELOPMENT

With reference to Minutes Nos. 92 and 107 relating to the agreement between Duponts and Titanium Company, Inc., the undermentioned correspondence, since received, was read and discussed:—

Letter from Mr. W. C. Beschorman (Executive Vice-President of the National Lead Co.) to Mr. H. S. Tasker (Vice-Chairman of the B. T. P. Co. Ltd.) dated 14th July, 1933.

Letter from Krebs Pigment and Color Corporation to Mr. W. C. Beschorman dated 28th June, 1933.

Exhibit 510

Letter from Mr. W. C. Beschorman to I. G. Farbenindustrie Aktiengesellschaft, Frankfurt, dated 12th July, 1933.

Copy of cable to Mr. W. C. Beschorman from Dr. Jebsen dated 22nd June, 1933.

Draft agreement dated 1st January, 1933, between Titanium Company, Inc. and Krebs Pigment and Color Corporation.

In the light of the above the Board decided to accept Mr. Beschorman's recommendation and the draft agreement between Titanium Pigment Company, Inc. and Krebs Pigment and Color Corporation was approved, subject to such approval not involving the B. T. P. Co. Ltd. in any breach of its license agreement.

Subsequently, on November 2nd, 1933 Mr. Beschorman wrote to Mr. Robinson as Chairman of the Board of B. T. P., expressing his appreciation for the coöperation of B. T. P.'s Board and in this letter mentioned that Titanium Pigment Company was the wholly owned subsidiary of National Lead Company.

I further find that on November 2nd, 1933 Mr. Beschorman wrote to you, enclosing copies of his letters of November 2nd, 1933 to the I. G. and to Mr. Robinson. With his letter to you, Mr. Beschorman encloses a draft of resolution to be adopted by the Board of Titan Co., Inc. and asked your approval or criticism. This resolution reads as follows:

"RESOLVED, that this corporation, as successor in interest of Titan Co. A/S under that certain Agree-

ment between said Titan Co. A/S and The Titanium Pigment Company, Inc., dated July 30, 1920, hereby consents to and approves that certain Agreement between said The Titanium Pigment Company, Inc. and Krebs Pigment and Color Corporation dated January 1, 1933, submitted at this meeting, particularly in the respects in which the provisions of said Agreement dated January 1, 1933, do not strictly conform to the requirements of said Agreement dated July 30, 1920."

It is entered in the Minutes Book as passed at a Special Meeting of the Board of Directors, held December 13th, 1933.

The question of the form of approval which may have been given by Société Industrielle du Titan to Titan Co., Inc. is still to be investigated.

Yours very truly,

CFK:JL

Exhibit 511

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

KREBS PIGMENTS DEPARTMENT

May 16, 1941

National Lead Company
111 Broadway
New York City, New York

Gentlemen:

We would like to refer to our titanium pigments agreement (as amended January 1, 1941), and particularly to Article V thereof providing that du Pont, after the lapse of a definite period of time, shall offer your foreign associates an opportunity to acquire a non-exclusive license under involved applications or patents filed or issued by us in certain foreign countries.

In view of the present international emergency, and bearing in mind the constantly growing list of difficulties, particularly in the nature of Government restrictions on the exporting of patent application and related information, we propose that it be mutually agreed between us that until the present emergency has passed and to the extent that the above article may apply to any firm or other party associated with you in Germany, Italy, or Japan, or in any country occupied by these nations, we discontinue the grant of future license rights to as well as the exchange of applications or patents with such firms or parties. We would also propose, until the present emergency terminates, that

you refrain from sending to such foreign associates copies of any United States patent applications or information thereon, which we may file and subsequently submit to you in accordance with our agreement. It is understood that all other obligations of our agreement continue in full force and effect.

If you are agreeable to the foregoing proposal, will you kindly signify your acceptance by executing and returning to us the enclosed duplicate original of this letter?

Very truly yours,

C. H. RUPPRECHT
General Manager.

Accepted, May 19, 1941

NATIONAL LEAD COMPANY

By C. F. G.

Exhibit 512

Draft of letter from Titan Co. Inc.
to be sent later,* presumably after the war, to:

I. G. Farbenindustrie
Titangesellschaft
British Titan Products Company
Ste. Inc. du Titane

We refer to the Agreement of January 1, 1933 between Titanium Pigment Company, Inc. and Krebs Color & Chemical Corporation, later assigned to and assumed by the National Lead Company and E. I. DuPont De Nemours & Company, respectively.

According to the desire of Du Pont this agreement has been amended January 1, 1941, as per the enclosed copy of an agreement entered into under that date for this purpose.

The principal amendment will be found in the change of Article Three of the old agreement which provided for disclosure, as promptly as practicable, of full technical information within the Licensed Field, and of letters patent and applications for letters patent within the Licensed Field. This change has been limited to disclosure of applications for letters patent of the United States, and instead of such disclosure being made promptly it is to be made not later than six months from the date of filing.

The Licensed Field in Article One remains the same with the following exception—that inorganic extenders have been included whereas titanate lithopone has been ex-

*"By Dr. Jebsen" appears in longhand on face of this exhibit after the word "later."

cluded from the Licensed Field. We beg to remark that titanate lithopone has in practice never been included in the Licensed Field, as it has been understood from the beginning that this was to be kept outside. It has now however been found advisable to have this understanding formally recorded in the agreements when changes are made. You may remember that licenses under inorganic extenders have been exchanged although not mentioned in the Licensed Field Agreement of 1933 (Note Du Pont Patent etc. etc.). As far as can be seen the amendments do not affect the rights which were secured you and our other associates under the Agreement of 1933, and the spirit with which this has been carried out, with the exception that mutual visits of plants made may cease. I say made, because the visits have been a matter of courtesy as far as our associates are concerned. What can be provided for there in the future may depend upon circumstances, but it may be foreseen that such visits will be more difficult to undertake or permit, as visits between the National Lead Company and Du Pont will cease.

The National Lead Company consulted the undersigned before the above amendments were accepted. Under normal circumstances we would have consulted with you before making any changes, but this was during the war conditions, a reason no doubt you will appreciate in peace time, and as the amendments only affect your and our interests in a relatively slight degree, and do not have any bearing upon important parts of the Agreements, we have considered it to our interest not to raise any objections. The alternative would have been an announcement for the termination of agreements between Du Pont and the National

Lead Company to end after the foreseen period for termination—three years.

Trusting that our point of view will meet with your approval, we shall much appreciate to hear from you to this effect or receive any comments you may wish to make.

Yours very truly,

Exhibit 513

Letterhead of

TITAN CO. A/S

GJ/KL

Fredriksstad, July 20, 1927.

Evans McCarty, Esq.,
London.

Dear Mr. McCarty:

Many thanks for your two letters of July 11th.

Re. Blumenfeld

When I see Dr. Kühne next I hope to obtain more definite information with regard to this gentleman's process. Already years ago information reached us that Blumenfeld had told that he was producing TiO_2 at costs which had been considered as very cheap, and even a small sample, which Mr. Gilbert had gotten hold of, was presented to me nearly two years ago.

I have never been able to get this information confirmed. Blumenfeld is a great talker. However, one day something may result from his efforts, or rather from the efforts of his associates.

I have just received a letter from Mr. Gilbert enclosing a report from his inspector, Mr. Ruffier regarding a visit the latter paid to Mr. Brückmann at Mühlhaus, who is our local agent there. He is at the same time the representative of Thann & Mühlhaus for other chemical products. Mr. Ruffier writes:

"Mr. Bruckmann has been asked by Mr. Binder, who is connected with Blumenfeld, if he will occupy himself with the sale of Titanium in France. He has answered

that his connection with Societe Industrielle du Titane does not allow him to occupy himself in the Rhein district. Mr. Binder has not insisted. Mr. Ruffier says that Mr. Bruckmann is in every respect loayl and correct. As long as he is with us there is nothing to fear from him. However, if Thann & Mühlhaus one day manufacture regularly a more appreciated product than ours at better conditions, he may prefer to serve a local factory, but he will do it loyally and one will never have to complain about him."

Mr. Ruffier says further:

"Mr. Bruckmann has never met any offer from Thann, and his position as a friend of the factory manager and of shareholders does not permit him to ask for confidential information in order to communicate them to competitors.

He thinks it possible that deliveries are made from time to time, because a factory and installations have been made to this purpose, but he has no precise information.

Mr. Bruckmann thinks that the actual financial position of the company at present is more than sufficient to collect all capital necessary; and that if the technical purposes have not been obtained, the reason is the insufficient technical management of that department; but that the new Management and the support from Czecho Slovakia may quickly conquer the last difficulties, and that it would be an error to underestimate such a competitor, and still more to confuse Ste. de Terrare, Ste. Nord & Alpes with Thann & Mühlhaus. This last business has proved its position in

other branches and is composed of healthy elements and has shareholders and resources of first order as to finance and organization.

The business has intimate connection with Saint-Gobain. It is in very close connection with the Czecho-Slovakian group, which gives it an appreciable technical support. The business has been managed by Mr. Comment, who recently died and who has been ill for a long time. A person which has large interests has indicated that the consequence may be not only the nomination of a new general manager, but also a change of the members of the board, which at present consist of elements which are rather distant from the present conditions. This modification may bring a new situation with regard to the department for TiO_2, and it is supposed that the technical element of Czecho-Slovakia will be closer connected, and that the TiO_2 factory will be annexed to the Sulphuric Acid factory of Saint Gobain."

I give you this information from Mr. Ruffier for what it may be worth. There may be something in it, but it may also be, as much previous information, without sufficient foundation, being more or less rumors.

You will remember that the company who holds the process of Blumenfeld is Ste. Nord & Alpes, whose shares, according to Mr. Lobstein and Mr. Gilbert, have been boomed to about four times their value, without much, if any, backgrounds.

Ste. Nord & Alpes is the chief interested party in Ste. des Terres rares, which was Blumenfeld's original basis and

a competitor to Franco Brasilienne and which has had no success.

Thann & Mühlhaus, which is a well-known and good company, has operated in connection with Ste. Nord & Alpes, probably under some license.

The Czecho Slovakian group mentioned must be "Aussig", about which I informed you earlier in the spring; and it is the "Aussig" factory which I understand Mr. Kühne has visited.

Further there is Montecatini in Italy, which factory has not been able to produce, according to information from Mr. Ruffier which I translated for you when in Paris.

Please let me know soonest possible the definite date of the arrival of Mr. Moses, whom, I understand, you will meet in these days, as it is desirable to inform I. G.

I am sending today a proposal for the scheme for the calculation of the productions costs of our Ilmenite, and hope to receive the final agreements from the I. G. in the middle of next week.

According to information from Mr. Vogt of today, there were on the 15th of this month outstanding 13 preferred shares A. and 513 ordinary shares. He tells me that yesterday 6 ordinary shares arrived, and it is expected that because of the holidays some more shares will arrive in the nearest future. He has been asked by the Bank whether they shall be accepted.

Mr. Vogt mentioned that in a letter of July 5th you expressed the hope that by July 15th all of the outstanding shares will have been turned in. He says that he understands this expression so that you prefer to have all the shares taken over; on the other hand, he hesitates to extend the time limit which you have fixed and asks my opinion. Please let me know.

Exhibit 513

Mr. Vogt mentioned further that it is necessary to have one share in his name in order to be able to represent the National Lead Company at the coming stockholders meeting. Do you want him to buy one of the National Lead Company's shares, or to hold one nominally? For the stockholders meeting on July 25th I will transfer one of my ordinary shares to his name, for the sake of formality.

Mrs. Jebsen and I had quite a comfortable trip back to Norway. We arrived Saturday evening ten days ago and went direct to Hankö, and I have only been at the office one day last week and today. We have had the most wonderful weather—warm with brilliant sunshine. I hope Mrs. McCarty and yourself will meet with the same weather on the holidays which I presume you are now taking.

Your visit to Norway and our trip together on the Continent and in England were a great pleasure to us, and we hope your coming visits will be favoured by better weather than this time in Norway.

With kind regards to Mrs. McCarty and yourself from my wife and myself.

G. JEBSEN

Exhibit 514

December 30, 1927

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your favor of the 14th instant No. 30 with enclosures referring to taxes, the Societe Francaise du Titane and the competition that is developing from the Auer Gesellschaft and the Blumenfeld Companies.

We will soon have similar competition in America from the Commercial Pigments Company of Baltimore the concern with which Mr. Chase is connected, and which will manufacture by the Blumenfeld processes.

This competition makes it necessary for us to decide whether or not we are to take any legal action to enforce our patent rights, and as there are many things to be discussed in this connection I would like an opportunity to discuss the subject with you personally before reaching a final decision.

In the meantime, will appreciate it if you will obtain and send to us samples of from 5 to 10 pounds each of the Montecatini and Thann & Mulhouse products.

I will refer further to the other matters discussed in your letter a little later on.

Yours very truly,

McCARTY

Exhibit 515

Letterhead of

TITAN CO. A/S

SJH/AK

Paris, April 10th 1928.
c/o Sté Industrielle du Titane
26 Rue de la Pépinière

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New-York City, U.S.A.

Dear Mr. McCarty,

Referring to Dr. Jebsen's letter of April 5th, we take pleasure in enclosing a translation from German of the memorandum from the meeting held at Leverkusen the 28th of February 1928, regarding negociations with the Auer Gesellschaft.

Yours very truly,

S. J. HENRIKSSEN

Exhibit 515

Translation from German.

I.G. Farbenindustrie
Aktiengesellschaft
Leverkusen

Conference with representatives of the Auer-Gesellschaft regarding Titanium White Tuesday February 28th 1928, in Berlin, Bendlerstr.

Present:

Dr. Frentzel
Dr. D'ans
Dr. Kühne
Dr. Raspe,

Mr. Frentzel states that Montecatini have approached the Auer-Gesellschaft regarding the sale in Germany of their surplus Titanium White. If the Auergesellschaft would take over a certain quantity of the Italian product, Montecatini would renounce on selling in Germany. Such an obligation the Auer Gesellschaft cannot take over alone, in case it is preferred to make an arrangement instead of competing. They would therefore get in touch with the I.G. in order to negociate in this connection regarding a general agreement between the titanium producers. It is advisable to give a quick reply to Montecatini as there is a limited delay which will soon expire.

Mr. Kühne replies that it is impossible for him to take an immediate decision as he first has to get in contact with his American and Norwegian business-friends. In his opinion it would be too early to arrive to an

agreement at present as each separate factory feels itself too strong and would put forward unacceptable claims. It would therefore be best first to meet each other in free competition in order to ascertain what each separate firm can offer regarding quality and price.

Auer states to have foreseen a daily production of 10.000 Kg. TiO_2.

The I.G. states that they will start with the equal daily production but will not bring on the market a 100% TiO_2 but a composition-pigment of TiO_2 + Blanc-Fixe.

Aüer considers these quantities as normal to be brought on the market, in particular when the restrictions regarding lead-white come into effect. Montecatini's price is 7 lire and is even reduced to 5 lire franco Chiasso. One can therefore presume that the cost-price of the Italians is about M. I.

Mr. Kühne believes that Montecatini, owing to their cheap *sulphuric* acid, can manufacture at the above mentioned cost-price. Aussig's prices must however be higher on account of the generally less favourable situation regarding the freights of the heavy chemicals. The I.G. who is now constructing the most modern titanium factory, has also the cheapest sulphuric acid and feels therefore particularly strong to fight the competitors with regard to prices.

Aüer emphasizes that without an agreement the price will be so low that it will be detrimental to all the parties concerned, and proposes as the first step to be taken with regard to Itally, to inform them to follow a rea-

sonable policy as, sooner or later, there will be an agreement and at that time too much should not already have been lost. An increase of the price would be very difficult.

Mr. Kühne states that he will inform the other party from Leverkusen, which will be the first step proposed by the I.G. as regards the possibility of getting in touch with other titanium producers.

Auer lays a particular stress thereon that during the negociations Montecatini should not be left out, as according to their opinion, Montecatini has taken over the leadership of the Blumenfeld group. He also believes that Montecatini delivers through Aussig to Münz, Berlin. The negociations should take place under the assumption that 1. no quota-bargain (Quotenaushandeln) should take place and 2. that fight as to price should be avoided, as far as possible.

Establishment of a norm (Normung)

The I.G. can see the necessity of the establishment of a norm for Titanium White, but considers it too early to participate in the establishment of such a norm.

Auer emphasizes that lately from various sides, products have been sold under the name of titanium white, which contain only 3—4% of TiO_2. Such products are detrimental to the entire titanium industry as a product containing such a low percentage naturally cannot have the excellent hiding power of normal titanium white. Auer herefore considers it to be absolutely necessary to establish the lower limit of TiO_2

content in mixtures, and thinks it desirable to cooperate regarding the marking of the different grades.

Mr. D'ans is of the opinion that the American norm is not sufficient for the German conditions. He thought that a mixture containing 15% TiO_2 should be the lowest limit to which one should add products with normal hiding power, best of all 85% zinc oxide. Any product that does not reach same hiding power as this mixture, it should not be allowed to call with the name of Titanium White. If this proposition is not acceptable, one could base oneself on the hiding power of a certain product.

Dr. Kühne cannot say anything definitely, as the hiding power of the Titanium Dioxide of the various firms is different. He will however take up the question with the Americans and Norwegians and declares himself willing to continue to exchange ideas with the Auer Gesellschaft regarding the question of the establishment of a norm.

Patents

Mr. Kühne declares that he would not like to negociate regarding patents as long as the Americans have in mind to act against Auer on account of patent-infringements.

Auer requests for an intervention to the effect that the Americans or Norwegians openly approach the Auer-Gesellschaft, indicating the nature of the infringement. Auer will be glad to discuss this question and place at their disposal the proofs, at any time. The calcination

patent was not infringed as the Auer Gesellschaft precipitates under pressure. Mr. Kühne declares himself willing to arrange a conversation regarding the patents between Dr. Jebsen and Auer-Gesellschaft. Auer declares that their patent regarding "weather-proof films" does not touch the Norwegian general titanium patents, and proposes to come to a separate understanding with the I.G. regarding this point.

The situation was that the Auer Co has the so-called Pionierpatent, but that the I.G. has the products necesesary for the working of the patent. A cooperation would therefore be the best thing for both parties. Thereupon Mr. Kühne expresses his interest in a cooperation in this field and will make further propositions.

Leverkusen, March 7th, 1928

Exhibit 516

May 15, 1928

Dr. G. Jebsen
Societe Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your very interesting letter No. 72 dated April 27th telling of your interview with Mr. Pisart, and am particularly interested in his comment with respect to the "palatial buildings" that have been erected at Leverkusen.

Had our engineers been doing the work I think that they would have put up a less expensive building for the Titangesellschaft, but as it is I think we shall have to accept the views of our German partners.

Your conversations with Mr. Pisart are serving a double purpose—developing the subject and gaining time. It is possible that conversations after my arrival in Europe next summer may develop a policy that will be to our mutual interest.

With kind regards,

Yours very truly,

Vice President

Exhibit 517

October 31, 1928

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your letters of October 15th and 19th, Nos. 141 and 145, with reference to the Societe Nord et Alpes and Thann & Mulhouse.

Should St. Gobain acquire these companies the Blumenfeld process will be in good hands in France.

I share your hope, however, that with the Leverkusen product on the market at the price of zinc oxide the outlook for competing enterprises will not be encouraging.

The Commercial Pigments Company of Baltimore who are exploiting the Blumenfeld patents in this country are very active, and we are giving serious attention to the question of patent infringement as well as the problem of meeting their product in competition.

We have not yet been favored with a call from Mr. Pisart, but he will no doubt come into see us before long.

Yours very truly,

Vice President

Exhibit 518

January 31, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I have your letter of the 14th, No. 280, telling of your recent visit to Leverkusen, and am glad to learn that you found conditions so much improved. The experience of last year has been costly for all concerned, but we may reap some benefit from it in the future.

I note that the Auer Company has permanently abandoned their titanium venture. This will not only lessen the competition in titanium products, but may be discouraging to others who have been contemplating a similar venture.

I note also your decision with respect to Italy. I am still of the opinion that some sort of association with Montecatini may be desirable if it can be arranged. The development of the market for composite pigments in Italy together with such market as there is for pure oxide might give the Montecatini factory the outlet they desire. I have no definite suggestions as to the methods of approach, but would be glad to have you think it over.

In November of last year I received a letter from our former agent in Italy, Mr. A. Bianzino, who is now located at 26 Boulevard St. Michel, Paris. Our white lead business in Italy was abandoned many years ago, but I have maintained my personal contact with Mr. Bianzino.

At the time of his last letter he had been in communication with the owners of the Carteret-Devaux Process, and wrote to know if we were interested in establishing a

factory in Italy. At the time his letter was received you were on the ocean, and I wrote him that I would take the matter up with him later when I had had an opportunity to discuss the position with you. I do not remember, however, whether the subject was mentioned while you were in New York.

In any event, Mr. Bianzino's advice would be helpful in connection with the Italian business as he has been very closely in touch with the paint trade in that country having represented Pinchin, Johnson & Company in Italy after we gave up the sale of white lead.

Yours very truly,

Vice President

Exhibit 520

COPY

Translated from German. Minutes No. 2 *1930*

Minutes from conferences between Dr. Jebsen, Dr. Kühne, Dr. Brüggemann and Dr. Raspe during the period from February 5th to Febr. 8th 1930 in Leverkusen.

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1. Dr. Kühne reports on his conference with Donegani (Montecatini) who states that he now manufactures a high percentage Titanium White with good properties, using the improved Blumenfeld process. He manufactures and sells, contrary to his international engagements, about 1000 Kg. a day in Italy and 3000 Kg. a day in the other countries. In this way he obtains a low production price. It is not his intention to keep the prices high like Aussig and Thann, but he would rather reduce them in order to obtain a larger sale. Besides, he intends in the future to put on the market TiO_2 mixed with Blanc Fixe; with regard to Blanc Fixe, the highest he can afford would be RM.30. per 100 Kos.

   After this statement, Dr. Kühne considered it advisable not to enter into negotiations with regard to a sales agreement, but to wait until Titangesellschaft manufactures 100% TiO_2. He informed Donegani that we would now sell Titanium White in Italy. This seems most advantageous as, owing to our low Blanc Fixe prices, the composite pigments can be sold favourably in Italy, where the above mentioned high prices are ruling.

2. The Titangesellschaft declares itself willing not to take up the manufacture of titanium tetrachloride for the moment, but to take over, to the extent of sales possible, the TiCl4 falling in Ludwigshafen as a by product. It is agreed that the sale of this product be effected by the Titangesellschaft in such a manner that the Titangesellschaft takes over from I.C. Ludwigshafen the quantity which it can sell, at prices corresponding to the presumable production price of the Titangesellschaft.

Dr. Raspe states that he has arranged with Ludwigshafen that the price be fixed at RM 2.00 per Kg. He will, at the next conference, submit the preliminary calculation to Dr. Jebsen. The settlement will be made by Ludwigshafen debiting Titangesellschaft with the amounts in question. The latter settles the shipments with Frankfurt, at sales prices less 5% commission. If this does not cover the selling expenses, further negotiations are to be taken up.

3. During his visit, Dir. Reinhard, manager of the "Vereinigte Zinkweissfabriken", submitted two questions for discussion:

1.) Reduction of the publicity expenses. In this connection was pointed out that, owing to the fact that we have to introduce our product, we must for the moment have free hands as far as this point is concerned.

2.) It would be desirable to avoid as far as possible in the publicity comparisons with competitive products. Reinhard declares that in any case the "Zinkweiss-Syndikat" in its propoganda will act according to the latter point of view. Hes does not propose, how-

ever, to leave attacks unanswered, although the "Zinkweiss-Syndikat" would show great reserve also in this respect. Besides, he would try to enter into negotiations with the "Bleiweiss-Syndikat" in order that also this organisation moderate their propoganda. He trusts that they will also appreciate his point of view.

4. Dr. Jebsen points out that the Titangesellschaft would greatly appreciate that the propoganda of the various white pigments be maintained within certain limits. It is, though, difficult to draw strict lines in this connection. The preliminary principle would be, to abstain from direct comparisons with the competitive products in pamphlets and advertisements. Such argumentations should be used in technical journals or put before the public in lectures where the matter is subject to special objective study.

(sign.) G. Jebsen Kühne Brüggemann

Leverkusen, February 22, 1930.

(sign.) Raspe

With regard to Van Hoek's attacks, Reinhard believes that he also will be able to exert his influence in order that such prejudicial articles against titanium white be avoided in the future.

Exhibit 519

Letterhead of
TITAN CO., INC.

GJ/HS. Paris, March 7th, 1930.

Dr. G. Jebsen,
26 Rue de la Pépinière, Paris 8e

Evans McCarty Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York City, U. S. A.

Dear Mr. McCarty:

RE: PISART,
March 3rd.

I have seen Mr. Pisart last Thursday and this afternoon.

In the first interview he told me that he was now on a point at which he wanted to take a decision in the matter of Titanium. He could make an arrangement with Blumenfeld on very reasonable terms against a small royalty, and he would have the sole right to sell everywhere except United States, Italy, Czechoslovakia and in Germany from West until Berlin. He would have liked to make the arrangement with us, but France, Belgium and Holland was too small a territory—even South America we could not give him. He was therefore forced to arrange with Blumenfeld. He would, though before ask me to reconsider his proposal and include England and Scandinavia, as he would prefer to make it with us. On a remark from me last time, he thought perhaps we would be interested to have Blumenfeld with us to avoid competition, and this could perhaps

be done; on a question from me, he thought though, that this should be done after we had come together with Pisart, as Blumenfeld's interest then would be still cheaper to acquire. He mentioned that with Blumenfeld he could sell in Canada, South America and also make competition with us in Germany, and requested me to ask Mr. Holm, how the I. G. had felt before they had made an arrangement with him regarding Lithopone. He mentioned again, that his impression of you was, that you were willing to make him interested in the English market.

Later in the conversation he offered to let us have Norway. I thanked him for his offer, which presumably was done in consideration of myself being a Norwegian, and expressed my appreciation of the "beau geste" and my thought that it did not cost him much.

He talked at length of various matters trying to impress me by his importance and position. He suggested I should think the matter over, and asked me to give him a final proposal on Monday. He pointed out, that he had now to take a final decision. I told him I could not communicate with you, as you were away. I should think over what he had said and anyhow telephone him Monday morning.

This afternoon I told him I appreciated very much that he had informed me of his intention. We had though in New York decided, that we could not give him more than an interest in France, Holland and Belgium. With regard to South America the interest which I represented had engagements, but there may be possibilities that something could be arranged there.

If this basis did not interest him, I thought his consideration for us should not prevent him to make an arrangement with Blumenfeld. He seemed rather disappointed and

said, that South America represented too small a consumption. The consumption of Lithopone was perhaps 2 to 3000 tons. He would like very much to avoid any competition, and he was a man of peace and would prefer to make arrangements instead of fighting.

I made the remark, that perhaps it would be rather better for us if he acquired Blumenfeld instead of anybody else, because Blumenfeld then would come into strong hands, and I could trust that a wise price policy would be followed. If not, Blumenfeld might prove to be like a cat with seven lifes, going from one to another weak hand, spoiling prices. He thought Blumenfeld had not much chance to find anybody except himself to help him. He would be able to keep Montecatini within Italy, and indicated that he would have access to their works as well as Aussig's and the works in Baltimore, and he was wondering, if it should not be possible to bring all interests together. He thought you might be interested in this.

I told him I did not know what your views were upon the competition in U. S. A., but I remembered that when I was talking about the patents with your organisation, somebody had expressed a doubt on the advantage of a patent litigation, as the damages to be obtained were so small because the sales of the Commercial Pigment Company did not amount to much. He told me he had been informed that they were making 10 tons a day. I did not know how large their sales were.

I remarked, casually, that I had thought Blumenfeld may have a nuisance value. Auer had had such, but they had now finished—and what may happen to Blumenfeld?

He told me that Blumenfeld's group had given him as their production price Frs. 4.50, and they had sold at Frs.

7.— On my question he said, that the amortisation was not included in this. I told him I thought they would have given him a price in that neighbourhood.

He would renounce on Scandinavia, of which I expressed my appreciation, as it was anyhow nice if the Titan Co.—the original organisation—would be permitted to continue. The question was, however, England—and I could not see that his position in England was such, that it could justify an arrangement as suggested by him. I thought still, that we might be better off by making it with an English concern, if we want a partner for that country.

We had a three hours conversation also this time and when I left him, I expressed, that he must not feel himself bound by any consideration to us, and that both be free. I felt certain we would meet again re Titanium, and I would always be glad to talk the situation over.

On my question he told me he was going to U. S. A. on April 16th., and suggested to see you, and that I write you beforehand of our conversation.—I thought you would be glad to see him. He suggested I should go over at the same time. I told him, that I could not do so, but you would be in Europe in the second half of May, and in Paris probably in June. He would not be back in Europe before the middle of June. I thought you would probably remain here to the end of June.

March 6th

It seems from this, that he hesitates to go ahead with Blumenfeld alone and may start with an option on Blumenfeld's interest outside Aussig, Montecatini and Commercial Pigment Co. At his visit in New York he may then see, if he can bring about an arrangement with Commer-

cial Pigment Co., by which he hopes to justify his request for a part in England.

I have no idea whether you will like to have him mingle with the question of Commercial Pigment Co. and did not express myself further.

I presume a question of this kind will not be solved in New York during a visit of Mr. Pisart unless Commercial Pigment Co. are very disheartened, and then it can probably be brought about also without Pisart.

I have the impression, that Pisart did not feel certain about what Blumenfeld can offer him, and it may be the arrangements with Commercial Pigment Co. does not give Blumenfeld access to their experience. Pisart said he would have it, but whether this will be dependant upon a special arrangement or is included in the very small royalty Blumenfeld has asked, was not mentioned.

In his last interview he let fall his highhanded tactics, and I am surprised that he would give himself so much away as he did.

I am inclined to think, that when he sticks so much to 50% interest also in England, it is because this will give him practically the control over the developments of Titanium in Europe.

His influence over Mr. Holm of the I. G. is very great, and Holm has naturally his Lithopone factory at heart. I do not mean that he will kill Titanium, but the consideration of Lithopone will weigh heavily at all questions concerning the development of Titanium.

If Pisart takes up Blumenfeld without us, we will have competition, but also an acknowledgment by Pisart who then will be forced more than he may wish to be.

I mentioned to you that Pisart seemed to have developed beyond his natural basis and may find himself in an awk-

ward position in keeping his factories with 60.000 tons capacity of Lithopone running full. His home market France, Belgium and Holland consume about 34.000 tons (Pisart himself gave the following figure: France 20.000 tons and Belgium 7.000 tons).

He has not been able to prevent Kuhlmann coming in with 5.000 tons. Comines makes 2-3000 tons, Newport 3 to 5000 tons, if not more. This will leave to Pisart max. 24.000 tons.—

Union Chimique Belge have planned a large factory, but not started manufacturing yet. This means that Pisart will have to export 36.000 tons (of which 2.000 tons go to one customer in U. S. A.).

He may further find Orr—a harder task after Robinson has taken it over—and he may therefore find himself not only checked in further developments, but also having difficulties employing his factories, which are comparatively new in France.

If in addition to this, a development of Titanium White reduces the consumption of Lithopone—what will his attitude be towards Titanium? When Kuhlmann has entered the market so quickly, I presume this partly is due to the antagonism Pisart has created on the Continent amongst the larger grinders with his sales policy.

(It is a great pity that Leverkusen has not brought down the production prices yet. Instead, the latest news show still higher prices for the latter part of the year. They seem though now to work better and reckon to bring their repair and upkeep down considerably this half year and to a more normal level after that.)

Interview with Berr, Kuhlmann.

Tuesday the 4th. of March. I saw Mr. Berr in a short interview. Regarding the part of the profit they would find

reasonable that we should have for the licence he told me, that they had had two cases of similar nature.

In the one case it was 15%, in the other 20% of the profit after provision for depreciation (10% for installations and 5% for buildings), and 5% interest in invested capital; the remaining to be divided on the shares. I did not express any opinion upon this.

Later during the conversation he meant that we could make the agreement and then study together which place was the best for a factory—in this connection he let fall a remark, that the erection of the factory though must be subject that they find it a profitable business. I only answered, that neither we would put up a factory if it did not look to be good business. The remark may be natural from him, as I have not given him any figures as to the possible production cost—apart from quantities of the chief raw materials—but it looks to me, that this point must be agreed upon before we go together.

After talking over various points, Mr. Berr finished by requesting me to prepare a draft of an agreement, and expressed the confidence, that in working together we should be able to establish a sound enterprise. I told him I would communicate with you regarding the suggested part of the profit—and I also had the question of the liquidation of the present company.

It looks then, as if Kuhlmann is prepared to make an agreement with us—there may though still turn up questions of disagreement. Kuhlmann is a slow body in many ways. It has though the advantage of being considered a national enterprise, and has a great influence.

Lately there have been rumours of a merger with St. Gobain—and should this come off, it will have a similar,

if not a more important position in France than the I. C. I. in England and the I. G. in Germany.

Apart from the question of Pisart's request to participate in the English market, there is that difference between Kuhlmann and Pisart that Kuhlmann in France has a considerably better position and influence.

The original firm was founded a little more than hundred years ago, and with the mergers done after the war, it is one of the four big leading firms of the chemical and electro-chemical industries, which all work closely together.

Pisart's enterprise specializes in pigments and has a predominant position in this line. It is a one man company and has grown beyond its natural basis. It is a Dutch firm, which operates through a French limited company with some personal French friends of Pisart on the Board. Its position is very much dependent on Pisart personally.

If Pasart will push Titanium, we may probably see a quicker development in France, but presumably less well founded in the long run.

With kindest regards,

Yours very truly

G. JEBSEN.

Exhibit 521

Letterhead of
TITAN CO. A/S

GJ/AK

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Paris, April 9th 1930.

Dear Mr. McCarty,

RE: "AUSSIG".

I beg to inform you that during my last stay in Leverkusen, Dr. Kühne told me that Dr. Mayer, managing director of "Aussig" had said to him that he would now again make an application to the patent authorities to the purpose of obtaining a statement that Aussig does not infringe our patents. In order to obtain a statement which could not be considered to be influenced by national interests in any way, he would make the application in Austria and not in Czechoslovakia or Germany.

This way of procedure is practically the same as Aussig did in Czechoslovakia last year when they afterwards withdrew the application. Such proceeding should presumably help to clear the question of Aussig's possible infringement and it will be cheaper than a litigation and presumably lead to less antagonism.

Dr. Kühne has many connections with Dr. Mayer and Dr. Mayer's idea should presumably lead to the establishment of a basis for an arrangement in case Aussig's manufacture is found to infringe our patents.

With kind regards,

Yours very truly,

G. JEBSEN

20224

Exhibit 522

COPY

ZURICH

Mr. Evans McCarty
National Lead Co.
111 Broadway, New York

September 16, 1930

Dear Mr. McCarty:

I write you this from here in the hope it will reach the boat tomorrow.

We had a 3 to 4 hour conference yesterday. Dr. Mayer from Aussig, Mr. Weber Andre and Dr. Kuhne and myself. Dr. Mayer and the gentlemen from I. G. had also other meetings here. Mr. Weber Andre is the head of the I. G.'s sales department for Inorganic materials and I am told of considerable influence in the I. G. He made a good impression.

Dr. Mayer who evidently loves to talk developed at length the advisability of coming together instead of fighting and thought if this principle was accepted the rest could certainly be settled. He did not leave these general lines of talk during the conference, but indicated afterward to Kuhne that the basis for a quota should be the present sales and thought I. G. m bH in their territory was selling products equivalent to 600 tons TiO_2 which he said Aussig also was doing—taking about 250 to 300 tons from Montecatini. Dr. Kuhne and Weber Andre consider him though a great bluffer.

I had pointed out during the conversation that as a basis for a quota could not be taken neither the present sales nor the capacity only, nor the patents but the whole position of the various parties.

Exhibit 522

Dr. Mayer did not favor the idea of Burton:—to have several sales organizations selling in the same market in the name of the various companies which seemed to fall in with the views of W. A. W. A. thought the group of Central Europe should have one and British Empire one and France one, which should cooperate, but not necessarily have an expensive central office as head. This last had not been suggested and seems superflous to me.

All agreed that an arrangement only concerning sales will not work at present.

Price conventions have proved not to work satisfactorily because the various sales organizations or rather the salesmen do not keep strictly to the lines drawn up. This experience has repeated itself in nearly all lines of industries.

I presented for discussion your suggestion of a pooling of the patents. It is not quite clear to me what is meant by this. We thought, however, that the idea was mutual cooperation and possible joint action to keep third parties out. This it was found could not work as it involves:

1. That the Blumenfeld group and we refrain from fighting each others patents, which cannot be done without giving each other licenses and that cannot be done without the markets and all the rest.

2. If we will enter into a fight against third party it will be necessary to deliberate as to—on which ground and the best manner of action.

This will generally lead to experiments to clear various questions and provide evidence and this means again a disclosure of experience which nobody will like to give the other without arrangements for exchange of experience with regard to manufacture.

Dr. Mayer thought the general line for proceeding should be to agree on quotas, and then arrangements could be made as to manufacture.

In other words, he appeared quite willing to take his quota for a certain time from I. G. in if he can have it on favorable conditions. He is not well placed for a manufacture in Czecho-Slovakia except for the home market. This position comes to: by a threat of erecting a plant in Germany he wants a quota and afterwards take his material from Leverkusen and make a profit in that way.

He is licensed—he said—for Germany, Czecho-Slovakia, Austria, Roumania, Jugoslavia, Russia and Poland (together with Blumenfeld).

He is under obligation to Kunheim, Germany to erect a plant for them. Kunheim is, as I have told you, under a certain influence of I. G. but as far as I understand not entirely. Dr. Kuhne will make nearer investigations as to the relations between Kunheim and Aussig.

Dr. Kuhne told me that the latest statistics showed that nearly one-third of I. G. in sales at present go to Czechoslovakia. They have difficulties with the tariff now, and Dr. Mayer is in the position at any time to have it increased.

Dr. Kuhne and W. A. seem willing to let Mayer have Czechoslovakia alone but no more. Dr. Kuhne is not much inclined to make an arrangement at present and so is also the opinion of W. A.

I asked Dr. Kuhne what is the production of Aussig in lithopone in order to see if this can give an idea of the firms possibilities. Dr. Kuhne thought it was 3000 to 4000 tons. Dr. Kuhne and Holm have several times in the last two years expressed as you know their desire or as they say the necessity of I. G. m b H to have South America as

market and Dr. Kuhne pointed out now again that if they gave up a part to Aussig they must get more market otherwise. Dr. Kuhne said they had very good organizations in South America. Proof of this he said had come to him on several occasions. Personally, I have been inclined to let I. G. work South America although it does not appeal to me at first moment that they take it up in this connection. We ought to see first how matters work out.

I still believe that ultimately Leverkusen will produce cheaper than U. S. A. It is doing so now compared with St. Louis last year.

T. P. Co. has not made use of its option so Titaninc is so far free.

Has titanium Pigment Company any intention to start sales in South America or would they help the matter along by refraining from S. A.? I did not enter into any discussion with Kuhne about this matter. I have though last winter discussed the possibilities of I. G'd sales organization in South America which I personally am inclined to believe would do better than we con do ourselves through some agents. Dr. Kuhne told me they were doing far better than Pisart with lithopone there. Pisart had not been able to do much there to P's regret.

Discussing yesterday evening with Kuhne and W. A. the possibilities of the B. group I found it advisable to tell them a little of our plans for England and France with I. S. C. and Kuhlmann.

Both immediately said—but what about our large factory in Leverkusen. I tried to tranquilize their mind somewhat as to the first years to come and that in the long run it ought to be to the advantage also for Leverkusen. This last I think they somewhat agreed to without expressing so.

Re Blumenfeld and Mayer—Mr. W. A. expressed some

dislike to let two men of their character come into our group —both being "unruhig" (apt to disturb—unruly).

Dr. Kuhne this morning did not think that Aussig can do anything in Germany, whereas his position in Czechoslovakia, Austria, Hungary and Yugoslovia is good—Aussig being the most important chemical concern in Austria before the war. (The I. G. of Austria—although a comparatively small concern.)

Yesterday W. A. thought that Dr. Mayer would get the money from the banks for a factory—provided it is to be erected in Czechoslovakia.

All in all—The B. group apart from Montecatini is only regarded as a possible competitor in Europe and the question was raised if it is possible to estrange M from B. Kuhne said that Donegahni once had said to him that he would not hesitate to ~~overstep~~ this contract with B. I do not know in ~~which~~ connection this was said—but the expression conforms with his reputation. From this he should not exactly be a desirable member of our group either—I presume though he would be more careful with us.

Dr. Kuhne's mind re the factory in Leverkusen was this time more quiet.

He thought we will be able to make Standard T for less than 30 Mk per 100 kg. On my question—he expressed much confidence in the experiments of Mr. Ravenstad and suggested we should order the evaporating apparatus for installation in Leverkusen. We had some talk about Dr. Raspe and it seems that he sees now his character—his advantages and drawbacks. He praised his interest and energy and criticized his eagerness to do everything himself and stubborness in not taking advice. He told me he had taken him because he considered him the best of those he had thought of.

Exhibit 522

Dr. Raspe had been much down because of some criticism from me the other day and Dr. Kuhne asked me to treat him less hard. It concerned the control of the pigments and fault of uniformity in deliveries. I explained the necessity of having this arranged satisfactorily. Recently we have had three or four cases which ought not to have occurred—amongst which was one delivery of Standard T with $CaSO_4$ which you will remember I last summer objected to. (A quality for our markets.) By some fault this has been sent to Boston Blacking with immediate result of complaint.

I reminded Dr. Kuhne of his own as well as my experience that Raspe does not take advice unless it is strongly impressed upon him to which Dr. Kuhne agreed.

I am very much looking forward to the result of your interviews with Mr. W. S. Robinson.

With kindest regards

Yours very truly,

G. JEBSEN

P. S. It was agreed to carry on the negotiations with Dr. Mayer and I suggested that Dr. Kuhne and Mayer talk about it when they meet in other connections.

Dr. Kuhne agreed with me not to disrupt the negotiations but keep them alive pending further developments. He also wanted to know more of his own strength as he says.

It is encouraging that Mr. Ticknor consider the European side will represent no difficulties, if he with that means the B group. Matters are, however, in this as in most cases, far more complicated on this side than in U. S. A.

Exhibit 523

October 21, 1930.

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I have yours of October 10, No. 345, and note that the sales of Montecatini's TiO_2 continue to grow at the expense of our Extra T.

This, to my mind, simply emphasizes the importance of our getting into the manufacture of pure titanium oxide at some point at as early a date as possible.

I am sorry that there are no new developments in connection with Mr. Ravnestad's process. St. Louis is again manufacturing pure TiO_2 by Mr. Washburn's process, and we hope to have some definite data shortly.

I have also your letter of October 8th, No. 341, but there are no new developments in connection with any of the matters referred to.

Yours very truly,

Vice President

Exhibit 524

Letterhead of

TITAN CO. A/S

Paris, October 28th, 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. McCarty,

Enclosed I send you a memo from Dr. Kühne, regarding a conference he has had with Dr. Mayer of Aussig, on October 15th.

I believe there is an error in the statement that Dr. Mayer would content himself with 50% of his present sale, and that it means that he would be content to produce this part himself and take the rest from Titangesellschaft at selfcost price.

As Dr. Kühne has been away travelling most of the time since then. I have not been able over the telephone to ascertain whether there is an error or not.

Dr. Raspe told me that he had seen him during a week-end. He had not talked about this point, but Dr. Kühne had asked him to inform me that Dr. Mayer's statement as to his process, etc., should be considered with caution.

With kindest regards,

Yours very truly,

G. Jebsen

Exhibit 524

Translated from German.

CONFIDENTIAL

I. G. Farbenindustrie
Aktiengesellschaft
Leverkusen

Conference with Generaldirektor Mayer, Aussig
October 15th, 1930.

Mr. Mayer again inquires as to an agreement with regard to Titanium White. He had now a new process which, by three simple operations, gives a 100% TiO_2 with an unheard of high hiding power. He will send us samples. However, before undertaking anything new in this field, he would like to have examined once more the possibility of a cooperation. He is of the opinion that cooperation of the titanium white manufacturers would further very much the development of titanium white and, on the other hand, avoid unnecessary price-fights. He states that he is in a position to manufacture 2-3 tons 100% TiO_2 per day in his experimental plant. His sale had amounted to about 600 tons 100% TiO_2 per annum—a great part of which he had ordered from Montecatini. In case of a quota agreement with us, he would be willing to content himself with 50% of this, i.e. 300 tons a year for the territory assigned to him, i.e. Germany and the previously Austrian territories. He let shine through, that he might also be satisfied with 40% = 240 t. p.a. I have promised him to discuss the question with Dr Jebsen and the Gentlemen of the Gutleutstrasse, and to advise him as soon as possible. He is going to meet Blumenfeld in about a fortnight and would like to have an answer before that time.

(signed) DR. KÜHNE

1675

Exhibit 525

November 7, 1930.

Dr. G. Jebsen:
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

I beg to acknowledge receipt of your letter of October 28th, No. 353, enclosing memorandum from Dr. Kuhne respecting a recent conference with Dr. Mayer of Aussig.

Our negotiations with the Commercial Pigments Company continue, but we do not seem to make much progress.

Yours very truly,

Vice President

Exhibit 526

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, November 14th 1930.

CONFIDENTIAL.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

I returned from Leverkusen last Sunday. Matters there are progressing fairly.

Referring to my letter of October 28th No. 353 with Dr. Kühne's memo re a conference he had with Dr. Mayer, I beg to mention that this memo is to be understood in the following way:

Mr. Mayer will be satisfied with a quota of 300 or 240 tons TiO_2 a year at present in his territory giving Titangesellschaft a quota corresponding to their present sales in their territory, and these two figures to form the basis for the quotas in future.

Dr. Kühne had mentioned a figure of 900 tons of TiO_2 which, however, is on the high side.

Dr. Mayer had told Dr. Kühne that towards Blumenfeld he had to stick to 600 tons of TiO_2, but, in an arrangement with us, was willing to go down to the above mentioned figure. This seems somewhat unclear, especially as Dr. Mayer in London already mentioned the figure of 240 tons, which I told Dr. Kühne.

Exhibit 526

Dr. Kühne was still uncertain as to the advisability of making an arrangement with Aussig—not knowing our own strength—and wondered whether it would not be better for us to have a try with our TiO_2 when this is produced. We agreed that he continues his conversations with Dr. Mayer to the purpose of a possible conclusion of an agreement if next year matters will justify such a step.

The information from Dr. Mayer regarding his wonderful new process, Dr. Kühne thought, should be received with caution.

I informed Dr. Kühne about the situation in U.S.A. in accordance with your letters to me.

Mr. Gilbert told me that he has had a conversation with Blumenfeld, who had let him understand that an arrangement between his and our group would be made within the end of this year.

I enclose copy of a confidential information from the I.G. Farbenindustrie concerning Montecatini's titanium enterprise, from which it appears that the "Società Anonima Italiana "Titanium" has increased its share capital to Lire 8, I millions and further issued 6% bonds for 8 million Lire.

This may represent an intention of extending the manufacture, but it seems more likely that it only means that Montecatini has now finally fixed the financial form of their investment.

With kind regards,

Yours very truly

G. JEBSEN

Exhibit 527

Letterhead of
TITAN CO. A/S.

GJ/AK

Paris, December 5th 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

My best thanks for your cable:

" MERGER WITH COMMERCIAL PIGMENTS
" NOW SEEM PROBABLE IF EUROPEAN INTER-
" ESTS CAN BE ADJUSTED STOP DO YOU
" THINK EUROPEAN ARRANGEMENTS NOW
" PRACTICABLE"

of November 21st, which was forwarded to me and received the 22nd. I cabled you from Cologne, December 2nd, as follows:

" CONSIDER WE OUGHT TRY MAKE ARRANGE-
" MENT EUROPE BLUMENFELD STOP KUHNE
" ALSO AGREES THIS STOP BURTON EX-
" PECTED HEAR FROM TICKNOR SHORTLY
" PLEASE CABLE WHEN YOU CONSIDER I
" SHALL START AGAIN WITH BURTON".

I hope the delay of my answer did not cause you serious inconvenience. I though it was best to have a conference with Dr. Kühne first, in view of Dr. Kühne's attitude mentioned in my letter of November 14th.

Exhibit 527

I had several talks with Dr. Kühne in Leverkusen, after which he approved of my above cable to you.

The chief difficulty is to digest Montecatini's 1500 tons. Dr. Kühne had presumed that none of these should go to Titangesellschaft's territory, whereas I thought it should be absorbed by the various countries in the same ratio as at present. In view of the I. G.'s strong position in Germany and the tariff, they are, though, of the opinion that they can reduce Montecatini's part of the market quite considerably and we may have to make some concession there.

We had also a talk with Dir. Holm about these matters and he was decidedly against an arrangement with Montecatini and Blumenfeld at present. He felt that the I.G. could take 90% of the market in Germany and, as his friend, Mr. Harold Wilson, representing Montecatini in England, was willing to drop that agency in favour of us, he thought also it would be easy to put Montecatini out of England. Dr. Kühne and I thought Montecatini would not so easily accept such a treatment. According to Mr. Thompson, Montecatini is also selling through Taylor Bros. and Cox, which he considers a better firm than Harold Wilson.

Dr. Kühne thinks that Montecatini and St. Gobain are the only companies in Europe which can produce sulphuric acid as cheap as the I.G. (because of their cheap sources for Sulphur and Barytes), and that Montecatini, on the whole, has a similar position as the I.G., from a general point of view, as to manufacturing facilities.

Mr. Holm's rather strong attitude became a little weaker as arguments developed, but he still sticked to his opinion.

A meeting has been arranged in Frankfort on the 16th of Dec., regarding the sales organisation of the Titange-

sellschaft and the question of the remuneration to the I.G. As there will be a meeting between the I.G. and Mr. Mayer of Aussig, the 17th in Frankfurt, it is probable that the question of titaniumf also will be discussed. As Dr. Mayer, since his last conversation with Dr. Kühne, has not yet sent his sample of pure TiO2, Dr. Kühne has only written to him in general terms and asked him for a sample.

Dr. Kühne has taken up the question of South-America again, where he wants the Titangesellschaft to have the right to sell. Referring to previous conversations with you and correspondence, I shall appreciate to have your opinion whether it would be agreeable to you to give them this, so far as Titan Co Inc's rights go, under the agreement of 1920 with Titanium Pigment Company. Such an extension of Titangesellschaft's market may partly be considered as a compensation for any sacrifice the I.G. may feel or argue that they are doing, in connection with an arrangement with Blumenfeld and Montecatini.

As to the possibility of coming to a successful arrangement, you will appreciate that it is difficult to have an opinion. So many questions are involved and still more may crop up during the negotiations.

I have discussed the matter a little with Mr. Thompson, in view of the English market. He points out—and also Mr. Holm,—that as long as we have not been able to offer TiO2 on the market, it is difficult to form an opinion of Montecatini's strength and the quantity they sell. He has not much confidence in the figure of 1500 tons mentioned by Mr. Burton as representing Montecatini's sales at present.— It is a matter of an estimate of the future possibilities of the market; if they are great, it will possibly, in the long run, pay us, to have Montecatini limited to 1500

tons, and Mr. Thompson seemed to agree to this, but he thought it might be awkward and give lean results for us in the first years.

It is a question whether Montecatini really has sold 1500 tons hitherto, in addition to the sales of Thann & Mulhouse and Aussig's production, and whether these sales actually have gone to consumers or to the pigment is in the hands of dealers. Montecatini's products are dealt with by several people in the various countries, so it is difficult to get a clear picture. These matters we will only be able to get a grasp of, when we resume our conversations with Mr. Burton and Blumenfeld and presumably Montecatini.

The formation of the new companies in France and England will also involve expenses and form new objects for taxation, which is rather unfortunate. In the matter of taxation I think our present organisation is as well placed as it can be. A point in our favour in the negotiations to come, and which, I presume, tempts Dr. Mayer as well as Blumenfeld, is our advantage in having a large factory already erected and ready to produce large quantities, so that no further capital investment for manufacture is necessary for some time to come. Against this stands our intention to put up a factory in England together with Mr. Robinson. An arrangement with Blumenfeld, as well as with Robinson, may therefore lead to less profit on our investments in the first years to come, than we otherwise would have had, and the advantage only to be expected somewhat later. On the other hand, we may see the German factory being occupied more and giving us a lower production price than otherwise.

Before I left London, Monday 23rd, I 'phoned Mr. Burton who had had a telephone conversation with Mr. Tick-

Exhibit 527

nor, Friday the week before, and understood that Mr. Ticknor expected to be able within short to let him know that you had come to an agreement on your side. Mr. Burton reckoned therefore that he will hear from Mr. Ticknor within a fortnight.

You will know from previous correspondence, that I have been in touch with Mr. Burton a few times since you have left, but nothing further has been done, pending developments in U.S.A.

I await your further news, before resuming the negotiations on this side with Burton and Blumenfeld.

As to the negotiations with Dr. Mayer of Aussig, Dr. Kühne's and my idea is a division of quotas of 80% to Titangesellschaft and 20% to Aussig and Blumenfeld. (I understand that Aussig has only a part of Germany and Russia, and Blumenfeld has another part.) As Dr. Mayer of Aussig has declared himself willing to limit for the time being his production to 240 tons and take the rest of his quota from Dr. Kühne, we thought to bargain about the price at which this should be delivered and I also thought that Titan Co. Inc. should sell to the French and the German company on similar conditions. (and not selfcost price).

Drawing definite lines in these matters before having come into a closer touch with the other parties, may not be very practical. I mention the above though, in order to give a picture of my thoughts, and will appreciate your advice.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 528

Letterhead of

TITAN CO. A/S

Paris, January 16th 1931.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

As I have been taken by a grippe which has not permitted me to go regularly to the office, I have not been able to answer your letters of December 15th, 16th, 24th and January 2nd. I will not be able to deal at length with the matter today, but, presuming that you are expecting to hear from me, I beg to send you just a few words.

Your letter with regard to your discussions with Mr. Robinson is very interesting and the conclusions you have come to, seem to be quite agreeable as a basis for an arrangement.

You have approached the matter chiefly from a commercial point of view, whereas our arrangement of 1920 and the I.G. arrangement took the technical position as the major interest, which was logical, as the markets dealt with in both cases were little developed.

Deferring a consideration of our existing business in composite pigment and confining ourselves to the TiO_2 simplifies the question of compensation for existing business and I am glad you have obtained Mr. Robinson's agreement to this.

Exhibit 528

From the point of view of the technical organization work, it leaves open the question of how to deal with other titanium products which possibly may develop. Although this is of secondary interest at present, some lines will have to be drawn also in this matter.

As it will be well if all parties are interested in this work, I will suggest that the agreement with the I.S.C. covers an exchange of all the future developments in the licensed field, and the Titanic's is only reserved the sale of the composite pigments. I am doing this with some hesitation, though, as the technical support in the development of other chemical products, as for instance titanium compounds for dye industries and tanning purposes, probably can be expected more from the I.G. than anybody else, and they may find such developments partly against their own interests when they cannot get a larger market than they have at present. Counterbalancing this consideration, stands again the possible British tariff and the other reasons we considered this spring in favour of another European factory—so that presumably the best way to deal with the matter is to deal with it as above, which is also the simplest. In view of my conversations with Mr. Robinson, I presume he is entertaining the same idea, as long as it has not been discussed between you.

I presume you consider that the British Titan Products Co. until it manufactures TiO_2 of its own, will buy from Titan Co. Inc. at English market price less for instance 10% or another reasonable basis.

Re Blumenfeld.

For your information I beg to mention that I had a conversation with Dir. Weber-Andreae, Dr. Kühne* and Dir.

* Only party present. (Written in margin)

Exhibit 528

Holm, during my last visit in Frankfurt just before Christmas. Dr. Mayer from Aussig, who had been expected there for another meeting, did not come as that meeting was postponed,—so I had no opportunity to see him.

I had quite some talk with the gentlemen of the I.G. regarding an arrangement with the Blumenfeld interests, of which I shall inform you more fully later.

After a considerable discussion of the whole matter, in which they also asked for certain information as to our arrangements in France and England, Dir. Weber-Andreae concluded that the I.G. was willing to consider an arrangement with Plumenfeld on the basis of certain principles which he outlined. I think, though, that these principles were drawn rather strictly with a view of having something to give later on.

Dir. Weber-Andreae suggested that the I.G. should make a draft of the principal lines of the arrangement, as they looked upon it, which I thought would be very useful. This I have not received yet.

I should like to have I.G. a little further in this matter before I attempt to draw any definite lines with Mr. Burton. As you now, there have been several talks between Dr. Kühne and Dr. Mayer and I believe it would facilitate matters later, if I have got something from the I.G. which represents the joint opinion of Dir. Weber-Andreae and Dr. Kühne at the present stage of development.

With regard to Mr. Burton, you will know from my previous letters, that he has been awaiting news from Mr. Chase before going on with the matter here. I understand from your correspondence that he probably has received this now or will receive such in the near future.

I have heard nothing from Mr. L. B. Robinson since his return and would not like to disturb him before he has

been able to clear his desk and can give some time to the British Titan Products Co.

I will presumably go to Leverkusen next week, as we are expecting the two 30 tons batches through the calciner as the end of this month, and thought then to go to London to get into touch with Mr. Burton and Mr. Robinson.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 529

Letterhead of

TITAN CO. A/S

Paris March 2nd 1931.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your letter of February 18th.

The letter-head of the Gundersen Clinic was some surprise. I was sorry to see that you have found it necessary to give up your trip to California; if it, however, can bring you at last to give yourself the necessary time for a thorough treatment and rest, it may be greeted as good news.

A week ago Dir. Mayer of Aussig, Dir. Weber-Andreae, Dr. Holm and I met with Dr. Kühne in Davos for two days conference. We did not come to a final result, but the situation was cleared quite considerably. The negotiations went off in a very good spirit and the ideas were considerably approached. Tentative preliminary lines were worked out and Dir. Mayer will talk the matter over with his people and meet Dr. Kühne in Frankfurt or Leverkusen about 20th March.

The basis is a full exchange of licenses within the "licensed field" and participations in the market varying somewhat. Aussig to sell 450 tons TiO_2 and T.G.m.b.H. the rest until 80% of the market, that is 1800 tons TiO_2;

then Aussig to have a larger part of the further increase until a proportion which was not agreed upon; Dr. Mayer mentioned 40% for Aussig, but not agreed to by T.G.m.b.H. The idea is that T.G.m.b.H. shall have the capacity of its factory (that is the 50% which it disposes of for its own territory) fully occupied before Aussig can claim more. The capacity of the Leverkusen work was given to 4500 tons TiO_2 with buildings for the double of this.

Mr. Burton has telephoned about a fortnight ago, that Mr. Tickner will arrive the 6th to London and come to Paris the 20th or 23rd, if this was agreeable. They thought it best to see Donegani and Blumenfeld before meeting me—to which I agreed. I go, however, to-morrow to London for a week's stay, to see Mr. Robinson and try to work out the arrangement with him, and will then inform Mr. Burton of my stay there. Dr. Mayer of Aussig may also come to Paris about 23rd of March, and Dr. Kühne and Dir. Weber-Andreae some time in the end of March.

I have had some talks with Dr. Kühne, Dr. Brüggemann and Dir. W.-A. re the question of "interest to be included in the selfcost price", and given them a bit of my thoughts, which, I believe from your letter of 21st January, run along the lines of yours. Dir. W.-A. has dropped the proposal with the remark: "Give us the remunerfation to Frankfurt and we will drop the other question". I told him that I had not yet made up my mind as to a change in the remuneration for the sales. Through my talks with Dr. Kühne and Dr. Brüggemann, it appeared that Dir. W.-A. had taken it up without previous conference with any of them—probably inspired by Mr. Holm.—W.-A. is a very different type from Mr. Holm—

more alert, as you say, and of more international experience. He is considered in the I.G. to have a weakness for all English speaking.

Hoping that your stay in the clinic will be beneficiary to you and therewith to all of us, and with kindest regards to Mrs. McCarty and yourself, in which Mrs. Jebsen joins me,

Yours very truly,

G. JEBSEN

Exhibit 530

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, April 10th, 1931.

Evans McCarty Esq
Vice President
National Lead Company
111 Broadway
New York City. U. S. A.

Dear Mr. McCarty,

Re arrangements with the Blumenfeld group.

Mr. Ticknor and Mr. Chase changed their plans and went first to London—arriving in Paris March 20th. Visiting London twice during their stay there, I made their acquaintance and had a little preliminary talk with them before their arrival in Paris. Here they remained from the 20th of March to the first days of April. Dr. Mayer of Aussig was here several days during that time and Dr. Kuhne and Dir. Holm came over for one day. Various conversations took place, partly together and partly in separate groups.

As some confusions and misunderstandings occurred with Blumenfeld, I made the enclosed memorandum before Mr. Ticknor left, stating the outlines for arrangements which it has been agreed by all parties to take as a basis to work upon.

I have of course made the reservation that I have had no opportunity to discuss this with you or any other mem-

bers of the Board of the Titan Company Inc., and therefore would not commit myself.

The memorandum has been accepted by Mr. Ticknor, Mr. Chase, Mr. Burton and Mr. Blumenfeld (the latter with a general reservation as to details). The other above named gentlemen had left at that time. The memo represents though what has been agreed upon between Aussig and the I.G. gentlemen and myself, as regards T.G.m.b.H.'s and Aussig's territory and its relation to Montecatini and the other parties; one question is though still open there, as Aussig has an interest in Denmark, which I have requested that they should withdraw from; Dr. Mayer has not given any definite answer, but simply mentioned that we may find an arrangement for that.

You will note that Montecatini has not been represented and the outlines with regard to the arrangement with them represents what the other parties have agreed to as a basis for a possible arrangement with Montecatini. Mr. Ticknor, Mr. Chase and Mr. Burton have had a talk with Mr. Donegani beforehand, from which they presume that an arrangement can be made somewhat on these lines. Mr. Donegani will be here in Paris Friday the 17th. Mr. Burton will come over then, and Mr. Blumenfeld, he and I will take up the matter with him.

Re the position of Blumenfeld's group.

In addition to the statement mentioned in the memo, of Montecatini's sales, Blumenfeld stated that Thann & Mulhouse had sold and delivered in 1930 in France 600 tons of TiO_2 (incl. the 135 tons from Montecatini). Dr. Mayer stated that Aussig had sold and delivered about 540 t. (incl. the 196 tons from Montecatini).

Exhibit 530

The Blumenfeld group has the following factories:

1°—Montecatini's factory in Italy, of 1500 t. TiO_2 capacity. It is said to be well equipped. Dr. Kühne thinks that Montecatini has cheap acid and manufacturing conditions, generally speaking, as good as I. G.'s so far as TiO_2 is concerned. Dir. Holm thinks no. Anyhow, Montecatini represents a serious competitor.

2°—Aussig has a small factory chiefly for experimental purposes, of 450 t. TiO_2 capacity (according to Dr. Mayer). The Czechoslovakian home market is protected to the degree of practical prohibition of import if necessary. Aussig's position before the war in Austria-Hungary was similar to the I. G.'s and it is still well organised and placed in the states which formed the old monarchy. It has also thorough knowledge and good connections in Germany if they wish to combine with somebody or the erection of a factory there.

3°—Thann & Mulhouse is said to have a factory of a capacity of 5-6000 tons, badly placed—cheap acid. Thann & Mulhouse is an old concern with factory—or factories—well written down. The manufacture of TiO_2 is probably not cheap there, but with the tariff it may hold its own against competition from outside with duty to pay.

All three concerns have been taking the advantage of us developing the market. They have not followed a definite sales-policy to the purpose of educating and developing the market on certain lines, but have sold TiO_2 to consumers where this was the easiest, and also to dealers, letting these mix the TiO_2 with extenders as they think fit, in order to compete with our composite pigments, so that all sorts of mixtures have been brought on the market.

Exhibit 530 :

Leaving the patent situation out of consideration, the Blumenfeld group is to be seriously considered in view of the existing factory in Italy and the possibility of connecting up with somebody in Germany or France, Holland, Belgium and Great Britain.

T.G.m.b.H.'s deliveries in 1930 amount to 720 tons of TiO_2 and Titan Company Inc.'s to 1178 tons of TiO_2. As however, this has been sold in the form of composite pigments, Standard A mixtures and pastes, the turnover per ton of TiO_2 is considerably more than that of the Blumenfeld group and our commercial position is considerably stronger (admitted by Blumenfeld). It is considered desirable as far as possible to concentrate all production in as few as possible places in order to obtain a cheap production. We have the strength of having a factory already built and running, which can supply considerably more than the present sales (which of course also to some extent is a weakness).

Re arrangement for T.G.m.b.H.'s territory.

Dr. Mayer has the intention to maintain a small production (he mentioned 450 tons). He thinks it is not advisable to extend the factory further before Leverkusen is fully occupied. His factory is well placed for deliveries in Czechoslovakia and some of the neighbouring states. Apart from what he must take from Montecatini, he will therefore, to his own advantage, presumably take from Leverkusen at prices to be agreed upon and which we expect will leave us a reasonable manufacturing profit. His quota is such that it probably will not give him an outlet sufficient for another factory in Germany, for a long time to come. It seems therefore that the arrangement made for

Exhibit 530

T.G.m.b.H.'s territory is satisfactory. The exchange of Italy with Scandinavia, Finland and the Baltic States, seems to me equitable.

Re Belgium and Holland.

The 90 tons from Montecatini will be felt rather heavily in these small markets. The prices there are though not very interesting, as all pigments are cheap in these countries.

France.

The 135 tons from Montecatini represent also here quite a quantity for the first years to come.

I wanted 70% of the shares in the French Company, not so much of economical reasons as in order to be able to have a deciding influence in all questions. The French law prescribes 2/3 majority in the general meetings for certain decisions to be taken, and Blumenfeld can therefore with his 40% block us. I mentioned this to Blumenfeld. He would, though, not give up his 40%, but offered that he would accept any obligation with regard to voting, on the condition that this was mutual.

This matter seems to me especially important in the question of increase of the capital in case we will erect a factory. However, a reciprocal obligation on our part to increase the capital if Blumenfeld should wish so, shall probably not represent any risk of importance.

I should appreciate if you will think over this question of voting right and its consequences, and send you separately a copy of the "Code du Commerce" which contains the stipulations of the law in this respect.

In view of France being Blumenfeld's headquarters, it is understandable that he wishes not to part with more of his interest in France.

Blumenfeld has not expressed any opinion as to whether he will continue his manufacture in Thann. It will probably depend upon the prices we can make for deliveries from Leverkusen, and as it may not be disadvantageous to have some manufacture done in France, I thought it best to leave the question open and let time and experience develop the course to be followed.

The period in which Thann & Mulhouse, after having stopped its manufacture, shall refrain from any activities in the Licensed Field, has not been discussed.

As to Stè Industrielle du Titane, I have not made up my mind as to what course it may be advisable to follow. We have 2/3 of the shares and are so far able to take any decisions necessary as long as we deal with the minority in a reasonable way. I have not thought it opportune to discuss any lines to be followed with a French lawyer, before the possible lines for an arrangement with Blumenfeld are more clear.

British Empire.

You will note that I have accepted as a basis for the holding of shares, the suggestion Mr. Chase had with him.

The amount of 430 tons which Montecatini should be allowed to sell, is also here a rather heavy burden. Asking Mr. L. B. Robinson of his view on this question, he answered that it presumably can not be prevented anyhow, so it was better to accept it. (I understand from Mr. Burton that Mr. Donegani has mentioned a figure of 500 tons.)

With regard to the composite pigments, your conversation with Mr. L. B. Robinson foresaw that they should be left to the Titan Company Inc., and the question of

British Titan Products Co. being allowed to take up such manufacture and sale, should be deferred. I asked Mr. L. B. Robinson if he had discussed with you this matter also from the point of view of an arrangement with Commercial Solvents Corporation, to which he answered that he had the impression that your idea was to keep them entirely out of composite pigments and that a possible manufacture of these should be a matter between I. S. C. and ourselves. On the remark from me that this might be difficult, as presumably the natural way to deal with the manufacture of composite pigments in England, would be in connection with the factory making TiO2, he thought that there might well be an arrangement by which still the composite pigments were dealt with for his and our account. Mr. Robinson did not say that this line was specifically laid out by you, but only that his impression was such.

Speaking with Mr. Ticknor in London (Mr. Chase was absent) about the position in England, it appeared that he did not know about the composite pigment being excluded. He seemed surprised at this, but added that the talks had been between Mr. Chase and you. Referring to this question here in Paris, he said he did not mind so much, as, according to Mr. Burton, a tariff would soon be apposed in England and then of course the English company would have to take up the composite pigment. Of the same reason, he thought that the quantity allowed to Montecatini would not prove to be so heavy a burden.

I told him that the matter of composite pigments had been discussed between Mr. L. B. Robinson and you in New York, as L. B. and I had not been able to find a satisfactory solution of the question, and that it had been agreed upon to defer the question and leave it to the Titan Co. Inc.

to import. I felt therefore that it would not be right of me to step in and discuss this matter, as I did not know what was in your mind.

During the negotiations here in Paris with Blumenfeld, it appeared that he was rather dissatisfied with the Commercial Solvents Corporation's intervention in the English position. Blumenfeld stated to me that Commercial Solvents could not make any arrangement for England without his authorisation, and there seemed to be certain questions between Blumenfeld and Commercial Solvents in this matter, which were and are probably yet not quite cleared up. Vis a vis Blumenfeld I took the same attitude as vis a vis Mr. Ticknor. This resulted in Blumenfeld telling Mr. Ticknor that I had claimed to have the composite pigment reserved for all future exclusively for Titan Co. Inc., and this was a condition which Blumenfeld would never agree upon. The matter was cleared up in our last conversation where all three parties were together.

I had mentioned that I presumably would have to go to New York this spring or early summer, and Mr. Ticknor suggested to Mr. Blumenfeld to go over at the same time, to which Mr. Blumenfeld agreed, so that a definite arrangement could be agreed upon in this matter.

I do not know what you have had in mind in this respect, but considered it rather well that the question is postponed until then.

In the meantime we will know what can be done with Mr. Donegani, and presumably have a full picture of the situation before we have to deal finally with the English position.

Exhibit 530

Re South America.

The arrangement outlined has been done in consideration of I. G.'s intense desire and repeated request to give T.G.m.b.H. the right to sell in this market.

I have mentioned this, I believe, twice in letters to you, but have had no comments from you, presumably of the reason that it might have been well to see the matter develop a little more before any decision was taken.

The I. G.'s ground for their request is their desire of having a larger territory for the factory, and that they are considered to have a very good sales organisation in these countries.

You may know more about this than I, but I am under the impression that this is the case. It looks to me that Leverkusen has quite good facilities for export to U. S. A. via Rotterdam, and will be well placed the day their manufacturing costs have gone down to what they ought to be.

I am looking forward with much interest to hear from you and have your comments as to the memorandum and the suggested arrangements.

I beg to add that it has been agreed that Aussig and the I.G. will work out agreements in detail, for the arrangements between them. Copies of the drafts will be sent Blumenfeld and myself and we thought to make use of these as far as possible in working out the agreements here.

With regard to the arrangements for the British Empire of the sales of the Montecatini product, I had the opportunity to discuss these with Mr. Thompson who came over to Paris in this connection.

I was very happy to receive the good news from Mr. Cornish that you were recovering rapidly and may return to the office during this month.

Exhibit 530

Hoping that you return fully recovered and in good health, Mrs. Jebsen and I send our kindest regards to Mrs. McCarty and yourself.

Yours sincerely,

G. JEBSEN

P. S.—Please let me know at your earliest convenience, whether the contemplated visit of Mr. Blumenfeld and myself in the latter part of May or early June is convenient to you.

Exhibit 531

Telegraph Form of

SOCIÉTÉ INDUSTRIELLE DU TITANE

GJ/HS
21 Avril 1931

NLT

MCCARTY
LEADCO
NEWYORK

MET DONEGANI BLUMENFELD BURTON SATURDAY STOP DONEGANI CLAIMED YEARLY SALE 1800 TONS TiO_2 REPRESENTING FACTORY CAPACITY AND EXPORT CONTINUED AFTER FIVE YEARS DECREASING AS ITALIAN CONSUMPTION DEVELOPS STOP I MAINTAINED BASIS OF MEMO LETTER APRIL 10 STOP DONEGANI SUGGESTED MEETING IN THREE WEEKS IN ITALY WITH KUEHNE STOP I TOLD BLUMENFELD THAT DONEGANIS CLAIMS MEAN WE BUY BLUMENFELDS GOODS TWICE STOP BURTON WILL TRY CONCILIATE BLUMENFELDS AND DONEGANIS INTEREST

JEBSEN

Exhibit 532

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Wm. C. Beschorman Esq.
Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Paris, April 13th 1933.

Dear Mr. Beschorman,

I enclose copy of a letter to Dr. Thompson of to-day.

In connection with the same, I would mention that Mr. Blumenfeld, whom you met two years ago, has been co-operating with us with regard to prices for France. This has not worked quite satisfactorily and Mr. Gilbert thinks that it would be better to make an arrangement concerning not only prices but also quotas of the market, which will allow a close control by chartered accountants of both parties' price policy in particular.*)

Mr. Blumenfeld has expressed an interest also in closer cooperation technically; which I have not objected to, in view of gaining time and particularly in view of the French tariffs for goods from Germany being under consideration.

I look forward to have a talk with you regarding these matters when you arrive.

With kindest regards,

Yours very truly,

G. JEBSEN

*) Such an arrangement has, on my suggestion, during my absence been under discussion between Mr. Gilbert and Mr. Blumenthal.

Exhibit 533

Mr. Beschorman

Paris, April 13th 1933.

GJ/AK

CONFIDENTIAL

Dr. G. W. Thompson
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Dr. Thompson,

I have just this moment received a letter from Major Barley as per copy enclosed, which speaks for itself, and forward the same, that you may have an opportunity to talk the matter over with Mr. Beschorman before he leaves.

Major Barley has, on several occasions, expressed an interest in having the Canadian Industries Ltd. interested with you in a Titanium enterprise in Canada. He thought that the cooperation under consideration between you and Dupont in U. S. A. will bring this question further.

The Canadian Industries Ltd. is, as you probably know, owned by the Du Pont's interests, I. C. I. and some Canadian interests.

I refer in this connection to my letter of March 21st, and shall look forward with much interest to hear further about these matters.

In this connection, I would mention that the Germans, in agreement with me, have taken up again conversations with Mr. Mayer of Aussig (Czechoslovakia), regarding a close cooperation in the countries of the Titangesellschaft.

This has been caused by Mr. Mayer informing them that if no understanding is reached, he will start manufacturing in Germany.

The cooperation is thought first to be of a commercial character, regarding prices and quotas of the market, with the possibility of developing into an exchange of technical matters.

With my best regards,

Yours very truly,

Copy to Mr. Beschorman.

Exhibit 533

COPY.

Imperial Chemical Industries Ltd.
Millbank
London S. W. 1.

CONFIDENTIAL.

12th April 1933.

Dr. G. Jebsen
Titan Company Inc.
26 Rue de la Pépinière
Paris

Dear Dr. Jebsen,

Information has just been received from Canadian Industries Ltd. which indicates that Laporte's are actively investigating the possibility of establishing titanium white manufacture in Canada and possibly the U. S. C. I. L. regard titanium white as a logical development for themselves and the point we desire to raise with you is whether it would not be politic to advise the consideration by National Lead Company of bringing C. I. L. into their Canadian Company as possible manufacturers and shareholders in order that they may know exactly where they are. I am sure that such a decision may possibly be influenced by the National Lead/DuPont relations, regarding which we have no exact information.

Do you think it would be possible to discuss the matter with the National Lead people when they come over here next month?

It would appear that Laporte's intend to prosecute their plans energetically and it will be material at sometime in the future to decide the right moment to make an arrangement with them. Probably their plans for expansion would

not allow them to consider any arrangement at the present stage, but it might just be possible to get them to delay their Canadian scheme if they were convinced that National Lead, DuPont, and Canadian Industries Limited had definite and immediate plans in view.

Yours very truly,

L. J. BARLEY (sign.)

Exhibit 534

COMMERCIAL SOLVENTS CORPORATION

230 Park Avenue

New York.

July 20, 1933.

Mr. W. C. Beschorman, Executive Vice-President
National Lead Company
111 Broadway, New York, N. Y.

Dear Mr. Beschorman:

Before Dr. Blumenfeld left, he was so pressed for time that he did not have an opportunity to prepare the memorandum that was spoken of when we were in your office, but he jotted down the points in long hand and gave them to me. I have had them copied and am enclosing 2 copies for you.

This memorandum, I think, includes a statement on all the different points that we discussed and I believe I carefully set them down as given by Dr. Blumenfeld. In order, however, that I may know my secretarial work has been properly performed, I am sending a copy of the memorandum to Dr. Blumenfeld and am asking him to advise me if I have correctly prepared it.

Item No. 10 is not very clear to me, but I think what is meant is, in case either party to the agreement obtains material from the other party in order to fill its quota, the price that is charged for such material shall be on a same basis. I presume it is contemplated that the material for Dr. Blumenfeld's quota in Belgium and Holland may be furnished in part by the I. G. and part of the I. G.'s quota in France may be filled with material furnished by Thann.

Exhibit 534

In regard to Item No. 7, as I understand it, there will be an attempt made to reach an agreement on the division of this grouped business and that later on, the specific allocations to the different countries will be determined. At least, it would seem to me that this would be the simplest way to do it. Apparently the major point of difference is in the division of this grouped business.

Referring to Item No. 11, Dr. Blumenfeld states that the Montecatini production is about 1200 tons and that the Italian consumption is about 600 tons, leaving 600 tons of Montecatini's production to be sold outside of Italy.

Perhaps some explanation should be made respecting Item No. 9. As I understand this situation, it is that at the present time, the actual production of the various factories is less than the current demand, but that the factory at Leverkusen has a large part of the equipment installed necessary to increase its production within a comparatively short time, and it is also so arranged that with a somewhat larger expenditure, a material increase in output may be made.

In arriving at the capacity of plants these points would be taken into consideration so that a statement of capacity of plants will have to be supplemented with a statement of the "nearby" potential capacity and the probable ultimate capacity without additions of major items.

If there is any way in which I can be of any further assistance, I will be glad to do anything that I can.

Very truly yours

(Signed) M. F. CHASE
Vice President

Exhibit 534

MEMORANDUM RESPECTING COMMERCIAL ARRANGEMENTS BETWEEN BLUMENFELD GROUP AND I. G. GROUP

1. Division of tonnage to be based on straight TiO_2—composite pigment to be reduced to TiO_2 equivalent.
2. Aussig territory to be co-extensive with I. G. and arrangements made by Aussig and I. G. to govern.
3. British Empire free to both parties.
4. Italy reserved for Montecatini.
5. Scandanavian countries including Finland reserved for Titan Co.
6. U. S. A. out.
7. France, Belgium and Holland to be grouped and quotas to be discussed.
8. Remaining countries one-third to Blumenfeld, and two-thirds Jebsen.
9. No new factories to be built until present existing plant capacities have been absorbed. Present capacities to be stated.
10. Delivery of product to meet quotas must be on a mutual basis.
11. Excess tonnage of Montecatini over and above Italian requirements to be handled in the same proportions as is agreed upon for Item No. 7.

Exhibit 535

July 25, 1933.

Mr. M. F. Chase, Vice-President
Commercial Solvents Corporation
230 Park Avenue
New York, N. Y.

Dear Mr. Chase:

I want to express my thanks to you for the trouble that you have gone to on the European Titanium matters.

I discussed with Dr. Jebsen before he left last Friday, the memorandum enclosed with your letter of the 20th. Dr. Jebsen will see Mr. Blumenfeld immediately upon his return to France.

Certain points in this memorandum are capable of acceptance by both of us without any further discussion, but at least four points will require quite a lot of discussion before they are ironed out.

With kindest regards,

Very truly yours,

Executive Vice President.

Exhibit 536

Letterhead of

COMMERCIAL SOLVENTS CORPORATION

New York

August 8th, 1933

Mr. W. C. Beschorman, Vice-Pres.
National Lead Company
111 Broadway
New York, N. Y.

Dear Mr. Beschorman:

Referring to my letter of July 20th enclosing a copy of the memorandum covering the titanium situation, I have just received a letter from Mr. Blumenfeld stating that this memorandum correctly summarizes the situation.

For your information, I am enclosing a copy of Mr. Blumenfeld's letter.

Yours very truly,

MARCH F. CHASE
Vice-President

Exhibit 536

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES

31 Juillet 1933

Cher Monsieur Chase,

Je recois votre lettre du 19 Juillet dont je vous remercie. Je crois que vous avez tres bien resume la situation je vais attendre l'arrivee de M. Jebsen pour essayer de terminer.

Je vous tiendrai regulierement au courant, et dans le cas ou des difficultes devaient se presenter, je vous demande d'intervenir aupres de M. Beschorman.

En vous remerciant encore une fois, croyez, Cher Monsieur Chase, a mes meilleurs sentiments.

(Signed) J. Blumenfeld

Exhibit 537

Letterhead of

COMMERCIAL SOLVENTS CORPORATION

New York

August 18th, 1933

Mr. W. C. Beschorman, Vice-Pres.
National Lead Company
111 Broadway
New York, N. Y.

Dear Mr. Beschorman:

I have just received a letter from Mr. Blumenfeld the following paragraph of which may interest you:

> "I have again had long conversations with Jebsen and I believe that we are finally getting a little closer. I say 'a littie closer' because is is leaving for a month's vacation; I must get in touch with Donegani and Mayer, and if all goes as it should, probably we will sign an agreement during the month of September."

Yours very truly,

MARCH F. CHASE
Vice-President

MFC:bh.

Exhibit 538

Letterhead of

TITAN COMPANY, INC.

GJ/AK Paris, September 15th 1933.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Many thanks for your letters of August 9, 22 and two letters of 24.

I am much obliged for keeping me informed about Mr. Chase's correspondence.

I saw Mr. Donegani, Mr. Castellani and Mr. Lovati of Montecatini last Saturday in Milan and found, to my surprise, that they had no communication from Blumenfeld.

Montecatini is quite aware of the danger to their future export to England. It is presumably easier to make an arrangement with them now than later, binding them to a certain program for the other markets by making them concessions, now particularly when these concessions to a great extent can be combined with Blumenfeld's arrangements regarding territories.

Mr. Donegani expressed the following views:

He had to-day an output corresponding to 1700/1800 tons TiO_2 p.a., and could, with very little expenditure, increase it to 2000 tons. He was willing not to extend his capacity beyond this, provided he could export 800 tons, which he, during the conversation, reduced to 700 tons.

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He would reduce this export quantity as the sales developed in Italy above the difference between his capacity and the 700 tons. He was selling in Italy now about 800 tons and his export to the British Empire this year was at the rate of 600 t. p.a. (last year it was 500 t.) If arrangements were made for a long duration, he saw no objection in letting the sales be done through the I.G.'s and our organisation, on the basis of a reasonable commission.

He pointed out that he was already cooperating with I.G., I.C.I. and Dupont, and will welcome cooperation.

His remarks about Blumenfeld were not very flattering.

I pointed out to him in the start, that my visit was in connection with a vacation trip and I expressed only personal thoughts, without having had an opportunity to talk the matter over with the I.G. or our English friends. I had had some talks with Blumenfeld in New York and Paris, and we were beginning to come closer as to an understanding. I had understood Blumenfeld intended to see him.

Donegani is going to U.S.A. in about a month's time and he or Castellani may come to Paris beforehand.

I have not informed Blumenfeld of my return yet, being busy with clearing my table somewhat.

With my kindest regards,

Yours very truly,

G. JEBSEN

P.S.—I enclose statistics of the export of Montecatini in 1932, in addition to his deliveries to the British Empire.

Exhibit 538

MONTECATINI'S EXPORT IN 1932.

(in addition to their deliveries to the British Empire)

	Tons.
Scandinavia	1
Holland and Belgium	24
Germany	8
Spain & Portugal	11
Brit. Africa, India, Ceylon	4
South America	8
Canada	2
U.S.A.	10
Others	10
	78

Exhibit 539

Letterhead of

TITAN COMPANY, INC.

GJ/AK. Paris, October 5th 1933.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I enclose a memo on conversations in London re arrangement B.T.P. and Blumenfeld.

Robinson's views on the question were not encouraging, but not a definite refusal.

His attitude is generally dictated by a strong Empire policy and is a more or less clear expression of being on his guard towards continental firms like Montecatini and I.G. —to say the least.

Tasker was now more interested, and Barley has shown interest all the time.

If W.S. Robinson should take up the matter in New York, I beg you to have the following in mind:

Leaving British Empire entirely out of an arrangement with Blumenfeld and Montecatini will make an agreement for the rest of the world difficult, to say the least, probably impossible.

Blumenfeld can make no arrangement without including Montecatini.

Montecatini's export to the British Empire must be provided for—otherwise it will remain as a disturbing ele-

ment throwing out the balance, and lead to price-cutting competition.

Donegani will, when remaining free, naturally seek the markets, where he gets better prices than in England, where future low prices and high tariff will reduce his profit. He cannot expect immediately to find the customers for the 6 to 700 tons and will continue to sell in England, following B.T.P.'s prices, until an outlet otherwise is found. An offer from Blumenfeld, T.G.m.b.H. and Titan Company Inc. to give room for a certain part of Montecatini's export, provided this remains limited, is therefore of interest to him and also to us in view of the limitation and price regulation.

I have not yet had an opportunity to talk with I.G.

They will of course be antagonistic to allowing Montecatini a relatively large tonnage in their markets, where he hitherto has sold very little.

The advantage to T.G.m.b.H. is particularly in connection with their export markets, as for instance South America, Japan, China, Spain, Portugal, Switzerland.

The same interest have we, Titanine, as to Belgium, Holland and Colonies and Scandinavia.

I am working on this general arangement, in order to prevent the disturbances which Montecatini and a Belgian factory undoubtedly otherwise will cause and, as I have understood that such arrangement is also considered very desirable for the Titanium Pigment Co.'s interests.

The arrangement to be a commercial one and possibly also include technical cooperation.

I have hitherto left technical cooperation to the future—partly because, from previous conversations with Tasker and Barley, I understood they felt the position in British

Exhibit 539

Empire strong enough to prevent Blumenfeld doing anything there. Under those circumstances, I hoped Blumenfeld, within some years, will be happy to let his patents for British Empire go cheap. It may, though, be advisable to take the matter up now, but the building may tumble on that question.

The effect of such arrangements will be:

1) Regulation of prices.
2) After some years our manufacturing position in Germany will be very strong (as most of the factory will have been amortised). The (illegible) factory will be trimmed and have passed the first years more expensive production cost.
3) Acknowledging Blumenfeld a 50—50% position in the French market, will—combined with his French factory—give him a stronger position in the French market than to-day, were it not for the present political situation. This last may change after some years and we then be in a stronger position to import. If not, or at the time Leverkusen is fully occupied—then a question of farther manufacture in France will arise. Here Blumenfeld will be in a favourable position with his factory and manufacturing organisation in France,—on the other hand, his present factory is not well placed, and the increased sales in France will make it easier for us also to put up a factory here.

The French market is anyhow of less importance than the German and the British, but we have a considerable interest in having a sufficiently strong hand in France to prevent the growing of a large competitive factory to export its surplus.

Exhibit 539

If these matters are discussed with Robinson, I will ask you to be very careful not to lay down any definite lines, to which he may refer over here, except expressing National Lead Co.'s interest in having an international arrangement.

It is difficult to foresee what the negotiations may develop, with so many different interests involved.

Robinson is, beyond anything, interested in a merger of all or most of the white pigments as regards the British Empire. Such a merger would in any case be unfair to Titanium at its present state of development and I am very much in doubt if it also later will be in the interest of National Lead Company.

It is in the National Lead Co.'s interest not only to play the role of promoting this industry but also exercise a stabilising influence between the various interests. Having given the English a majority in B.T.P., National Lead Co.'s power in this respect is already weakened, and I may in this respect have to be aided by National Lead Co.'s general influence on Robinson.

If B.T.P. should be merged with Robinson's Lithopone and Zinc Oxide interests our influence in the English enterprise will be very small.

I shall much appreciate your comments to the above, and particularly to receive the headquarters' opinion as to the lines of the Blumenfeld negotiations.

I will ask you not to refer to me, re Robinson's interest in a common selling control or merger of the white pigments, as this has not been mentioned between him and me this summer.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 539

MEMO ON CONVERSATIONS RE ARRANGEMENT B.T.P. WITH BLUMENFELD GROUP

SEPTEMBER 27-29, 1933.

I informed the B.T.P. Board in the last meeting of my negotiations with Blumenfeld and Montecatini, and asked their view, pointing out that my conversations with Blumenfeld and Donegani were in no way binding for B.T.P.

I told them Montecatini had increased their export to British Empire from 500 tons to a monthly average corresponding to 600 t.p.a. this year, and may increase to a rate of 700 tons before we can put our English manufacture on the market.

I suggested an arrangement by which Montecatini undertake not to extend their factory beyond a capacity of 2000 tons TiO_2 and from middle next year limit their export to British Empire to 50% or let us say 350 tons TiO_2. I would then try to see the rest of Montecatini's export provided for in other countries, in order to avoid price-cutting competition everywhere.

Montecatini can export, if necessary, to prices covering only their raw materials, and, having their own and cheap supply of pyrites can charge a very low acid price to the Titanium manufacture.

I also mentioned the danger of Blumenfeld combining with a Belgian manufacturer.

I had talks with Barley and Tasker beforehand, who first thought "British Empire for the British", but very soon saw the advantages of an arrangement.

Tasker meant we ought not to do it without having the Blumenfeld patents thrown in at the same time. Barley thought also that Blumenfeld's patents should be secured

at the same time, and suggested a payment for them of—a cash sum at once—and an annual payment during five years. He thought these agreements should be made for 15 years.

Tasker thought at first the time for B.T.P. making an arrangement was not now, but when our factory has started. He accepted, though, my view that the time was now, as he saw that Blumenfeld starting in Belgium would throw out the balance.

He wanted a full statement of the various relations and sales in the various markets, which he promised to keep as personal information, accepting fully my view that such information circulated to all members would create too many cooks.

In the Board Meeting W.S. Robinson said, he was not against it in principle. The question was, though, very involved.

The government wished the British market supplied with certain materials exclusively from British manufacture—others left for importation.

Having got a tariff, we might be subject to criticism—if not more—when making arrangements allowing a certain importation.

We had not yet started manufacture—the industry was new—and should already be asked to consider such arrangements!

The British industries were repeatedly asked to pay for other nations keeeping out of the market. He mentioned particularly Americans and lead products—looking to Mr. Tasker.

The question was very important and the Board could not express an opinion without closer consideration.

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He asked to have a written statement of the various relations in the Titan industry, circulated between the Board members, which should be kept confidential.

I said I should be glad to give such. It would, though, help me to have the first reaction to the question for any talks with the other companies.

Robinson was not in favour of arrangements to the purpose of keeping prices high (? ref. sulp. acid).

I said the purpose was not to keep prices high, but to prevent too low prices. I looked upon gradually sinking prices to develop the market.

Tasker: "The purpose is regulation of the prices".

I thought the conversation had been useful, as I understood they all thought a commercial arrangement was only of interest when connected with the Blumenfeld patents.

In this connection was discussed also the Laporte competition. Greeff has not yet met Laporte's new production on the market and a new contract for 25 tons has recently been made by the merchant who previously bought for them.

It was assumed that Laporte's difficulties may make the present time favourable for an arrangement. It was agreed that B.T.P. should ask Laporte for an offer of Blanc Fixe—which may lead up to negotiations.

It was further suggested that we should in case tell them we are in the position to put up a factory for Blanc Fixe and produce at cheap prices, enabling us to compete with them.

(This factory would be based on Whitherite treated on the basis of our experience in Fredriksstad and experiments this year in Leverkusen by Ravnestad and Oppegaard).

Exhibit 540

Letterhead of
TITAN COMPANY, INC.

No. 19.
GJ/AK Paris, October 10th 1933.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I had a conversation with Blumenfeld the day before leaving for London, in which I put forward some comments to his memorandum given us by Mr. Chase, and enclose these comments in writing, a copy of which I have also sent to Mr. Blumenfeld.

Blumenfeld told me that he had no answer from Montecatini to a letter written early in August, requesting a meeting. This letter has evidently been ignored by Donegani.

Blumenfeld informed me that the agreement between Aussig and I. G. was now made, and Blumenfeld was therefore free to make arrangements directly with Titangesellschaft, re Japan, China, Spain, Portugal and South America.

Ad meeting with Blumenfeld, October 9.

I enclose a memo regarding this meeting, and add the following comments:

Blumenfeld evidently tried to press me, partly with the English situation and partly with the Aussig agreement.

I doubt much that an agreement can be reached at present between Blumenfeld and B. T. P., regarding pat-

ents. If B. T. P. will make no agreement concerning solely Montecatini's import, the continental agreements re Montecatini will have to be on the line of giving room for a limited quantity of his product against an obligation on his part not to increase their sales above this quantity. In such case, however, Montecatini can rightly ask for a free hand in his export to England and we can not impose upon him the obligation of limiting his capacity. In case the agreements are for a long period, which has been advocated from several sides, this will be unfortunate, as it may be quite possible after, let us say, 4 or 5 years, to see England go back to lower tariffs (see Chamberlain's last speech.)—I do not consider it out of question that England, after having made market arrangements in most of the present industries, under the schedule of its present protective policy, will change this to a more liberal one.

I have hitherto reckoned that when continental agreements were reached with Blumenfeld, time would work so, that Blumenfeld would become more willing to sell his English patents—at the patents' worth—finding he could do nothing or very little with them himself. We must, however, be aware that, with the commercial agreements between the continental interests, there will be an increasing pressure from these parties for an agreement concerning exchange of patents and technical experience, which may create an awkward situation for all parties. If Blumenfeld should make an arrangement of technical cooperation with Laporte or some other English interests, there could be no technical exchange between Aussig-Blumenfeld, on the one side, and T. G. m. b. H.-Titan Inc. on the other side, for the Continent, without the permission of B. T. P. and severing their technical cooperation, unless Blumenfeld's licensee cooperates technically with B. T. P.

Exhibit 540

In view of the uncertain political developments, I am at present most inclined to agreements of a shorter period. I was, though, confidentially informed that for instance I. C. I. contemplates now agreements for periods of 30-40 years.

I mention the above in order to keep you fully informed, although it must seem very complicated to you. Personally I think the best we can do is to keep to the lines we agreed upon in New York, trying to make an agreement with regard to the continental interests, and try to include the British Empire to the extent that this is possible, but, in case, leave that question to the future.

I should much appreciate your comments to the above—from a distance things often can be seen clearer.

I leave to-night for Germany and hope to bring matters with I. G. so far, that a meeting between Blumenfeld and I. G. can take place.

With kindest regards,

Yours very truly,

G. JEBSEN

P. S.—N. B. 6th paragraph of my letter of October 5th should be:

Leaving Montecatini's export to the British Empire entirely, etc. . . .

Exhibit 540

COMMENTS TO MR. BLUMENFELD'S MEMORANDUM RESPECTING COMMERCIAL ARRANGEMENTS BETWEEN BLUMENFELD'S GROUP AND TITAN CO.'S GROUP

1. *Division of tonnage to be based on straight TiO_2— composite pigment to be reduced to TiO_2 equivalent.*

Ad 1)—Adjustments to take place on the basis of the quota being applied to all products.

Surplus delivery to be adjusted by the surplus seller to order at the end of the year a corresponding quantity within a limited term or make a pigment corresponding to the year's average profit on that quality in the country in question.

2. *Aussig territory to be co-extensive with I. G. and arrangements made by Aussig and I. G. to govern.*

Ad 2)—Alternative to be studied was for Blumenfeld to retain the countries, which are not yet included in Aussig's territory and eventually make arrangements direct with T.G.m.b.H. and I. G.

Is Blumenfeld now prepared to take a decision in this respect?

3. *British Empire free to both parties.*

Ad 3)—British Empire, excl. Canada, free to both parties—agreed subject to suitable arrangement, regarding Montecatini.

4. *Italy reserve for Montecatini.*

Ad 4)—No comment.

5. *Scandinavian countries including Finland reserved for Titan Co.*

Ad 5)—No comment.

6. *U. S. A. out.*

Ad 6)—No comment.

7. *France, Belgium and Holland, and Luxemburg incl. in Belgium, to be grouped and quotas to be discussed.*

Ad 7)—Quotas for:

	Bl.	Socititane
France		
Of the first 1000 tons TiO_2 contained in all deliveries	55%	45%
Of the second 1000 t. TiO_2 contained in all deliveries	45%	55%
Exceeding quantities	50%	50%
	Bl.	Titan Co.
Holland	30%	70%
Belgium and Luxemburg	30%	70%

Exhibit 540

8. *Remaining countries one-third to Blumenfeld, and two-thirds Jebsen.*

Ad 8)—Quotas for:

	Bl.	Titan Co.
Remaining countries i.e. outside Brit. Empire (excl. Canada), T.G.m.b.H.'s territory, Italy, Scandinavia incl. Finland, North America	33⅓%	66⅔%

9. *No new factories to be built until present existing plant capacities have been absorbed. Present capacities to be stated.*

Ad 9)—No new factories to be built or extensions made until a production has been absorbed of:

900 tons from Thann & Muhlhouse factory

12.000 tons from T.G.m.b.H. factory.

10. *Delivery of product to meet quotas must be on a mutual basis.*

Ad 10) Both parties to deliver to each other at same price at respective works.

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11. Excess tonnage of Montecatini over and above Italian requirements to be handled in the same proportions as is agreed upon for Item No. 7.

Ad 11) Montecatini to have the right to export 600 tons to be disposed of as follows.

Not more than 75 tons to France, Belgium and Holland

¾ to France
⅛ " Belgium
⅛ " Holland

The quantities for France, Belgium and Holland to be handled in the same proportions as the quotas for these countries.

Of the remaining, Blumenfeld suggests:

Not more than 250 tons to British Empire.
" " " 275 " to be provided for in Blumenfeld's arrangement with T.G.m.b.H. and I. G. for the countries: Japan, China Spain, Portugal, South-America.

Further points.

The principal prices and terms shall be settled by mutual consent, however Titan Co. Inc to have the prepondering influence for Holland and Belgium.

The prices to be fixed so that no loss should be incurred, but on the other hand

the sales should not be impaired by too high a price.

If changes in exchange values should cause an unfair hardship for any of the parties, it shall be tried to make a fair adjustment. If legal conditions, tariffs, or government restrictions should cause extraordinary hardship on any of the parties maintaining this agreement, the parties are free.

Note. T.G.m.b.H.'s right to export to South America is not exclusive. The Titanium Pigment Co. has also the right to export there.

Additional Note.

The countries suggested for Montecatini's 275 tons are those of T.G.m.b.H's territory, in which Aussig does not sell, thus including also Switzerland, Bulgaria, Greece and Turkey.

Montecatini to limit its production to its present capacity. As sales in Italy increase, the export to be correspondingly reduced.

Exhibit 540

MEMO RE MEETING WITH MR. BLUMENFELD, OCTOBER 9, 1933.

Present: Mr. Blumenfeld
" Rodens
Dr. Jebsen
Mr. Hendrikssen.

The meeting was intended particularly to compare the sales in markets which might take Montecatini's export, as Japan, China, Spain, Portugal, South-America. About ¾ of an hour were spent by Blumenfeld finding out the sales for 1932 in those markets. He promised to have the figures prepared for every market, concerning sales in 1932 and from 1/1 to 30/6, 1933, for the next meeting.

Blumenfeld expressed himself strongly against the sale of his British patents. He had not *patents* to sell but his manufacturing rights in the British Empire, and indicated these worth 25% of the British market.

I mentioned in a way of regret that this question may prove the tumbling stone. Blumenfeld went into the air, saying that it had been agreed to leave the British Empire out of the question. I now brought it in, and he felt then, that we were very far from an agreement. He felt himself now to be entirely free.

I told him the question of the British Empire was brought in again by his and my plan of arranging for 250-350 tons of Montecatini product to go to the British Empire. I had then tried to interest our English friends and I could not agree (although being contractually free to

make commercial agreements outside the British Empire) to bind myself at the present stage to make agreements with him without consideration according to the situation as it developed. Having opened the question of an arrangement between B.T.P. and Blumenfeld, the situation may develop to be so involved that consideration of our English friends' interests may be necessary also when viewing the continental interests.

Blumenfeld was afraid that undue pressure would be brought upon him at the time when agreements between the continental interests had been reached, if I then told him I could not make any agreement unless the British Empire also was included.

I told him I had no such thought. B.T.P. may in that case also feel a pressure.

Blumenfeld accepted this, saying he was perhaps too sensitive in view of his disappointment re the English situation. He would, though, write to Aussig that the agreement between Aussig and I.G. had to be postponed. This agreement could not be done without his consent. He had considered the agreement between him and us as practically closed, when in New York, and of this reason he had allowed Aussig to make the agreement with I.G.

I told him this was new to me, as Aussig had never made such reservation. When this, however, was the position, he was justified to do so.

I told him I considered there were other questions which might prove tumbling stones, as for instance Montecatini's export quantities.

Blumenfeld told me with pride that he had seen Donegani who would send Castellani to Paris at any time he wanted, to come to an agreement. (He overlooked that this

was after my visit to Milan, and Donegani had even not answered Blumenfeld's letter).

Finally we agreed to continue our efforts to bring the various interests together.

Blumenfeld tried to charge Montecatini's export outside British Empire pro-rata with quotas not only for France, Belgium and Holland but also for the other countries, but was finally inclined to give in somewhat in this matter.

I told him this had first of all to be on his quota and the question is chiefly a matter for negotiations with T.G.m.b.H. (I.G.) I mentioned that this might also be the tumbling stone, but he had the information from Mayer of Aussig, that I.G. would make no difficulties.

Blumenfeld, as usual, talked mostly in generalities and in an evasive manner and was very difficult to get down to actual facts and clear statements.

It was agreed that after I had seen the I.G., a meeting might be arranged between Blumenfeld and I.G.

Exhibit 541

October 27, 1933.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

I am in receipt of yours of the 5th and 10th—Nos. 15 and 19—regarding your conversations with Blumenfeld and your coliversation in London regarding a Blumenfeld arrangement for the British territory. Thank you for keeping me posted on these matters. Your are in a much better position to develop this from your own knowledge than we are from this end of the line, consequently have no suggestions to make.

With best regards.

Yours very truly

Executive Vice President.

Exhibit 542

Letterhead of
TITAN COMPANY, INC.

No. 34.
GJ/AK Paris, November 24th 1933.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York, U. S. A.

Dear Mr. Beschorman,

RE BLUMENFELD.

The meeting mentioned in my letter No. 30 went off quite well and we came to an arrangement with regard to Montecatini and the quota between Titangesellschaft and Blumenfeld for the Non-Aussig countries, substantially on the lines mentioned on my letter.

This, together with my comments to Blumenfeld's memorandum (given us by Mr. Chase), which I sent you on October 10th—letter No. 19—gives the lines for the contemplated arrangements.

Blumenfeld has informed me that he is substantially in agreement with my comments.

For the sake of clearness, I beg to add to the comments that no arrangement is foreseen for Canada, in accordance with our New York conversations.

May I take it from your correspondence, that arrangements substantially following these lines will meet with approval in New York?

With kindest regards,

Yours very truly,

Exhibit 543

December 14, 1933.

Dr. G. Jebsen
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Mr. Jebsen:

Replying to your letter of the 24th of November—No. 34—re Blumenfeld.

We are in entire accord with an arrangement on the line of your letter No. 19 dated October 10th and your No. 30 of October 31st.

With kindest regards,

Yours very truly

Executive Vice President.

Exhibit 544

Letterhead of

TITAN COMPANY, INC.

Paris, November 27th 1933.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I enclose translation of a letter from I. G. regarding a matter which is rather delicate, and of my answer.

The history is the following:

Dr. Kühne told me over the telephone (I believe it was in May) that he had had a meeting with Dr. Schütz (Sachtleben) who had shown him correspondence with Meyer of Aussig showing that he was on the point of arranging with Meyer for the erection of a Titanium factory. Kühne has always been afraid of this. He told me he, with much effort, had got Schütz to refrain from this.

Kühne has not mentioned it since.

On a visit this autumn in Leverkusen, Raspe told me that Kühne had had to give Schütz a compensation for this. The character of the same was not mentioned and no indication of a compensation to be to the charge of Titangesellschaft.

On my visit to Frankfurt October 10th, Weber-Andreae told me that I. G. had had to give Schütz a larger quota

in Lithopone and the cost of this ought to be carried by T. G. m. b. H. He would send me the details and asked me to study them before we talked over the matter. I felt that he did not like to introduce it.

Then arrived the letter of 19th.

On Borgwardt's visit in Paris, November 15th, I expressed a surprise of not having been asked about this and criticised the arrangement in principle. He told me confidentially the following story:

Dr. Kühne had, during the conversation with Schütz, telephoned to Weber-Andreae and got his consent. Kühne had only a few hours to arrange the matter. When the matter afterwards was brought to Frankfurt, Borgwardt had criticised it. It had been taken up with Dir Schütz, who took firm the standpoint that when a director of I. G. had said a thing, it had to be kept by I. G. The result, after several negotiations, was the letter of October 19th.

I told Borgwardt unofficially that I found it a very difficult matter. I agreed that a director's word should be kept good, and I would hate to put Kühne in a difficult position. On the other hand, I. G. was asking us to consent to a payment, the size of which is beyond our judgment, as it is dependent on the development of the Lithopone industry.

I also considered the agreement to be illogical. Dr. Schütz wishes to go into the Titanium industry because he fears Titanium will take the place of Lithopone; but the payment foreseen will be high in case Lithopone flourishes, and low if Titanium seriously competes with Lithopone. In this case Dir. Schütz can terminate the agreement.

Borgwardt pointed out that Schütz was bound anyhow to June 30th 1938, which means in fact June 30th 1937. He asked me to understand that I. G. could not well disclose to

us the position in the Lithopone industry, and suggested, in view of my point, that we should limit T. G. m. b. H.'s payment to a maximum.

The delicate part of it is, that if we do not accept the arrangement to the charge of T. G. m. b. H., Dr. Kühne will be subject to much criticism from his Board and it will give water on the mill of those who have criticised Kühne for his agreement with us.

I can not even find that I. G. can terminated the agreement and it shall then on their part remain in force for the duration of their Lithopone agreement—unknown to us.

I pointed out to Borgwardt that the condition in the last 6 lines of the last paragraph in I. G.'s letter of 17th to T. G. m. b. H. was in no way right. After explanation, he agreed and asked me to consider these lines non existant.

I have no proposal to make at present regarding this. I send it for your information. When Dr. Raspe arrives and when I meet Dr. Kühne, I hope to find out a little more. My inclination at present is,—for the sake of Dr. Kuhne and good cooperation,—to let T. G. m. b. H. take something to its charge, but on clear basis and strictly limited.

I shall much appreciate to have your reaction to the above.

With kindest regards,

Yours very truly,

G. JEBSEN

P. S.—I have the impression that I. G. has been taken by surprise by Dr. Schütz—time has elapsed in trying to im-

Exhibit 544

Translated from German.

I. G. FARBENINDUSTRIE A/G.

Frankfurt, October 19th, 1933.

Abt. V. Bgt/Kz.

Dr. G. Jebsen,
26 Rue de la Pépinière,
Paris 8e.

Dear Dr. Jebsen:

As agreed we beg to send you herewith copy of our letter to T. G. of October 17th, regarding the indemnity which I. G. has granted Sachtleben A/G. for abstaining from the erection of a Titanium White factory. Our calculation of the charge to T. G., which according to our letter to them would result therefrom, has for 1932 given an amount of Mk. 77.000.—. For 1933 the amount will be considerably lower, owing to the drop in the lithopone prices in the home market and abroad; we estimate it at about Mk. 45.000.—to Mk. 50.000.—.

The calculation is made by determining the profit, which I. G. would have obtained from the lithopone business given up after deduction of the payments which the Sachtleben A/G. will have to make to Albert and us.

Very truly yours,

I. G. FARBENINDUSTRIE A/G.
(sign.) WEBER ANDREA. (sign.) BORGWARDT.

Exhibit 541

Translated from German.

Paris, October 31st, 1933.

I. G. Farbenindustrie Akt. Ges
Verkauf Chemikalien
Frankfurt a/M.
Grüneburgplatz

I beg to acknowledge receipt of your letter of October 19—received October 3—regarding your agreement with Sachtleben.

This is quite new to me, except that Director Weber-Andreae briefly mentioned the matter on the 16th inst. in Frankfurt, and that Dir. Kühne told me in the spring about a visit of Generaldirector Schütz, Sachtleben, during which the latter had informed him of his negotiations with Aussig —from which plans Dr. Kühne had succeeded in dissuading him.

It was only on the 16th in Frankfurt, that I was informed that it was a matter of financial compensations.

I mention this only for the sake of clearness and will revert to the matter again.

Yours very truly,

Exhibit 544

Translated from German.

I. G. FARBENINDUSTRIE A/G.

Frankfort, October 17th, 1933.

Messrs. T. G.,
Leverkusen—I. G. Werk.

Dear Sirs:

Re: Assignment of Lithopone quota to Sachtleben for keeping away from the Titanium White field.

We beg to hand you herewith copy of an agreement between Sachtleben A/G. and I. G. dated October 9th. 1933, in which Sachtleben A/G. abstain from the manufacture of Titanium Dioxide and Titanium White during the period fixed in the agreement. As compensation we have assigned to Sachtleben A/G. rights, belonging to us, to deliveries in the lithopone field.

The motive for making this agreement was—as you know—the declaration from Sachtleben A/G., that they would, together with Aussig, take up the manufacture of Titanium Dioxide on the Lower Rhine, if an understanding was not arrived at between them and I. G.

As this agreement purely serves to protect the interests of your company, we will permit ourselves in each case to debit you with the amounts which we lose as a result of the assignment of the lithopone quota to Sachtleben. We will make the calculation of these amounts as follows:

At the end of each settlement-period (1 year) will be determined what quantity of lithopone and what value the assigned quotas represent. The amount will be calculated

leben and I. G. have jointly realized from the sale of lithopone. From this value will be deducted the amount which we should have had to carry of the Lithopone-Kontor Expenses if the sale had been effected through I. G., and further the packing expenses. From the clean nett proceeds thus resulting for the assigned quantity will be deducted the average cost price for the settlement period. The difference thus arrived at corresponds to the loss of profit, with which we will *debit* you.

Payments, that we receive from Sachtleben A/G. as a result of the quota assignment, will be *credited* you, as long as the amount due to be paid us by you does not through this credit fall below Mk. 15.000.- a year. This minimum amount represents the amount which we must claim in any case for depreciation and interest for the expenses we have had in the past for the acquisition of the *Hönningen* quota.

We shall be obliged if you will confirm to us that you are in agreement with this arrangement.

Yours very truly

I. G. FARBENINDUSTRIE A/G.

(sign.) Weber-Andrea. (sign.) ppa. Borgwardt.

1 encl.

Exhibit 544

Translated from German.

Frankfort, October 9th, 1933.

I. G. FARBENINDUSTRIE A/G.

Abt. V. Bgt/Kz.

Sachtleben A/G.
für Bergbau und chemische Industrie,
Cologne a/Rh.

Dear Sirs:

MANUFACTURE OF TITANIUM WHITE.

We refer to our repeated conferences and have the honour to confirm the result of same as follows:

1. For the duration of the agreement Sachtleben pledge themselves neither to erect nor to work a Titanium White factory nor in any way to participate in the erection or the working of such a factory.

As Titanium White factory is understood any factory carrying on the manufacture of Titanium or Titanum compounds, and as Titanium compounds are to be understood material or products in which the element Titanium is contained with more than 2% in a chemically or physically combined state.

Sachtleben are, however, not prevented from producing a mixture of Titanium White and lithopone, provided that also this product comes under the mutual lithopone agreement between Sachtleben and I.G., and that Sachtleben take the Titanium White required for the manufacture of this product from I.G. to the extent and as long as I.G. grant competitive prices on equal conditions and for equal qualities.

Exhibit 544

II. As compensation for this renunciation the I.G. assign from the quotas, which they have in the Lithopone Syndicate, the following parts to Sachtleben, on the conditions stated:

a) with effect from July 1st. 1933 their part of the right of delivery of the Farbwerke G.m.b.H. Hönningen, in return for which Sachtleben pay to the I.G. in quarterly rates, payable at the end of each quarter, an annual indemnification of R.M. 15.000.—, however, only until the total payments have reached an amount of RM. 150.000.—;

b) their part of the right of delivery of the Chemische Werke, previously H. & E. Albert, Wiesbaden-Biebrich on the following conditions:

1. If the total sales of the I.G., Sachtleben A/G. and the Chemische Fabrik Marienhütte G.m.b.H., Langelsheim, in the home market and abroad in the course of a year, (each time to be reckoned from July 1st.) reach 27.538 tons, then the I.G. assign to Sachtleben one half of their part of the right of deliveries of Albert, each time for the year in question.

2. If the total sales of the I.G., Sachtleben A/G and the Chemische Fabrik Marienhütte G.m.b.H., Langelsheim in the home market and abroad in one year (each time reckoned from July 1st.) reach 29616 t., then and the I.G. assign to Sachtleben also the second half of their part of the right of deliveries of Albert, each time for the year in question.

Exhibit 544

3. According to the extent and the time for the assignment of part of the Albert quotas, according to No. 1 and 2, Sachtleben take over, releasing I.G. from the payments of indemnification, which are to be made to Albert according to contract dated the 17./25./27. of July 1927.

III. Should changes take place concerning the distribution of the parts in the Lithopone Syndicate, or concerning the Lithopone Syndicate itself, then, in the relations between Sachtleben and I.G., the quota parts of Hönningen and Albert mentioned in this agreement are replaced by the proper quota parts which correspond to the previous parts of H. and A.

IV. Should the value of the Reichsmark change during the duration of this agreement, then the parties to this contract will come to an agreement about an adjustment of the payments mentioned in II.a., according to the changed conditions in good faith and in the spirit of this contract.

V. This arrangement remains in force for the duration of the mutual lithopone agreement between I.G. and Sachtleben of ..... Sachtleben are, however, entitled also during the term of the mutual agreement to terminate this arrangement by giving 1 years notice before the end of a settlement year, but the arrangement to end at the earliest per June 30th. 1938. If Sachtleben give notice, they are free, already during the last year before the expiration of this arrangement, to take steps for the erection of a Titanium White factory, whereby under such steps is to be understood: "Starting the erection of a Titanium fac-

Exhibit 544

tory" or "Passing orders for building materials or parts of the equipment of the factory". If Sachtleben gives notice, the parts assigned to Sachtleben of Hönningen and Alberts rights go back to I. G., the payments to IG. from Sachtleben according to H.A cease, and the payments to Albert according to HB., cipher 3. will again go over to I.G.

We shall be pleased to receive your kind confirmation of the above, and remain,

Yours very truly

I. G. FARBENINDUSTRIE A/G.

(sign.) Borgwardt. (sign.) Dr. Stein.

Exhibit 545

Letterhead of

TITAN COMPANY, INC.

Paris, March 20th, 1934.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

RE BLUMENFELD NEGOTIATIONS.

I sent Mr. Blumenfeld in the latter part of January two drafts for agreements:

1) Dealing with France, Belgium and Holland and the Baltic States.

2) Concerning also Montecatini and Titangesellschaft and dealing with all countries except North America, British Empire and those of Aussig.

Montecatini has accepted the latter.

On March 3rd, in a meeting between Blumenfeld, Castellani, Kjihne, Borgwardt and myself, Blumenfeld suggested a very different form for an agreement: This left so much open for the future, that he presumably wished considerable modifications of what has been agreed upon. Last Thursday he was, though, willing to use our draft as a basis, but will no more accept:

Exhibit 545

1) A limitation of the capacity of his French factory to 900 t., but reserves a right to increase this according to the requirements of the French market.

2) He will not let us have the preponderant influence in fixing the prices for Belgium and Holland, as this is a matter of capital interest to him.

On a remark from me, he admitted that this meant a withdrawal from what he had agreed upon. His acceptance of my memorandum (ref. my letters No. 19 and 34) only pertained to the principal points and did not include details like the question of price fixation (sic!).

Mr. Borgwardt had last Thursday a meeting in Basel with the Montecatini people and representatives from Blumenfeld, to the purpose of reaching a working basis for the first 3 or 6 months for the countries excepting France, Belgium and Holland. Montecatini accepted this proposal; but Blumenfeld's representatives would not agree to keep out of the Scandinavian countries as long as no agreement was reached regarding France, Belgium and Holland.

Blumenfeld's representatives pointed out that they were interested in keeping the prices in Holland and Belgium high, in view of the limtiation of their French factory's output with consequently high production costs needing high prices in France. Our interest is to lower the prices as the development of the market makes this wise.

I can understand Blumenfeld's position as to France, but he ought to have considered this last year. It seems that, being presented with the final agreement, some of his assistants have opposed this condition and Blumenfeld is now backing out.

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I have worked towards a cooperation with Blumenfeld chiefly in view of a desire to reach this, expressed from your side as well as the Germans', and in order to bring Blumenfeld on our side with regard to the question of import to France. This latter will no more be the case when Blumenfeld can extend his factory according to the French market's requirements.

We had also in view finally to reach an agreement for technical cooperation.

I wish, though, to point out that the above mentioned experience confirms strongly our impression of Blumenfeld's mentality, which should make one very hesitant to enter into a closer cooperation, as it does not promise well for the future.

Our English friends have hitherto shown a decided disinclination to have anything to do with Blumenfeld, in view of his mentality. A future technical cooperation will be difficult, if not impossible, without a cooperation between also the English company and Blumenfeld. I thought this might have been solved by B. T. P. in time acquiring Blumenfeld's English rights by a straightout purchase, but the above experience is not very encouraging in this respect.

Knowing that the National Lead Company in its general policy is cautious in choosing the people with whom to cooperate more closely, I should much appreciate to hear from you in view of the above.

There may still be open the possibility of a less close cooperation of a strictly commercial character.

I realise that it is very difficult, if not impossible, from your side to give any advice as to such an arrangement, in view of the various alternatives which may develop, but I shall appreciate your advice regarding the principal ques-

tion as to how far you wish me to be influenced by your interests in a cooperation with Blumenfeld.

I am sorry to trouble you with this just before your departure for South America, but, as you will note, this is a fresh occurrence.

Please let me also know who will deal with my correspondence with New York during your absence.

Wishing Mrs. Beschorman and yourself a very pleasant trip to South America and looking forward to seeing you in Europe, I am,

With kindest regards,

Yours very truly,

G. JEBSEN

P. S.—Blumenfeld's proposal of an agreement, which we rejected, meant in reality that we should bind us to him for 5 years and leave practically all important points, except the quota, for the decision of a Committee in which the majority should alternate in periods between Blumenfeld's group and our group, with the right to appeal to an arbitrator in case the Committee's decisions are not acceptable to the one or the other party.

It needs no explanation that this proposal is quite unacceptable, particularly as the terms of the agreement will then be left to the arbitrator—a task which probably no arbitrator will accept.

I enclose an exposé regarding the relations between Blumenfeld's various companies, which I at last have obtained. You will from this note that the arrangement with Aussig, as laid down there, is contradictory to the Aussig agreement with Titangesellschaft (which is signed), as

Exhibit 545

Aussig's rights are dependent upon putting up an important factory in Germany. Blumenfeld told me that he did not know the agreement between Aussig and Titangesellschaft and had therefore not approved of this. I did not consider myself entitled to inform Blumenfeld of the conditions of that agreement in respect to this question, as the agreement contains a clause of secrecy.

By the way, one of Blumenfeld's assistants said that the present capacity of the Thann factory is 1200 t. Last summer Blumenfeld said: 700 t. with part-provision for 900 t.

P.P.S.—The TiO_2 content of the European companies' deliveries for January and February 1934 exceeds 1933 by 47%.

Principal Manufacturers and Sellers of Titanium Oxide

Firms belonging to the Blumenfeld group, and definition of their respective status:

a. *Societe de Produits Chimiques des Terres Rares:* with exclusive rights of manufacture and sale with the exception of the following countries: Germany, Denmark, Czechoslovakia, Austria, Hungary, Jugoslavia, Roumania, Danzig, United States, Italy.

b. *Societa Anonima "Titanium"*, in Milan (the society was founded by the "Societe Generale pour l'Industrie Miniere et Agricole 'Montecatini'" in Milan, the "Compagnie Miniere du Nord et des Alpes" in Paris, and the "Societe des Terres Rares" in Paris), with exclusive rights for Italy, with colonies, protectorates and mandates.

This company has non-exclusive selling rights in the following countries: Belgium, Holland, Switzerland, British Empire, Spain, Portugal, South America.

These rights, given by the "Societe des Terres Rares", can be cancelled on three months' notice.

c. *Krebs Pigment and Colour Corporation* (affiliated with Du Pont de Nemours, Wilmington, Delaware) with exclusive manufacturing and selling rights in the United States.

d. *Fabriques de Produits Chimiques de Thann et de Mulhouse:* joint-stock company at Thann (Upper Rhine) with manufacturing and selling rights in France. These rights are exclusive in fact, but not explicitly so granted.

e. *Verein fur Chemische und metallurgische Produktion,* Aussig (Czechoslovakia) with exclusive manufacturing and selling rights in Czechoslovakia, Austria, Hungary, Jugoslavia and Roumania.

This company owns also the exclusive manufacturing and selling rights in Germany, Dantzig, Memel territory and Denmark. These rights are, however, conditioned by the obligation to create sizeable production in Germany.

f. The "Societe de Terres Rares" and the "Verein" jointly own the exclusive manufacturing and selling rights in Poland and Soviet Russia.

Translated by
H. Espenschied
March 29, 1934

Exhibit 546

March 30, 1934.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

Replying to yours of the 20th, No. 72, regarding your Blumenfeld negotiations. I am not at all surprised at the turn these negotiations have taken as you probably remember that after my first interview in your presence with Mr. Blumenfeld, in Paris, I expressed the opinion that he was one of the shifty kind that would agree to one thing today and disagree the next.

I know that you had in view finally trying to reach an agreement with him not only on commercial matters but on technical cooperation. In my present feeling toward the matter I would drop any idea of technical cooperation with Blumenfeld unless he could come back to the original understanding that you had with him on the commercial lines it would be my idea to tell him that as far as he is concerned everything is off. I think if you do this you will find that he will probably come back, at least temporarily, to your original ideas.

I am glad to note the increase in the European companies deliveries the first two months of this year as compared with 1933, which amounts to 47%. I am sorry to tell you that the deliveries of Titanium pigments in the United States for the first two months of 1934, as compared with 1933, reduced to a pure TiO_2 basis, show an

increase of slightly over 100%, so you still have something to shoot at.

With regard to mail—kindly continue to send all mail addressed to me here and my secretary, Miss Ashworth, will pass your letters on to the proper parties for attention. This is order that your correspondence will not be scattered all over the office.

With kindest personal regards,

Yours very truly,

Executive Vice President.

Exhibit 547

Letterhead of
TITAN CO. A/S

W. C. Beschorman, Esq.
National Lead Company,
111 Broadway,
New York.

August 9, 1934.

Dear Mr. Beschorman,

I just managed before leaving Paris to make the agreement with Mr. Blumenfeld re. a commercial co-operation for France, Belgium, Holland and the Baltic countries.

It is signed subject to being approved by legal advisers and to the approval of the respective Boards and is also subject to the agreement with Montecatini and Titangesellschaft m.b.H. being accepted by all parties. This last was already accepted by all concerned except Blumenfeld, who wished some changes acceptable to us.

I presume therefore this also will go through. When this is ready—I expect early September after the holidays. I will forward them all to New York, and hope they will meet with approval, as they are substantially on the lines dealt with in correspondence.

In the meantime the co-operation with Blumenfeld as to France, Belgium and Holland has begun and we will have a little more experience.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 548

Letterhead of
TITAN COMPANY INC.
No. 150

Paris, July 9th 1935.

GJ/AK
William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re Convention Agreements between the Blumenfeld group and our group for countries outside North America and the British Empire.

Ref. my letter No. 146 of June 22nd.

I have had conversations with Mr. Blumenfeld who has been in contact with Montecatini.

Blumenfeld informs me over the telephone that Montecatini will reduce their demand so that by sales reaching 1620 tons TiO_2 in Italy instead of 1500 tons, they shall cease exporting.

As I am going to Norway to-morrow and Mr. Henrikssn is leaving on holiday, I have asked Blumenfeld to continue these negotiations with Mr. Borgwardt, and I have told Mr. Borgwardt that I am willing to accept this.

Noury & van der Lande.

Mr. Blumenfeld strongly asked me to put our forces together in order to fight Noury & van der Lande on the pat-

ent ground, and was willing to contribute his part of the costs, prorata with his TiO_2 sales. He suggested to leave the management of the procedures to me.

Blumenfeld has, to our knowledge, no patents in Holland.

Prices in Holland and Belgium.

Blumenfeld was in agreement to reduce these prices if necessary in accordance with the English prices.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 549

Letterhead of

TITAN COMPANY, INC.

Paris, February 17th, 1936.

Confidential

SJH/MH

Mr. M. D. Cole
National Lead Company
111, Broadway,
New York N. Y.
U. S.A.

Dear Mr. Cole,

Referring to the minutes from the Meeting of the Board of Titanine of November 7th, 1934, I take pleasure in informing you that the Agreements between the various Companies of the Blumenfeld Group and our own Group, are signed and exchanged between the parties.

I therefore beg to forward separately by registered mail as printed matter, copies of these Agreements together with English translations, as follows:

1) Agreement entered into by Six Companies, which we refer to as *"Contrat à Six" with "Supplement"*. The Agreement is as submitted to the Board in 1934 with the exception that on Page 7, under the heading "Titangesellschaft Terres Rares and Thann" has been added "including their Colonies, Dependencies, Protectorates and Mandated

Exhibit 549

Territories" as far as Spain, Portugal and Japan are concerned, thereby expressing more clearly what was intended.

The "Supplement" is the same as was sent Mr. Cornish and Mr. Beschorman on November 14th, last year.

2) The *"Contrat à Quatre"* between four Companies, as submitted to the Board in 1934, except in Annex "A" Page 4, the paragraph "Responsibility for and quality of deliveries" is rendered more explicit.

3) The *"Contrat de Livraisons"* between the parties to the "Contrat à Quatre", regarding Mutual Deliveries as authorized in the minutes.

I should be obliged if you would kindly acknowledge receipt and remain,

Very truly yours,

S. J. HENRIKSSEN

Exhibit 550.

SALES-REPORT OF THE I. G. FARBENINDUSTRIE FOR 1938.

Turnover:

In 1938 the total turnover of the Titangesellschaft was 7,730 tons of TiO_2 against 7,016 tons of TiO_2 in 1937. So it has been increased by 10.18%. Compared with the turnover of 1935, 1938 shows an increase of 93.25%. Even the number of customers could be enlarged, viz. on 7,950 instead of 7,400 in 1937.

The increase in 1938, however, concerns the German home-market only. Abroad we lost the Japanese business, the Japanese having taken up the manufacture of Titanium White on their own. If we had not lost the whole Japan market, we should have had the same increase in the export business.

Convention Agreements:

As to the *conventions with the members of the Blumenfeld Group* the situation is as follows:

The *contract with the "Verein für Chemische und Metallurgische Produktion, Prag" (formerly Aussig)* was renewed for two years. The quota has been altered in favour of the Titangesellschaft and the new situation with regard to the works at Aussig has been duly considered. Prag has the intention of building a new plant at Hruschau in order to have a production of its own in place of the sold Aussig plant.

The *contracts with Thann and Bovisa* expired on the 31st of December 1938, Bovisa having given notice. The Montecatini Concern had got a license from the Italian government on their request to build another Titanium

factory for export purposes. Therefore, very likely the Italians will be our competitors in all the open markets within two years or so. Notwithstanding the cancellation of the convention-agreement we shall do our best to remain in friendly connection with the members of the Blumenfeld Group.

The convention-accounts for the end of 1938 leave us as over-deliverers so that we shall have to take goods in compensation from Thann as well as from Bovisa. As it has proved very difficult to dispose of such foreign goods we shall try to come to an agreement with Thann and Bovisa on the basis of an adjustment in cash.

Prices:

Our selling prices have remained unaltered during 1938. We think of lowering our rather high prices for the German market, but have adjourned our decision until we can form a final judgment about the price to be handled for Rutiox.

For our export-business we have reduced our prices on the 15th of January 1939 in those countries which belonged up to December 1938 to the territory of the convention cancelled by Bovisa. The new prices have been fixed in such a way that the net result free border will be RM 700. per 1000 kilos.

There is nothing to be said in particular on our export business; the sales territories show partly an increase, partly a slight decline, according to the political situation and the tendency of the market.

Exhibit 550

Different Industries:

The following report on the application of TiO_2 in various technical fields concerns the German home-market only.

As you know, our turnover in Germany is rather distinctly divided between paint-trade and industrial consumption, as we have nearly no manufacturers producing ready made paint, i.e. the dealer sells our pigment directly to the master-painter. This turnover through dealers was in 1938 785 t. TiO2 or 12.32% of the total turnover in Germany.

To the varnish and lacquer makers we delivered 2,238 t. TiO_2, i.e. 35.13% of the total turnover in Germany.

So our total sales for paint and varnish purposes were 3.023 t. TiO2 or 47.45%.

Compared with 1937, there is in this field of application an increase of

5,62% in business through dealers
13,74% in the varnish-and lacquer-industry.

You will see that even now we have not a satisfactory part in the real paint business, though we spend by far the largest part of our propaganda fund for this purpose.

This is due to the fact that the German master-painters who—as mentioned above—prepare their paint themselves mostly by hand, are extremely conservative. They are accustomed to the properties of the old established pigments and feel inclined to consider new pigments to be bad, if their properties and behaviour differ from those of the older pigments. Therefore, in their eyes even very moderate chalking is a fault of the Titanium pigment and a danger to their work.

Amongst the different industries consuming Titanium pigments, the *Paper-Industry* is at present the most interest-

ing one. As you know, we have made up our mind some time ago to make the study of the application of Titanium pigments in the paper-trade a special task of the paper-laboratory of the I.G. Consequently they have visited all the German and part of the foreign paper-makers. In their investigation of our sales possibilities they got the conviction that there were almost no prospects of business at our normal-price for TiO2, because the industry mostly refused to make trials. So we had to make special prices for them and in order not to trouble our ordinary business we decided to make a special brand for the paper-trade, viz. "Titanium White Supra P", consisting of 90% TiO2 and 10% Blanc Fixe. For this brand we fixed a price 25% lower than the normal TiO2 price.

The result of these measures is expressed in the fact that in 1938 we sold 1000 tons of TiO2 to the German paper-makers, increasing our 1937 sales by 65%. The share of our sales to the paper-industries in our total German sales amounts to 15,62%.

This satisfactory turnover is distributed between the different lines of the paper-industry as follows:

for bond-and printing-papers woodfree.	340 tons
" " " " " containing wood	59 "
" fine-papers	76 "
" waxed paper	143 "
" photographical papers	167 "
" laminated card-board	52 "
" different paper-purposes	163 "

It is most interesting to note that just for bond and printing-papers such large orders could be obtained, al-

though formerly we were always told that their quality was quite satisfactory without Titanium and their cost-price could not bear an additional expense for Titanium.

When in 1937 the German board of trade issued an order that in the production of a certain class of bond-and printing-papers a certain part of bleached cellulose should be replaced by unbleached cellulose we expected a substantial increase of our business on account of this order. Indeed our introduction work was facilitated to a certain extent by it. But since some time we are under the impression that in consequence of alterations in the distribution of raw materials in the paper-industry, the order has lost its practical effect.

From this observation we have at first drawn the conclusion that our sales to the paper-industry would decrease. However, up to now this has not happened and, therefore, we hope that the paper-makers, if they have once got accustomed to the use of Titanium, will stick to this product, even if their process of manufacturing undergoes an alteration. We would like to draw your special attention to the increase of Titanium used for the production of raw waxed papers

from 54 tons in 1937
to 143 " " 1938.

We do not believe that the total delivery of waxed papers has grown considerably and, therefore, conclude that the few German makers of this kind of paper do appreciate the use of Titanium for their product.

For coated papers Titanium is not used up to now to an extent worth mentioning. The industry is of the opinion that the printers prefer the old established coating of calandered

papers with Satin W ite to a new paper quality coated with Titanium White. For the other papers of this group Titanium is not used yet on account of its price with the exception of those papers about which Dr. Hansen has made his report yesterday. We shall have to wait until we can make up our mind to reduce our price further as we have done already in the case of cigarette papers. There are only two makers of cigarette-paper in our country which belong both of them to the same concern. They are using Titanium, but they decided to do so only after we made an extra reduction of our normal price by 20% which means that in this case a hundred kilos of TiO_2 contents are sold at RM 66.50. They do not deny the advantage they get by adding Titanium, but they still maintain that this advantage is acquired at too high a price and that, therefore, they can use our product for part of their production only. We feel sure that we should be able to increase our sales in this line considerably by a further reduction of our price, but evidently this would go too far under the present circumstances. For the production of vegetable parchment TiO_2 is not used to a satisfactory extent as the producers declare that by the addition of TiO_2 to the paper stock the difficulty in the process of parchmentation would be increased to a certain extent.

For photographical papers TiO_2 is used in quite satisfactory quantities, but by some factories only. Evidently the possibility of using TiO_2 depends on the manufacturing process. We beg to refer to the report of Dr. Hansen regarding this subject. It may be interesting for you to note that we have a small but regular sale of Titanium White supra P for the opacification of black film wrapping-paper.

Exhibit 550

The consumption in the *Linoleum Industry* has remained stationary in 1938. This industry has partly changed to the production of highly tinted qualities instead of the light ones and for the production of tinted linoleums the use of Titanium White is too expensive on account of its high tinting strength which necessitates a large addition of coloured pigments.

In the *Rayon Industry* our turnover has grown by 12½%. Notwithstanding the difficulties in the discretion which make the product as unpopular as hitherto. The increase is due to the introduction of Titanium in the spun-rayon-production where Titanium is used as delustring addition to the wool like qualities.

In the *Industry of Vitreous Enamels and Cermanics* our sales have not made any progress in 1938.

Exhibit 551

Letterhead of

TITAN COMPANY, INC.

Paris, 10th August 1938

SJH/HS.

M. D. Cole Esq.,
National Lead Company,
111 Broadway,
New York, N. Y., U. S. A.

Dear Mr. Cole:

Back from vacation I find your letter of July 19th and take pleasure in sending you enclosed a copy of the French original letter from Societa Anonima Titanium; Milano, in which they terminate "the 6 Party Contract".

We thank you for transmitting to us the letter from Societa Anonima Titanium, copy of which we had not received.

We had, however, received a similar letter addressed to Société Industrielle du Titane, Paris.

No steps have been taken as yet towards Societa Anonima Titanium in this connection, but the situation will probably be discussed with T. G. and Mr. Blumenfeld in September.

Yours very truly,

S. J. HENDRIKSSEN

Exhibit 551

[COPY]

July 19, 1938.

Dr. Gustav Jebsen, Vice President
Titan Company, Inc
Paris

Dear Dr. Jebsen:

I enclose original letter of Societa Anonima Titanium dated June 30, 1938, sent by registered mail to the Wilmington, Delaware, office of Titan Company, Inc., giving notice of termination of the six-party contract of June, 1935.

I assume that you have had advance notice of this formal action and that in all probability a copy of this notice was sent to the Paris office, but thought it proper in any case that the enclosed original be in your hands. We have retained only an English translation of this letter and if you already have a copy of the French original it might be well if you would send us that copy for our files here.

Yours very truly,

Secretary.

MDC-P

Exhibit 551

TRANSLATION

SOCIETA ANONIMA TITANIUM

Sede Sociale in Milano

Milan, (1/34), June 30th, 1938

REGISTERED

Titan Company, Inc.
7 West 10th Street
Wilmington, Delaware
(U. S. A.)

Gentlemen:—

We refer to the six-party contract concluded during the period of June 10-17, 1933, and beg you to note that in conformity with article 11—Durée—we hand you herewith the required prior-notice for the cancellation of the contract in question.

We would like to add, that in giving you this prior notice we, nevertheless, entertain the hope of coming to a new agreement, to which we would give our best support.

Yours very truly,

SOCIETE ANONIMA TITANIUM

(Signature Illegible)

Ba

Translated by:
J. Lüer
July 12th, 1938
Patent Department
National Lead Company

Exhibit 552

NATIONAL LEAD COMPANY

Office of the President

To Mr. Garesche:

Please return to Mr. Rockwell's office.

Letterhead of

TITAN COMPANY, INC.

No. 10.

GJ/AK Paris, June 1st 1939.

Fletcher W. Rockwell Esq.
President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Rockwell,

Many thanks for your letter of May 19th.

I feel it rather badly that I have not written to you for quite some time and not got my annual report off, but on my last trip to England at the end of April I caught a cold which developed into a grippe and reduced my working capacity to I would say about 1/3. It has been an epidemy of that sort here in Paris and the same happened to several of my friends. I hope to be able to send you my report next week.

British Titan Products Co. had, as you say, a satisfactory year last year and it looks as if we can expect further good developments there. The market I believe should be able to consume a considerably larger quantity

of Titanium pigments than at present. Mr. Stopford did a good job with the acid agreement, particularly as the result has been achieved without disturbing the good relations. Major Barley seemed, though, to feel the result somewhat.

Titangesellschaft has also had a good year, but we will have to be prepared that higher taxation will reduce our profit somewhat in the future.

The sales in the Scandinavian markets are developing well and it seems as if the engagement of Mr. Anker and the extension of our sales activity will show good results.

In Holland and Belgium we have got a good man in Mr. de Vleeschouwer, but in these countries, which are more open for competition, the prices for Zinc Oxide and Lithopone, are low and we had to lower the prices to discourage Noury v. d. Lande who, you may remember, have been trying to make a nuisance of themselves.

France is a problem, as the reasons for domestic manufacture are growing more and more in force.

I had a talk two months ago with Mr. Berr of Kuhlmann, telling him, as we agreed last summer, that we would like to cooperate with them when we erect a factory, but that the time was not yet there. Mr. Berr said that they would always be interested in cooperating with us and would wait until we consider the time to be ripe. However, developments may force our hands earlier than I would like. This I expect to consider with you in the autumn, during my visit.

The sales all round of Titanium pigments, calculated as TiO2, have gone up with 16% in the first 4 months, compared with last year.

Our mine in Norway is, as you no doubt realise, a serious problem.

Exhibit 552

I am of course very interested in the idea which Mr. Garesché wrote me about, regarding the use of Ilmenite instead of Baroide, and look forward to the results of the tests which are being carried out.

Dr. and Mrs. Kühne, Dr. and Mrs. Brüggemann and Dr. and Mrs. Raspe have been talking with me in the last two years of visiting the Mine in Norway in connection with a short trip there. The difficulty has been time and foreign currency. The trip may come off this year, early July, in the way that we receive them in Kristiansand, take them by car to the mine and then to the East coast where I have invited them to spend a few days at my summer place, thus enabling them to travel without much expense in foreign currency.

By the way, Dr. Kühne has taken over, besides his present jobs, also the job of "Generaldirektor" of the factories in Austria, which the I. G. has taken over, and also the representation of I. G.'s interests in the factories in Sudeten Germany, which belonged to Verein für Chemische und Metallurgische Produktion, Aussig,—this adding another 20.000 workmen to his present responsibilities.

Trusting that you and your family are well and with my best personal regards,

Yours sincerely,

G. JEBSEN

Exhibit 553

Sigurd Anderson
Stora Nygatan 31
Stockholm

Stockholm, the 15th November 1940

Dr. G. Jebsen Esq.
c/o National Lead Company,
111 Broadway
NEW YORK

Dear Dr. Jebsen,

Situation Holland.

I received to-day a letter from Mr. Ravnestad according to which the manufacture of lead titanate pigments is being planned in Holland by a company for which one Dr. Rinse is acting as technical adviser. I am not informed of the name of the company in question but will endeavour to have this communicated to you.

In this connection I would mention that Dr. Rinse has opposed our patent application in Holland regarding lead titanate pigments Dutch Application No. 86.431, Case T. 184 which was accepted by the Patent Office and laid open for public inspection in the beginning of this year. The opposition was filed about four months ago and is pending. Judging on the arguments submitted in Dr. Rinses notice of opposition his case does not seem to be very strong, but as he may cite further material later on I would not now venture any opinion as to the result of his action. I will report to you as soon as there are news of interest.

Exhibit 553

Our mentioned Dutch application is based on a U.S. application filed by National Lead Company on the 23rd February 1937 and granted as U.S. Patent No. 2.140.222. I enclose a German Translation of the claims of the Dutch Application.

In addition to this Dutch application we have a Dutch Patent relating to lead titanate pigments viz. No. 32.082, Case T.93. As this patent is limited to pigments containing up to 10 per cent of lead titanate only it will probably not be infringed by the intended manufacture. We consider however this patent to be of some importance in view of more recent developments indicating that rutile (non-chalking) pigments may be produced by calcination of TiO_2 with relatively small amounts of lead compounds. (Du Ponts U.S. Application Ser.No. 215.219, Case DK.53. filed 22 June 1938.)

Yours sincerely

Sigurd Anderson

Exhibit 554

NATIONAL LEAD COMPANY

111 Broadway, New York, N. Y.

The following is carbon copy of telegram sent this day

Western Union

December 5, 1940

Nightletter

Stopford
British Titan Products
Eaglescliffe
Stockton-on-Tees (England).

Will BTP agree if we consider advisable that Titanic grant licenses in Titanic retained territory under lead titanate patents without imposing reciprocity regarding inventions as stipulated in license agreements article fourteen Stop Question due wish prevent lead titanate manufactured with conipetitors TiO_2 with possible no export limitation Stop We intend stipulate no export outside licensed territory

Titanic

Exhibit 555

WESTERN UNION TELEGRAM

December 6, 1940

L. W. Haslett,
Canadian Titanium Pigments, Ltd.,
630 Dorchester St.,
Montreal, Canada

WILL CTP AGREE IF WE CONSIDER IT ADVISABLE THAT TITANIC GRANT LICENSE IN TITANIC RETAINED TERRITORY UNDER LEAD TITANATE PATENTS WITHOUT IMPOSING RECIPROCITY REGARDING INVENTIONS. REFER LICENSE AGREEMENT ARTICLE 14 STOP ALTERNATIVE LEAD TITANATE MANUFACTURE WITH COMPETITORS TITANIUM AND NO EXPORT LIMITATIONS STOP WE INTEND STIPULATE NO EXPORT OUTSIDE LICENSE TERRITORY BRITISH TITAN HAVE CABLED APPROVAL

C. F. Garesche

Exhibit 556

Dec. 6-1940

WESTERN UNION CABLEGRAM

A LI147 EQ

EAGLESCLIFFE 33 6 407P

LC TITAN COMPANY INC
111 BROADWAY NYK

A

RE YOUR CABLE FIFTH BTP AGREE TITANIC
HAVE FREE HAND RE LEAD TITANATE
PATENT LICENSES IN THEIR TERRITORY
PROVIDED EXPORT TO OUR TERRITORY
PROHIBITED

BIRTISH TITAN

Exhibit 557

WESTERN UNION TELEGRAM

MOU25 47 DL XU=JS MONTREAL QUE 9 1135A

1940 DEC 9 PM 12 08

C F GARESCHE, NATL LEAD CO=
11 BROADWAY NYK=

PROPOSED LICENSE AGREEMENT SATISFACTORY TO CTP ON UNDERSTANDING THAT EXPORT TO CANADA NOT PERMITTED STOP DO YOU THINK IT ADVISABLE PROVIDE PROTECTION AGAINST POSSIBILITY THAT PROPOSED LICENSEE MAY OVERCOME EXPORT RSTRICTION BY PERMITTING OTHERS THAN CTP TO PRACTICE ANY PRESENT OR FUTURE CANADIAN PATENTS OF PROPOSED LICENSEE.

L W HASLETT.

CTP CTP.

Exhibit 558

Letterhead of

CANADIAN TITANIUM PIGMENTS LIMITED

December 9th, 1940.

Dear Mr. Garesché:

I thank you for your telegram of 6th December and am enclosing herewith copy of my reply despatched this morning.

It is my understanding that you have in mind granting a license under the Lead Titanate Patents to an unspecified party within the territory of Titan Co. Inc., and that this licence will not oblige the licensee to submit inventions and information to the licensor. As consideration for the license, however, the licensee will agree to refrain from exporting Lead Titanate beyond the license territory.

We are glad to agree to the proposed licence as any objection we might have had is eliminated by the export restriction. In this connection, however, it occurred to us to raise the question of the possibility of the licensee permitting third parties to practice its present or future Canadian patents on Lead Titanate, as if this were the case we might find ourselves in approximately the same position as we would be in the event that exports by a licensee were permitted. Probably this point has occurred to you but I thought it well to mention it inasmuch as it will apply also to U. S. territory.

In due course, we will be interested in learning the identity of the proposed licensee and the territory affected. At the same time, we will be glad to know whether the

Exhibit 558

proposed agreement covers existing patents only, or if it includes both existing and future patents and inventions as well.

Yours sincerely,

L. W. HASLETT.
L. W. Haslett.

C. F. Gadesché, Esq.;
Manager, Titanium Division,
National Lead Company,
111 Broadway,
New York City.

Exhibit 559

[COPY]

December 11, 1940.

Mr. L. W. Haslett, President
Canadian Titanium Pigments, Ltd.,
630 Dorchester Street, West
Montreal, Que.
Canada

Dear Mr. Haslett:

Thank you for your telegram of December 9th advising that it will be satisfactory that Titan Inc. give a license for the manufacture of lead titanate without imposing the reciprocity obligations covered by Article 14 of your license agreement. Your letter of the same date is also acknowledged.

As regards the possibility of the proposed licensee overcoming the export restrictions by permitting others than CTP to practise any present or future Canadian patents in Canada, we feel that that danger (even tho it probably is very remote) will exist whether or not we sub-license. By sub-licensing, we hope to obtain improved cooperation and thereby better protection for not only the interests of Titan Inc., but its associated companies.

The situation as regards lead titanate is that our patent is rather weak, covering only a product improvement; the improvements being particularly in the phases of color and particle size. The proposed licensee has already made experimental quantities of this pigment, and the probability is that we would be unable to stop them. We feel the situation would be very much improved if we arrange to allow them to manufacture it under our patent, supply them with

the necessary semi-finished titanium pigment and arrange that we have the exclusive selling agency for the product. We, of course, do not know as yet if we can consummate the arrangement we have in mind, but appreciate your approval of our proceeding with negotiations. We will advise you further when, and if, the arrangement is concluded.

Yours very truly,

(signed) C. F. GARESCHÉ
Manager

cc Dr. Jebsen
Mr. Kaegebehn

Exhibit 560

NATIONAL LEAD COMPANY
111 BROADWAY, NEW YORK, N. Y.

THE FOLLOWING IS CARBON COPY OF TELEGRAM SENT THIS DAY

RCA
December 11, 1940

NIGHTLETTER

Titanco
Fredrikstad (Norway)

Inform Vleeschouwer One Leadco has developed two TiO2 pigments and one C30 pigment which Robertson considers will take most of Leadtitanates prospective markets after war and make future competition from Leadtitanate unimportant Stop Agreement Hollandische then places Belge awkward position Two Agree Bommens view Hollandisches possible tendency export Leadtitanate and manufacture TiO2 pigments Development above situation will intensify this Stop If Vleeschouwer still wish grant license we agree provided you obtain Teges and Igs release from imposing reciprocity regarding inventions stipulated in license agreements article fourteen License should be only under existing Leadtitanates patent rights Holland perhaps Belgium and respective colonies Indispensable condition prohibition export outside licensed territory Stop Assume you eventually inform Vleeschouwer regarding other license conditions usual practice Stop Agreement should have simple form

Titanine

Exhibit 561

TRANSLATION

SOCIETE BELGE DU TITANE

BRUSSELS

COPY

EXPRESS

Dr. Raspe
c/o Titangesellschaft m. b. H.,
Leverkusen,
DV/SB

December 9, 1940

Dear Dr. Raspe,

LEAD TITANATE

Please find enclosed a report of the very recent visit to the Arnhem offices of Hollandsche Metallurgische Bedrijven (H. M. B.).

I think that it will not fail to interest you, so much the more, since therein is set forth the way in which H. M. B. shall eventually be able to procure for itself the necessary lead for the manufacture of pigment.

Having before me the copy of letter No. 266 which Titan Co., Inc. (Mr. B. W. Bommen) wrote to you last November 23rd and which gives an interpretation of the telegram sent by Dr. Jebsen to Fredrikstad on the subject of Dutch lead titanate, I am still wondering if after all that we know it will be necessary to be held up by patent and license questions, which H. M. B. does not consider.

I should be very grateful if after reading this report and my letter, you would get into telephonic communication with Fredrikstad to explain to them once again the situation and to ask if it is not really better for us to agree for the time being with the Dutch firm, for example, until 6 months or one year after the end of the war situation, a time when the

Exhibit 561

Societe Belge du Titane would have its hands free and could once again employ a Kronos titanate manufactured either by T. G. or by the Americans. We could sell H. M. B. our titanium oxide at a price sufficiently high that we could arrive at a high sales price of Lead Titanate, in such a way that the price of titanium oxide S 1314 would be considerably lower. This would greatly facilitate the development of the sale of Oxide S 1314, which according to your technical men should be the best competitor of lead titanate.

I am sending the same request to Mr. S. J. Henrikssen, the engineer, for if we do not act rapidly and if we hesitate once again on the questions developed in the letter of Titan Co., Inc., with reference to the patents, we shall get no further forward.

It is absolutely imperative that we be in a position to make definite terms with the Dutch firm before Christmas.

The report included herein also will have this interest for you in that it permits you to make your agreement almost at the time that Noury & Van der Lande definitely cease their activity in what concerns titanium oxide. Is repurchase of material by H. M. B. the indication that this firm is sooner or later going to attempt to manufacture titanium oxide? Personally I hardly think so. The day that H. M. B.-Billiton resumes this manufacture, they certainly will procure for themselves more adequate material and can be more modern than that of Noury & Van der Lande.

I strongly hope, therefore, for a quick reply to my letter from you, giving me from Fredrickstad a *yes* or *no* as to an agreement to be concluded in the next few days with H. M. B.

Awaiting your reply, dear Dr. Raspe, I extend to you my best wishes.

(s) J. De Vleeschouwer

c Mr. S. J. Henrikssen,
c Titan Co., Inc.

Exhibit 562

COPY

TRANSLATION

SOCIETE BELGE DU TITANE
BRUSSELS

Titan Co., Inc.
c/o Titan Co. A/S,
Fredrikstad

EXPRESS

Letter No. 93
December 9, 1940.

DV/SB

Gentlemen,

We enclose for your attention a report of the visit that we have just made to the Hollandsche Metallurgische Bedrijven (H. M. B.) and we acknowledge the receipt of the copy of your letter No. 266 of November 23rd last, addressed to Titangesellschaft.

We have read with interest the interpretation that you give to the telegram addressed to you by Dr. Jebsen relative to an eventual agreement with H. M. B.

We are surer than ever that these factories attach no importance to patent application No. 86,431 filed in Holland.

Taking this into consideration, we have requested Dr. Raspe to telephone you to request definitely your opinion and to know if, *yes* or *no*, we can come to terms (*Translator's note:* The phrase used here may have the significance of "to have a secret understanding". In any event, there is generally a connotation of an act done secretly

Exhibit 562

when this phrase is used.) with H. M. B. In our own opinion, and under the present circumstances, it would be most important that we should have in our own hands the sale of this lead titanate until, for example, 6 or 12 months after the present developments. At the moment we could get ourselves released and reassume the sale of a Kronos titanate.

By selling titanium oxide to H. M. B. at a price varying between *70* and *75* fls.—(they are paying *80 fls.* at the present moment), we have set a relatively high sales price for Dutch Lead Titanate, a price which would be accepted by certain clients and a price which would be favorable to the introduction of S 1314.

Keeping in mind that it is indispensable to make definite agreement with H. M. B. before Christmas, we request you to reply by return post express.

In anticipation of your reply, we extend, gentlemen, our very best wishes.

SOCIETE BELGE DU TITANE S. A.
Administrator - Director

(s) J. De Vleeschouwer

c Mr. S. J. Henrikssen.

Exhibit. 562

TRANSLATION

COPY

REPORT P.K.

HOLLANDSCHE METALLURGISCHE BEDRIJVEN—ARNHEM

Interview with the Technical-Director, Mr. DeVriendt.

Mr. DeVriendt expressed his satisfaction to be able to have an interview again with us on the subject of Lead Titanate. He considered that in this way we possess certain interests parallel with his and those interests would lead him to express a hope that a final agreement might be made in so far as it concerns the sale of Lead Titanate. Mr. D. said that he saw several ways of handling this matter: either to take upon himself the sale which would not be very difficult for him, since all paint manufacturers who would use Lead Titanate were known to him—or to enter into an agreement with us—or to make an agreement with Pieter SCHOEN, who had already approached him and had called upon him—or with the Handelsmaatschappij VONK at Amsterdam, a firm well known in Holland, or with one firm or another, some of whom had already written to him and others of whom would not fail to do so immediately, as soon as production of Lead Titanate was better known. Up to the present time he had not replied to any request while awaiting our definitive position, such as it was envisaged at the time of our first interviews. However, he had not stood still and had, over and above manufacture on an industrial scale of Lead Titanate (a quantity of nearly 10,000 kgs. was already produced), sought to place his product on the Netherlands market. To this end, numerous circular letters had been sent to several firms in Holland.

Exhibit 562

Sending these circulars had not been without fruit: several trial orders of several hundred Kgs. had been received and filled, and the requests cited herein had been received.

It is to be noted from what precedes that the deliveries in question were made to firms to whom we had not yet introduced our product for reasons known.

Mr. D. was rather taken back by the fact that our product was not yet known by every paint manufacturer.

Lead Titanate delivered by H.M.B. was sold at *93 Fls.*— per 100 Kgs. packed in barrels of 50 Kgs.

Manufacture was made in little rotating furnaces with a possible monthly production of a few tens of tons.

Manufacture itself gave no difficulties, although it demanded very great attention in order to give all required qualities to the finished product.

After sending out the trial orders, Mr. D. had prepared an exhaustive study of his product comparing it with our Lead Titanate and had had the office of Dr. Rinse at Haarlem prepare an identical study.

The first reports were favorable and Mr. D. does not doubt that his Lead Titanate will have properties at least identical to our pigment. The few difficulties that could exist at the present time, for example regarding absorption of oil, will disappear with subsequent manufacture, especially if these are made on a large scale with continuous production. The reason for these divergencies is principally found in the simultaneous calcination of our TiO_2 and litharge.

N.&v.d.L. having let it come to him that they were definitely abandoning all plans of making Titanium Oxide, he had profited thereby by purchasing an important part of

their manufacturing plant, among other things their two (large) electric rotary calcination furnaces.

The two furnaces in question will permit him to maintain a sufficient industrial yield filling all demands and assuring a supply, if necessary, of 2 or 3,000 tons a year.

The furnaces in question are being installed at Arnhem; the secondary material necessary has just arrived (vats, machine wells, motors, etc.). Over and above the material, Mr. D. also purchased from Noury a semi-finished lot of Titanium Oxide.

H.M.B. has, therefore:

1) made Lead Titanate on an industrial scale,

2) possesses an acceptable product for paint manufacture,

3) has sold its lead titanate to different firms in Holland,

4) has concluded the preliminary job of introduction,

5) has purchased and disposes of material necessary for continuous manufacture on a large scale,

6) intends to push its manufacture with or without our cooperation.

The only inconvenience at the moment is that of purchase of primary material.

As to TiO2 Mr. D. has no fear. Either we deliver to him directly or he purchases indirectly from one of our clients, or he procures it directly from Thann or imports from Italy.

As to litharge the problem is more difficult. At the moment Mr. D. has a quantity of litharge sufficient for manufacturing 35 to 40 tons of Lead Titanate. Moreover, he is currently engaged in negotiations with the German and Italian

supply houses for litharge who have assured him more or less important deliveries in the near future. In conclusion Mr. D., who is very well thought of by the "Section for distribution of primary materials for the paint industry" at La Haye (Translator's note: The Hague), hopes to be able, through the good offices of this association, to succeed in having a part of the lead which at the present time is allotted to the manufacture of white lead allotted to the production of litharge, which would be useful for the production of PbTiO3.

It should be noted that at the present time the Netherlands industry is allotted approximately 30 per cent of its normal consumption of metallic lead.

This normal present consumption is about 650 tons. It is certain that if all this should be realized, Mr. D. could not look forward to the manufacture of thousands of tons of PbTiO3, but he understands that this is only for the post-war period. In the opinion of several paint technical experts who were consulted, it would be necessary to consider that a consumption of 1,000 tons of Lead Titanate by Holland alone would be relatively easy of realization in the near future!

NET COST AND SALES COST

In establishing his sales price, Mr, D. has sought to maintain the same margin of profit between that of cost of primary material before the war and our sales price of Lead Titanate. Thereby he had arrived at an approximate difference of 33 Fls. which he wished to maintain at the present time. Recently he purchased German litharge at *50.75 Fls.* per hundred Kgs.; together with our price of

Exhibit 562

TiO2 (80 Fls.)—the cost of primary material would amount approximately to *60 Fls.*—per hundred Kgs. Augmenting this value by 33 Fls.—we have the sales price of *93 Fls.—Per 100 Kgs.* which was set by H. M. B.

AGREEMENT WITH S. B. T.

The agreement was made with us for the following reasons:

1st) We are the chief supply in Holland of Lead Titanate

2nd) we are an honorably known firm and we are in contact with most possible consumers of lead titanate.

3rd) we regularly supply TiO2.

An agreement could be sketched guaranteeing to us exclusive sale of the production of H. M. B., for the present time for Holland alone, and perhaps for Belgium, wider export not being settled at the present time.

No minimum previous deductions would be set forth, but the agreement would be made to push sales actively by every means at our disposal. A sales price would be established by joint agreement in which we could take account of the benefit which we already realize by the sale of TiO2 to H. M. B., which would diminish the sales price of Lead Titanate in comparison with the price set by H. M. B. We should look forward to a sales price of Lead Titanate at approximately *80 Fls.*

It would be necessary to guarantee to H. M. B. that we shall undertake exclusive sale of their Lead Titanate over and above that of our own factories. The agreement would

be to a definite period after the end of the war, at which time another agreement might be considered.

Mr. D. naturally wished to have matters settled very soon. He could not make other firms soliciting him wait much longer. It was agreed with him that before the end of this month we should take, in some manner, our position.

It remains to be noted still that in the course of the interview Mr. D confirmed that the definite projects of manufacture of TiO_2 by his firm were ready, but that he had drawn back until the present time because of inherent difficulties of such an enterprise and, therefore, had devoted himself to the production of Lead Titanate which was easier.

PATENT

H. M. B., without being a creature of the State, must nevertheless be influenced by some governmental influence, quite probably in view of financial aid given it.

One may, therefore, believe that H. M. B. considers its position from the point of view of patents for manufacture of Lead Titanate as very strong, even unassailable, because if not they certainly would not venture to commence an enterprise upon a basis which is not permitted.

Mr. D. says as well that the patent concerning the manufacture of $PbTiO_3$ would never be granted in Holland.

SOCIETE BELGE DU TITANE
Administrator - Director

J. De Vleeschouwer

December 9, 1940

(s) P. S. KERSTEN

Exhibit 563

Copy EE

NLT

Cable from New York, 12/12.1940:

Titanco Frédrikstad,

Inform Vleeschouwer

one Leadco has developed two TiO_2 Pigments and one C-30 Pigment which Robertson considers will take most of Leadtitanates prospective markets after war and make future competition from Leadtitanate unimportant stop.

Agreement Hollandische then places Belge awkward position.

two Agree Bommens view Hollandisches possible tendency export Leadtitanate and manufacture TiO_2 Pigments development above situation will intensify this stop.

If Vleeschouwer still wish grant licence we agree provided you obtain TEGES and IGS release from imposing reciprocity regarding inventions stipulated in licence agreements article fourteen.

Licence should only be under existing leadtitanates patent rights Holland perhaps Belgium and respective Colonies.

Indispensable condition prohibition export outside licensed territory stop.

Assume you eventually inform Vleeschouwer regarding other licence conditions usual practice stop.

Agreement should have simple form.

TITANINC.

Exhibit 564

TRANSLATION

COPY

Fredrikstad, December 13, 1940.

RI/HL—No. 92

AIR MAIL
EXPRESS

Mr. J. De Vleeschouwer,
Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels.

Dear Mr. De Vleeschouwer,

LEAD TITANATE

We have not yet received by mail the details set forth in the memorandum of Dr. Jebsen which we communicated to you on the 3rd instant.

Today, however, we received a telegram from Titanine, a copy and French translation of which we enclose herewith.

Mr. Ravnestad will concern himself with the question raised relative to T. G. and I. G. Farbenindustrie and will write them. He will also transmit to you the details concerning the conditions ordinarily required for a license. While waiting you, of course, will send to us your proposals for the text of the final agreement as envisaged. You seem already to have had an exchange of views on this subject with Mr. Henrikssen, who, according to what you say, seems to be in favor of a binding agreement, and

whose proposals for the details of agreement would be of value, since he has been able to discuss the situation in all details with you face to face.

We have telegraphed to Dr. Raspe that this letter has been forwarded to you by mail today—requesting him to advise you of that fact—but aside from this we have not communicated with him since the telegram of the 3rd of the current month, concerning which you already know, and we did not send a copy of the present letter to him. Perhaps it is not necessary for you to indicate to him the first part of Dr. Jebsen's telegram.

While waiting to hear from you, please be good enough to confirm by telegram the receipt of this letter.

Please accept, dear Mr. De Vleeschouwer, our very best wishes.

(s) RAGNAR IUELL

Exhibit 565

COPY

TRANSLATION

VIA AIRMAIL

Fredrikstad, Norway,
December 13, 1940.

Rd/KE—*Nv. 93*

Mr. J. D. Vleeschouwer,
Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels.

Lead Titanate

We acknowledge receipt of the letter of Mr. Iuell of the 13th of December, as well as the telegram mentioned therein.

As the telegram clearly sets forth, National Lead Company has developed three new types of pigments which presumably may be substituted for Lead Titanate pigment and with little difficulty may become a strong competitor for Lead Titanate.

You certainly will take into consideration these facts in judging on the question of granting a license.

We should also in that connection like to point out to you that we may give such a license only in conjunction with our allied industries; that is, Titangesellschaft and I. G. Farbenindustries, if you should consider the granting of a license advisable. An eventual license should be confined to Holland and in given cases to Belgium, as well as

Exhibit 565

their Colonies, with the express understanding that there shall be no exceptions from the territory covered under the license. If you consider a license desirable, as soon as we hear from you we shall consider the deviations in the license, already returned, in detail. In this case we shall immediately enter into an agreement with Titangesellschaft.

We await your reply with interest. Please, if possible, discuss this question with Mr. Henrikssen.

Most respectfully,

(s) A. J. RAVNESTAD

Exhibit 566

COPY

TRANSLATION

Fredrikstad, December 13, 1940.

RI/HL—No. 291

Titangesellschaft m. b. H.,
Leverkusen I. G. Works,
Cologne on the Rhine

Subject: *Lead Titanate—Holland*

We have not yet received by letter the instructions from Dr. Jebsen, of which we were informed in our letter of the 4th, but this very day we have received a telegram from Titanine, U. S. A., with important information which we have passed on today by letter to Mr. De Vleeschouwer.

We set forth the telegram of today for your consideration:

> "Please inform Vleeschouwer letter Lead Titanate on way to him"

so that you in the meantime can be certain to advise Mr. De Vleeschouwer, and for this I thank you very heartily.

Most respectfully,

(s). RAGNUR IUELL

Exhibit 867

TRANSLATION

Fredrikstad, Norway,
December 18, 1940.

HBE/HH *No. 96*

Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels, Belgium.

Lead Titanate Patent—Holland

We take note of your letter of the 9th of this month, as well as your letter to Dr. Kaspe of the same date.

The protective laws which may come into question with regard to the granting of licenses are, namely:

Holland Patent No. 32,082 (T-93/94).
" Anm. " 86,431 (T-184).

Although H. M. B. had given an impression that our patent rights within the sphere of Lead Titanate pigments, in so far as their contemplated manufacture was concerned, were of no account, we considered it nevertheless possible and indeed probable that manufacture without a license would mean a patent violation. It must, however, be considered that our patent announcement No. 86,431 (concerning which Dr. Rinse has raised an objection) continues patent protection until the final decision of the patent office.

In this connection we might mention that it is not entirely clear to us how far H. M. B. on the one hand considered our patent protection as worthless, while on the other hand they considered it of sufficient importance to file an objection.

Exhibit 567

We strive to grant non-exclusive licenses for individual cases and these licenses should be joined up, if possible, with other agreements, in such a way that the licenses are legal as long as the agreement itself.

As other customary stipulations may be proposed:

The maintenance of patent protection will be taken care of by us.

No other guarantee can be given than that which is given by us with the patent protection.

We undertake no responsibility for maintenance of the patents or in the event that the patent protection ceases for any grounds whatever.

It would be a natural consequence of an understanding with H. M. B. that this firm withdraw its objection.

We are sending copy of this letter today to Dr. Raspe and we will be very glad to hear further from you.

Most respectfully,

A. J. RAVNESTAD

Encl:

Copy to Dr. Raspe.

Exhibit 568

TRANSLATION

Fredrikstad, Norway,
December 18, 1940.

Rd/EE—*No. 299.*

Dr. Raspe,
Titangesellschaft m.b.H.,
Leverkusen—I.G. Works

Dear Dr. Raspe,

Lead Titanate Patents.

We take cognizance of the letter of Mr. De Vleeschouwer to you of the 9th.

With regard to a patent agreement we might make the following observations which should be considered in case there still remains a reason for collaboration with H.M.B. instead of the Societe Belge.

The protective laws which might be considered for a license agreement are:

Holland Patent No. 32,082 (T.93/94)
" Anm. " 86,431 (T.184),

As you know, sub-licenses are enjoined conformable to the further protective provisions of paragraph 14 of the license contracts. Since in the foregoing case it would only be a question of the granting of a simple license without the protective provisions envisaged in paragraph 14, we must accordingly secure the approval of our associated companies; that is, of Titangesellschaft as well. On that account may we ask you, in case Mr. De Vleeschouwer is interested in the granting of a license, to secure the necessary approval.

Exhibit 568

The license granted shall be non-exclusive in character.

It seems to us that the manufacture of Lead Titanate by H.M.B. indicates competition for our pigments, and that Dutch manufacture also makes more difficult the introduction of new pigment qualities on the part of Titangesellschaft and N.L. Company.

It is also a question whether a manufacture of this kind might not set up a permanent interest in H.M.B. for the manufacture of titanium pigments, and that a license in the indicated sense might also lessen competition on the part of H.M.B.

We refer to our letter No. 297 in addition to enclosures, and inform you that copy of this letter goes to Mr. De Vleeschouwer today.

We enclose copy of letter of today (No. 96) to Mr. De Vleeschouwer and await your further reply with interest.

Most respectfully,

A. J. RAVNESTAD

Enclosure:

Copy of our letter
to Mr. De Vleeschouwer.

Exhibit 569

TRANSLATION

Fredrikstad, December 18, 1940.

VIA AIRMAIL
EXPRESS

RI/HL—No. 297

Titangesellschaft m.b.H.
Leverkusen I. G. Works,
Cologne on the Rhine

Subject: LEAD TITANATE

We have received a copy of the letter from the Societe Belge of the 9th of December and transmit to you the enclosed copy of our letter of today to the Societe Belge, with a request that you send on a copy to the Societe Belge as soon as possible.

Thanking you in advance, we remain

Most respectfully,

(signed) RAGNAR IUELL

Encl.

Exhibit 569

TRANSLATION

RI/HL—No. 97. Fredrikstad, December 18, 1940.

VIA AIRMAIL
EXPRESS

Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels.

Att: *Mr. De Vleeschouwer*

Subject: *Lead Titanate*

Your letter of the 9th of December (No. 93) crossed our letter No. 92 of the 13th of December, which has already given you Titaninc's opinion with regard to the question of cooperation with H.M.B. for Lead Titanate.

We shall transmit to you the further plans which Dr. Jebsen had under consideration at the beginning of December as soon as they arrive. We hope that in the meantime you will have had an opportunity to discuss the matter with Mr. Henrikssen.

We refer to today's letters of our Patent Department to you and to T.G. (copy), and should like to know whether you think it advisable to conclude an agreement with H.M.B. in view of the new aspect of the matter (new American pigments).

Such an agreement, of course, can only be concluded through the granting of a license to Titan Co., Inc., under the present patent laws in the sphere of Lead Titanate pigments. We await your advice on this matter.

The agreement can only be made in case T.G. has declared itself in harmony with the granting of a license without the obligations mentioned in paragraph 14 of the license contract.

Exhibit 569

The agreement must only bind Holland and, in case *you* wish it, Belgium, with Colonies—no export on the part of H.M.B. outside of the terms of the license.

The pre-supposition of the agreement must be that the quality corresponds with that of American manufacture ("TITANOX-L").

Complaints as to quality must be made good by H.M.B. (Have you discussed with customers the experience they have had concerning Lead Titanate with H.M.B.?)

We understand that you alone are going to purchase Lead Titanate only from H.M.B. and at a fixed account, and we take it that you will be able to figure on a fixed period of time for your profit and for your sales and administration expenses; further, that you are going to be able to dispose of TiO_2 at an advantageous price. Perhaps we ought to be consolidated (per ton of TiO_2); at least we ought to make as much on that as we shall lose on the sale of TiO_2 to other customers, in approximately the same quantities.

Apart from your stories about Titanox-L, you are certainly not going to sell any other Lead Titanate while final negotiations proceed. Of course, it is to be noted in this connection that the preliminary for an agreement must be that you must be entirely independent as far as sale of other manufactured grades of pigments and pastes made by us is concerned, and this must also apply to new products.

We should be glad to hear from you further in regard to the matter, with an eventual proposal for a settlement between you and H.M.B.

Most respectfully,

(signed) RAGNAR IUELL

Copy to T. G. for transmittal to the
Societe Belge du Titane, Brussels.

Exhibit 570

TRANSLATION

Fredrikstad, January 28, 1941.

RI/HL—No. 129

Societe Belge du Titane,
61, rue Marché-aux-Herbes,
Brussels.

Gentlemen,

Lead Titanate

I thank you for your letters No. 124, 129, and 140 of the 6th, 8th, and 16th instant, the first containing a copy of letter No. 2 of Mr. Henrikssen dated December 17th. We have in the meantime also received a copy of the letter of Mr. Henrikssen through T. G.

We also have no knowledge of a patent belonging to Dr. Rinse or to H. M. B., but we have asked our Holland patent agent to inform us concerning this subject.

We have discussed this situation here again and we believe that no agreement should be made without safeguarding our patent rights.

I note upon reflection that after your conversations with Dr. Raspe and Mr. Henrikssen, you will give a negative reply to H. M. B. in so far as it concerns an understanding for temporary sale.

Of course you will keep us advised as to their reaction.

Please accept, Gentlemen, my very best wishes.

(signed) RAGNAR IUELL

Exhibit 570

TRANSLATION

COPY/HL

SOCIETE BELGE DU TITANE

Titan Co., Inc.
c/o Titan Co. A/S,
FREDRIKSTAD

DV/SB

Letter No. 140

January 16, 1941.

Gentlemen,

LEAD TITANATE

We are in receipt of your letter No. 103, and we request you to note that next week we shall go to Leverkusen and there shall go over once again the question of an eventual agreement with H. M. B.

On the question of patents and eventual licenses to H. M. B., we can only adhere to your point of view and, as we have formerly written, admit that the position of Titan Co., Inc., would have been weakened if we should have concluded an agreement with H. M. B. without licensing, if it had thought of attacking the latter.

From reading an article which appeared in a Netherlands technical review, we *believe* that we understand that H. M. B. has filed a patent application in Holland. Perhaps you have had confirmation through the Patent Office at the Hague, with which you were in contact.

We have just received, dated December 27, 1940, from N.V. H.B.M. a letter whose translation runs thus:

> "Following your letter of December 19, 1940, we have informed you that we are not in a hurry in

this matter which occupies us and that we shall hold up the sale as long as a definitive contact with you has not taken place.

We certainly have been approached from different sides in so far as it concerns the sale of Lead Titanate on a commission basis, but as you pointed out already we think that in this question we should accord priority to you.

In all that concerns the study of this matter, it seems to us that an eventual agreement between us should be possible on a basis whereby you will be our sole outlet for the article, while handling our product alone.

Price risks thus are then exclusively our responsibility."

It seems, therefore, that we can let them wait a little while so far as definite response is concerned.

There is one point upon which we could not insist too much: Lead Titanate is so well considered among Dutch manufacturers that we should find it very difficult, even impossible, later to replace it by a new pigment placed on the Dutch market. At the present moment the Dutch technical reviews are running very commendatory articles on Lead Titanate and we are persuaded, after the practical results that we have observed in Holland, that this pigment will be definitely adopted as a substitute in the near future for white lead and zinc white. These reviews incorporate in the articles formulas in which Lead Titanate is advocated being mixed with titanium oxide rather than with zinc pigments. There is thus an indirect propaganda

Exhibit 570

in favor of titanium oxide and titanium White as a result of the use of Lead Titanate.

We conclude by informing you that after our conversations with Dr. Raspe and Mr. S. J. Henrikssen, we shall give H.M.B. a negative reply in so far as an understanding for a temporary sale of their pigment is concerned.

Please accept, Gentlemen, our very best wishes.

SOCIETE BELGE DU TITANE S A

Administrator - Director

(signed) J. De Vleeschouwer

Exhibit 570

TRANSLATION

Copy/HL

SOCIETE BELGE DU TITANE

Titan Co., Inc.
c/o Titan Co. A/S,
FREDRIKSTAD
DV/SB,

Letter No. 129

January 8, 1941

Gentlemen,

LEAD TITANATE

With reference to our letter No. 124 of the 6th of January last, giving you the text of the letter from Mr. S. J. HENRIKSSEN concerning Lead Titanate, we desire to rectify the supposition in so far as it concerns Dr. Rinse as "holder of a patent which H. M. B. must work for."

Dr. Rinse of Haarlem is not holder of a patent, he only went so far as to oppose patent application No. 86,431 (T. 184).

Please accept, Gentlemen, our very best wishes.

SOCIETE BELGE DU TITANE S A
Administrator - Director

(signed) J. De Vleeschouwer

c Mr. S. J. Henriksen

Exhibit 570

TRANSLATION

Copy/HL.

SOCIETE BELGE DU TITANE

Titan Co., Inc.,
c/o Titan Co., A/S.,
FREDRIKSTAD

Letter No. 124

DV/SB.

January 6, 1941.

Gentlemen,

We request you to note that correspondence with Mr. S. J. Henrikssen, the engineer, is very difficult.

Until now only one copy of a letter addressed to the firm Bert & de Keravenant came for us (addressed to you in our letter No. 118 of 12/27/40) and a letter concerning Lead Titanate of which we send you the text herein.

We can inform you that of our six letters sent at the present time to Mr. S. J. Henrikssen, only two have arrived: one treated of Lead Titanate and the other was the letter accompanying the copy of your letter No. 79 of December 2nd last. This permits you to conclude that Mr. S. J. Henrikssen knew the desired points formulated in your letter No. 79.

As for the four letters which have not arrived from Mr. S. J. Henrikssen, they did not concern anything of which you are unaware at the present time.

We have forwarded up to the present time copies of letters addressed to you and which bore the address: c/o Mr. S. J. Henrikssen.

Please accept, Gentlemen, our very best wishes.

SOCIETE BELGE DU TITANE S A
Administrator - Director
(signed) J. De Vleeschouwer

(813)

Exhibit 570

TRANSLATION

COPY

SJH/AK December 17, 1940.

Letter No. 2.

Mr. J. De Vleeschouwer
Societe Belge du Titane
61, rue Marche-aux-Herbes
Brussels, Belgium

Dear Mr. De Vleeschouwer,

Lead Titanate

I thank you for your letter (No. 5) of the 9th instant, which only came yesterday.

According to what you write me, I believe that we must proceed pretty quickly if this business is not to escape us and granting the difficulties of present communication and the delays upon which it is necessary to count, it is better to conclude an arrangement for the sale over a limited period, for example, depending upon the length of hostilities, or more than 6 to 12 months, than to seek to impose a license under our patent if H. M. B. does not wish it, and from this fact perhaps to lose all possibility of agreement as to sale. I do not construe the exchange of telegrams with M. L., however, as meaning that his consent is subordinate to the fact that the agreement envisaged is on the basis of a license, although the fact of according a license will permit us to impose stricter conditions (and obliges us to impose them, in view of our own commitments with other companies).

Exhibit 570

I am not sure as to the patent situation, but I believe that H. M. B. is connected with Dr. Rinse, who possesses a patent for which H. M. B. must be working. On the other hand, Titan Co. has just this moment filed a patent application against which Mr. Rinse has entered his opposition.

It seems reasonable to me that in case of collaboration opposition would be withdrawn. You probably could make H. M. B. understand that at the time of your next conversation, and there is only one step left—to know their point of view as to arrangement based upon license.

Arrangement for sale without license

I see three possibilities:

a) You sell as exclusive representative and take commission.

b) You purchase at a fixed price as exclusive purchaser and resell for your own account.

c) H. M. B. manufactures exclusively for your account.

In all three cases you will be the only carrier of Titanium. On the other hand, H. M. B. will ask you probably not to sell any other make of Lead Titanate. You cannot accept this demand without any conditions being made, but your must reserve the right to sell Titanium from other sources in case that:

1) The quality of H. M. B. was not satisfactory.

2) The price " " " " "

3) The production of H. M. B. was not sufficient

or in general in any case where the production of H. M. B. did not place you in a position to face eventual competition (for example, direct importation into America by consumers).

More and more in your own interests, it is not necessary to lose sight of the interests of our affiliated concerns. You cannot take up the sale anywhere but in your own territory, and it is true that during hostilities there is not a great deal of opportunity for H. M. B. to export save perhaps to Germany. In this case it is not necessary to disturb the Titangesellschaft, which you can avoid perhaps by reserving an option for T. G. in so far as that which concerns the sale for the territory of T. G. It will be advantageous to have the opinion of T. G. on this subject. A general clause could be instituted as a safeguard for all the affiliated companies in so far as their respective territories are concerned.

Among the formulas a) b) and c) listed above, I believe that a) is the least satisfactory, in each case if you are obliged to sell for the account of H. M. B. and thus to introduce their name and their brand, and it would be difficult for you to have control of the sale price (even if you have an indirect influence by virtue of the price on TiO2). Your commission ought to be rather high, notably if publicity charges for introducing the product rest on you.

The formula c) leaves you the possibility of putting TiO2 at the disposition of H. M. B., without invoicing, which makes them less interested in the price given by other dealers in Titanium and emphasizes still more your position as exclusive retailer.

Exhibit 570

Agreement on the basis of a license

In the same way I suppose in this case as well you will be the exclusive outlet and there will be a place for taking account of the considerations mentioned above. Only in contradistinction to the licensing agreement, your conditions should be much more severe. Notably all export should be forbidden to the markets of our affiliated firms (like Titangesellschaft) without their specific consent. The license should be limited to Holland. H. M. B. probably would request that it be exclusive for the duration of the agreement, to become non-exclusive afterwards. (I do not believe it possible to withdraw the license completely, even after cancellation of an eventual agreement. This is a question of law.) It should be considered whether we will request a license for the Rinse patent or others, present or future. If we bind ourselves by an exclusive license not to make Lead Titanate in Holland, H. M. B. must bind itself not to manufacture or have manufactured TiO_2.

Unfortunately I am particularly occupied these days and I cannot, at the moment, give the desired time to this question, but I have not wanted to omit advising you of the foregoing considerations, in the hope that you will receive this present one before your next conversation with H. M. B.

I am taking advantage of this occasion to wish you and your collaborators my best wishes for Christmas and the New Year.

So that there may be no mistake, I wish to mention that, until the present time, I have only received your special letter No. 5, and extend to you, dear Mr. De Vleeschouwer, my very best wishes.

(signed) S. J. HENRIKSSEN

Exhibit 571

TRANSLATION.

Fredrikstad, February 19, 1941.

RI/HL No. 144.

AIR MAIL
EXPRESS

Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels.

Gentlemen,

LEAD TITANATE

We have not heard from you concerning the Lead Titanate question for some time.

On December 19, 1940, I sent to Dr. Jebsen your letter No. 93 with the attached report and copy of your letter to Dr. Raspe of December 9, as well as copy of our letters No. 92, 93, 96, and 97 to you and of our letters to T. G. No. 291 and 297 (of which you will please find a copy herewith) and 299.

We have only today received a telegram from Dr. Jebsen, the translation of which is: (Herewith enclosed is also a copy of the original text)x)

> "I hope that Mr. De Vleeschouwer has thoroughly understood that the Societe Belge cannot export lead titanate from Billiton (HMB) into the markets of associated firms without their permission, and that the Societe Belge must not aid post-war developments of Billiton in Holland and in Belgium unless Billiton gives up exportation.
>
> "The sale for Billiton for Belgium and Holland during war must be undertaken only if conditions render it extremely to be desired or imperative.

Exhibit 571

"The American market annually consumes 2000 tons of Lead Titanate compared to a sale of titanium pigments containing 10,000 tons of TiO2 and Mr. Robertson considers that the sale of Lead Titanate is going to diminsh."

We telegraphed today to T. G. asking them to inform you that we had sent a letter of this date containing information from Dr. Jebsen concerning this question.

For your information I inform you that I have sent to Dr. Jebsen on the 9th and 28th of January the other documents exchanged between you relative to this question, up to your letter No. 140 and mine No. 129.

While awaiting information from you, permit me, Gentlemen, to extend my very best wishes.

(signed) RÅGNAR IUELL

Copy to T. G. for transmission to Societe Belge du Titane.

x) added on 2nd mail copy

Exhibit 572

TRANSLATION

COPY/HL

SOCIETE BELGE DU TITANE

Brussels, February 24, 1941

Mr. R. Iuell
c/o Titan Co., Inc.,
Titan Co. A/S,
FREDRIKSTAD

Letter No. 172

Express—Registered

Dear Mr. Iuell,

LEAD TITANATE

We have just had indirect communication from T.G. that you have forwarded us a letter from Dr. Jebsen relative to the question under the above heading.

This letter not yet having reached us, we expect it any minute.

Mr. Henrikssen, whom we have questioned, would like you to ask Mr. Jebsen the following two questions:

1) Is there any disadvantage in T.G. beginning to manufacture Lead Titanate temporily? (We have already written you on this subject, see our letter No. 165 of 2/14/1941.)

2) Whether or not you (Dr. Jebsen) object to the Societe Belge du Titane coming to terms with Hollandsche Metallurgische Bedrijven, Arnhem, for the sale of its Lead Titanate without question of granting a license, but on the condition that Dr. Rinse (probably the

Exhibit 572

dummy of H.M.B.) withdraw his objection to the patent application No. 86,431 (T. 184)?

So far we are concerned, we have come around to your arguments and we await the letter of Dr. Jebsen in order to answer Hollandsche Metallurgische Bedrijven finally and definitely.

The second question suggested by Mr. Henrikssen should in his judgment be put to Dr. Jebsen, in order that we be convinced that he is well informed of the request that we have made previously; namely: is not the agreement with H.M.B. preferable for the time being, even without grant of license, in order to avoid disturbances in our Netherlands market.

Waiting to hear from you, we extend to you, dear Mr. Juell, our best wishes.

SOCIETE BELGE DU TITANE S A
Administrator-Director

(signed) J. De Vleeschouwer

Exhibit 573

TRANSLATION

COPY/HL

SOCIETE BELGE DU TITANE

Titan Co., Inc.,
c/o Titan Co. A/S,
FREDRIKSTAD, Norway
DV/HP

Brussels, February 26, 1941

Letter no. 177

Attention of Mr. R. Iuell

Gentlemen,

LEAD TITANATE

In receipt of your letter No. 144 of the 19th (of this month), we have the privilege of informing you that we have nothing special to communicate concerning the progress of our transactions with H.M.B.

As the above have written us they are in no hurry to receive our reply, we await.

The subject of the telegram sent by Dr. Jebsen conveys to us advice that we certainly should have followed in case of an agreement.

We have written you previously (our letter No. 162) that the engineer Ebbinge, employed previously by N. & v.d.L. had been engaged by H.M.B. — There was evidently an additional reason for us to be on our guard and it is to be presumed that sooner or later this firm, allied with Billiton Company, will begin itself to manufacture titanium oxide.

In conclusion we will say to you then that we will answer in the negative to H.M.B. when we consider that it is advantageous to do so.

Please accept, Gentlemen, our best wishes.

(signed) J. De Vleeschouwer

Exhibit 574

TRANSLATION

Fredrikstad, March 12, 1941.

RI/HL—No. 166 *Via Airmail*

Express

Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels

Gentlemen,

Lead Titanate

Confirming my letter No. 165 of yesterday, I am informing you that we have today receive a telegram from the United States according to which their (Dr. Jebsen) opinion is that an arrangement with Bil. has not actually been made, either with or without license, except some regular sales to Bil. of our products of titanium if they so desire.

I send you herewith copy of the telegram in question and inform you at the same time that we have telegraphed to T. G. to tell you that our two letters Nos. 165 and 166 are en-route.

Mr. Ravnestad has communicated with our agents in Holland, Nederlandsch Octreeibureau (Mr. Elgersma), who are of the opinion that we will have our patent in the month of May. They tell us also that Bil. have established a procedure of manufacture of titanium pigments, but we do not know if that is for the manufacture of lead titanate only or also for other pigments. You will write us no doubt if you get some information on this subject.

While awaiting your information I extend to you, Gentlemen, my best wishes.

Att. (signed) RAGNAR IUELL

Exhibit 575

March 12th 1941.

RI/HL—No. B 10

By air mail

Titan Company Inc,
111, Broadway,
New York, N. Y., U. S. A.

Attention: Dr. G. Jebsen

Dear Sirs,

LEAD TITANATE

We duly received your telegram of February 18th as per enclosed copy, which we transmitted to Société Belge (see enclosed copy of our letter No. 144 of February 19th). In the meantime Société Belge had sent us a letter No. 172 of February 24th of which I beg to enclose a copy herewith. In order to avoid any possibility of misunderstanding we telegraphed you on March 7th as per enclosed copy and have now received your telegram of March 12th reading as follows:

"AGREE NO ARRANGEMENT WITH
"BILLETON SHOULD BE MADE
"PRESENTLY WITH OR WITHOUT
"LICENCE EXCEPT REGULAR SALES
"OF TITANIUM PRODUCT IF DESIRED

We take it that the latter part of the telegram means that Société Belge can make regular deliveries to Billiton of our usual titanium pigments if Billiton so desire. We have communicated contents of this telegram to Société Belge (see copy of our today's letter No 166) and I will let you know if anything further transpires.

Exhibit 575

In the meantime we had received Société Belge's letter No 177 of February 26th (see enclosed copy) and yesterday also your letter of February 18th confirming the previously mentioned telegram. We have also given Mr. De Vleeschouwer a copy of this last mentioned letter.

Yours very truly

RAGNAR IUELL.

Encl.

Exhibit 575

COPY

Dr. G. Jebsen
c/o National Lead Company
New York.

Our telegram March 7th 1941.

HENRIKSSEN VLEESCHOUWER ENQUIRE WOULD YOU NEED CASE OBJECT TO VLEESCHOUWER MAKING ARRANGEMENT BILLITON FOR SALE THEIR LEADTITANATE WITHOUT OUR GRANTING BILLITON LICENSE STOP BILLITON SEEM TO OBJECT TO ARRANGEMENT WITH LICENSE FROM US STOP ELGERSMA RECKONS WITH PATENT BEING GRANTED IN MAY STOP HE INFORMS US THAT BILLITON HAVE PLANNED PROCEDURE FOR MANFACTURE TITANIUM PIGMENTS BUT WE DON'T KNOW WHETHER THIS IS ONLY FOR LEADTITANATE OR ALSO FOR OTHER PIGMENTS STOP WE CONSIDER NO ARRANGEMENT SHOULD BE MADE PRESENTLY WITH OR WITHOUT LICENSE—Titanco

Exhibit 576

RCA RADIOGRAM

R. C. A. COMMUNICATIONS, INC.

Received at 64 Broad Street, New York, at
Mar 8 1941 Standard Time

DGGMZ 7285
FREDRIKSTAD 87 1/50 7 1715
NLT JEBSEN LEADCO NEWYORK

HENRIKSSEN VLEESCHOUWER ENQUIRE
WOULD YOU NEED CASE OBJECT TO
VLEESCHOUWER MAKING ARRANGEMENT
BILLITON FOR SALE THEIR LEADTITANATE
WITHOUT OUR GRANTING BILLITON LICENSE
STOP BILLITON SEEM TO OBJECT TO
ARRANGEMENT WITH LICENCE FROM US
STOP ELGERSMA RECKONS WITH PATENT
BEING GRANTED IN MAY STOP
HE INFORMS US THAT

Exhibit 576

RCA RADIOGRAM

R. C. A. COMMUNICATIONS, INC.

Received at 64 Broad Street, New York, at

Standard Time

DGGMZ 7285
NLT JEBSEN P2/37

BILLITON HAVE PLANNED PROCEDURE FOR MANUFACTURE TITANIUM PIGMENTS BUT WE DONT KNOW WHETHER THIS IS ONLY FOR LEADTITANATE OR ALSO FOR OTHER PIGMENTS STOP WE CONSIDER NO ARRANGEMENTS SHOULD BE MADE PRESENTLYWITH OR WITHOUT LICENCE

TITANCO

Exhibit 576a.

EXTRACTS FROM REPORT TO THE BOARD OF TITAN COMPANY INC. FOR 1938 OF G. JEBSEN

P. 13 . . . "In Holland and Belgium we had during the winter 1937–1938 as a matter of policy to give the Blumenfeld group a few customers, as his deliveries there amounted only to about 11% compared with his quota of 30% * * *"

P. 14 . . . "The Japanese market has taken 263 tons in the first six months 1938 against 570 tons in 1937. Since July Titan Kogyō Kaisha has supplied their own product"

Competition in Titanium Products (Pgs. 23, 24, 25)

There has been a certain number of offers of Titanium pigments from unknown sources—by a few merchants. The Titanium Division of National Lead Company has kindly sent us information re the export from U.S.A., the sources of which are partly unknown. The quantities are relatively small.

Noury and Van der Lande, Holland

This firm started a more active propaganda in May 1938. Through the Blumenfeld Group we were informed that they intended to erect a large factory and would arrange for protection of the Dutch market but were willing to refrain from this if we would let them have a quota of our sales.

From other sources we got though information indicating strongly that they have found the Titanium manufacture more difficult than expected. The firm is important

Exhibit 576a

and financially strong. It has though the reputation by bluffing to obtain a position or a payment for their nuisance value. Some of our most important customers in Holland have expressed themselves in opposition to a small domestic manufacture because of the possible protection and consequent increase in prices.

After careful consideration with the Germans it was agreed rather to fight them. Our British friends were also in favour of this.

An arrangement with them would be an invitation to others to try the same and also encourage Montecatini in their policy.

Early in May we reduced the prices in Holland generally with 10% for TiO_2 pigments, and Sté. Belge du Titane have been authorized to go further down with the prices in special cases when necessary. This has been done toward some customers.

A large number of our Dutch customers received offers of Noury and Van der Lande's TiO_2 pigment. The product has improved in colour but the oil absorption is high, 35,7% and the tinting strength relatively low.

Noury and Van de Lande have had to admit on several occasions that they were not in a position to deliver a quality suitable for Paints and Enamels.

We have the impression that the pigment has been adopted more easily in the Paper and Rubber industries and we, as well as Thann, have lost orders to these industries.

The total sales of Noury and Van der Lande in Holland and Belgium are estimated by Mr. de Vleeschouwer, managing director of Sté. Belge du Titane, though, at only abt. 15 tons in 1938.

In the autumn advertisements were observed in English, German, French and Belgian periodicals.

Exhibit 576a

Greeff & Co. arranged for an order of a small lot through a customer, but delivery did not materialize.

In Sweden and Norway Noury and Van der Lande's pigment has been offered through a firm in Hamburg (Benzian & Co.) and probably also by Falso-Products, Antwerp, at abt. 10% lower than Titan Co. A/S' prices. In Germany were offered 20 tons RM 90,—per 100 Kgs. and 5 tons were probably purchased.

According to our investigations the sales of their TiO_2 outside Holland in 1938 hardly exceed 10 tons.

The production is undertaken in Leventer in a relatively small building near their other factories and is probably more in the nature of a pilot plant than a factory.

Laporte.

It will be remembered that British Titan Products Co. Ltd. have a price agreement with Laporte. This works well and the relations are friendly.

New Competition. (Pg. 26)

Information is received from time to time of rumours of new firms experimenting with Titanium and studying the possibilities of a manufacture. Amongst these are important firms like Hollandische Metallurgische Bedrijven, Arnhem, which also has a factory in the Dutch Indies "Billiton Maatschappij". "Mines d'Or de Kilo Moto", in cooperation with La Metallurgie d'Hoboken, is taking "Sable noir" from Belgian Congo extracting small amounts of gold. The ilmenite is magnetically separated and said to contain 20 to 25% TiO_2. Samples of a TiO_2 of bad colour have been sent to electrode manufacturers and said to be satisfactory.

Exhibit 576b

REPORT TO THE BOARD OF TITAN COMPANY INC.
FOR 1939

Pg. 2 . . . "From Norway, contact was kept with the companies to the extent that was possible. We were informed—as it was to be expected—by the British Titan Products Company and Titangesellschaft, that they were not in the position to give us any information as to the business and technical developments in view of the war regulations. Correspondence was though kept up concerning patents and regular commercial transactions and a certain amount of information has also later been received.

Pg. 16 . . . "Mr. Henrikssen visited Paris and London in November and during his visit several meetings with Ste. Thann and Mulhouse took place. It was agreed that the convention should be considered terminated as per September 1st and accounts for quota and compensation be settled for the eight months as regards France, Belgium and Holland. The intention was expressed on both sides to continue cooperation in the same spirit as previously and as far as possible respect the quota's of the various markets.

Mr. Blumenfeld expressed his willingness to supply material to Ste. Ind. du Titane to the extent he was able to do so in order to help the company to maintain a position in the market. The price to be the market selling price less a rebate, which presumably would have covered the company's total expenses by somewhat reduced sales.

Due to surplus deliveries in France, Ste. Thann et Mulhouse owed a cash compensation to Ste. Ind. du Titane. This was accounted for at the same time in the settlement between Titan Company Inc. and Thann et Mulhouse, Titan Company Inc. undertaking to pay Ste. Ind. du Titane."

Exhibit 576b

Pg. 17 . . . "About three years ago the situation in France was discussed with Mr. Cornish and Mr. Beschorman during my visit in New York, and it was considered advisable to have in view a cooperation with a domestic French firm for the erection of a plant and the further development of the industry in France. It was feared that otherwise we would lose a considerable part of our proportion of the French market to the domestic manufacturer. Ste. Thann et Mulhouse were not considered desirable partners. Etabl. Kuhlmann, the most important French chemical company of old high standing, was considered to be presumably the best partner. I had already been in contact with them regarding the Titanium industry and it was recommended that I should renew the contact. This was done and the managing director, Mr. Berr, declared that they were interested to take up the matter when we considered the time ripe.

The contact has been maintained but conditions in France have not invited to start an industrial enterprise.

During the very difficult conditions last winter in France, Mr. Gilbert and Mr. Henrikssen thought it advisable in November to see Mr. Berr and talk over the situation. Mr. Berr was very interested. It was agreed that conditions made it impossible to consider a manufacture in France during the war, but pointed out that after the war, they and others would no doubt have a surplus manufacturing capacity for Sulphuric Acid and that it would be very interesting at that time to consider the question. When I was in Paris I saw again Mr. Berr and talked the matter over with him, on the same lines, without undertaking any definite obligations. Although this being the case, it seems to me the matter should be put on record once before the

Exhibit 576b

board, as these repeated conversations involves us in a certain moral obligation towards Etabl. Kuhlman."

Pg. 20 . . . "The extension to a capacity of 15000 tons TiO_2 production was practically completed before the war broke out.

With regard to the manufacture and sales of the company, we have no specific information, but generally we are informed that the manufacture has continued without any serious obstacles and that in 1939 sales have been good.

The company has taken ca 35000 tons Ilmenite from Norway, during 1939, which should be some in excess of their consumption. Certain reserves were provided for in 1938. Deliveries in the first quarter of 1940 were only ca 3300 tons and in April and the greater part of May, presumably none. In June deliveries were resumed.

Considerable efforts were made by the research department up to July of 1939 to improve the colour of Rutiox without sufficient satisfactory results.

In the latter part of July we were informed that all was well.

On November 30th and December 1st, 1939, I met Dr. Kuhne, Dr. Brugemann, Dr. Raspe and Mr. Borgwardt in Copenhagen and was informed that although they were not in the position to let us have information of their activities, they would keep records so that when the war was finished, I could see everything which had been done. They also expressed the desire that relations and the international cooperation should be as far as possible resumed after the war on the same bases as before—in which I joined."

Exhibit 577

Letterhead of

TITAN COMPANY, INC.

No. 32

Paris, November 13th 1933.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re minutes of Board Meeting Sept. 29th, 138 (b) and (c)—my letter to you No. 18 of October 10.

I enclose, for your information, copy of a letter from Mr. Tasker of October 14 and my answer of October 26. Further, a letter from B.T.P. of October 2 and my answer of October 26.

The matter will be dealt with in the next board meeting. In the meantime both Major Barley and Mr. Tasker have accepted my proposal. Tasker thought we had acted very liberally regarding the allocation of quantities—which in fact we have, from the point of view of B.T.P.'s position, but it does not look as if Titangesellschaft's and our markets will need more than reserved for us.

Exhibit 527

Dr. Kühne's attitude, mentioned in the last part of my letter of October 10, was partly due to a fear that B.T.P. might force their sales by reducing prices in order to develop the market for the new factory. I told him this was not intended and we would never allow such a policy at the cost of Titangesellschaft's interests.

Contrary to general reputation, the English point of view has been—to say the least—considerably less broad-minded than the German, but I hope with time they will learn to change.

I told Mr. Thompson that; with the very good earnings B.T.P. had on the sales of the products from Leverkusen, I had expected a more liberal attitude. Mr. Thompson considered that the earnings of B.T.P. had nothing to do with the legal position. On my answer that we then will have to deal with other questions also from a legal point of view, Mr. Thompson wished to study what was most advantageous to B.T.P. However, when he heard that Major Barley and Mr. Tasker had accepted, he said he would not raise any opposition.

With kindest regards,

Yours very truly,

G. JEBSEN

P.S.—I also enclose copy of another letter to Mr. Tasker of October 26, for your information. You will note that my suggestions have been embodied in the last draft of the minutes.

Exhibit 578

Letterhead of

TITAN COMPANY, INC.

Paris, October 3rd, 1936.

William C. Beschorman, Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

STRICTLY PERSONAL—CONFIDENTIAL

Dear Mr. Beschorman,

I much appreciate your letter of September 15th with enclosures.

During my visit to London for the B. T. P. Board Meeting on September 25th, Tasker mentioned to me that Robinson had sent Barley a list of questions to be made to the lawyer of the British Titan Products Company, which Barley had returned with his comments.

Since then, nothing more has happened.

The matter is now in Robinson's hands, as the Board agreed to his suggestion to ask our lawyer's opinion.

It seemed to be in Tasker's mind that Robinson may not pursue the matter further and the question be dropped, as Barley was not inclined to do anything more. Robinson was, though, last week in a nursing home after an operation of the throat which has passed well.

On a remark from me, Tasker mentioned that although Robinson during the July Meeting directed his talk to you, it was really meant for the I. C. I. This coordinates with the correspondence enclosed in your letter.

Exhibit 578

May I, by the way, just make a remark concerning the third paragraph in your letter of August 25th, where you say that "clause 11 is part of the agreement for cooperation between our three British partners and Titanic in the British Empire and . . . ", specifying the territory of B. T. P.

This does not quite give the full picture, as the British partners towards Titan Company Inc. have undertaken obligations regarding the whole world by obliging themselves to refrain from manufacturing and sales activities outside the British Titan, with the specified exceptions.

I mention this particularly because of the following incident during our negotiations:

You may know that I. C. I. was rather reluctant in accepting obligations re the territories outside of the British Titan Products Company's, with the argument that it was difficult to combine this with their obligations towards Dupont, regarding which a solution finally was found. Mr. W. S. R. heard of this and offered to take it up with Sir Harry McGowan whom he should meet incidentally, if I would present him the case in a few lines. I did so, using the following words:

"National Lead Co. and I. G. Farbenindustrie have "arrangements covering *the whole world* dealing with all "*Titanium compounds.*

"I. S. C. and Goodlass Wall are willing to co-operate "on such basis, but I. C. I. only regarding *Titanium pig-"ments.*

"I. G. I. reserve to be free for other Titanium com-"pounds, these representing future developments of un-"known nature and because of commitments to other "companies.

Exhibit 578

"Major Barley considers the reservation to be of an "academic nature.

"Can I. C. I. not join us wholeheartedly with reserva- "tion only as to present commitments and undertake to "endeavour to have these commitments cancelled?"

As no obligation is imposed on Titan Company Inc. and its licensees as to choosing their partners outside B. T. P.'s territory, it seems surprising that they should not be able to choose any of their British associates directly or indirectly.

With kindest regards,

Yours very truly,

G. JEBSEN

I take it from my conversation with Tasker that Barley after consulting I. C. I.'s legal department have found no basis for W. S. R.'s point of view.

Exhibit 579

TITAN COMPANY, INC.
7 West 10th Street
Wilmington, Delaware U.S.A.

No. 23 *Confidential*

G. Jebsen
Vice President
ADDRESS FOR CORRESPONDENCE
26 Rue De La Pepiniere
Paris 8 — France
Cable Address c/o Socititane

Sept. 30, 1937

GJ/AK
William G. Beschorman, Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A,

Dear Mr. Beschorman,

When last in London, Tasker told me of W. S. Robinson's latest suggestion to him with regard to shareholdings in B. T. P. and that he had written you about it. He expected you would send me a copy of your answer, and I should appreciate to have your reaction.

With regard to the difficulties caused by Walpamur's recruitment of I.C.I.'s competitive activities through "Nobel Finishes", Major Barley wrote me before the last Board Meeting, that the matter was given a good deal of consideration in the I.C.I. and that the whole question may change for the better leaving the recent experience as a

passing phase. He sincerely hoped so and suggested that no vital discussions should take place at this stage.

W. S. Robinson was not present at the meeting and the question was only slightly touched upon.

Tasker had had a talk with Mr. Quiggs of Nobel Finishes, who meant that it would be better for I.C.I. to retire from B.T.P. Barley had said that if necessary they would have to do so, but, as you no doubt are aware, he will certainly not like such a step.

I told Tasker that I thought we should await developments in this matter and give I.C.I. time to develop their own mind. They will presumably be up against this question also in other cases and will have to decide on a definite line of policy. We were both in agreement that I.C.I.'s contributions to the B.T.P. are so valuable that it would be a very serious matter if they should withdraw, and we will have to see pretty clearly whether the consequences of the policy of the I.C.I. will be of a serious nature to B.T.P. or not.

I told Mr. Wilkins that I.G. Farbenindustrie has been up against the same question some years ago and in certain matters found it to their advantage to retire from certain activities in view of the animosity which it caused amongst their own customers.

Mr. Wilkins seemed to think that time would heal the matter and it would be an incident of passing nature.

With kindest regards,

Yours very truly,

s/ G. JEBSEN

P. S. — You probably know that I.C.I. has taken over DuPont's interests in Nobel Finishes.

Exhibit 580

COPY

H. S. Tasker

London House
8, New London Street
London, E. C. 3,

PERSONAL AND CONFIDENTIAL

14th October, 1937

W. C. Beschorman, Esq.
The National Lead Company
111 Broadway, New York.

Dear Mr. Beschorman:

I am writing to bring you up to date on the W.S.R. position, although I expect you have probably heard from Jebsen also on the subject.

Shortly after I last wrote to you I received a letter from him asking whether I had thought over his conversation and what were our views.

I replied to the effect that we were not willing to give up our connection with B.T.P. and that we thought that our connection with it was not detrimental to the Company but rather beneficial.

I also said that I had never gathered from you that you had any wish that the English partners should withdraw and I said that I thought that this applied equally to the position of the I.C.I., even in spite of the present temporary difficulties. I finished up by saying that I believed, therefore, that I expressed your sentiments also in hoping that he would not go any further with the idea of withdrawing on his part.

Exhibit 580

In his reply he merely sent a few lines to the effect that his point would be met if Mr. Thompson, as Sales Agent, would report officially that the company was not being prejudiced by the activities of any of the English shareholders.

To this I replied equally briefly to the effect that, as Mr. Thompson had already in his report drawn attention to the difficulties that had arisen over Walpamur, I did not think that he would be able to make any statement that would add to the facts as already known.

W.S.R. has at no time made any attempt to have a talk on the subject or to raise the question with the I.C.I. direct. I have kept in close touch with Barley and Jebsen throughout and will, of course, continue to do so.

Quig, of Nobel Chemical Finishes, is definitely going to see Mellor and I think I have persuaded Barley also to see Mellor separately to discuss the wider issues with him.

With kind regards,

Yours sincerely,

(signed) H. S. TASKER

Exhibit 581

Letterhead of

NATIONAL LEAD COMPANY

SUBJECT Lead Titanium Frit—Goodlass-Wall Development
DATE June 24th, 1938
TO Mr. Fletcher W. Rockwell—President
FROM Mr. C. F. Kaegebehn—Patent Department
IN REPLY TO

Dear Mr. Rockwell:—

We have not yet been able to obtain any advice concerning whether or not lead oxide, titanium dioxide silica frits, as described in the Goodlass-Wall application, will have any value to National Lead Company.

At Mr. Garesché's suggestion, we are writing to Mr. Oscar Schaeffer of our Pittsburgh branch, who, I am informed, is in close touch with the ceramic industry

We have received a copy of Mr. Stewart's letter to Mr. Sidford of June 17th, wherein he discusses the Goodlass-Wall application. Mr. Stewart points out that lead oxide, titanium dioxide and silica containing frits are in use, calling attention to the work of Dr. J. H. Koenig of the United States Potters Association. However, he calls attention to the fact that the frit disclosed by Dr. Koenig contains less lead oxide than the frit claimed in the Goodlass-Wall application, and doubts whether or not a U. S. patent could be obtained. This is a difficult question but will probably depend upon whether Goodlass-Wall can show any improved result due to the higher lead content not deductible from the composition published by Dr. Koenig.

The different marketing conditions which prevail here and in Great Britain are such, that an evaluation of the

Goodlass-Wall development from the point of view of how the National Lead Company would benefit, cannot be made at this time. Therefore, it appears that the most convenient way of handling this situation would be the following:

National Lead Company should obtain an exclusive license under any patent which Goodlass-Wall may acquire, which is in accord with the agreements existing at present. We might then inform Goodlass-Wall that, inasmuch as we cannot evaluate in advance the benefit to be derived by the purely lead interests of the National Lead Company, we cannot enter any advance arrangements regarding royalties, etc., but we would be quite ready to consider such arrangements, if and when the development proved of interest to the National Lead Company. Of course, Goodlass-Wall may point out that by giving us an exclusive license the whole development may become dormant if we lose interest. In reply to this we might assure Goodlass-Wall that we would thoroughly investigate the question, and that, if we came to the conclusion that the National Lead Company could not improve its sales of litharge thefeby, we could renounce to the exclusive license, and thereby give Goodlass-Wall the opportunity of disposing of rights elsewhere. So to do should not prove embarrassing to the Titanium Division, because the development of this frit will open up new outlets for titanium dioxide, and if Goodlass-Wall were permitted to license others, arrangements might be made so that the licensees would purchase their titanium dioxide from us.

I have sent a copy of this memo. to Dr. Jebsen.

Yours very truly,

CFK:JL C. F. KAEGEBEHN

Exhibit 582

Letterhead of

GOODLASS WALL AND LEAD INDUSTRIES LIMITED

11th July, 1939.

Charles F. Kaegebehn, Esq.,
Manager, Patent Department,
National Lead Co.,
111 Broadway, New York.

Dear Mr. Kaegebehn,

May I thank you for your two letters of the 2nd inst. written from Paris. May I also say how much we enjoyed meeting you in London and that we hope Mrs. Kaegebehn and yourself had a good time in Paris and will return to America with happy memories of your European visit.

READ *versus* DEYRUP
Interference Case No. 76082. Lead Titanium Frit.

We fully appreciate the point you make in regard to the delay of the assignment of this case to you, and will be advised by you as and when and if you feel that any change in the present position in regard to assignment is desirable.

May I also say how much we appreciate the kindly gesture outline in paragraph 4 of your letter in respect to our company benefitting from sales of Litharge if the Lead Titanium Frit proves to be a commercial success.

Patent Collaboration

Your letter of the 2nd makes a suggestion to which I am sure our company will give very serious thought in

order to still further cement the arrangement for technical co-operation between the National Lead Co. and ourselves, and I propose to discuss this matter with Mr. Tasker as soon as possible to work out what we would consider a "field of mutual interest" in which the two companies might co-operate in respect of patent applications. This is rather a happy extension of the idea of co-operation which, as you may know, was arranged with Mr. Beschorman by Mr. Tasker some three years ago, and I would suggest that you equally might discuss with Mr. Rockwell the area to be covered by the "field of mutual interest", and I will ask Mr. Tasker to write to Mr. Rockwell on the subject so that an arrangement can be put on to a proper working basis.

Yours sincerely

C. A. KLEIN

Exhibit 583

Letterhead of
H. S. TASKER.

HST/MS 15 January 1941.

Dr. G. Jebsen,
The National Lead Co. Ltd.,
111 Broadway, New York.

My dear Jebsen,

Titanium Manufacture in Australia.

For several good reasons we have decided that the time has now come when British Titan Products Ltd. must erect a plant in Australia to supply the market that they have developed there. Active investigations are now being completed to enable us to make a final decisions as to the location of the plant.

An issue has now been raised on which, before taking a decision, I feel the Board ought to have your views.

In view of the presence of our Chairman, Mr. W. S. Robinson, in Australia, our agents, I.C.I. ANZ. on whom the work of investigation has chiefly fallen, have made contact with him and the question arose whether any useful practical co-operation could take place between British Titan Products Ltd. and the Electrolytic Zinc Co. of Australia, which company is now arranging to make Lithopone in Australia. This question is being examined. I have explained to Mr. L. B. Robinson as a preliminary to a Board discussion that we should almost certainly not wish to take the sales out of the hands of our existing agents who have done a great deal of development work in the market, and that as Works management and laboratory work is rather highly specialised, the advantages of contiguous factories would probably be confined to the sharing of the cost of factory

Exhibit 533.

administration and the possible erection of a joint acid plant. We have not yet got the final recommendations from Australia on the question of site and no decision has yet been taken.

It now appears, however, that Mr. W. S. Robinson has a wider suggestion in mind and he has cabled Mr. L. B. Robinson saying that irrespective of the site of the plant the Australian interests (which, I understand means the Electrolytic Zinc Co.) desire a reasonable participation in the Titanium Co. Following this, Stopford and I had a talk over lunch with Mr. L. B. Robinson last Friday.

This suggestion has come as a bit of a bombshell to us as although Mr. W. S. Robinson has always been anxious for a link between the Lead, Lithopone, Zinc Oxide, and Titanium interests, I have regarded the constitution of British Titan Products Ltd. as providing this link and have considered that a factory owned by B. T. P. Ltd. in Australia would thus already express this co-operation without the necessity of the entry of other interests.

It would also, of course, be advantageous to the Australian Titanium factory to have a connection with influential Australian interests, but here again, I must say that I have assumed that this would be the almost automatic result of the position of Mr. Robinson as Chairman and the interest of his Group in British Titan Products Ltd.

If I try to examine the proposal purely from the point of view of the Titanium Company I see one disadvantage. The composition of the B. T. P. Ltd. does not provide a really mutual relationship in that the Lead and Zinc Pigment interests sit at the inner councils of the Titanium Company while the Titanium interests proper—e.g. yourself—do not have a corresponding insight into matters connected with Lead and Zinc Pigments. This was unavoid-

able under the circumstances, but I personally feel it would be a mistake to repeat the anomaly in Australia. That is my conclusion if I consider, as I ought to do, Titanium interests alone. Looking at the matter from my own point of view I feel this. I have myself devoted a great deal of time and trouble to the affairs of British Titan Products Ltd. This was a state of affairs I did not seek but the net result has been out of all proportion to the interest of my Company in British Titan Product Ltd. An appreciable proportion of my own work has from time to time been devoted to the Australian market, particularly when the two Tariff enquiries were being held and when the existing Titanium Company in Australia was being bought out. I should certainly feel great dissatisfaction if, in the face of these facts, the interest of my own Company in the Australian Titanium market were to suffer a reduction.

It must be remembered that manufacture in Australia will mean loss of production and profit to the British Company and I do not see how the shareholders in the latter can face this loss without retaining their full share of the lesser advantage of local manufacture in Australia.

I do not yet know what the views of the I. C. I. will be. I am writing to Mr. Oliver Wilkins and as soon as I hear from him I will let you know.

Meanwhile I understand that Mr. W. S. Robinson is leaving Australia for the United States by air on January 17th. He may, therefore, be with you for a discussion on the matter at about the time you receive this letter.

In any case I shall hope to receive your views in due course so as to put them before the Board of British Titan Products Co. Ltd., we are meeting next on February 19th.

I am sending a copy of this letter to Mr. L. B. Robinson.

Yours sincerely,

H. S. TASKER

Exhibit 584

Letterhead of

H. S. TASKER

HST/MS 15th January, 1941.

Dr. G. Jebsen,
The National Lead Co. Ltd.,
111 Broadway, New York.

My dear Jebsen,

This is a personal note to supplement the fuller letter that I have written about the Australian Titanium plant.

I sincerely trust that you and your friends will find a way of inducing W. S. Robinson to drop his suggestion.

I want you to know that they have put forward the point that the Electrolytic Zinc Co. and the Imperial Smelting Corporation are two entirely separate companies with no interest in each other and that this initiation comes from the Electrolytic Zinc Co. It was even hinted that the Electrolytic Zinc Co. would consider manufacturing Titanium independently if they do not get a share in our Company. I must leave you to draw your own conclusions on this. I am trying to find out what the real relationship is but we can be quite certain that W. S. Robinson is common to both Companies and I cannot believe that the threat would be carried out. I am surprised that it has been made.

We suggested to L. B. Robinson that we could form an Australian Company with the same shareholders and the same holdings as the British Company except that the Electrolytic Zinc Co. would take the place of the I. S. C. He answered that whatever the Electrolytic Zinc Co. got,

the I. S. C. would want their share in view of past history, etc.

I don't know whether the American shareholders will wish to placate W. S. Robinson, but if they do, I hope they will suggest some way of doing so that does not involve reducing the share in the Australian Company that will be held by the British Shareholders of British Titan Products Co. Ltd.

Yours sincerely,

H. S. TASKER

Exhibit 585

Letterhead of
R. W. GREEFF & CO. LTD.

London, E.C.4. 17th January 1941.
In your reply please refer to IR/AJT

Mr. F. W. Rockwell,
President,
The National Lead Company,
111, Broadway.
New York.
U.S.A.

Confidential.

Dear Mr. Rockwell,

Mr. Stopford came over and dined with me at Bishop's Stortford to talk about aspects of the proposed Australian factory of British Titan Products Co., Ltd.

He informed me that Mr. Tasker and he had lunched with Mr. L. B. Robinson and it was clear that Mr. W. S. Robinson, who at that time was in Australia, was openly asking that a share in any Australian Titanium venture should be given to the Electrolytic Zinc or some other company in Australia controlled by the zinc and lead group out there. He further told me that Mr. W. S. Robinson was leaving Australia for America by air on January 17th and he asked me to formulate my own views on the question and to communicate with you.

I cabled you as follows:—

"Confidential for your information Stopford informs me Robinson asking for larger capital holding in proposed Australian factory and Australian Titanium busi-

Exhibit 585

ness which is unacceptable to the other English shareholders stop. They expect he will personally press you to acquiesce in his demands and they urge that the present relative interests shall remain unchanged stop My personal opinion is that the factory in Australia shall belong to BTP as at present constituted stop Contribution of Robinson to success of BTP has not exceeded that of other members stop My personal view is goodwill value of Australian business between 100,000 and 200,000 English pounds based upon estimated profit for 1941 of 30,000 pounds upon exports from Billingham Such profit may be reduced to half owing to extra manufacturing costs when we start manufacture in Australia stop I fear Billingham overheads may increase due to loss Australian tonnage stop Proposals for joint ownership of sulphuric acid factory or other joint working with other pigment manufacturers can be considered on their merits and might be desirable"

and I hope and believe that this put the situation before you sufficiently clearly for you to enable you to deal with any appeal which Mr. W. S. Robinson may make.

As things stand at the present time Mr. Robinson will derive his benefit from the Australian factory through the proportion that he holds of the British controlled shares. The British would not be prepared to surrender any portion of their holding to him and they do not recognize any claim on his part that he has rendered special services to the Company. In fact the National Smelting Corporation and Mr. Robinson have had less to do with the management of the Company and they devote less time and attention to its affairs than any of the above members and al-

Exhibit 585

though Mr. Robinson is Chairman he is so often absent or otherwise engaged that Mr. Tasker is almost always in the Chair, and devotes a good deal of time to the affairs of the Company.

I thought you might be interested to have an estimated figure—it is my own estimate—of what the value of the Australian business is. It has developed well and I have every reason for thinking that unless we are prevented by political conditions we shall ship 1200 tons during 1941 and that this will bring in a profit to British Titan Products Co., Ltd. of £30,000 (English). Whilst we have come to the clear decision that it will be necessary to manufacture in Australia in order to preserve this business we do not lose sight of the fact that manufacturing costs over there will be much higher than here, and also that the withdrawal of 1200 tons from our manufacture here is almost certain to increase our overheads unless we should have increased business in other directions.

In capitalising such an interest as we have in this Australian business at the present time I believe that we should not consider it more favourable than on a 12 or 15% basis and as a rough estimate I consider therefore that the goodwill value might be treated approximately as £200,000 (English) on the basis of the profit made in this country and might be as low as £100,000 (English) in respect to an Australian factory.

The thing that is obvious is that supposing there were any upset to the present ratio of interests that such would have to be bought and could not be a gift. If the structure of British Titan Products Co., Ltd. were followed it would mean that a figure of £100,000 (English) to £200,000 (English) would have to be paid by an Australian company

Exhibit 585

for goodwill quite apart from the capital that was put up for the erection of the factory and for working the business.

There is a consideration which has entered my mind and that is that if anybody were prepared to purchase from BTP the goodwill in the Australian company for cash that such cash would not be subject to British taxation but I think that such a transaction is unlikely to occur and further it would no doubt need the permission of the Australian Government which might be difficult to obtain. All things considered it is my personal opinion, as stated in the cable, that the factory in Australia shall belong to British Titan Products Co., Ltd. as at present constituted and that the interest in it shall be derived by all parties from their interest in the English Company of British Titan Products Co., Ltd.

The idea that the Electrolytic zinc or other Australian company and the factory to be installed by B.T.P. in Australia might co-operate even to the extent of joint ownership of sulphuric acid plant and in any other mutually helpful considerations has been mooted and I believe our British colleagues would rather welcome such arrangement on a fair basis and after expert examination.

I note with interest that Sir Clive Baillieu — a distinguished Australian — who has been a close associate of Mr. W. S. Robinson for many years, has been appointed head of the British Purchasing Commission in the United States. I do not think, however, that his position and influence should affect the policy. You may have heard that Mr. L. B. Robinson has been made Joint Managing Director of the National Smelting Corporation.

Exhibit 585

I am sending this letter by air but on the information given to me you have been approached before it can arrive and I thought it well to cable at length.

With every good wish for the year upon which we have entered, and cordial personal regards,

Yours sincerely,

ALFRED J. THOMPSON

Exhibit 586

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

12th February 1941.

Dr. G. Jebsen,
Titan Company Inc.,
111 Broadway,
New York, N. Y.

Dear Dr. Jebsen,

I confirm interchange of cables as follows:

Yours: "IS LAPORTE FREE TO GRANT TITANIUM LICENSES IN AUSTRALIA PLEASE CABLE"

Mine: "LAPORTE QUITE FREE IN AUSTRALIA"

So far as I know, Laporte is under no restriction whatever in regard to Australia, its agreement with the old company having terminated when the old company liquidated.

Yours sincerely,

C. J. STOPFORD.

Exhibit 587

Mr. H. S. Tasker
Limpsfield Court
Oxted, Surrey
England

February 14, 1941.

My dear Tasker:

Many thanks for your cable of January 22nd "WS ROBINSON ARRIVING AMERICA SHORTLY STOP HE HAS DEMANDED ON BEHALF OF ELECTROLYTIC ZINC COMPANY THIRTY PERCENT SHARE OF AUSTRALIAN TITANIUM COMPANY AND STATES THAT COMPANY OTHERWISE THREATEN INDEPENDENT MANUFACTURE STOP HAVE WRITTEN YOU FULLY JANUARY FIFTEENTH BUT MEANWHILE CONSIDER DEMAND UNJUSTIFIABLE STOP MY OWN FIRM DEFINITELY UNWILLING FOREGO ANY OF OUR PARTCIPATION AND EXPECT SAME ATTITUDE ICI BUT WILL CABLE THEIR VIEWS WHEN RECEIVED", and your cable of January 27th "IMPERIAL SMELTING AND ELECTROLYTIC ZINC ARE INDEPENDENT COMPANIES BUT WITH LARGE SHAREHOLDERS COMMON TO BOTH AND ELECTROLYTIC ZINC IS SHAREHOLDER IN IMPERIAL SMELTING STOP INFORMATION INDICATES ELECTROLYTIC ZINC ATTITUDE ADOPTED AT INSTIGATION ROBINSON WHO IS CERTAINLY DIRECTLY OR INDIRECTLY CLOSELY ASSOCIATED WITH THEM", in reply to my cable of January 23rd "THANKS FOR CABLE REFERRING CLAUSE ELEVEN AGREE-

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MENT, 1933 IS ELECTROLYTIC ZINC A SUBSIDIARY OR ASSOCIATED COMPANY OF IMPERIAL SMELTING".

I have not written you earlier, awaiting your two letters of January 15th, which arrived Tuesday February 11th, and have been read and discussed with much interest by Rockwell, Garesche and myself, and upon which we sent you the following cable on February 11th "MANY THANKS LETTER JANUARY 15TH ARRIVED TODAY AND CABLE JANUARY 27TH STOP NOT DISPOSED TAKE IN AUSTRALIAN INTERESTS IN AUSTRALIAN ENTERPRISE UNLESS VERY DEFINITE ADVANTAGES TO BRITISH TITAN MAKE IT ADVISABLE STOP ROBINSON HERE BUT NOT SEEN HIM YET"

I also received from Mr. Stopford various cables of information and copies of L. R. Robinson's letters of January 15th, 17th and 20th to you, as well as your letter to L. B. of January 20th, and a copy of a letter of January 24th from Mr. B. W. Foster to Stopford concerning the various Broken Hill companies and companies built up around these.

Mr. W. S. Robinson telephoned to this office Monday, February 3rd. Mr. Rockwell was away in Florida and returned last Monday, and we expect therefore to see Mr. W. S. Robinson here any day. As we are ignorant of Mr. Robinson's arguments and basis for his proposal, I can only send you our preliminary reaction in the matter.

We have felt that having with us in the British Titan Products Company, *Imperial* Chemical Industries, *Imperial* Smelting Corporation and Goodlas, Wall and Associated Lead Manufacturers, which last is also a Company with

Imperial interests, we shall have ample support for the development of our Titanium industry within the Empire without our having to take in local interest for local developments outside Great Britain for the sake of influential support. If it is a question of obtaining advantageous access to raw materials like sulphuric acid or other tangible matters, it seems to us that this should be paid for in other ways. It does not in principle appeal to us to part with a share in the business for the purpose.

From your correspondence we understand that this is also your view. We have just received your cable of yesterday (copy of which is enclosed) regarding Mr. Wilkins' views and are glad to see that we all are following the same line of thought.

When we have seen Mr. Robinson and heard his views I shall be glad to write you again, particularly as we feel that if anything should develop from his proposal it should be done on your side, you being fully familiar with the Australian position which no doubt has been given a thorough study.

I beg to add that the interest which Barley, Mr. Wilkins and especially you have given the British Titan Products is much appreciated here and as you know especially by me, and we look forward with great interest to your further advice.

Hoping that you are well and with my best wishes and kindest regards, I am

Yours sincerely,

G. JEBSEN.

Exhibit 588

Copy

February 17, 1941.

Mr. H. S. Tasker
British Titan Products Company Limited
Burlington House
Yarm Road, Eaglecliffe
Stockton-on-Tees, England

My dear Tasker:

Many thanks for your personal letter of January 15th.

As information for your personal use I may add to my other letter of Friday, the 14th inst., the following development in this country:

I enclose statistics showing the development of the sales of lithopone and titanium pigments in the last twenty years, which speak for themselves. This trend of the development is expected to be still more pronounced, since National Lead Company early this year has put on the market two Titanox C pigments (calcium base) of considerable improved qualities, one with a tone strength of 540 to 560, which is chalking resistant to a fairly high degree, and one somewhat higher in tinting strength, 600, with the same chalking qualities as the Titanox C marketed previously.

The sales price is the same as for the old quality, and the production cost is expected to be also practically in line with the previous quality.

As regards the possibilities for Electrolytic Zinc Company to obtain technical support for the manufacture of titanium pigments, the possibilities are very restricted. In this country the companies which manufacture are all under license, either from the DuPont or the National Lead Company.

Exhibit 588

Under development as the Burgess Process (Sherwin Williams) they have a plant under erection on which they expect to start operations this coming Summer (capacity 10 tons a day). It is expected, however, that the process will prove to be rather expensive.

Pittsburgh Plate Glass Company is also working on a process which, however, is on a purely laboratory experimental stage.

In Europe you may remember that the German Auer Company spent between 7,000,000 and 9,000,000 Marks in order to develop a process, and gave it up after disappointing experiences on a factory scale.

I am recently informed that Noury & van der Lande have given up their efforts after having operated a pilot plant for several years. They have sold the equipment. It seems thus that only Laporte is in a position to give fairly satisfactory technical support.

I find it difficult to believe that there is a serious intention on behalf of Electrolytic Zinc to take up titanium manufacturing.

With best wishes and kind regards,

Yours sincerely,

G. JEBSEN.

Exhibit 589

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

In Reply Please Quote CJS/SL/19659

18th March 1941

Dr. G. Jebsen,
Titan Company Inc.,
111, Broadway,
New York, N. Y.

Dear Dr. Jebsen,

Many thanks for your letters of February 13th, 14th and March 4th, all of which arrived together. Your expressions of good will and appreciation of the British attitude are very welcome. It is really amazing the way people have settled down to the abnormal life we are all leading at the present time, and carry on with their ordinary tasks just as they have been accustomed to do in the past, especially in the heavily bombed districts, where you see girls doing jobs under conditions which would have been considered only suitable for first line troops some years ago. In fact, I think I can say quite definitely that the period of inactivity before last summer was a much greater strain on everybody than the period we are going through at the present time.

A lot of people abroad used to be very reluctant to admit that the Englishman had any sense of humour, but humour seems to come to the surface spontaneously in all kinds of nasty situations. I saw a local rule on a golf course the other day, which struck me as being very typical of the

present times, although it is very rarely that one can get a game of golf. The rule reads:

> "If a player's stroke coincides with the explosion of a bomb or gun in the immediate vicinity, he may replay the stroke.
> Penalty: One stroke".

Exchange of Technical Information

I quite appreciate the attitude of Titan Company Inc. and the National Lead Company in regard to this and the arrangements with overseas companies, but nevertheless, it is disappointing that at the present time, when what are obviously very interesting developments are taking place in America, we are left guessing as to the details of them. Periodically, when we have been particularly interested, we have written asking specific questions and generally have had a very satisfactory reply.

At the moment, I should be particularly interested to have some details of the method of manufacture of the two new types of C. Pigment, as I can only guess that they are made by blending or grinding a new type of specially precipitated extender with Titanox—NC in one case and one of the more normal grades of Titanox in the other case.

Our research activities are somewhat limited at the present time; as some of our scientific staff has been seconded for Government work and plant problems associated with the change of ore and changed conditions have called for more scientific attention on the plant itself, but we are doing a certain amount of useful work. Anerum has now been made research manager and I had a very interesting talk with him, the other day on the subject of A.10 as compared with Titanox A.24, and we feel that if

laboratory work develops according to indications, A.10 will be the superior pigment, as it has all the properties of Titanox A.24 with considerable greater durability. It is interesting to note that the titanium in A.10 is a hundred percent in the rutile form and at the same time is an exceedingly soft pigment, with a very low oil absorption, which does not require Raymond milling or wet milling. Our main problem has been to obtain a pigment of satisfactory colour, but this we have managed to do in the laboratory by careful control of the cooling conditions. There will, of course, be some difficulties in translating this control into practice, but it is by no means impossible to do so. Unfortunately, we shall not be able to carry out large scale trial on this for some time under existing conditions. We do not wish to do anything which would interfere with the smooth running of the plant.

Last year's financial results will soon be out officially, and you should have a copy of the balance sheet in the course of the next month. Results are extremely satisfactory, but I think we must anticipate that the profit will be considerably lower during 1941; one of the main items of difference being that during 1940 we worked up our low priced stock of ilmenite.

LAPORTE

There are no further developments of note in this direction. After making some very interesting suggestions, O'Brien has gone back into his shell and does not seem inclined to follow them up.

AUSTRALIA

We were amazed to learn from your cable and letter of March 4th that W. S. Robinson had not raised the question

of participation in the Australian factory during his visit to you. He has been in this country for two weeks now, but has not mentioned the matter in the very brief correspondence which has passed between us. He is apparently saving it up for the Board which will be meeting next week. He has said that he will be at the Board meeting. It is very unfortunate that he has raised the matter in the manner he has, as it is bound to make relations somewhat strained whatever the outcome.

In regard to Australian ilmenite, I was in contact with the firm, Zircon & Rutile Limited, which I believe has since given up operating, in 1930. They had appreciable quantities of ilmenite available in the Byron Bay district north of Sydney. A sample which we examined gave the results given in the memorandum from Anerum enclosed herewith.

I shall be very interested to have an indication of the results of the examination of the samples W. S. left with you, and although you probably have it already well in mind, would comment that in view of the present situation and until the outcome of it is known, it might be dangerous to give the Zinc people any information at all as to the manufacture of titanium pigments from Australian ilmenite, unless the information happened to be that the ilmenite was quite unsuitable.

I agree with you in that without technical support from somebody already in the industry, the Zinc people are not likely to manufacture titanium and I should think that our Chairman's associates would hardly approach our competitors.

Sherwin Williams and Pittsburgh Plate Glass are hardly in a position to give support on the technical side as yet.

Exhibit 589

I was interested in your news as regards Noury van der Lande, although I doubt whether they would have any option to do otherwise that cease manufacture.

My wife and family are all keeping well, as are all your friends in B. T. P. also. I was interested to see that you have taken a house at Greenwich, Connecticut. You have certainly chosen a beautiful spot in which to live. Peaceful places like that appeal to me very much at the present time. Please give my kind regards to Mrs. Jebsen. I hope that she has fully recovered from her experiences, which cannot have been pleasant. Thanks for the news about Bommen, of which I was not aware.

With kind regards,

Yours sincerely,

C. J. STOPFORD

Exhibit 590

Letterhead of

H. S. TASKER.

Temporary Address
LIMPSFIELD COURT, OXTED, SURREY

HST/MS 16th April, 1941.

Dr. G. Jebsen,
The National Lead Co.,
111, Broadway,
NEW YORK, U.S.A.

My dear Jebsen,

I am enclosing herewith a copy of the letter we are sending to the Electrolytic Zinc Co. turning down their application to become partners in the Australian business. This letter has been approved by W.S. Robinson as you will see by the copy of his letter addressed to Stopford, also enclosed.

I want to draw your attention to the second paragraph of W. S. Robinson's letter. Stopford has very rightly replied offering to take supplies of Sulphuric Acid from the Electrolytic Zinc Co. if this can be arranged. He has ignored the statement made in the first sentence of this paragraph.

This statement that the Electrolytic Zinc Co. is free to manufacture Titanium is, of course, very strictly and legally correct, but you know from the information we have given you how close are the links between this Company and the Imperial Smelting Corporation, and there is no doubt that if the Electrolytic Zinc Co. did commence to

manufacture, it would at any rate be a breach of the moral obligations of the Imperial Smelting Corporation.

It would, of course, be possible to make a statement to that effect at this stage, but have consulted Barley and both he and I feel that it would be better to leave the threat unanswered as we believe it to be a statement made by W. S. in one of his belligerent moods and that we will probably hear no more about the matter.

We are, therefore, letting the matter rest and I should like to know that you and our American friends approve of this course.

If ever further action is taken by the Electrolytic Zinc Co., I think a protest by the American shareholders would have a great weight; probably a good deal more than a protest by the other British shareholders.

With kind regards.

Yours sincerely,

H. S. TASKER

Exhibit 590

COPY

BRITISH TITAN PRODUCTS CO.LTD.

10th April 1941.

Sir Colin Fraser,
Chairman,
Electrolytic Zinc Co. of Australia Ltd.
Collins House,
MELBOURNE, C.1.

Dear Sir,

TITANIUM PIGMENTS

The letter dated January 10th 1941, from the Secretary of the Electrolytic Zinc Co. of Australasia Ltd., informing us of that Company's desire to participate in the capitalisation of a company to undertake the production of titanium oxide in Australia has been considered by the Board of this Company.

I am instructed to inform you that the Board much appreciates the offer made and if, at a later date, it should desire Australian partners, it would be very pleased to discuss the matter further. At the present time, however, owing to the reduction in British turn-over entailed by the transfer, it would prefer not to reduce its interest in the Australian titanium business, to the development of which it has given very close attention over a number of years, with the result that a level has now been reached at which domestic manufacture becomes economically possible.

Yours faithfully,

FOR BRITISH TITAN PRODUCTS CO.LTD.

(Sgd.) B.T. MINTER,

Secretary.

Exhibit 591

Letterhead of
BRITISH TITAN PRODUCTS CO., LTD.
BILLINGHAM

(COPY)
IMPERIAL CHEMICAL INDUSTRIES LTD
from:
I.C.I. (Paints) Limited,
Wexham Road,
Slough,
Bucks.
30th September (sic) 1941

Dear Tasker,

In acknowledging your letters of the 15th ano 20th inst., may I first say how sorry I am to learn that you are indulging in a minor operation. I hope it will be completely successful and you will benefit considerably therefrom.

With you, I am disappointed in the attitude adopted by W. S. Robinson in connection with titanium developments in Australia. I note from your second letter that the electrolytic Zinc Co. ask for one third participation in this and whilst this claim may be modified somewhat, any participation on their part does, as you infer, upset the balance of interests that was agreed upon at the formation of the British Company as a compromise all round, and I am sure I.C.I. only agreed to accept such a small quota to avoid unnecessary future competition and on the understanding or in anticipation that this proportion at least would be our share in any future developments.

I gather from the correspondence that W. S. Robinson is on his way back to this country via America and we shall probably hear what stand the National Lead Co. Ltd., New

York, are prepared to take in connection with the Electrolytic Company's claim as, to my mind, they are the people who should make some contribution to the Electrolytic Company's quota if they have to have one. This would probably mean the structure of the Australian Company being more independent and based on somewhat different principles than I had envisaged.

Mr. Foster, of our Australian Department, tells me that Stopford has written to him enquiring for details in connection with the position of the Electrolytic Zinc Co. within the Australian group. I believe some information has been furnished but whether it will be sufficient for our requirements, I do not know.

I had an interview yesterday with Mr. Todhunter, the I.C.I. Director who handles all Australian affairs and pays frequent visits to that country. He is extremely interested in any Australian development and tried to explain to me part of the complication that exists out there by the various community of interests.

You probably know more of this than I do and how the Zinc Corporation, with Broken Hill North, Broken Hill South, and the Electrolytic Zinc Co. are interwoven and how several of them have joint interests in ventures in Australia with I.C.I. For instance, they and we own 25% each in the Fertiliser Co. and similar amounts in the New Aircraft Factory, and Broken Hill North and South have jointly about 16% in B.A.L.M., and the Electrolytic Zinc Co. have a very small interest even in I.C.I. (A. & N. Z.)

W. S. Robinson does not appear personally on the Board of any of these companies so his actual position over there is now clear to me.

I understand, from Mr. Todhunter, that Sir Colin Fraser Chairman of a number of the above-named com-

panies, is a very fine man and a friend of Sir Lennon Raws and known to Mr. Todhunter personally. Therefore, if he can help in any way by cabling Sir Lennon, for Sir Colin Fraser direct; he will do so on receipt of details of any suggestions we have to make.

I note your comments in connection with the work that you have put into B.T P. and these I very gladly confirm and I should be equally disappointed if your Company were obliged to accept any smaller quota than that at present held.

I have been trying for some days to get in touch with Major Barley and only succeeded the other evening in having a few minutes' chat with him on the 'phone. He is eqtually disappointed with W. S. Robinson's attitude and I believe he said he had or was going to write you on the subject and endeavor to attend our next Board Meeting.

I do not think we can do any more at the moment but wait for Jebsen's reply to your letter, or the arrival of Mr. Robinson himself, when the meeting with him will be interesting and at which I shall be very pleased to support the general attitude that you have adopted to Mr. Jebsen, and if between now and then I can do anything more specific to help, let me know.

Yours very sincerely,

OLIVER WILKINS.

P.S. Since writing the foregoing I have received from Stopford copies of letters exchanged between Mr. L. B. Robinson and yourself, but I do not think these alter the position or call for any further remarks from us.

H. S. Tasker Esq.,
63, Belvedere Road,
LONDON, S.E.I.

Exhibit 592

BRITISH TITAN PRODUCTS MEETING,
11 A. M., DECEMBER 5, 1941

Those present:

Messrs. F. W. Rockwell
C. J. Stopford
G. Jebsen
Charles Simon
C. F. Garesche

The meeting was called for the purpos of having Mr. Stopford inform those present regarding the progress of plans for BTP building a titanium plant in Australia. The following notes were taken from the discussion:

A titanium plant was built in 1930 and approximately 40,000 £ were sunk in the venture. Ilmenite for use in this plant was obtained from King Island about 130 miles off Melbourne. This plant was eventually sold for 7000 £ and new capital amounting to about 20,000 £ was put into the venture. In 1936, the people interested in this venture requested a 20% tariff on titanium pigments. This tariff was opposed by the BTP interests, Mr. Stopford going to Australia to testify in the hearing. The tariff was not granted because it was determined as a result of the hearing that manufacture in Australia was uneconomical. At that time, BTP testified that when the Australian market consumed from 600 to 800 tons of TiO_2 per year, they would be willing to consider building a domestic plant. Shortly after this decision, re-application was made for a tariff but this was denied without it being necessary for a BTP representative to testify at the hearing.

In 1937 the British Titan Products Co. formed the Australian Titan Products Proprietary Ltd. (ATPP) with an

authorized capital of 100,000 £ of which only a few shares at 1 £ are issued. The original above mentioned first titanium company was probably formed in 1930. This company was taken over by Titanium Pigments Ltd. of which Holmes Hunt was Chairman and he finally sold the physical assets to BTP (ATPP) for 5000 £. Physical assets included plant at Sportswood, 7 miles west of Melbourne. It is near the I. C. I. plant at Deer Park. Mr. Backhouse, formerly with this company (TPL) joined I. C. I. A. N. Z. (Imperial Chemical Industries—Australia New Zealand)—which are BTP's sales agents—as BTP technical sales service representative (partly paid by I. C. I. A. N. Z., partly by BTP). Mr. Backhouse had had experience with the National Titanium Company of England. The Australian company had been operating under a license agreement with LaPorte. They had agreed to pay as royalty 5 £ per ton and a minimum of 1000 £ per year. At the time BTP bought them out they were two years in arrears on royalties. LaPorte had taken stock for the arrears. BTP shut the plant down and until recently has kept it idle, merely in the care of a watchman. It is now rented for 500 £ per year to an alum company who have an option to buy for 7500 £.

Australian sales in 1940 were 1100 tons TiO_2 which is more than the 600 to 800 tons which BTP stated was enough to justify building an Australian plant. On Mr. Stopford's contemplated visit to Australia, he will be seeking a site which will permit waste disposal and be near an available supply of sulphuric acid.

Early in 1939, a lithopone plant in Australia of 3000 tons capacity was proposed by others, but this has not been built.

Exhibit 592

A few months ago, BTP received a letter signed by the secretary of the Electrolytic Zinc Company of Australia of which Sir Colin Fraser (fine type man) is Chairman, stating that they expected a 30% share of the stock of any titanium company which might be formed for manufacturing in Australia. BTP considered this request, Mr. W. S. Robinson in the Chair (Mr. Robinson also a Director of Electrolytic Zinc Co.). Decision was to refuse the request. Mr. Stopford had word that Mr. McLean, an old Works Manager of the Australian plant, had been advised not to tie himself up as LaPorte's Australian subsidiary (Crystal LaPorte Ltd.) was considering building a plant. Mr. Stopford also mentioned that there was a threat of competition in the "Dye" process proposed for the manufacture of alum. This process has a by-product of $TiSO_4$.

In May, 1940, BTP wrote a letter to the Australian authorities stating that Australian consumption had now reached the point justifying an Australian plant, but that war conditions did not make it the best moment. At the same time they applied for an increase of capital authorization. This request was referred to the Minister of Trade & Customes who, in turn, referred it to the Tariff Commission sitting as a technical committee, before which a hearing was held. Sir Arthur Robinson, a brother of W. S. Robinson, was the BTP solicitor. Paint manufacturers were called to testify. Everything went too well and approval was granted to increase BTP's Australian company's authorized capital from 100,000 to 200,000 £. W. S. Robinson preferred not to testify as he was also interested in lithopone. Backhouse did testify. The only advice BTP had regarding this meeting was a letter from Arthur Robinson advising that a sanction had been granted to

Exhibit 592

increase capital. Sanction provided that the capital must be called up, stating in 6 months and be completed within 12 months; otherwise re-application would be necessary. BTP can make more money by manufacturing in England and shipping to Australia; W. S. Robinson is advising lithopone people not to go ahead and advises BTP to go ahead only as far as is necessary to protect their interest at this time. The Australian pound at present has an exchange value of approximately 20% less than the English pound; 25 £ Australian being worth approximately 20 £ English. BTP sales in Australia at present earn approximately 30,000 £ gross per year. The English income tax law at present gives relief for all tax paid in Australia.

In 1940, sales were 1100 tons TiO_2. In 1941 up to October, sales were approximately at the same rate, but then exports were cut by 80%. Nov. 1st an order was issued to cut out exports entirely, however, compromised by agreement to cut to 50% after Nov. 1st. After Jan. 31, 1942, export license will probably not be renewed. If the Australian Government requests allocation for defense, they may be able to obtain some supplies from England. If pigments were to be supplied by the U. S., BTP would not expect to claim part of the profits so long as National Lead have no surplus. At present BTP have approximately 2½ mos. supply of ilmenite, now increasing this to about 6 months supply. Plan to suggest that Australian minister request English Government to give them a quota which Billingham could manufacture:

'It would take at least a year to build an Australian plant. It would be 3 months before English engineers following Mr. Stoppard could be on the ground ready to start.

Exhibit 592

Australian Sulphuric Acid

Only at Port Perry is there an available surplus. Port Kembla and Cockleereek are two possible sites. At Kembla there is some acid available, but the plant site would require piles to be driven throughout. A plant site here would cost approximately 25,000 £ after piling, whereas at Cockle-creek, it would cost about 7,000 £. The titanium plant itself with a capacity of 5 tons per day, would cost about 115,000 £. In addition to this, 32,000 £ would be required for an acid or acid recovery plant of 20 tons per day capacity. Approximately 30,000 £ would be required for working funds. It is hoped that the plant might be financed by BTP out of income and cash.

The Sulphide Corporation is one of the important manufacturers of sulphuric acid in Australia not associated with W. S. Robinson. They are a possible source to BTP. Dr. Jebsen suggested that a study be made of the tax situation. There is a possibility that dividends direct from Australia to National Lead Company, for instance; also likewise to I. C. I. might result in a reduced tax burden. It is estimated that of the 200,000 £ necessary capital, perhaps 60,000 might be obtained from a bank loan in Australia. The possibility was suggested that BTP might subscribe for 51% of the stock and the other 49% be sold for cash proportionally to each of the present BTP stock owners.

C. E. GARESCHE.

To Garesche,
Retaining your draft with thanks.
Have annexed a copy with changes as suggested by Stopford and have kept a copy myself.
It is understood that these copies are not to be distributed.

G. JEBSEN.

Exhibit 593

Letterhead of

TITAN COMPANY, INC.

No. 25

Paris, October 23rd 1933.

CJ/AK
William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re British Titan Products Co. Ltd.

Mr. Stopford has seen Laporte and, during the conversation, he plainly suggested to them that we should refrain from manufacturing Blanc Fixe in case they would deliver to us and they stopped their manufacture of TiO2; taking deliveries from us instead.

Laporte did not reject this idea, but told him that one condition on their part would be freedom to sell Titan Products over the whole world. They said they would place the matter before the Board and Mr. Stopford is expecting an answer in two or three weeks.

Giving Laporte freedom to sell over the whole world would be against our agreements with our other associated companies. The condition is probably put forward by Laporte as they know that B.T.P.'s market is limited to the British Empire and they may ask for a compensation in restricting their liberty of action. On the other hand,

Exhibit 593

Laporte's manufacturing position is such that an export is very much handicapped.

I will keep you informed as things develop.

Re Blumenfeld

I talked the matter over with Dr. Kühne and Mr. Weber-Andreae. They are in principle in favour of an arrangement with Blumenfeld and are willing to make a small sacrifice with regard to Montecatini's export.

I am now working on the sales figures of the various markets and will see Blumenfeld on Wednesday or later in the week. He is rather reluctant in giving out sales data.

I shall keep you informed as soon as anything further develops.

With best regards,

Yours very truly,

G. JEBSEN.

Exhibit 594

No. 26

Letterhead of

TITAN COMPANY, INC.

Paris, October 26th 1933.

GJ/AK
William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I enclose copy of an interesting report from Mr. Stopford, regarding negotiations with Laporte, of October 21st, as well as a confidential cable of October 19th, which I understand has been received by Mr. Robinson.

Mr. Stopford reported over the telephone the other day that the work in Billingham is proceeding well.

Your very truly,

G. JEBSEN

Exhibit 594

COPY

CONFIDENTIAL.

Cable received from Colin Fraser Esq., Melbourne on October 19th. 1933.

Referring to our cable of 4th.,
Company being formed purchase assets of Titanium Products Ltd. owing King Island (s) Mine (s) and certain plant in Victoria and acquire licenses from Laporte of Luton to manufacture 500 tons Titanium Oxide per annum, believe business and technical personnel concerned weak but Laporte being paid 2000 £1 shares out of 20,000 to be issued in addition to cash and royalty (s):
(x). Understand Ilmenine may be drawn from India.
Project is likely to lead to duty being imposed against imports.

NOTE: (x). This paragraph does not "check" but would do so if "Europe" was inserted in place of "India".

Exhibit 594

CONFIDENTIAL

BRITISH TITAN PRODUCTS CO. LTD.

NEGOTIATIONS WITH B. LAPORTE LIMITED.

Date: 21st October 1933.

BRITISH TITAN PRODUCTS CO. LTD.

NEGOTIATIONS WITH B. LAPORTE LIMITED.

In accordance with the instructions of the Board, the undersigned wrote to Laporte on October 6th 1933, asking for quotations for the supply of Blanc Fixe at the rate of 1,000, 2,000 or 3,000 tons per annum. A formal acknowledgment of the enquiry was sent by Laporte on October 7th, and a letter dated October 12th outlining the Blanc Fixe position was received later. In this letter, a price of £8. per ton of S. F. quality dry powder F. O. R. Luton, was offered with a request that the figure be treated as very confidential. The final paragraph of the letter contained the suggestion that Mr Stopford should meet Mr. O'Brien to discuss the details. We replied on October 14th. to the effect that the price was not attractive and that we agreed to the suggested meeting. During a subsequent telephone conversation, Mr. O'Brien invited the undersigned to visit Luton, the invitation was accepted and a visit arranged for October 18th. 1933.

The visit took place as arranged and after some general conversation, Mr. O'Brien introduced the subject of TiO_2 Manufacture, and said he was very glad to have the opportunity to meet the undersigned as they generally worked on very friendly terms with their competitors.

Exhibit 594

Mr. O'Brien then said that they had treated our enquiry for Blanc Fixe as a very serious one and had offered an exceptionally low price, lower in fact than the price at which they were supplying their own titanium works, and asked the undersigned to tell him candidly the probable tonnage and the highest price which would interest us.

The undersigned then suggested that it might be of mutual advantage if some arrangement was made whereby we refrained from the manufacture of Blanc Fixe and in return they dropped the manufacture of Titanium Oxide. Mr. O'Brien said that this was a very unexpected proposition (actually he did not appear to be surprised), which he would like to return to later but before doing so would like to deal with the Blanc Fixe as an independent enquiry. In reply the undersigned indicated that the tonnage could be taken as 1,500 tons per year ($BaSO_4$) which may be required in the form of all pulp (73% $BaSO_4$) all dry powder, or part as pulp and part as powder and that the maximum price we could consider would be £7 per ton F.O.R. Luton for dry powder and £5 per ton F.O.R. Luton for 73% pulp on a 100% $BaSO_4$ basis. Mr. O'Brien remarked that these were exceptionally low prices and said that prices such as these could not be considered in conjunction with any deal in regard to TiO_2 production.

The undersigned then suggested that Laporte's interest in Titanium was really from the point of view of an outlet for Blanc Fixe. Mr. O'Brien replied that initially that was the case, but that now the position was somewhat different as it was difficult to say whether peroxide was a by-product of Blanc Fixe or vice-versa. He stated definitely that Laporte's would not drop Titanium altogether but may consider taking their requirements from B.T.P. on a cost-plus

basis and asked the undersigned to suggest a scheme for consideration.

After explaining that cost-plus basis would not be acceptable as it would necessitate disclosing our costs and amplifying the Blanc Fixe position to point out that we had thoroughly explored the cost of production and that as a result, if we manufactured we should produce more than our requirements to work the plant at an economic load, the undersigned made the following suggestions as a basis for discussion:—

(a) That Laporte should cease to manufacture Titanium Dioxide and that in return B.T.P. would not manufacture Blanc Fixe and would take their requirements of Blanc Fixe from Laporte provided that the price of Blanc Fixe was acceptable to B.T.P.

(b) That Laporte should take their requirements of Titanium Oxide from B.T.P. at a price bearing some agreed relationship to the market price.

Mr. O'Brien intimated that he considered it essential that Laporte retained their freedom to sell throughout the world as he understood that B.T.P. had a limited territory. He also suggested that there should be no restriction on the quantity sold by Laporte provided that scheduled sales prices were agreed and adhered to in all countries in which B.T.P. and/or its associates were interested.

Mr. O'Brien also remarked that if the suggested arrangement was made the price of Blanc Fixe could not be so low as the prices asked for earlier in the discussion.

Mr. O'Brien then excused himself and after an absence of twenty minutes returned accompanied by Mr. Weber.—

Mr. Weber stressed the importance to Laporte of losing contact with TiO_2 manufacture as they would then not be in a position to negotiate with TiO_2 manufactures in other countries.

Mr. O'Brien also pointed out that if some years hence the Blanc Fixe arrangement broke down their TiO_2 plant would be obsolete or possibly scrapped and B. T. P. would have sufficient plant capacity to look after the whole market.

The undersigned informed them that B. T. P. would have the plant capacity in any event.

Mr. O'Brien said that they looked on their existing plant as a pilot plant with the possibility of large extensions ahead.

The position was left as outlined above, Mr. O'Brien saying that he would like to discuss the matter with his colleagues and put it before his Board. He will communicate with us after he has done so.

OTHER POINTS OF INTEREST:

During the general discussion, Mr. O'Brien made the following remarks:

1. Montecatini are selling about 400 tons TiO_2 in Britain.

2. That there was a titanium works in Australia, and when the undersigned suggested that it was derelict, Mr. O'Brien remarked that it could easily be started up again.

3. That they have considered the price of TiO_2 and whilst they think it too high have decided not to cut prices at present.

Exhibit 594

4. In the event of any arrangement being made the fact that Laporte was no longer manufacturing would have to be kept absolutely secret. It was pointed out that this may be very difficult.

Mr. O'Brien telephoned the next morning (19/10/33) and asked the following questions:

1. Could we give him an estimate of the proportions of pulp and dry powder in our Blanc Fixe requirements?

2. In view of the development of $CaSO_4$ as an extender in America, did we think that Blanc Fixe would eventually drop out of use, in which case Laporte would be interested more in TiO_2 than in Blanc Fixe?

To these questions, the undersigned replied as follows:

1. It is impossible at present to give any indication of the proportions of pulp and dry Blanc Fixe we shall require.

2. There will always be a demand for Blanc Fixe as an extender and that Calcium Sulphiate would be used in addition to, rather than in place of, Blanc Fixe.

Signed: C. J. STOPFORD.

Exhibit 595

Letterhead of

TITAN COMPANY, INC.

No. 35

Paris, November 24th 1933.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

RE LAPORTE

In B.T.P.'s last Board Meeting, November 17th, an arrangement with Laporte was again discussed. It was generally agreed that this would be desirable in order not to have the market disturbed.

Laporte's titanium enterprise is worked as a separate company, the National Titanium Pigment Co., in which the Tilden Smith group is still interested.

Laporte's price for Sulphuric Acid is 50% above ours. Their strength is their by-product, Blanc Fixe. It looks as if this will counter-balance their higher production costs for TiO_2, so that they may be able to make a 25% pigment at the same price as B.T.P. A price of £4.0.0 per ton of Blanc Fixe is then assumed, whereas Laporte at the present

moment charges probably somewhere about £7.0.0. A price of £4.0.0 is presumably lower than the price they can dispose of otherwise.

Barley suggested that B.T.P. take over the National Titanium Pigment Co., by giving them shares in B.T.P. Laporte had emphasized the possibilities they have in markets outside British Empire, and Barley thought therefore that we would have a particular interest in getting National Titanium Pigment Co. into B.T.P.

I rejected this, emphasizing that we would not diminish our proportionate interest in the B.T.P., telling him that our answer to a similar proposal from I.G. (taking in Sachtleben) was that we will welcome Sachtleben if I.G. wishes to sell them a part of I.G.'s interest, but we wished to maintain ours. I suggested an arrangement with Laporte on lines similar to ours with Blumenfeld and Montecatini, giving Laporte—or National Titanium Pigment Co.—a quota in the British market against limitation of their capacity, and deliveries from us at favourable prices for excess requirements.

Stopford asked me after the meeting, if we will be willing to take Laporte in, on the basis of each partner contributing ¼ of the shares to be given to Laporte.

Although on this line an arrangement might be possible, by which we still have the majority together with one of the English partners, it seems to me a dangerous line to start on.

Tasker thought such an arrangement might give us more profit than by sharing the market with Laporte.

I told them that first all other lines for an arrangement with Laporte ought to be explored before anything of that kind was contemplated in conversations with Laporte, as

other considerations are to be taken besides the question of proportionate earnings.

Monday there was a meeting between three of Laporte's representatives and Tasker, Barley and Stopford. This resulted in nothing, except what was already arranged between Stopford and Laporte, that no price cutting competition should take place. Laporte had started with somewhat lower prices, to meet the market's expectations of cheaper products from a domestic manufacturer, and of course wanted to take credit for this. We will lower our prices correspondingly, but not go below Laporte's basis.

From conversations with each of our English friends, I understand that Laporte

1) in spite of what has been said, believe that we are afraid of price cutting at our present import stage;

2) over-estimate their manufacturing position compared with ours in Billingham;

3) are not prepared to talk about quotas as they think they can increase their present very small sales.

They had mentioned that their program includes an extension for making TiO_2. At present they only make a product containing 82% of TiO_2, which they sell as such, and reduced with Blanc Fixe.

Greeff encounters them very little on the market; the samples of their product are somewhat inferior to ours—but not very far, according to Mr. Heaton's examination.

Barley told me that Laporte particularly had emphasized an exploitation of their processes in Canada and U.S.A., and Barley thought this might be very inconvenient for National Lead Co. and Dupont. You know that in Canada they are cooperating with Monk & Irwin. I

have understood from I do not remember where, that Monk had proved a failure, but I suppose you are better informed about this and would like to hear from you in this connection.

I told Barley that you did not seem to be afraid of competition in U.S.A., and mentioned your experience with the Vanadium Company.

Please let me know New York's reaction to this question of merging National Titanium Pigment Co. with B.T.P., and what interest this has for the Titanium Pigment Company and Dupont.

I do not think that Laporte represents an important danger for the Continent. Export by Laporte from England to the Continent will not have great chances and there is not much probability of important firms in France and Germany taking a license from Laporte.

If Laporte wish to value themselves as a nuisance, they may of course be a disturbing element, but, as it is a serious firm, this is not likely.

I have told our friends in B.T.P. that I think it is first of all up to B.T.P. to deal adequately with Laporte, as we have been trying to take care of the Continent, and they have expressed a certain understanding of this.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 596

No. 86

Letterhead of
TITAN COMPANY, INC.

Paris, September 20th 1934.

William C. Beschorman, Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

For your information, I send you enclosed copy of my letter to Mr. Borgwardt of August 16th, regarding Leporte.

Mr. Stopford informs me that he and Mr. Thompson had a conversation with Mr. O'Brien of Laporte and informed him that B.T.P. contemplates towards the end of the year to reduce their prices by 10 to 15%. O'Brien did not seem enthusiastic about this, but declared that they would, in case, reduce their prices correspondingly.

During the conversation Mr. Stopford asked if Laporte would be interested in making a price arrangement for countries outside the British Empire. O'Brien said he was quite prepared to discuss the matter if we had any wishes on it, but left it to us as he looked upon the export business as a method of carrying overhead charges.

Mr. Stopford considers this as an indication that Laporte are making very little profit on what they are selling overseas. (This conclusion seems not necessarily to follow).

Exhibit 596

Mr. Stopford did not go any further with the matter, as O'Brien obviously wanted him to make suggestions and was not keen on putting forward any himself.

Returning from Norway, I have received information from two sources, that a Dutch firm, Messrs. Noury & Van Der Lande, Deventer, Holland, shows an extraordinary interest in gathering information about Titanium. I mention this in case you should happen to come across any indications in the same direction.

With kindest regards,

Yours very truly,

G. JERSEN

Exhibit 596

p.t. Fredrikstad, August 16, 1934.

GJ/KL.

M. Borgwardt, Esq.,
I. G. Farbenindustry Aktiengesellschaft,
Frankfurt a.Main.

Dear Mr. Borgwardt,

I acknowledge receipt of your favor of August 14th, regarding Laporte's offer to a Swiss factory of a license for the manufacture of Titanium White in Switzerland, and that the offer was rejected. I also note your conclusion that this proves the strong desirability of an understanding with Laporte. I much appreciate your information.

You will, no doubt, be aware that we follow the development of Laporte as closely as possible, with a view to the position in England as well as the possibilities of disturbing us in other countries.

Our English friends are of the opinion that Laporte represents no or very little danger as regards the British Empire, and from the contact they have had with Laporte they consider that time and developments will bring a change in Laporte's somewhat "cocky" attitude.

Laporte have in their conversation with our English friends also tried to valuate their position as possible grantor of licenses in the Non-British markets, and have particularly emphasized the value of an exploitation of their patents and experience in U.S.A. and Canada.

The British Titan Products Company has on its program various steps which are expected to have a considerable effect on Laporte and Laporte's business, in bringing them into a more reasonable attitude.

A contact exists also between Laporte and Blumenfeld Montecatini, in so far as a commercial co-operation is estab-

lished between Laporte and Montecatini, and conversations are going on between Blumenfeld and Laporte.

Under these circumstances it seems to me unwise, by showing nervousness, to encourage Laporte's ideas of the value of their position as grantor of licenses in foreign markets. The failure of their initiative in Switzerland also points in this direction. It seems to me rather questionable whether Laporte can do anything in regard to licenses in the Non-British European markets. The erection of factories in countries with small markets is not a tempting proposition, and Laporte's experience in Switzerland seems to confirm this.

Germany, I presume, is out of the question, and there remain then France, Belgium and Holland. Belgium and Holland are too near England and presumably, therefore, of more interest to them as markets for their factory in England, although they have hitherto not been very active there. As regards France, it is unnecessary to discuss, as you know the position.

Under these circumstances it seems to me advisable to let the situation in England develop and at the same time watch closely Laporte's activities in the Non-British markets. I shall therefore appreciate any further information you can give from time to time in this respect.

There are also other considerations in this matter which I prefer to discuss verbally.

With my best regards,

Yours very truly,

P. S. You know, I presume, that Laporte has given a license to an Australian enterprise, which however, our English friends contemplate with tranquillity.

Exhibit 597

WESTERN UNION CABLEGRAM

November 7, 1934.

NLT
PROTITAN
BILLINGHAM

CONSIDER AGREEMENT LAPORTE RE EMPIRE OUTSIDE GREAT BRITAIN SHOULD BE POSTPONED UNTIL CANADA AND SOUTH AFRICA CAN BE INCLUDED CONTINENTAL SITUATION OUGHT ALSO BE CONSIDERED

BEACHCROMAN JEBSEN

Exhibit 598

NATIONAL LEAD COMPANY

111 Broadway, New York, N. Y.

The following is carbon copy of telegram sent this day November 6, 1934.

Middlebrough 38 6 1141

JEBSEN CARE NATIONAL LEAD
NEW YORK CITY

LAPORTE MEETING AGREED ALL EMPIRE EXCEPT SOUTH AFRICA AND CANADA ON BASIS OF BRITISH DELIVERED PRICES CIF OCEAN TRANSPORT PROTITAN CHARGE STOP LAPORTE REQUEST CANADA DEFERRED ONE MONTH SOUTH AFRICA TWO MONTHS.

STOPFORD

Exhibit 599

COPY

TITAN COMPANY, INC.

PARIS, March 14th, 1935.

G. Jebsen, Vice President
26 Rue de la Pepiniere

No. 116

William C. Beschorman, Esq., Executive Vice President
National Lead Company
111 Broadway, New York City, U.S.A.

Dear Mr. Beschorman:

Re Blumenfeld agreements.

The agreements I showed you last autumn concerning the arrangements with the Blumenfeld group are now ready for signature. They have been sent Blumenfeld a fortnight ago and we are awaiting their return.

There have been a lot of detailed discussions and studies between Mr. Haber of Blumenfeld's and Mr. Henrikssen and Iuell representing our interests. Mr. Haber has had many small theoretical objections which it has taken time to straighten out.

We have though been operating as if the agreements were in existence since May 1st last year.

Blumenfeld-Laporte

From conversations with Blumenfeld a month ago, it appears that he has been and is in touch with Laporte, but negotiations have not been advancing.

From B.T.P.'s and our own point of view, we would not object to an arrangement between those two. It will,

as regards the continental markets, bring Laporte in line, as Blumenfeld will have to make this a condition for his cooperation with Laporte.

Blumenfeld has to me expressed himself adversely regarding a price agreement with Laporte for the Continental markets, as this, in his opinion, would mean an acknowledgment of the position of Laporte on the Continent. Although I do not think this exactly follows, I agreed to leave the matter open for some time.

Conversation with Laporte

On a visit to the British Industries Fair with Mr. Stopford, I happened to meet Mr. Weber and Mr. Wait of Laporte. Weber is a chemist and technical director and Wait has to do with the sales.

Weber was evidently very interested in having a talk. He told me they were extending their factory to a capacity of 1200 t. of TiO_2. As we have had a few but not very serious cases of price cutting in Holland and Sweden, I told him that they would not be able to enter the continental markets on that basis but it would only result in lower prices on our side and ultimately a repercussion on the English market. Wait suggested a price arrangement, to which I gave a non commital reply. Weber wished this connected with a quota arrangement. I told him he could not expect any quota on the Continent, as Laporte has no position there and would not succeed in entering the continental markets; they could only have a nuisance value and I did not expect that a firm like Laporte intended to establish themselves in such a manner. — Weber had no intention of making a price cutting competition, but thought that giving up the idea of selling on the Continent or giving licenses there should entitle them to a larger quota in

Exhibit 599

England. I said: no, and that we had had a case in Germany where we actually paid a firm for keeping out of the Titanium business, which is not only to the advantage of our German company but of all concerned, also Laporte, as this firm would have been in a very good position to export.

Weber asked if I would advise him to make an arrangement with Blumenfeld, to which I replied that we had no objection to that and Blumenfeld had no doubt a certain technical value.

Talking about a quote arrangement for England, Weber suggested 50%; to which Stopford replied with 5%.

Wait said that ultimately they would certainly be able to produce at a price as cheap as ourselves. I replied that this would never be the case; if they did, I had been wrong in not following the advice of some of our people who suggested to put the prices considerably lower than we have done, to prevent Laporte from developing. I told him that we could sell at their production cost and still have a nice profit; (I had the feeling that they silently agreed with this.) However, our policy has been to reduce prices slowly and step by step, as the market develops, so that there would be a gradual and sound growth of the business; too quick a development of sales by making cheap prices did easily lead to a repercussion, as was the case for instance with Lithopone when it started.

Weber then talked about the United States. He was going to Canada about the 20th of March and would also visit New York, and indicated that he as he was manufacturing in England he might find people interested to acquire their process abroad. I told him that they were infringing our patents. He objected to this, saying that

Exhibit 599

he had an expert's advice in this matter. I told him that probably one of the most outstanding experts in patent matters in the world was the I. G. Farbenindustrie and that they had declared to me after we had made our agreement, that the chief reason for this was their patent people's opinion that they could not get around our patents. This was not only an expert's advice, but it was substantiated by the I. G.'s action. When we had done nothing in England, he should remember that we only recently have started manufacturing in England ourselves. Any action before that time would only have lead to a compulsory license (I did not mention that the life of our main patents in England was nearly expired) I would not express myself as to the Titanium Pigment Co.'s policy, but he should be aware that the position in U. S. A. is very much different from England, as the industries have been established a long time and our patent position is very strong. Titanium Pigment Co. and Krebs recognize each other as friendly competitors.

Weber asked what about Glidden. I told him I had understood that Glidden were afraid of the patent position.

Weber wanted evidently also to find out whether he will be welcome paying you a visit. I told him a friendly visit by a competitor is always appreciated.

Weber is going to Canada in order to start operations of a peroxide plant erected by the Canadian Industries Ltd. under a license from Laporte.

He may discuss with them the question of a Titanium plant in Canada.

Stopford and Weber agreed that they would try to get in touch with each other in N. Y.

Exhibit 599

At the meeting of the British Titan Products Co. the next day Stopford and I reported about our conversation with Weber and Wait.

I told them that B. T. P. ought to let Laporte understand that any arrangements of Laporte outside the British Empire would complicate matters with regard to a quota arrangement for the British Empire. This was not much reacted upon by our colleagues in the B. T. P.

It is of course so, that B. T. P. has no contractual obligation which prevents them from making a quota arrangement with Laporte for the British Empire without considering the rest of the world.

I discussed this later with Stopford, who was in agreement that B. T. P. should do what they can to influence Laporte to keep out of the other markets. He pointed out, though, that we had make arrangements with Blumenfeld for the continent, without including the British Empire, to which I mentioned that we brought the matter up to B. T. P.'s board during our negotiations with Blumenfeld, but the Board did not find an arrangement desirable. Blumenfeld's position was of course considerably stronger and of longer standing that Laporte's. I also mentioned the case of Sachtleben. I agreed, though, that no definite principle or rule could be laid down in these matters. We can, for instance, not guarantee to be able to deal with any possible new comer on the Continent, in such a way that he is kept out of the British market. There is a firm in Holland, Van der Lander, which, when protesting against one of our patent applications, has announced its intention to take up the manufacture in Holland. If they should develop on the basis of the cheap sulphuric acid in Holland, they will find the home market far too small.

Stopford thought that if Laporte should be asked to refraim from doing anything outside the British Empire, it will result in a higher quota for England. I did not agree. Laporte's value outside the British Empire; where they have practically no position, could only be a nuisance value, which I think they could throw in without any extra compensation, considering the great advantages they will have in getting a quota arrangement for the United Kingdom or the British Empire.

In the Board Meeting a quota arrangement with Laporte was discussed. Thompson was of the opinion that it might be the time for the discussion of a quota arrangement after two years. I expressed the feeling that the time for an English quota arrangement should be in the autumn, and this seemed to be joined by the majority. No quantity was discussed.

There is no doubt that Laporte are selling their production, in spite of Greeff's not feeling their competition. They have, though, recently found that Laporte has been selling to one or two important firms to which we have not made deliveries until lately.

In the B. T. P. meeting the visit of Weber to Canada and U. S. A. brought up the Canadian question, and Major Barley referred to a conversation you have had with Mr. Purviss. He considered it desirable that the National Lead Co. lay down more definitely its policy in Canada, and, I believe, particularly with a view to a possible cooperation with the Canadian Industries Ltd., even if the time was not considered ripe for the erection of a factory there.

Somebody mentioned the possibility of the Canadian Industries Ltd. making arrangements with Laporte. I asked if not I. C. I. and Dupont together had the majority,

to which Major Barley answered: yes, but the Canadian Industries Ltd. is an independent company which also has Canadian interests to consider.

It will of course be of interest to follow as closely as possible Weber's movements in America.

Personally I think it desirable to postpone the erection of a factory in Canada until the market is more developed, but this is of course not a question within my competence.

Laporte's changes to make competition in Europe are not great or probably practically none as regards Germany and France, but of course Belgium, Holland and the Scandinavian markets are vulnerable if they will cut prices. If not, I should think their chances very small. Of course, a price arrangement without quota in these markets would mean a considerable handicap to them. I believe they have felt this already as regards the British market. On the other hand, they no doubt would not like to contemplate price reductions in England.

In the board of B. T. P., Thompson is very much for a further 10% cut in prices from the middle of this year, and I believe he will have the support of Tasker and probably also Barley and Robinson, provided our production costs come down to the expectations.

I have written you so extensively regarding my conversation with Weber and the position of Laporte, as I thought this would interest you and you may have a conversation with him on your side. I suppose this conversation will not touch much the European position. I should much appreciate to hear from you if he calls on you.

With kindest regards,

Very truly yours,

(Signed) G. JEBSEN.

Original in General file.

Exhibit 600

BRITISH TITAN PRODUCTS CO. LTD.

B. T. P./LAPORTE.

Notes on a discussion at the Park Lane Hotel on June 14th, 1935.

PRESENT: Mr. Tasker
Dr. Jebsen
Mr. Thompson
Mr. Stopford

The meeting was arranged to consider the line to be taken at the meeting with Laporte's representatives arranged for the following day.

Dr. Jebsen gave a general outline of the international position especially in connection with the position of Blumenfeld and after discussion with regard to patent or technical co-operation with Laporte it was agreed that:

(a) If Laporte have bought the Blumenfeld patent rights for Great Britain or the British Empire without any obligation to co-operate with Blumenfeld in the future we should be prepared to discuss an agreement for patent and technical interchange in making a quota arrangement which limited Laporte to B. T. P. territory.

(b) If Laporte have the Blumenfeld patent rights with the obligation to co-operate with Blumenfeld in the future we should only be prepared to consider a cross licensing agreement for Great Britain without any technical co-operation until such time as the world position is cleared as between our associates and Blumenfeld and this subject to a

closer study of the effect of such arrangement on the co-operation between the associated Companies.

(c) If Laporte have not the Blumenfeld rights we should not be interested in other than a plain commercial agreement.

(a) and (b) are both dependent on a very long term quota arrangement being made.

It was felt that nothing should be mentioned in regard to any financial arrangement and that no decision should be taken on a quota but the latter would be discussed if Laporte raised it.

It was agreed that the meeting should be opened by inviting O'Brien to table the price schedule he has informed us he has prepared and if he does so our attitude will to some extent depend on what his proposals are. If he does not table his schedule first, we should suggest a 15% reduction and allow ourselves to be persuaded to make it 10% stating at the same time that we reserved the right to make a special price to any consumer taking over 300 tons of Titanium Oxide or the TiO_2 equivalent of that amount in reduced grades.

If Laporte's representatives raise the question of Blanc Fixe we should say we are definitely interested in the market and would prefer not to discuss it until we have been operating for a longer period. If they indicate that they are prepared to enter into what we consider to be a reasonable TiO_2 quota arrangement we should ultimately consider a 10% quota in Blanc Fixe with the right to sell at 10/- per ton below their price.

Exhibit 600

BRITISH TITAN PRODUCTS CO. LTD.

MEMO. ON MEETING WITH REPRESENTATIVES OF NATIONAL TITANIUM PIGMENTS LTD. ON JUNE 14TH, 1935.

PRESENT:	B. T. P. Co.	N. T. P. Ltd.
	Mr. H. S. Tasker	Mr. L. P. O'Brien
	Dr. G. Jebsen	Dr. I. E. Weber
	Mr. A. J. Thompson	Mr. D. Wait
	Mr. C. J. Stopford	

Mr. Tasker opened the discussion by remarking that as we had not been able to hold a Board meeting since Mr. Stopford's return, we would not be able to take any decision on the question of co-operation raised by Mr. Weber during conversations in America.

Mr. O'Brien was then asked to table the proposals for reduced prices, which he had told us previously he had prepared. He replied that they had drawn up a schedule for a 10% reduction in accordance with the indication given by us in December last. We said that we thought the reduction should be 15%, and after a short discussion between themselves, the N. T. P. representatives accepted this. Details are set out on the attached memoranda.

Some discussion on general price policy took place after Mr. O'Brien remarked that he assumed that even B. T. P. could not continue to reduce prices by 20% per annum.

In response to a question by Dr. Jebsen, Mr. Weber said they had not yet made an arrangement with Blumenfeld. (This does not agree with Dr. Jebsen's information from the other side).

Exhibit 600

It was pointed out to Mr. Weber that we could not consider any scheme of co-operation without knowing exactly the position between N. T. P. and Blumenfeld. Mr. Weber said that if they did make an arrangement with Blumenfeld it would probably be a comprehensive one, including technical co-operation.

No discussion took place in regard to a quota arrangement on Blanc Fixe.

Attached copies of:

Memo. on meeting as exchanged with N. T. P.
Price schedule—Great Britain.
Price schedule—Empire (excluding Canada).

Exhibit 600

MEMORANDUM OF A MEETING BETWEEN REPRESENTATIVES OF NATIONAL TITANIUM PIGMENTS LTD AND BRITISH TITAN PRODUCTS CO., LTD., HELD AT THE METROPOLE HOTEL, LONDON JUNE 14th, 1935.

Copies to:
Mr. O'Brien (2)
Mr. Tasker
Dr. Jebsen
Mr. Thompson

PRESENT: *B.T.P.Co.*

Mr. H. S. Tasker
Dr. G. Jebsen
Mr. A. J. Thompson
Mr. C. J. Stopford
N.T.P.Co.
Mr. L. P. O'Brien
Dr. I. E. Weber
Mr. D. Wait

It was agreed to reduce prices of titanium pigments to the prices set out in the attached schedules. The basis being approximately a 15% reduction in prices in Great Britain. It was also agreed to give a deferred rebate to consuming customers taking over 300 tons of TiO_2, or its equivalent of reduced grades, in a year. In addition it was agreed to fix British Empire prices (Canada excluded) c.i.f. Empire ports on the basis of the British delivered.

price plus freight and insurance and to hold the prices set out in the attached schedule.

It was agreed that the Canadian prices set out in a letter from Mr. Stopford to Mr. O'Brien, dated May 21st, 1935, would remain unaltered for the time being, the reduction in price to be effective from July 1st 1935, and the trade to be notified by letter posted not earlier than June 28th 1935.

Although it was not discussed at the meeting, it was subsequently agreed between Mr. O'Brien and Mr. Stopford that Titanium pigments would be offered packed in bags at 10/- (ten shillings) per ton lower than the list price, which is for pigment packed in barrels.

TITANIUM PIGMENT PRICE SCHEDULE.

Schedule of Prices, delivered customer, in barrels, in Great Britain agreed between British Titan Products Co. Ltd., and National Titanium Pigments Ltd., June 14th, 1935. To come into operation, July 1st, 1935.

NOTE: "Actual Prices not reprinted."

Exhibit 601

W. C. Beschorman, Esq.

HST/WMB 30th October, 1935.

C. J. Stopford, Esq.,
British Titan Products Co., Ltd.,
Billingham,
STOCKTON-ON-TEES.

Dear Stopford,

Laporte

Major Barley and I had a talk over lunch yesterday with O'Brien and Weber. I am writing this note to you to serve as a record and am sending a copy of it to each Member of the Board.

1. We told them that the whole object of our conversations with them was to create an atmosphere in which it would be easy for either side to raise and discuss without reserve questions of mutual co-operation of whatever kind. We said we felt we had made it clear that our attitude towards them was completely friendly and that we personally felt there would be definite advantage for both sides from closer co-operation. Our Company, however, was in no hurry about this and we felt that the next step must be an expression from them as to whether they desired anything of this nature.

2. They expressed themselves as definitely in favour of co-operation and stated that in their belief the opportunity for some closer co-operation would come sometime during 1936. (The meaning of this is presumed to be their expectation that by that time they will be producing pure TiO_2.)

Exhibit 601

3. We explained that one of the things to be avoided was providing the trade with too great plant capacity by independent expansion without the opportunity of mutual consultation. They agreed with this but no definite undertaking was given by either side that such consultation would take place.

4. They were anxious to know whether we intended to reduce prices still further on January 1st. We stated that the result of the last price reduction had been very satisfactory for us and, therefore, we could not give any declaration that further price reductions in the comparatively near future were unlikely. I said that I personally was in favour of waiting until after January 1st, 1936, before a price reduction should take place, in order that we should get the trade out of the habit of expecting a regular reduction every six months. They stated that they had found the effect of the July reduction also satisfactory.

5. Arising out of this, they raised the question as to whether it was wise to continue making long term contracts with a fall clause. We took the line that, although in principle a fall clause is a bad thing, the special circumstances of this trade at the present time made it almost inevitable and, in reality, did not commit us to concessions which would not be given in any case. We also stated that for us a cessation of the fall clause would mean such a departure from previous practice as to be almost impossible.

6. They raised the question of patent co-operation and were anxious that where they opposed our patents this action should not lead to throwing the position open to third

parties, which would be avoided by private arrangement between us, providing for free license. We told them that we were not conversant with details but in principle we agreed with this, although where we were advised that our case was strong it was impossible to do otherwise than pursue it on its merits, in the absence of a wider working arrangement between us.

7. The atmosphere was noticeably friendly and considerably more free from restraint than it was at our previous talk, so that it would appear that these conversations are fulfilling the purpose for which they were intended. We arranged that we should continue to have similar meetings even though there may not be concrete business to discuss, in order that personal contact may be maintained and strengthened. We are to go out to lunch with them at Luton sometime in December. It was made clear that these talks are quite independent of any detailed talks which may take place on the subject of prices etc. and which would involve other people in addition to or instead of ourselves.

Yours sincerely,

(Signed) H. S. TASKER

Exhibit 602

No. 177

Letterhead of

TITAN COMPANY, INC.,

GJ/AK

Paris, January 22nd, 1936.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re Pinchin Johnson Agreement.

Many thanks for your letter of November 29th, my reply to which has been delayed through my trip to Norway.

Before the last Board Meeting in B.T.P., December 6th, I saw Mr. Tasker who was particularly dissatisfied with Mr. Thompson and Mr. Stopford in their negotiations with Pinchin Johnson having gone beyond their authorisation, and intimated that he would like to see this being taken up during the Board Meeting. He pointed out again that Mr. Thompson had brought the matter too far without Stopford being present, as mentioned in my letter to you of November 14th.

In the Board Meeting I strongly expressed that Thompson and Stopford should not have gone beyond their authorisation, as there would have been no difficulty in consulting the Board.

I criticised the agreement as to the following points:

1) Making the price lower than authorised.

Exhibit 602

2) The falling clause by which this lower price is put in a definite ratio to our lower official list price.

I recalled in this connection, that when last summer a special low price for 300 t. contracts had been fixed, it was specifically mentioned by me and agreed by all, that this price was not to be in a definite ratio to the official list prices, as it was the idea that the official list prices by a later reduction should come into line with the special price fixed for the 300 t. contracts. This last price was fixed on Mr. Thompson's suggestion and his statement that with this price he would be able to make certain agreements with specific customers (in the linoleum trade). He mentioned a possible consumption of these specific customers of quantities corresponding to 500 t. of TiO_2.

I could understand that Pinchin Johnson being known to be very hard to deal with had forced our people to give the additional rebates of 1, 2 and 3 £ for the increased quantities and a falling clause securing Pinchin Johnson that reductions in our official prices would not put them in a disadvantageous position, but I was afraid that by establishing the present ratio we might find the contract inconvenient later on.

3) I had been informed that the price for Pinchin Johnson had been established in view of the Australian factory having made offers at this price. However, by applying the price also for the United Kingdom and the rest of the British Empire and further accepting the ratio so established of this price to our official list prices by a falling clause as done, we had let the specific situation in Australia influence our total British Empire price structure too much.

Thompson replied that he thought this Pinchin Johnson agreement was one of the best things we had done. It would bring Pinchin Johnson to try out the use of Titanium in all their cheap paints, and he foresaw a very important development of the Pinchin Johnson consumption, which would lead to a large development in the rest of the market.

Major Barley said that he had had qualms regarding this contract and given it considerable thought. He thought, however, the low price was justified.

Tasker emphasized my criticism regarding the negotiations overstepping their authorization, which he thought I particularly had in mind.

I told them that I had not in mind to oppose the agreement which had finally been made also with my consent, but wished to point out my thoughts.

I then took up the matter of P. J. possibly exporting outside the British Empire, and informed them of my advice to Stopford as referred in my letter of November 14th. I had taken the matter up with Titangesellschaft who were willing to permit the export if it could not be avoided, against B.T.P. buying the corresponding quantities from Titangesellschaft at the sales price to Pinchin Johnson. They emphasized, however, that they would prefer to be in direct contact with P.J. and deliver their goods direct to their factories. (I arranged afterwards with Stopford that he should write to Borgwardt and suggest that they together see Pinchin Johnson on one of Mr. Borgwardt's visits to London).

Thompson considered that this should be looked upon from a broader point of view and it should be foreseen that similar cases would repeatedly come up in the future.

I told them that I wished the Board to express the opinion that developments of this kind must be limited, as it

would only act to break down the frontiers of the markets and disturb the confidence which has been established between the associated companies. It was quite natural that the Germans did not look with favour on these happenings. They had given their permission to Lever Bros.—now came Pinchin Johnson—and if further developments of this sort should take place they must be prepared that T.G. would act in a similar way and they could easily bridge the duty.

Thompson said that this had already been done once, and took up the old story of Pieter Schoen and Zoon selling a paste of TiO2 or Extra T to an English artificial silk manufacturer.

I told them that this was not a comparable case. First of all this matter was not under Titangesellschaft's control and had nothing to do with them. It was I who had that matter in-hand as it was Titan Company Inc. who was selling the material. It had been sold to a paint manufacturer who made a specific kind of paste which was sold to an English company associated with a Dutch firm and at a price of £8.0.0 more than the English price. We had investigated the matter and it was a bona fide manufactured product which also was evident from the price difference.

Thompson said that Pinchin Johnson wanted to use the same material and the same formulaes in all their factories, and the same price had to be applied.

L. B. Robinson told him that in the Lithopone agreements with Pinchin Johnson (where also the Germans in some way are in) different prices were applied for the different markets and Pinchin Johnson had perfectly accepted this.

Stopford told me afterwards that it was the first time he had heard about P.J. arguing that they wanted the same material through all their factories.

I emphasized again that this development must be limited and that the utmost must be done to have Pinchin Johnson taking the German material for their factories outside the British Empire.

This was agreed to.

After the meeting, Stopford fully appreciated the situation and promised to do whatever he could. I told him that, in addition to the inconvenience mentioned by me, there was another point which I had overlooked, namely that, due to the quota arrangements with Blumenfeld, T.G. would also be hurt by having the possible increase of P.J.'s requirements on their quota.

Next morning I telephoned to Thompson and, as he had no time to see me before I left London, I emphasized the matter once more over the telephone. He told me that he was very sorry to have caused me so much trouble and wished to assure me that no further developments on this line would take place. With regard to his overstepping his authorisation, he told me that Tasker and Barley all the time had been kept informed of his negotiations with P.J. and approved of them (sic!) Please compare this with my letter of November 14th and the above. I did not tell him that Tasker had kept me informed constantly of what had come to him.

This is rather a long letter, but I thought you might be interested in the detailed description of what has been going on. I trust you will keep it confidential.

As to your question of what is the *basic* price of Titanium pigments, it is understood that this is the price for quantities below two tons.

The question as to whether it is *our* published price or competitors' has been somewhat differently answered. I

have considered it to be our price and believe this is the case also with regard to the other members of the Board. Thompson is of this opinion, pointing out that there is no mention in the agreement with Pinchin Johnson of competitors' prices at all. Stopford considers it to be the generally published price, which is published in the journals where only the price for quantities below two tons is given, and that it is not likely that our price will ever be above competitors' prices during the three years period of the agreement. In the negotiations with Pinchin Johnson there has verbally been referred to our schedule prices and it has, according to Thompson, been purposely avoided to mention possible competitors' prices in order not to bring up the possibility of a best customer clause.

A change of the schedule for the larger quantities would not form a legal basis for Pinchin Johnson to claim a change in their price. If such changes, however, should be of an extraordinary nature, P.J. might reasonably expect and claim consideration of this as to the price to them.

The falling clause in the agreement with Pinchin Johnson is not in the nature of a best customer clause and B.T.P. consider themselves free to make special arrangements, without this influencing the price to Pinchin J.

I am glad to note from your letter of November 29th that your thoughts are entirely in line with my own as to the danger of making special prices because of their possible effect on prices not only in England but on our general world price structure.

Our English friends are though primarily interested in B.T.P. and a policy taking into consideration the price structure outside their territory is with a few of them rather a remote matter and arguments on this basis not of

much strength. This is particularly the case with our friend Mr. Thompson, but I think some of them take a somewhat wider view and realise that one day the position may be different.

I refer in this matter to our conversation during your visit here.

I will, though, say that the increase in sales by B.T.P. has been very well maintained in December and January,—be it due to the lower prices or the prosperity in England.

With regard to deliveries outside the British Empire, Mr. Stopford has informed Mr. Thompson in connection with the Pinchin Johnson matter, that there will be no commission to R. W. Greeff & Co.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 603

Letterhead of
TITAN COMPANY, INC.

No. 203.
GJ/AK

Paris, October 16th 1936.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

Re B. T. P.

On my visit to London for the meeting of September 25th, Thompson informed me of his letter to you of August 18th.

I told Thompson that I had for a long time been in favour of making a quota arrangement with Laporte, but had not forced the matter in view of Thompson's very strongly expressed opinion against it and his conviction of our strong position also with regard to sales ability and position with the customers. I had no reason to think that much could be won by waiting. It was not to be expected that a good manufacturing organization like Laporte's, with Blumenfeld's methods and experience available, should not be able to make a product equal to ours and, at times, if luck was in their way, even better. On the other hand, I would not let myself be influenced by Laporte at the present moment being in advance with regard to quality, as I would be much disappointed if that should prove to be more than of a passing nature.

Exhibit 603

I had reasoned in this matter in a similar way to what we had done in Titangesellschaft when we made arrangements with Aussig.

There has been a good deal of "to and from" in this matter; Tasker and Barley have been carrying on conversations with O'Brien since autumn last year, with a view of establishing a closer relationship, and before I left for U. S. A. you will remember Barley suggested we should try an arrangement on the basis of a merger. This was not approved by us and on my visit to London Barley seemed to be a little sore because of this.

The general attitude of the Board in July was rather reserved as to an arrangement with National Titanium Pigm. Co. and Thompson as you will remember very strong in his expressions against a quota arrangement. It was, though, agreed to continue the conversations, but no exchange of figures.

As many things had to be dealt with at the meeting and it was shortly before the holidays, I did not consider it opportune to take up an extensive discussion, but had a talk with Tasker afterwards concerning the lines on which the conversations should be carried on, and Tasker was quite interested and wished to keep in touch with me during my stay in Bad Gastein, with regard to further developments.

On my return, I found that Tasker had done nothing, because, as he said, he had too little to talk about without being able to exchange figures. I further found that Barley thought Leporte would be definitely against a quota arrangements, whereas Tasker considered them to be interested in such an arrangement.

You will note from the Minutes of the Board Meeting of September 25th that the matter will be pursued now and

figures permitted exchanged. I pointed out that Laporte must already have a good idea of these figures, as Stopford had fairly accurately given these at the hearings in Australia.

This letter gives rather details, but I thought you might be interested in view of the other letters I am sending you in this matter.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 604

Letterhead of

TITAN COMPANY, INC.

No. 199.

Paris, October 16th 1936.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I enclose two letters to Mr. Tasker of October 14th, re negotiations with Laporte, which speak for themselves, and should much appreciate New York's opinion from National Lead Company's point of view, as interested in all the Titanium companies, and from Titanium Pigment Co.'s point of view, as cooperating with the Titan Company Inc. and its associates—if they differ.

I should also appreciate to hear from you as to the developments of the negotiations with Krebs-Du Pont in which you know I am much interested from the point of view of the associated companies as well as the personal interest to me.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 604

Paris, October 14th 1936.

GJ/AK

H. S. Tasker Esq.
London House
3 New London Street
London E.C.3.

Dear Tasker,

Many thanks for your letter of October 12th.

Re Laporte.

Referring to our conversation on my last visit to London, I presume it is unnecessary to state the reasons why I think an arrangement with Laporte regarding the marketing of Titanium pigments on a price and quota basis would be advantageous to both parties.

I suggested in the last Board Meeting, that it should also be explored to combine this with a limitation of the capacity of their plant against an obligation on our part to deliver material to Leporte at a price which leaves them a profit. This is based on our production cost being so much lower, that a sale of our product leaves a profit sufficient to be divided between the companies, giving us a manufacturing profit and them about the same profit as they have from their present production. This is presumably the case. I need not repeat the advantages this presents to both companies.

Whether Laporte will accept this, depends on the interest they have to cash in on their present position. As you know, Titangesellschaft has such an arrangement

Exhibit 604

with Aussig, which however is bound only to sell in a limited territory.

I mentioned to you that such an arrangement without certain safeguarding clauses would aid Laporte to export outside the British Empire to the extent they are supplied by British Titan Products Co.—a situation which might become very unpleasant and unfair towards B. T. P.'s associates. I promised to discuss this with our associated companies. I have not had an opportunity to do this fully. I have had an occasional conversation with Mr. Borgwardt regarding this, who was interested in the idea of limiting Laporte's capacity and would consider nearer which safeguarding clauses are necessary from T.G.'s point of view.

As regards patent policy, the license agreement between Titan Co. Inc. and B. T. P. provides that such can only take place on specific conditions involving a division of sales territory and free exchange of existing and future patents including full exchange of manufacturing experience. Any deviation from this needs the consent of Titan Company, Inc., which again means also the consent of various of its associated companies.

We mentioned three alternatives:

1) Exchange of licenses and technical experience as just mentioned.

This we excluded from consideration at present, for reasons unnecessary to mention.

2) Mutual exchange of licenses on present and future patents, without exchange of technical experience.

This we considered worth while to explore further.

We thought it only feasible in case it can be made with Laporte for the whole world, i.e. Laporte restrict themselves to sales within B. T. P.'s territory and give the patent rights outside this territory to B. T. P. which will have to turn them over to Titan Company Inc., which in turn will license their licensees. Within B. T. P.'s territory the exchange of licenses will be mutual, presumably exclusive, with the exception of the grantor's right and including part in the patent right B. T. P. receive from Titan Company Inc. and associates.

Here enters the question of the arrangements between Laporte and the Blumenfeld group, of which we have only a confusing or rather contradictory information.

3) Mutual exchange of licenses under existing patents.

This had, at the time we discussed this matter, apparently little interest. We had in mind only Laporte's patents re the use of gum-arabic as being possibly of interest to us,—and presumably doubtful interest,—and, as our main patents have expired, I could not at the moment remember any patents, which might particularly interest Laporte.

Stopford mentioned here in Paris that he thought Titan Company Inc. and its other associated companies should have no objection to such an arrangement as it would not alter the present position.

I have reserved my opinion on this, as the question is rather involved.

From B. T. P.'s point of view it should be remembered that if such an arrangement is made it may represent an obstacle against an arrangement with Blumenfeld on the lines under 2) and 3), which are of more interest.

This cannot be judged before we know their arrangement, if any positive arrangement exists.

Under these circumstances, it looks to me that the conversations with Laporte should first of all be carried on the lines of a pure and simple price and quota arrangement, but letting out a feeler during the conversations as to Laporte's attitude to an arrangement involving a delivery obligation on B. T. P.'s part, with the obligation of Laporte not to extend their capacity beyond its present capacity (to be defined), making the reservation, if they react favourably, that this matter involves B. T. P.'s associated companies if Laporte will continue their previously mentioned policy of having a position in the countries outside B. T. P.'s territory.

As you will see, Laporte's attitude may again hinge upon their arrangements with Blumenfeld.

I believe we were in agreement that a price and quota arrangement should include an obligation for Laporte as regards export, not to sell in the countries in question at lower prices than those of B. T. P.'s associated companies. Whether the associated companies can or will cooperate with Laporte in this manner, I can not tell, as also this question is involved, for two reasons:

Exhibit 604

1) We have our convention with Blumenfeld and a cooperation on these lines with Laporte may be incompatible with his arrangements. If so, however, it probably means that Laporte is claiming a position in Blumenfeld's countries to which it has no right.

2) Our sales policy may make it impossible to divulge to Laporte our prices.

As you know, we adjust our prices somewhat, according to the consumers and their use of our products, in order to develop new consumption, and this requires sales organizations with tact and discretion. Our experience with Blumenfeld sales people has not been encouraging in this respect.

I have tried above to cover the main points of this matter as they appear at the present stage. It is rather involved and, as negotiations proceed, new points may develop, so I much appreciate your suggestion to keep me closely informed about developments.

I am sending a copy of this to Mr. Beschorman, asking his opinion regarding the various points mentioned.

With kindest regards,

Yours sincerely,

sign. G. JEBSEN

Copy to Mr. Beschorman.

Exhibit 604

Paris, October 14th 1936.

GJ/AK .

CONFIDENTIAL

H. S. Tasker Esq.
London House
3 New London Street
London E.C.3.

Dear Tasker,

In addition to my other letter of to-day, I beg to mention separately a matter which may become important.

As I. C. I. is involved, I agree with Stopford that it is better not to let them know of it at the present stage.

In our last meeting of the International Technical Sales Committee, Dr. Raspe informed us of some interesting results of laboratory work with Titanium Chloride. He had been able to produce a good white pigment from this, with a tinting strength of 2000 as compared with 1400-1500 from sulphate solutions in the laboratory and 1300 in the factory.

Dr. Raspe put this forward as a goal we may aim at with regard to quality. It is most probable that a factory production will not give such high figures, but many experiences indicate that a TiO_2 pigment produced from a chloride process may prove to have advantages as to tinting strength and colour.

This has in so far a bearing on the Laporte-Blumenfeld negotiations as Aussig of the Blumenfeld group in 1928 obtained some patents of which such process may be dependent. Dir. Mayer, Aussig, was very enthusiastic

once in this direction. However, in the later years no indication has come forward that this has been continued.

Dr. Raspe (also Mr. Ravnestad) will investigate the patent question and would not express any definite opinion yet.

Our developments may result in patents to be exchanged against Blumenfeld's, and, so far, the ultimate position may not be different from an arrangement on the lines under 2) in my letter.

I. C. I. comes into this as a producer of chlorine, which it has difficulties to dispose of.

The possibility of a chlorine process for the production of TiO2 in Billingham has been discussed between Stopford and I. C. I. and, as the later is very desirous of finding an outlet for chlorine, they have offered a cooperation with B. T. B. to this purpose.

In view of this, I agree with Stopford, that B. T. P. has no interest to inform I. C. I. of the possibilities above mentioned, as it may influence B. T. P.'s position unfavourably.

Yours sincerely,

sign. G. JEBSEN

Copy to Mr. Beschorman.

Exhibit 605

Letterhead of

TITAN COMPANY, INC.

No. 7
GJ/AK

Paris, March 25th 1937.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

* * * * * * * * *

[PAGES 1, 2, 3 AND FIRST PART OF PAGE 4 OMITTED]

I mentioned above Laporte's competition in Sweden. They have also been trying to come into the market in Norway, Belgium and Holland, and have only succeeded in a few cases where they have cut our prices badly and we would not follow.

Laporte is working, as you know, under a license from Blumenfeld. They made composite pigments before this. According to our convention agreements with Blumenfeld, he cannot of course give a license to firms competing in our countries and Blumenfeld informed me last year that Laporte are under the obligation not to export TiO_2 but he was prevented from restricting them as to the composite pigments. Nevertheless, Laporte has offered TiO_2 pigment in Holland and the Scandinavian countries, besides his composite pigments.

Exhibit 605

On our information to Blumenfeld regarding this, he has two or three times protested towards Laporte. Shortly before my trip to Norway he told me that no more export would take place, but on my return to our office the same day I was informed of a new incident with a small firm in Holland. Informing Blumenfeld, he told me again that he would protest, but I suggested to him to take more drastic steps.

Blumenfeld has also been very much interested in having Laporte and B.T.P. make a quota arrangement besides the present price arrangement, in order to open up the way for an exchange of licenses with no technical cooperation on the lines mentioned to you in previous correspondence.

In a meeting in London between Laporte, Tasker, Barley and myself, Weber of Laporte told us that they considered a quota to them of 30%, which the B.T.P. had declared willing to accept, not to be sufficient when they also had to give up any activities in U.S.A. (they had evidently got appetite after the arrangement for Canada.) I told Blumenfeld about this and that we could not make an arrangement acknowledging a nuisance value of Laporte as regards U.S.A., to which he agreed.

On my arrival in London, Blumenfeld called on me there, informing he that he had seen Weber the day before and demanded immediate stoppage of Laporte's export and that *he* would make the deliveries under any contracts Laporte may have threatening them with legal procedures for damages, and withdrawal of the license. He further said that Weber would see Tasker the following week and put forward Laporte's desiderata re a quota. Weber has however not given a sign of life towards Tasker.

Last week Mr. Borgwardt informed me that there had been an export to Japan from England of 33 tons of TiO_2

in 1936 and 46 tons in Jar .ry this year. It does not seem that this can be anything but Laporte's material.

I do not know what repercussions this situation will have on the question of the transfer of Blumenfeld's Canadian patents to the Canadian Titanium Products Ltd. through Laporte, but would find it natural that Blumenfeld oppose a transfer until the above matter is settled.

I shall keep you informed as matters develop.

With kindest regards,

Yours very truly,

G. JEBSEN

P.S.—Sales in January-February have been very good, showing an increase of 35% as an average of all our countries. The British Empire, however, has only shown an increase of 1½%, apparently for no particularly reason; it has probably been the extremely bad weather and last year these months were extraordinarily good.

The purchases are evidently partly due to a fear of increased prices. This is no doubt the case in the Scandinavian countries. In France where the increase is 47%, the fear of a further devaluation of the Franc may also have had an influence.

Exhibit 606

Letterhead of

TITAN COMPANY, INC.

No. 9.

Paris, March 30th 1937.

GJ/AK

William C. Bechorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Referring to my letter of March 25th, I beg to inform you that last Saturday Mr. Blumenfeld has received from Laporte a letter acknowledging their obligations not to export TiO2 pigment, and giving the figures of their obligations outside the British Empire as regards future deliveries, which Blumenfeld has insisted upon delivering himself or letting us do so.

Apart from Japan they are not very important, but still amount to some "pin pricking" into our position. To Japan, however, they have undertaken to deliver not less than 120 tons.

Blumenfeld has, on my request, demanded full information as to the export Laporte have undertaken also hitherto.

It seems from the above that Laporte now will come into line as regards their export to the countries covered by our Convention Agreements with Blumenfeld, i.e. the countries outside the British Empire and U.S.A., and I hope there-

fore that the Canadian Titan Products Ltd. will find Laporte able to carry out their agreement with them.

The moral standing of Laporte can evidently not be very high.

With kind regards

G. JEBSEN

Exhibit 607

November 26, 1940.

VIA AIR MAIL

Mr. Charles Stopford
British Titan Products Co., Ltd.
Burlington House
Yarm Road, Eaglescliffe
Stockton-on-Tees, England.

Dear Mr. Stopford:

This will confirm my cable of November 20th, copy of which is attached, and your reply which reads:

> "YOUR CABLE 20TH INFORMATION ON PROCESS INSUFFICIENT TO DECIDE BTPS INTEREST IN ILMENITE PATENT PLEASE SEND DETAILS AIRMAIL".

I have answered this by cable as per copy enclosed. These telegrams speak for themselves and I may add only the following.

We have received a letter from Mr. Ravnestad informing us that he has applied for a patent on March 16th in Norway, and suggesting postponement of applications in other countries in view of the war conditions. However, this involves a considerable risk of losing not only priority rights but all rights to patents in other countries and practically a certainty in this respect as regards the United States.

Upon investigation Mr. Kaegebehn has found that even during the war the I. G. has been applying for patents in England. In view of this we hope that inventions from occupied countries also can be patented and that the German

authorities will permit this, particularly as the invention does not concern a war material.

We have requested Mr. Ravnestad to have Mr. Bryn, patent attorney in Oslo, send to our patent attorney here the necessary papers enabling Titan Company, Inc., to apply in England and Australia, United States, Canada and Brazil.

I can realize that you find the basis on which to make decision somewhat meager but this is due to the war conditions. We are afraid of letting any possible means of obtaining patents untried. Nobody knows what policy will be taken up after the war, concerning inventions made during the war, and it seems thus important to be able to establish proof that we have done our best for the obtainment of patents. We should particularly have in mind the fact that England is still permitting companies in Germany and the occupied areas to apply for patents in England and this may be considered as a basis for rejection of any applications after the war made under some kind of an extension of the period of priority rights.

As regards the invention itself, I only know that further experiments have given sufficient results for Ravnestad to prepare plans for a pilot plant for which I understand he will ask an appropriation of a certain amount of money somewhere between £2,000 and £3,000, and that he reckons to obtain a product with 68% TiO_2. I also understand he has been able to reduce the time for corrosion to seven hours by certain means of which I can only guess. From this it seems reasonable to nourish expectations of the process being economical and thus of quite some importance.

With regard to the countries of the British Empire in which patent applications seem advisable, this will have to be decided from two points of view—

Exhibit 607

1—countries in which titanium pigments are or may be manufactured in quantities of importance

and 2—countries with workable ilmenite deposits provided conditions in these countries are such that industrial operations can be carried out with reasonable skill.

The operation as mentioned are the reduction of ilmenite and corrosion. Of these, I think the reduction of ilmenite will require more skill and better labor than the rest, and I have been wondering whether in countries like Egypt, Ceylon, Travancore, etc., industrial operations as above mentioned can be reasonably and economically carried out. You probably are better informed about this than I am, so please let me know. As to the strength of the patent we may obtain, I believe we can feel fairly safe in view of the originality of the process.

As the situation is, I think you will have to leave to our judgment (when the papers arrive here) the possibilities of the invention from a general technical and economic point of view, and leave it to us to decide for B. T. P. in this respect. However, assuming that we find the invention sufficiently promising to justify the work and expense of applying for patent, it seems to me that B. T. P. can make a decision as to which parts of the British Empire it wishes protection and an exclusive license.

Hoping that you and yours are well, I am with kindest regards,

Yours very truly,

GJ:EH
Enclosures:

C/C—Mr. C. F. Kaegebehn

Exhibit 608

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED.

In reply please quote: CJS/SL/17939

2nd December 1940

[Written at top of page in lead pencil the following:]
CtK

ad Mr. Kaegebehm

Please make a note of this in Patent minutes (useful for later information to Rvstd and Anderson)

Dr. G. Jebsen,
Titan Company Inc.,
111, Broadway,
New York, N. Y.

Dear Dr. Jebsen,

ILMENITE PATENT

I confirm interchange of cables on this subject, as follows:—

Yours: "REGRET HAVE ONLY INFORMATION
26.11.40 GIVEN YOU PARIS REDUCTION AND
CORROSION WITH PRACTICALLY NO
CONSUMPTION OF CHEMICALS STOP
TITANCO INCORPORATED INTENDS
APPLY COUNTRIES WITH WORKABLE
ILMENITE DEPOSITS PROVIDED

Exhibit 608

CONDITIONS THERE MAKE INDUSTRIAL OPERATIONS FEASIBLE FURTHER POSSIBLE PIGMENT MANUFACTURING COUNTRIES STOP WILL APPRECIATE YOUR RECOMMENDATION COUNTRIES BRITISH EMPIRE ABOVE BASIS AND SPECIFYING THOSE WHERE BTP WISH EXCLUSIVE LICENSE SHARING EXPENSES 50% STOP FE AR DETAILED INFORMATION NOT AVAILABLE IN TIME FOR YOU STOP I TRUST RAVNESTADS MOLBACHS JUDGMENT REGARDING POSSIBILITIES PROVIDED EXPECTED INFORMATION NOT DIFFERENT FROM MY UNDERSTANDING"

Mine: 28.11.40 "RAVNESTADS ILMENITE PATENT STOP IT APPEARS BTP ONLY INTERESTED IN NON EXCLUSIVE LICENCE ON ASSUMPTION PATENT IS OF INTEREST TO ILMENITE PRODUCERS AND NOT TO PIGMENT MANUFACTURER WOULD WELCOME YOUR OPINION IF DIFFERENT STOP POSSIBLE INTERESTED COUNTRIES TRAVANCORE MALAYA AUSTRALIA EGYPT"

Yours: 30.11.40 "IF BTP TAKES EXCLUSIVE LICENSE UNDER RAVNESTADS PATENT BTP CAN HOLD BENEFIT OF USE OF CON-

Exhibit 608

CENTRATED PRODUCT TO ITSELF IN RESPECTIVE COUNTRIES"

P.T.O.

Mine: 2.12.40 "RAVNESTADS PATENT BTP DESIRES EXCLUSIVE LICENCE ENGLAND AUSTRALIA"

I assume from your last cable that your advice to B.T.P. is that they should have an exclusive licence, so that they may control the usage of the concentrated ilmenite in the territory in which they are interested. This is quite a good point and I confirm the information given in my last cable to the effect that B.T.P. would like to have an exclusive licence under the patent in Great Britain and Australia.

I shall be very interested to see a translation of the No[redacted] application as filed as soon as it is available.

With kind regards,

Yours sincerely,

C. J. STOPFORD.

Exhibit 609

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

In reply please quote: CJS/SL/18116

11th December 1940

Dr. G. Jebsen,
Titan Company Inc.,
111, Broadway,
New York, N. Y.

Dear Dr. Jebsen,

I have just received your cable reading as follows:—

"FEEL UNDESIRABLE LAPORTE GIVE REPORT TITANIUM PROCESS TO ANY OUTSIDER"

I do not see that there is any action that I can take on this, as I assume that Laporte, like you and ourselves, realise the undesirability of giving a report on the titanium process to any outsider.

Laportes may feel that they have a free hand in the States apart from the Blumenfeld patent position, and that they are entitled to sell their knowledge in the States should an opportunity occur. I feel that this is a matter on which we can hardly interfere, unless we have some counter offer to make or some definite knowledge that an action they contemplate taking is likely to upset the stability of the world market. I have no knowledge of any idea on their part of selling their knowledge in the States, apart from any con-

clusion one may draw from the information I have already sent to you as to their probable agreement to Weber's request for a report on the process.

I have not seen anything of O'Brien since last I wrote to you on this matter and have no arrangement to see him in the near future. No developments have taken place between ourselves and Laporte, apart from an agreement to increase titanium prices by approximately a further 10%, making approximately 20% increase since pre-war.

With kind regards, & best wishes

Yours sincerely,

C. J. STOPFORD

Exhibit 610

Copy to Mr. Garesché

December 18, 1940

Mr. C. J. Stopford
British Titan Products Company Limited
Burlington House, Yarm Road
Eaglescliffe
Stockton-on-Tees
England

Dear Mr. Stopford:

Many thanks for your letter of November 16th with its very interesting information.

We have not heard much of Mr. Weber on this side. The Canadian Titanium Pigments Limited informed Mr. Garesché sometime ago that he was in Canada and they would like the status of our present relations, which was given them and has been supplemented with your latest information. Further, there has been some rumor of an expert having told somebody here in New York that he was in a position to erect and operate a titanium plant, trying to create interest in such a project. The information as you understand is vague.

In view of the remarks in the last paragraph of your letter, Mr. Garesché and I decided to send you the telegram of December 10th, as follow:

> "Feel undesirable Laporte give report titanium process to any outsider."

Of course this represents only a general point of view and it must be left to your judgment whether any initiative in that direction should be taken already now on that basis.

Exhibit 610

I was especially interested in the second last paragraph of your letter and look forward with interest to your further developments on this line. It may be difficult at present to find a well justified basis for the fixation of quotas between B.T.P. and Laporte but I shall be very interested to hear from you in this respect. In view of B.T.P.'s international relations I suggest at any arrangement is made revisable at the end of the war as it is impossible to foresee conditions after that time. The main point is of course the development of good relationship which now seems more likely than before.

With kind regards.

Yours sincerely,

(Signed) G. JEBSEN
G. JEBSEN

VIA AIR MAIL

P.S. In connection with the above I think it is of interest 1) that Titanox-A24 is considered to have a great future in view of its combined qualities of good color and chalking resistance, and further, 2) that N.L.Co. has developed a new C30 pigment with tinting strength 570 and chalking resistance similar to Titanox-A NC. The production cost of these two pigments is not far from the cost of the corresponding ordinary grades.

The new C30 is intended to be announced on January 10th, and until you hear of its announcement, it should be kept secret.

G.J.

Exhibit 611

Letterhead of

TITAN COMPANY, INC.

June 12, 1941

VIA AIR MAIL

Mr. C. J. Stopford
British Titan Products Co. Ltd.
Burlington House
Yarm Road
Eaglescliffe
Stockton-on-Tees, England

Dear Mr. Stopford:

Many thanks for your letter of May 27 regarding the quota arrangement with Laporte.

I am sorry to see that you did not reach an agreement regarding the quota, as I think it would be well if something could have been developed with Laporte in this line on a voluntary basis, particularly in view of the existing war risks. Am I right, though, in understanding your second last paragraph so that a quota basis is automatically arranged for through government controlled regulations?

I am in doubt whether a quota arrangement lasting beyond the war period would be to our advantage, if the post war period is to be of any length of time, as it seems to me likely that the technical developments on this side, particularly in regard to pigment qualities, will put B.T.P. in a relatively strong position after the war. Laporte's opportunities for technical developments during the war period are presumably fairly limited.

Exhibit 611

Has there in connection with the quota arrangement been any talk with O'Brien regarding cooperation in case of shortage of war materials or accidents in one or the other factory preventing production? If you are in the position to give information in this respect, we would much appreciate it. If not, we shall have to do without it.

Hoping all is well with you and yours, I am, with kind regards,

Yours sincerely,

Signed: G. JEBSEN

c.c. Mr. H. S. Tasker

GJ:AK

Exhibit 612

COPY

Letterhead of

TITAN COMPANY, INC.

June 24, 1941

VIA AIR MAIL

Mr. H. S. Tasker
British Titan Products Co. Ltd.
Burlington House
Yarm Road
Eaglescliffe
Stockton-on-Tees, England

My dear Tasker:

Many thanks for your letter of May 2 which arrived here on June 2. I have postponed my reply awaiting to see if anything should arrive from Thompson in the matter, which, however, has not been the case.

I do not see how a question of the kind mentioned (quota arrangement with Laporte, rationing of customers) concerns American shareholders interest in any way differently from other shareholders.

Let me take the opportunity to add that we on this side have entire confidence in the Board and the Company's management as well as the protection of the American interests if any such question should come up, in fact, we feel that our partners and our colleagues in the Board will

be particularly careful in this respect under the present circumstances.

We had the visit of W. S. Robinson some days ago, who told us of the Electrolytic Zinc Company's interest in Titanium without adding anything of interest to the useful information you have sent me.

He made, though, incidentally, one little remark which puzzled me—"he had said to Stopford that Stopford should write direct to Sir Colin Fraser." As, however, I already had received Stopford's letter of May 24, I did not consider it worth while to inquire further into the matter.

In this connection, W. S. Robinson causally suggested that Sir Colin contact Rockwell if Electrolytic Zinc is further interest. Rockwell gave a polite answer. However, W. S. thought the matter of no immediate interest in view of present conditions.

It seems to me, though, we should use the time to carefully plan an Australian program.

The Titanium consumption here has been extending very much. There is a shortage of capacity for Titanium pigments now and even with the extensions which are on the way, shortage is expected to continue. These extensions amount to 40 to 50% of the previous capacity.

Many thanks also for your letter of May 28, which I have read with much interest.

With kindest regards to you and yours from both Rockwell and myself,

Yours sincerely

Signed: G. JEBSEN

GJ:RK

Exhibit 613

[Written at top of page in lead pencil the following:]

First Mail in Notes BTP

Recd 9/5/41 Opened by English

First mail already recd and replied 8/19/41

Letterhead of

BRITISH TITAN PRODUCTS CO., LTD.

[Copy—Steamer Mail]

CJS/SL/1940

7th August 1941

PERSONAL

Dr. G. Jebsen
Titan Company Inc.,
111, Broadway,
New York, N.Y.

Dear Dr. Jebsen,

Many thanks for your enquiries as to everybody over here. I am very pleased to be able to say that all our people are in good health and taken as a whole, we have been exceptionally lucky in not having a single casualty amongst any of our people so far, although some have lost near relatives and a couple of workmen have been killed in action.

We were all very pleased when we heard that you had now settled down with your wife and younger children and also hope that you have good news of your olde-st boy.

I was very pleased to receive a letter from Henriksson from Stockholm the other day, and to learn that he is in

good health and apparently carrying on as well as he can under the difficult conditions on the Continent. He only referred vaguely to the other people so I assume that they are all all right.

We hold our Board meetings very much as usual, although at less frequent intervals and with some limitations on the lunch which precedes the meeting. Barley occasionally comes along, although as he is in the Service his attendance is rather irregular. W.S. attended two meetings this year and as you will have gathered from the correspondence which passed between Tasker and you, we were expecting fireworks which did not materialize. Taking it all round, proceedings at the Board meetings have been very much as pre-war, apart from one important difference and that is your absence, which is regretted on many occasions.

P.T.O.

Thompson is doing very little direct work these days. Greeffs have evacuated to a place in the country with about four acres of ground and Thompson's main interest seems to be in gardening, although he does now come up to town for Board meetings, but covers his refreat by having a car waiting for him. I had quite a breeze with him recently, when he felt seriously offended that he had not been consulted in advance on some discussions with N.T.P. This was at a time when telephone communication with his particular district was very difficult and it seemed impossible to get him to appreciate that I had not the time to go digging him out in the country every time a point came up for discussion. However, that was all settled fairly quickly and we are again the best of friends.

Exhibit 613

Barber is handling practically all Greeffs matters in connection with titanium, which from their point of view are rather easier than usual, owing to the operation of rationing schemes.

Discussions with Laporte have been held up for some while owing to the serious illness of Wait, but we have reached agreement in principle for an over-all quota of 20.1% to N.T.P. for the duration of the war. We did try to get them to agree to a quota for a set period of years, in which case we would probably have conceded a rather better figure to them, but O'Brien refused point-blank to consider any quota other than one for the duration.

Details of the method of control of the quota and the operation of it have not been completed as yet owing to the absence of Wait. We have drafted the terms and conditions attaching to it as we consider they should agree and are waiting for their comments. I will let you have full details of the whole arrangement as soon as we have reached agreement with them. The important point as to the method of adjustment for over-delivery has been agreed on the basis that the party which over-delivers will purchase from the other party a quantity necessary to adjust the quota at the 100 ton price-ruling at the end of the period covered by the adjustment less 5%.

In the works we have naturally had a rather difficult time with the change-over in the type of ore used, but considering that the plant was not laid out for using Indian ore, I consider that the works people have done exceedingly well. Fortunately, we have not lost many of our technical staff, although earlier on we seconded New for special work and Carter is a member of H.M.Forces.

Exhibit 613

We have been having a comparatively quiet time since the Germans started the Russian campaign and at present I have got my children home from school for the summer holidays. I think I told you previously that I moved them last year to a school up in Teesdale near Barnard Castle, where we feel that they are as safe as they can be, although one takes the risk of stray bombs anywhere.

I still have to make frequent visits to London and whilst in parts it is a depressing sight, everything is going on very much as usual there.

I think I have given you all the news, which I can and with best wishes to Mrs. Jebsen and yourself,

I remain,

Yours sincerely,

C. J. STOPFORD

Exhibit 614

TITAN COMPANY, INC.
111 Broadway
New York, N. Y.

August 19, 1941
VIA AIR MAIL
PERSONAL

Mr. C. J. Stopford
British Titan Products Co. Ltd.
Burlington House
Yarm Road
Eaglescliffe
Stockton-on-Tees, England

Dear Mr. Stopford:

I am very glad to have received your letter of August 7 with the good news that you and your family and all your people are in good health and that you all have come through the ordeal so far relatively well. I have read with much interest what you tell me about the Board meetings. Please remember me to all with my best wishes.

The consumption of Titanium pigments on this side has developed extremely well and production is considerably behind high for the time being.

I do not regret that the quota agreement with Laporte does not exceed the duration of the war as it seems to me that Laporte will not have the same access to technical developments as B. T. P. will get from here. There may, of course, however, be considerations due to conditions in Great Britain unknown to me, and of course 80% to B. T. P. is quite a satisfactory share as long as we are the

only two on the market. We do not know, however, what may develop after the war on new competition if conditions should be similar to the last postwar period.

I am glad to note that you have come well over the difficulties with regard to change of ore. On this side, as you know, they are preparing for using ore from the Adirondacks. The type, as you know, is similar to the Norwegian ore, and they are now expecting no difficulty in using this as regards quality—rather certain advantages. This is to a great extent due to the addition of antimony oxide in small quantities. This addition is extensively used now in production here.

I much appreciate your kind sympathy with regard to my family. We are getting on well, particularly the two younger boys. My eldest boy was denied permission to leave Norway and then went over the frontier to Sweden without permission in the middle of May with the idea of getting over here via Russia. He was, however, too late and has got stuck in Sweden at the present moment, hoping to be able to get out somehow. He has been staying with Andersen in Stockholm waiting an opportunity to get out which, however, seems to be very difficult, particularly as communication between Sweden and England is very scarce.

I had some letters from Henrikssen from Stockholm which was the first direct news from him since last summer. He is now back in Paris. I understand our people there were in good health, but Gilbert's younger son had not yet returned. Our people in Norway and Belgium are in good health.

With kindest regards.

Yours very truly,

GJ/RK

Signed: G. JEBSEN

Exhibit 615

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, October 13th 1928.

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New-York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your favour of October 4th with enclosed laboratory reports and press clippings.

I have written to R. W. Greeff & Co. to secure a sample of the Barium Titanate made by McArthur Erwin, in order to have the durability tests made with this material, which we talked about.

If you are able to spare some of the material you have got, I shall appreciate to have a sample sent to Titan Co. A/S Fredriksstad for some panel tests.

With regard to our position in Japan, the I.G. has their own company representing them, by the name of DOITSU SENRYO GOMEI KAISHA, TOKYO.

The Titan Co has been selling to the Fuji Paint and Varnish Manufacturing Co., which has been working quite energetically with titanium on the basis of a preference price from us.

Outside of this we have been selling a little to Japan through R. W. Greeff & Co.

Exhibit 615

The Fuji Paint & Varnish Manufacturing Co. has been trying to obtain a definite arrangement with us, nominating them as sole purchaser for Japan, but we had put the question off, awaiting developments as we wanted to see how the Fuji Co. developped the market.

When the I.G. took over Japan, the Fuji Co. has made considerable efforts and even tried in an unofficial way through the Japanese Embassy, to influence the I.G. in their favour, at the same time holding back any new purchases.

The best way to deal with the matter was left to Doitsu Senryo Gomei Kaisha, with the indication that an arrangement by which the Doitsu kept themselves free to sell but giving the Fuji Co. a preference price, seemed to be the most advantageous arrangement.

A few days ago the I.G. has sent me the result of the negociations with Fuji, represented in the draft of an agreement giving this firm the sole right, with the reservation that in the case the Doitsu received any demands they should take up the matter with the Fuji as to the best way to handle such cases.

It seems from this that the Fuji Co. has quite an important position in the Japanese paint market.

The arrangement is made for a few years and the Fuji Co shall buy a certain minimum quantity which is not fixed yet.

I have pointed out to the I. G. the disadvantages of giving a paint maker the representation, but have considered that the I.G.'s representatives in Japan will be the best judges of the Japanese market and the importance of the Fuji.

The Titan Co.'s connection with Fuji has been quite saristactory as to payment and correspondence. The start

of the connection was made through the personal visit of a Japanese in Fredriksstad, 4 or 5 years ago.

The deliveries have been practically only Extra X. The amount sold in 1926 and 1927 was comparatively small, but promising. I do not have a specified statistic of our sales to Japan at hand, but from remembrance I think our deliveries in 1927 were more than 50 tons of Extra X. The Fuji Co. wrote us at that time that our high price kept the development of sales considerably back.

Yours very truly,

G. JEBSEN

Exhibit 616

Letterhead of
TITAN CO. A/S

GJ/HS.

Paris, October 18th. 1928.
Dr. G. Jebsen,
c/o Sté Industrielle du Titane,
26 Rue de la Pépinière, Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York City, N.Y., U.S.A.

Dear Mr. McCarty:

RE : SALES TO JAPAN.

Referring to my letter of the 13th. instant I beg to correct the data regarding our sales to Japan, which shall be:

	1926	1927	1928 up to 15/10.
Extra X	28 t.	100.5 t.	4 t.
St. X	0	34 t.	3.5 t.

Of the above deliveries in 1927 the Fuji Paint and Varnish Mfg. Co. took 80 tons of Extra "X" and 30 tons of Standard "X". In 1928 they have taken nothing.

Yours very truly

G. JEBSEN

Exhibit 617

Letterhead of

TITAN COMPANY, INC.

No. 56.

GJ/AK Paris, February 15th 1934.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I enclose translation of information from I. G. Farbenindustrie, as follows:

1) Extract of economic report from Soviet-Russia No. 3.

2) Extract from the "Nikkan Kogyo-Shimbun" of December 3rd 1933.

3) Letters from I. G.'s representation in Japan of December 22nd and 23rd.

In connection with these last, I beg to mention that I last autumn suggested to the I. G. to investigate the possibility of a license arrangement for the Japanese market, if possible in connection with the right to import certain quantities for a number of years.

The I. G. had last autumn one of their men going to Japan, who was asked to go nearer into the Titanium situation.

Of course the erection of a license factory in Japan does not appeal very much to the Titangesellschaft, but it

will be better to have a hand in with any serious developments there, than to stand outside. If serious efforts and capital once have been invested, it is likely that more good money will be thrown after the bad one, until a result is achieved. By a license arrangement, if possible in cooperation with the Government, we may prevent serious competition in the other Eastern markets, which, with the very favourable industrial conditions in Japan, might, in the long run, be of considerable importance.

With kindest regards,

Very truly yours,

G. JEBSEN

P.S.—The I.G. Farbenindustrie writes me that some weeks ago their Brazilian representation sent them samples of "rutile", to which the I.G. replied that they were of no interest. Now the Brazilian representation informs them that the Brazilian Government is making efforts for the development of a domestic Titanium Oxide industry on the basis of their "rutile" deposits, and hopes to interest several industrial groups in this.

Probably the "rutile" refers to the Brazilian Ilmenite and Monazite deposits.

Exhibit 617

Translated from German.

I.G. Farbenindustrie Akt.Ges.

Frankfurt (Main) 20

November 30, 1933.

Production of Titanium White in Japan.

Dear Dr. Jebsen,

We beg to enclose two further letters from our Japanese friends. regarding the progress of the preparatory work in Japan for domestic manufacture of Titanium White in this country, which will probably also interest you. According to this information, the Dai Nihon Jinzo Hiryo Kaisha is supposed to appear on the market with Titanium White, already on November 15. Our Japanese representatives will of course immediately try to secure samples and to ascertain at what prices the goods are offered at present. As soon as further particulars are available in this connection, we will let you know.

Yours very truly,

I.G. FARBENINDUSTRIE AKTIENSELLSCHAFT

Exhibit 617

Translated from German.

Doitsu Senryo Gomei Kaisha

Tokyo, Dec. 22nd 1933.

I.G. Farbenindustrie Aktiengesellschaft
Verkauf Chemikalien, Abt. V 3
Frankfurt a.M.

Titanium White No. 123
Production of Titanium White in Japan.

You will have seen from our letter No. 110, of Nov. 4, how important the production efforts of the Dai Nihon Jinzo Hiryo and the Sakai Kagaku Kogyo K.K. are considered to be by the Fuji Toryo and how anxious the latter Company is with regard to the future development of its Titanium White business. Mr. Fujita, Chairman of the Fuji Toryo, called on us on December 18 and inquired whether, under existing conditions, you would be inclined to sell for Japan your process for the manufacture of Titanium White. It is Mr. Fujita's opinion that normal exchange conditions can not be expected to be restored within the next few years. In view of the fact that the devaluation of the Yen, more than two years ago, did not cause a raise of either salaries or prices of domestic products, a fundamental transformation of the entire price level is not to be feared, in his opinion, so that the Japanese industry will continue to enjoy without restrictions the advantages resulting from exchange conditions. Although the Dai Nihon Jinzo Hiryo and the Sakai Kagaku Kogyo K.K., in spite of repeated announcements in the press, have not yet appeared on the market with Titanium White of

their own production, the Fuji Toryo is firmly convinced that the competition of these companies is imminent and will strongly jeopardize our business; besides, this competition may be later supported and protected by duty-measures on the part of the Government. These points are not new, of course, and were repeatedly discussed in our correspondence.

It has been admitted that so long as the present exchange conditions are not considerably improved, the domestic industry can perfectly be in a position to sell its titanium White at such cheap price that this fact alone will be sufficient to kill imports. In view of these facts, Mr. Fujita suggests to build a titanium factory together with you. You would bring in patents and processes, while the capital required for the construction and running of the factory would be invested by the Fuji Toryo. Should this cooperative basis be inconvenient to you, the Fuji Toryo is willing to conclude a license agreement. If, as a matter of principle, you are inclined to accept the proposal of the Fuji Toryo, will you be good enough to answer the following questions:

Construction of a factory for the production of 1200 tons of Titanium White in 300 working days.

1) What is your estimate in gold marks of the costs of factory building, machinery, apparatus and other installations? It is not necessary to provide for a sulphuric acid factory, as H^2SO^4 can be secured here in sufficient quantities and at cheap prices.

2) Dimensions of factory site required. In order that you may form an opinion as to the yield of such a factory, Mr. Fujita mentioned that the annual capacity of

1200 tons would presumably be divided as follows amongst the various Titanium White qualities:

500 tons Titanium Dioxide
300 " Extra T
400 " Standard T

3) What are the production costs in gold Mark, when using your process? in order to facilitate your answer to the question, Mr, Fujita stated the following:

a) Prices of raw materials:

1) Ilmonite sand containing 52% TiO2 = *x* 45.—per ton. A sample of this ilmenite sand which, according to the analysis of Fuji Toryo, contains 52.5% of TiO2, is being forwarded to you under separate cover. Mr. Fujita stated that 50-60.000 tons of this raw material can be secured without difficulty.

2) Sulphuric Acid 50° Bt — *x* 12.50 per ton.

3) Barium Carbonate *x* 255.—per ton.

4) Barium Chloride *x* 200.— per ton.

5) Water: *x* 0.05 per cbm.

b) Costs of electric current = *x* 0.13 per Kwh.

c) Coal: *x* 8.—per ton.

d) Wages: *x* 1.50 per workman and per day (12 hours).

If you are willing to consider a participation on a co-operative basis, will you please let us know in addition your estimate in gold marks of patents and processes, or, if you prefer to conclude a license agreement with Fuji Toryo,

Exhibit 617

what compensation in gold marks you would claim for a cession of the process and what current royalty in OM., stating at the same time the number of years during which this royalty would have to be paid.

If you are willing to accept the proposal of Fuji Toryo and consider the above mentioned data insufficient to establish an approximate estimate, we would suggest that you send us a questionnaire in order to enable us to furnish you with any data required.

Awaiting your reply, we are, etc. . . .

DOITSU SENRYO GOMEI KAISHA

Exhibit 618

Letterhead of

TITAN CO. A/S

GJ/KL

Fredrikstad, August 8, 1934.

W. C. Beschorman, Esq.,
National Lead Company,
111. Broadway,
New York.

Dear Mr. Beschorman,

I enclose a letter (in translation) of August 1st from I. G. Farbenindustrie Aktiengesellschaft Verkaufsgemeinschaft, Frankfurt a.Main, and my answer, both of which are self-explanatory.

From previous correspondence and conversations, I have understood that you are in favour of an arrangement being made for manufacturing in Japan, in order to prevent the development of a Japanese competition of importance.

The figures given by the Germans regarding the consumption of Lithopone and Zinc Oxide indicate sufficient potential market for a factory.

You will note that my answer to the German proposal is chiefly based on the views developed during the negotiations concerning the British Titan Products Co. Ltd. The Japanese case is, of course, no exact parallel, as we will have no close contact direct with the new Japanese enterprise, nor with the interested Japanese parties, but will have to base ourselves on the I. G. Farbenindustrie's representation in Japan. For this reason I believe it will be better to have Titangesellschaft invest the cash capital, instead of the

National Lead Company or Titan Co. Inc.; or, in view of the present legal conditions, let Titangesellschaft have a chance to take over the holdings acquired by us with cash.

An arrangement by which Titangesellschaft runs the risk and we lend them the money, would, it seems to me, be the best. However, this is a matter which must be considered in close cooperation with the I. G. Farbenindustrie Aktiengesellschaft.

I shall much appreciate your comments to the above, as well as to the two letters.

With kindest regards,

Yours very truly,

G. JEBSEN

P.S. Please send your answer to Paris, where I shall have returned by the 13th or 15th of September.

I look forward with interest to hear from you re your conversation with Mr. Weber-Andreae.

Exhibit 618

Translated from German.

Letter from:
I. G. Farbenindustrie Aktiengesellschaft
Verkaufsgemeinschaft Chemikalien.

Frankfurt (Main) 20
August 1, 1934.

Dr. Jebsen,
Titan Co. A/S,
Fredrikstad, Norway.

Ref. Abt. V Bgt/Kz.

Re. Manufacture of Titanium Oxide in Japan.

Mr. Kemp returned at the end of last week from his trip to Japan. In order to lose no further time, we have at once had a personal conference in Leverkusen with Dr. Kühne and Dr. Raspe re. the situation in Japan.

In the following we beg to give you once more a description of the facts and to make the suggestions in which the conference yesterday resulted. We shall be pleased to have your standpoint in this matter soonest possible.

A copy of this letter we are sending to director Weber-Andreae, New York, likewise with a request to let us know his standpoint. Further we are today writing our agency at Kobe how we are looking on the matter and request their reply, giving them at the same time the advice to avoid any communication with the Japanese interested, for the time being.

Two Japanese factories have for about one year been carrying on research re. the manufacture of Titanium

White and receive subventions from the Government for this work. Both factories are important concerns in good financial positions. One of them manufactures Anorganica (for instance: also zinc oxide, Lithopone and Blanc Fixe); the other makes nitrogen and is on the lookout for a utilization of its sulphuric acid. The fact that these two firms have announced their intention to come on the market with Titanium White has induced our Japanese representation, the Fuji Toryo, which belongs to the large Kuhara concern, to make us the proposal that we should take up the manufacture of Titanium White in Japan together with them.

Those present at the meeting in Leverkusen are all of the opinion that the Japanese some years hence will be in a position to produce Titanium Oxide which is apt to compete with our product.

The manufacturing conditions of the Japanese are relatively favourable. In their own country they have at their disposal an iron sand which contents of Titan (TiO_2) we a short time ago have found to be over 30%, and re. digestion might correspond to the Travancore ore. However, even if the Japanese are under the necessity of covering their requirements from Travancore, they could presumably take the ore from there on approximately the same basis as the Americans. The sulphuric acid is very cheap in Japan. The cost would possibly be about half of that in Leverkusen. The wages—though playing no great part—may be estimated at about 1/3 of the German wages.

It is difficult to foresee how high the amortization will be, as this will materially depend upon the turnover. Fuji Toryo proposes a production of 3 tons Titanium Oxide a

day. The present turnover would only justify a daily production of 1 ton.

We know only very little about the extent of the consumption of white pigments in Japan. Fuji Toryo estimates the Zinc Oxide production to 15,000 tons a year. Lithopone is manufactured in Japan, and according to our estimate likewise 15,000 tons a year, to which would come an import of a few hundred tons. For White Lead we have no figures.

With regard to the market possibilities we should presume that there are considerable possibilities for Titanium White in Japan when sold at lower prices, not only for face powder—which plays a great part in Japan, but also for the important shoe industry (white rubber overshoes) and above all, of course, for paint and enamel. In this connection one will have, though to remember that the latter market cannot in Japan have the same conditions as in other countries, because most of the people there live in wooden houses, which usually are not painted outside or inside.

At any rate the Leverkusen gentlemen believe that the higher amortizations caused by a production on a smaller scale would be compensated by the advantage in the price of sulphuric acid, so that one in Japan car. calculate with a production cost of about Yen 80 to 85 per 100 kilos Titanium Oxide. For his present purchase from us the Fuji Toryo now pays about Yen 165.—per 100 kilos Titanium Oxide.

From the above it appears that we will have to take up the question of a manufacture in Japan, if we wish to prevent the erection there of factories beyond our influence—factories that later on may disturb the markets outside of Japan.

Exhibit 618

We foresee the following possibilities for this:

1. A Japanese Titan company should be formed in which the 2 firms which at present are carrying on research should participate, possibly also the Fuji Toryo, who would also act as selling firm for the factory.
2. Considering the fact that up to now the one of the above-mentioned 2 Japanese factories have already brought a small quantity on the market (The quality is, however, very low—the tinting strength is about equal to that of our 50% pigment) whereas the other firm has hitherto achieved no visible results at all, we establish together with the former and Fuji Toryo the Japanese Titan Company, hoping in so doing that the other factory is brought to desist from its plans.
3. We establish together with Fuji Toryo a Japanese Titan Company and suppose that in so doing we keep the 2 Japanese factories from carrying out their plans, inasmuch as their subvention from the Government would then probably be withdrawn.

In all three alternatives we suppose that the selling rights of the Japanese Titan Company should be confined to Japan and its dependent territories. Mr. Kemp finds it expedient even possibly to try to obtain from the Japanese Government a guaranty to this effect with regard to future factories in Japan erected by third parties.

Further we presume the financial construction to be made analogous with that of the Titangesellschaft m.b.H., Leverkusen and that of the British Titan Products Co. following the same principles, so that the Japanese parties

hold 50% and the partners in Titangesellschaft hold the other 50% of the capital.

In this connection it should be taken into consideration that the Titangesellschaft cannot for the time being invest money in foreign enterprises. The substantial part of the participation, however, would be contributed in the form of patent rights, processes and experience. It would possibly be most practical if the rest be paid at first by the National Lead Company with the condition that the Titangesellschaft later take over also this part when the legal conditions so permit.

4. If we cannot arrive at the conclusion to take upon us the risks connected with a Japanese domestic production (Dr. Kühne as well as Dr. Raspe and the undersigned to the left agree in doing this), we would supply one of the combinations of the Japanese firms mentioned under 1 to 3 with our patent rights, processes and experience and in turn secure either a part of the capital of the Japanese Titan factory to be established, or a cash payment once for all and a royalty, or a combination of both.

Essential regarding the decision to be taken is the judgment of the loyalty of the Japanese to the contract. Mr. Kemp takes the standpoint that one may depend upon the Japanese to keep a signed contract also according to the spirit.

He had arrived at this opinion, not only from his own observations, but also from utterances made by our representatives who have been working in Japan for many years. Mr. Kemp also believes that it will be possible—as already indicated above—to obtain in some manner the Japanese Government as a guarantor of agreement, as the Govern-

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vs.

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No. 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC., APPELLANTS,

vs.

THE UNITED STATES OF AMERICA

No. 91

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FILED APRIL 18, 1946.

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Exhibit 618

ment through subsidizing the 2 Japanese factories has proved its interest in the production of Titanium white. It is to be supposed that the Government will appreciate very highly that the Japanese factories can be relieved of the trouble of long and expensive research in order to arrive at a manufacturing process, and that it will be prepared to reciprocate by compensating us for this facility.

We will presumably have to cease our deliveries to Japan after starting the domestic production.

Further it will be necessary to make some agreement or other with Blumenfeld, as we need his approval of the arrangement. This can perhaps be done by reserving him a small delivery right on Japan. To judge from the import figures for last year, he has apparently supplied only 15 to 20 tons TiO_2. Another possibility might be that the Titangesellschaft increases Blumenfeld's quota in the other Non-Aussig countries against relinquishment of the export to Japan. In case of necessity we could also pay him a part of the profit which Titangesellschaft might receive from Japan.

Our turnover in Japan amounted to: in

1931	142	tons TiO_2 contents
1932	95	" " "
1933	106	" " "
one-half of 1934	75	" " "

Dr. Raspe estimates the capital required for a factory with a capacity of 3 tons TiO_2 a day to about 1.5 million Yen.

We await your early reply and will be at your service in answering any question.

Yours truly,

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Borgwardt (signed) Bechmann (signed)

Exhibit 618

GJ/KL p.t. August 8, 1934.

I. G. Farbenindustrie Aktiengesellschaft
Verkaufagemeinschaft Chemikalien,
/Gruneburgplatz,
Frankfurt a.Main 20.

Dear Sirs,

Re. Titanium Dioxide Manufacture in Japan.

I acknowledge receipt of your favour of August 1st. In view of its importance, I wish to submit the matter for New York's opinion and have sent a translation of your letter to Mr. Beschorman. I presume no definite steps will be necessary before I have his answer, and seeing from your letter that Mr. Weber-Andreae is at present in New York and has been informed, I also presume he will take the opportunity to discuss the question during his stay.

However, in order not to lose any time, I beg to state my personal views at the present state of the developments:

For the reasons and to the purpose mentioned in your letter, it seems to me necessary to make arrangements for the manufacture of Titanium in Japan. I suggest the license field to cover the same matters as in the agreement with Titange...schaft.

The lines suggested for the capital construction and control of the company in your Alternative 1. seem satisfactory, provided the company laws of Japan are on the same lines as in Europe.

Exhibit 618

I suggest Alternative 2 and 3 to be altered in such a manner that the possibility is left open to take in the other 2 firms as partners or shareholders without reducing our interest below 50%, provided there is a possibility of this being one within a reasonable time.

Agreements should be made with the Japanese firms, regarding technical and commercial co-operation on the same lines as with the I. G. Farbenindustrie, to the purpose of a good co-operation and no competition in Titanium compounds.

As to the problem arisen by the Titangesellschaft being legally prevented at present to participate with cash capital, the National Lead Company or Titan Co. Inc. will, no doubt, be favourably disposed to consider this problem to the purpose of securing to our group a controlling interest or what may in reality be a controlling influence in the new enterprise. The arrangement should be such that the remuneration is in proportion to the risk.

Re your point 4. An arrangement by which we dispose of our experience to the Japanese without securing a substantial influence on the further industrial development in Japan involves considerable danger and is not tempting.

As the market is very little developed, I suggest for your consideration that T.G. m.b.H. offer to make deliveries to the Japanese enterprise on very favourable conditions until two years after the new Japanese factory has started operation. The advantage of this to the new enterprise as well as to T.G. m.b.H. is evident—in the closer combination of the interests of both.

The Japanese can take more time in finding out the best conditions for the new factory and develop the market with

imported material until the consumption stands in a reasonable relation to the capacity of the new factory. A period of too much over-capacity can be avoided; it will facilitate an economic development and secure the new company an income from the beginning. At the same time the Japanese interests and the Government will have the security that a Titanium factory will be erected in Japan when conditions are ripe for it and in the most economic manner.

I agree with you that the arrangement with Blumenfeld must be such that he has no capital interest in the company.

Yours very truly,

Exhibit 619

Letterhead of

TITAN COMPANY, INC.

No. 135
GJ/AK

Paris, May 21st 1935.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Negotiations regarding the Japanese enterprise.

Parallelly with the Japanese negotiations, the matter has been discussed with Blumenfeld, whose company, the Sté des Terres Rares, has a quota of 30% of the Japanese market according to the arrangements made (agreement not signed yet). Blumenfeld has approved of the plan and agreed to participate with us in the proportion of his quota. He will abstain from deliveries to the Japanese market and, as we have no technical cooperation with him, he has agreed that the Japanese Titanium enterprise cooperates with T.G.m.b.H. only in technical matters. In case Titanine and I.G. call for it, he will give his experience and licenses under his patents. This option can, though, only be exercised if and when a general agreement on technical cooperation between the Blumenfeld companies and our companies is established, in which case Blumenfeld shall have information regarding improvements made in the Japanese factory, as well as a non exclusive and not transferable license under any patented improvements made by the Japanese enterprise.

Exhibit 619

When in New York, we thought it best to leave entirely to I.G.'s representation to handle the matter and represent us.

It is understood with Blumenfeld that he refrains from a direct-contact with the Japanese enterprise. In order to secure this and in accordance with the above, the total non-Japanese participation will be handled by the Doitsu Senryo Gomei Kaisha in their name, as trustees for Terres Rares, Titaninc and eventually I.G.

The relations between these four firms have been laid down in a draft to a "pool-agreement", which I shall send you as soon as it is translated and which we all agreed upon and is intended to be signed when the agreements with the Japanese firm are completed.

The "pool-agreement" contains provisions regarding the sale of the shares to the purpose of giving the other partners a first call, under such conditions as to secure that the shares cannot well be made the object of speculation or come into the hands of the Japanese, giving them a majority, without having given another partner a fair chance to acquire them.

In accordance with your agreement with Mr. Weber-Andreae and our later talks, the pool-agreement provides that Titan Company Inc. subscribes the cash capital which normally should have fallen on I.G.'s part, and receives for this, besides the cash paid shares, also a corresponding part of the shares given in compensation for patents and good-will. The I.G. to have an option in 15 years to buy the shares at Titan Company, Inc.'s cost price, to which is to be added 5% interest, taxes and other costs of acquiring and holding the shares, and to be deducted any dividends incl. 5% interest on such.

I.G. Farbenindustrie's representation in Japan, the Doitsu Senryo Gomei Kaisha, wrote that the conditions and

mentality in Japan make it impossible to establish a cooperation between Tobata Imono K.K. Fuji Toryo Seizosho, Kawasaki, and the two firms who have announced activities in the titanium line through the newspapers. Their work seems, though, not to be very much advanced.

The negotiations with Tobata Imono K.K. Fuji Toryo Seizosho, Kawasaki, have developed along the lines we talked over last autumn. Tobata belongs to the Kuhara concern, which is of a similar kind to the Mitsui and the Mitsubishi concerns, with large and widely spread interests. The Tobata has been handling our products for many years. It was the Titan Co. A/S's connection before T.G.m.b.H. was started. The I.G. found no reason to change this, and Doitsu informs us that the connection with Tobata has been satisfactory in every respect.

By the way, it will interest you that Blumenfeld, who some years back, visited Japan, said that the I.G. representation and the Standard Oil representation were considered to be the most important and the best established of all foreign organisations in Japan.

Agreement has been reached between Tobata and Doitsu as to the financial construction of the Japanese enterprise, in principle as follows:

The share capital to be held 50% by Tobata and 50% by Doitsu, respectively the firms which it represents. 40% of the shares to be given Doitsu in compensation for processes, patents, experience and good-will, so that Doitsu will only contribute in cash with 10%.

As total capital has been proposed 3 millions Yen. This means 300.000 Yen in cash for Doitsu, resp. 90.000 Yen for Terres Rares and 210.000 Yen for Titan Company Inc. (covering its own and I.G.'s part). The capacity of the

factory to be 1200 t. of TiO2 p.a. Tobata considers sufficient a total capital of 1.500.000 Yen. The necessary amount cannot be ascertained before the plans of the factory are ready and the nearer conditions under which the factory is to be erected have been fixed.

We have informed Doitsu that sufficient cash capital must be secured for the erection of the factory and the necessary working capital as we will not risk by insufficient capital at the start to have to provide cash capital later in a proportion different from the above agreed upon principle. A share capital which does not provide the amount necessary for the enterprise should only be accepted if the exceeding requirements can be satisfied by a long term loan at low interest and provision for further contribution from the shareholders in proportion originally agreed upon for repayment of the loan if necessary.

The Japanese enterprise to have as territory Japan, its Colonies and Mandated Territories as at present constituted, and Manchukuo, the geographical extension of which is to be nearer defined.

The license agreement to be made on the general lines of our other license agreement. I have had a considerable work in giving Mr. Borgwardt detailed information of the lines of our license agreements, for his instructions to Doitsu, and we are now awaiting a draft from Doitsu.

Also Blumenfeld pointed out that the Japanese mentality is so different from ours, that the enterprise must be considered as an experiment.

Trusting the above has your approval, I am, with kindest regards,

Yours very truly,

G. JEBSEN

2325

Exhibit 620

Letterhead of

TITAN COMPANY, INC.

No. 146.

Paris, June 22nd, 1935.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I refer to my letter of May 21st regarding Blumenfeld's change of attitude as to the cooperation in the Japanese enterprise, requesting a right to technical developments by the Japanese enterprise.

In the beginning of June Mr. Borgwardt had a conference with Blumenfeld, with the result that Blumenfeld would refrain from a right to such technical developments, with the exception of developments of an entirely new principle character and not based on our experience. Borgwardt objected that it would be impossible to decide and agree upon developments to be of this nature. Blumenfeld declared that he was willing to accept I.G.'s judgment as to whether such developments or inventions were independent of previous experience.

Last Monday I had a conference with Dr. Kühne, Mr. Weber-Andreae, Mr. Borgwardt and Dr. Raspe in Leverkusen.

Weber-Andreae emphasized that this demand from Blumenfeld was reasonable, and suggested that it should be accepted. Both he and Kühne considered it very remote that a case of this kind should arise.

I told them that we could not make such an arrangement without the agreement of our associates. I agreed, though, to put the matter before you and B.T.P., and requested for this purpose a proposal for the formulation of a corresponding clause. I put forward various instances of developments, asking Dr. Kühne what his decision would be in these cases. His opinion did fall in line with mine and I finally asked him to send me a note explaining as far as he could, what kind of cases should be considered to represent the principally new and independent developments, telling him that this was only for use between our associated companies as a help in any discussion within members of our group. Dr. Kühne agreed to do so. Personally I believe this will be a somewhat difficult matter and presumably mostly be done by illustrations of various cases.

Re Conventions Agreements between the Blumenfeld group and our group for countries outside North America and the British Empire.

These agreements should now have been signed. For taxation reasons, Blumenfeld wished to take them with him on a visit to Italy, in order to sign them out of France.

During Blumenfeld's absence I received a letter from Montecatini informing me that they had signed the agreement with cancellation of Clause 5, which has the consequence that Montecatini will maintain their export of 250—275 tons of TiO_2, even if the Italian market can take more than 1500 tons.

This means that Montecatini will not maintain the agreement which was initialed last autumn and agreed to subject to the Board's approval and which later, by letter, they informed us they were ready to definitely sign.

Blumenfeld has just returned in these days and I have not been able to get him in his office.

It was agreed in Leverkusen, in the above mentioned matter, that we should await information from Blumenfeld before we decide our attitude.

Of these 275 tons, a quantity of ea 163 tons is to Blumenfeld's charge and ea 112 tons to the charge of our group.

Mr. Stopford has sent me a copy of his letter to you of June 19th concerning our London conversations with Laporte.

I take it from his letter that the Memo he has enclosed is the one sent to Laporte. From your information, I enclose further two Memos:

1) concerning discussion between Tasker, Thompson, Stopford and myself, previous to the Laporte meeting (Barley, Robinson and Wilkins could not meet).

2) concerning the meeting with Laporte.

You will note from the first Memo, that the Blumenfeld and Laporte situation was considerably discussed. It appeared that both Tasker's and Stopford's attitude showed a considerable inclination to arrangements for a cooperation with Blumenfeld all round. Tasker was of the opinion that with the international organization and cooperation we build up. Blumenfeld will have the advantage of riding on our back and make himself expensive. This is of course so,

but, as I pointed out, the question is to develop the matter so, that our relations with Blumenfeld, in whom most people have not much confidence, would not lead to a general disturbance of the cooperation. At present, anyhow, an arrangement with Blumenfeld without Laporte or with Laporte without Blumenfeld, for the British Empire, might lead to a very high price when both are taken in.

Our conversation with Laporte's was somewhat of a disappointment. The reduction in the prices made no doubt a very deep impression, although the Laporte people were careful not to express themselves.

On the question of discussions between you, Stopford and Weber in U.S.A., the Laporte people were very reticent and showed little reaction to our reference to these,

A quota was not mentioned.

After the meeting O'Brien mentioned to Tasker that he only had been informed about previous conversations in U.S.A. the day before, and he was wondering if he knew half of what had occurred.

Also in Leverkusen at the above mentioned meeting, there was a decided inclination from Weber-Andreae's and Kühne's side to come to an arrangement with Blumenfeld as to a general technical cooperation, and Weber-Andreae expressed very definitely the opinion that Blumenfeld would change entirely if he was treated with full recognition, and referred to his experience in another business.

I report this to you so extensively, because these questions will no doubt be the subject of discussions upon your next visit this autumn, and will appreciate if you will think the matter over.

Exhibit 620

As soon as I receive the above mentioned papers regarding the Japanese matter, I will send them to you.

Mr. Weber-Andreae expressed the wish to have a cable reply if the proposal would be acceptable to you, in view of the repeated delays in the Japanese negotiations and the advisability of making progress.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 621

Letterhead of

TITAN COMPANY, INC.

No. 153.

GJ/AK

Paris, July 9th 1935.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Referring to my letter of June 22nd No. 146, I enclose translation of a proposal from I.G.—somewhat modified on my suggestion—to a clause concerning those future technical developments of the Japanese enterprise to which Blumenfeld should have a right besides our group.

I also enclose a translation of a letter from Dr. Kühne to Mr. Borgwardt regarding his view on the character of the developments which, at the present stage of the technical experience of our group, should be considered to come under the clause. Addressing the letter to Mr. Borgwardt has the purpose of making it less official.

If we accept the clause, it will mean a further step in the direction of a future technical cooperation with Mr. Blumenfeld—even if the possibilities of such new developments from the side of the Japanese are rather remote.

Exhibit 621

You will note from my letter of June 22nd that Mr. Weber Andreae expressed the wish to have a cable reply if their proposal would be acceptable to you. From a later talk with Mr. Borgwardt, I understand that the License Agreement has not been developed so far that an answer to this question should be so pressing and if you feel it is better to postpone your answer until we have met in Paris, I think this can be done without causing any harm. If, however, you have no hesitation in the matter, I should appreciate a cable from you to Norway.

I am going to discuss the matter in London with the B.T.P. people on Friday and, if it should meet opposition there, I shall cable you—otherwise not.

As regards Dr. Kühne's letter, you will note that he mentions the substitution of calcination by heating under pressure. This is a new development on which T.G.m.b.H. is working together with the I.G. The I.G. has tried it on Lithopone with good results and the experiments on Titanium are very promising as regards hiding power.

Nobody can yet tell what importance this development may have. It will chiefly depend on the physical properties of the pigments, which may be very different as to oil absorption, dispersion, wetting power, etc. Hitherto the experiments on Titanium have been on a very small scale, so these qualities could not be satisfactorily investigated.

Dr. Raspe is preparing a proposal for an experimental plant of semi-industrial size, treating some hundred kilograms per day.

Please treat this matter confidentially.

With kindest regards,

Yours very truly,

G. JEBSEN

2346

2332

Exhibit 622

Letterhead of

TITAN COMPANY, INC.

No. 179

Paris, February 3rd 1936.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re Japanese enterprise.

Mr. Splittgerber of the Doitsu Senryo Gomei Kaisha (the representation of the I.G. in Japan) arrived here in Europe about December 1st, and this has brought the negotiations regarding the above matter considerably forward.

You know that these negotiations have taken a considerable time and Mr. Splittgerber strongly pointed out that the Japanese were beginning to wonder. Doitsu and the Japanese had agreed on all principal questions and Doitsu had been waiting for definite instructions as regards the details of the agreement. The Japanese were ready to send an expert, and he urged the necessity of proceeding quickly with the matter.

Leverkusen would not show the factory or give technical information before the Japanese are under agreement with us and, in view of our arrangements being dependent

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on our agreement with Blumenfeld, it was necessary first of all to have this last definitely established.

Several meetings have taken place in Frankfurt and here in Paris, the result of which are agreements copies of which I enclose.

I suppose you will find them rather complicated, but please have in mind that many interests are involved and have to be looked after.

The agreements are at present initialed by Mr. Blumenfeld, Mr. Borgwardt, Mr. Mayer-Wegelin (a lawyer of the I.C.) and myself. They have to be approved by the various boards, but there is no reason to believe that this will not take place as regards the European companies and, as they are on the lines we have discussed (and you have agreed to), I trust they will also have the approval of Titan Company Inc.'s board. They were a week ago sent to Doitsu in Japan, which will act on them towards the Japanese firm, and it is expected by Mr. Splittgerber that they will be accepted without difficulty and the Japanese will then immediately send their engineer to Leverkusen. *This is expected to take place about the 20th of February and I should much appreciate if you, within that time, will cable me New York's opinion and, I hope, approval.* If you, against expectation, should have any objection, it would be necessary to cable Doitsu to stop the proceedings.

Mr. Splittgerber spoke highly of the Japanese frim, which has been the sole purchaser and distributor of our Titanium Pigments hitherto. It is a concern of considerable importance, although not belonging to the largest concerns like Mitsui or Mitsoubishi.

The man Doitsu particularly is dealing with is Mr. Fujita, a chemist and businessman who is interested himself in Titanium since early 1920. He did in fact visit Fredrik-

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stad once when I was absent and was Titan Co A/S's connection before Titangesellschaft was formed and took over the Japanese market. Mr. Fujita is the head of a firm by name of Kokusan Kogyo Kabushiki Kaisha, Tokyo, in which is merged his previous firm, Tobata Imono K.K. Fuji Toryo, Seizosho.

The Kokusan Kogyo belongs to a group by name of Nippon Sangyo Concern, which has its main interest in the iron and steel industry and the head of which is a brother of Mr. Fujita.

Enclosed are:

The *Pool-Agreement* (in German with English translation) in duplicate

The *Guaranty-Contract* (in German with English translation) in duplicate.

The *Pool-Agreement* deals with the relations between Titan Company Inc., I.G. Farbenindustrie Akt.Ges., Sté de Produits Chimiques des Terres Rares and Doitsu, regarding the financial conditions (shareholding), and the formation of a consortium between the European and the American firms (to be represented by Doitsu) forming a block to act jointly towards the Japanese firm.

Annexed to this is "B"—a draft in English of an agreement indicating the principal lines on which the Japanese firm should be formed. As we are not familiar with the Japanese laws, it has been left to Doitsu to develop this agreement.

The Pool-Agreement contains substantially the same as the draft sent you by Mr. Henrikssen on June 7th, except that we have eliminated in articles 1 and 2 the stipulations regarding the technical and commercial cooperation,

which are dealt with in the Guaranty-Contract, and you will find the stipulations for duration expressed in a definite way, however meaning the same as intended in the first draft.

As regards the financial obligations we undertake, I refer to the enclosed memorandum.

The *Guaranty-Contract* establishes the technical and commercial relations between the European-American firms and Doitsu, as well as the relations to be established with the Japanese firm Kokusan Kogyo (and the Nippon Sangyo Concern) and the Titan Kogyo, which last is to be the joint Japanese enterprise. It is intended that the Kokusan Kogyo play a similar role towards Titan Kogyo and the European-American group in Japan, as I.G. does towards Titangesellschaft and us in the German's territory.

The annex "C" lays down the relations between Kokusan Kogyo and Titan Kogyo, and thus indirectly towards the European-American group, concerning technical developments, markets and similar questions, and it is on similar lines as the one between the I.G. and Titangesellschaft.

The annexed License Agreement "D" concerns the cooperation between the European-American group and Titan Kogyo. This is built on the lines of our various License Agreements. It varies from these as per annexed memorandum. The variations are caused by the specific conditions in this case. They have been submitted to the Board of the British Titan Products Company, and approved. *Please arrange for the Titanium Pigment Co.'s approval of same.*

As regards our relations to Doitsu, you will note that there is no provision for their termination. You will, how-

ever, also note that I.G. has accepted the responsibility for Doitsu.

As Japan belongs to the territory of Titangesellschaft, a termination clause is so involved with our agreements with the I.G. and Titangesellschaft, that I considered it impracticable. Blumenfeld even emphasized that there should be no such termination clause and if we had insisted on something on that line it would have brought up a lot of questions between Blumenfeld and ourselves, and we considered it better to have Blumenfeld bound as far as possible with regard to the Japanese enterprise.

When initialing the agreements, Blumenfeld pointed out that the Fabriques de Produits Chimiques de Thann et de Mulhouse is going jointly with Sté de Produits Chimiques des Terres Rares in these matters, so that the name of Terres Rares, wherever it appears alone in the agreements, signifies both Terres Rares and Thann. This has been confirmed in a letter from him and accepted by I.G. and myself.

I also enclose translation of a loyalty clause, which Blumenfeld requested and the Germans considered to be of advantage, as it would, in case of disagreements, establish that the agreements should be interpreted according to their spirit more than according to their wording.

Hoping that everything will meet with your approval, I am, with kindest regards,

Yours very truly,

G. JEBSEN

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P.S.—In connection with the Memorandum regarding the deviations from the 1920 agreement, I beg you to note that Titan Kogyo cannot export any of its products within the Licensed Field outside its territory, without Doitsu's permission, which again means without the permission of Terres Rares and Thann, as well as Titanine, I.G. and Titangesellschaft.

We have reserved the right to appoint Titanium Pigment Co. agents for North America, but this can only be applied as a measure preventing import or subject to the above.

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MEMORANDUM

RE FINANCIAL ORLIGATIONS RESULTING FROM THE POOL-AGREEMENT

—:—:—:—:—:—:—:—

Titan Kogyo's share capital		Yen 1.500.000.—
Of this, the European - American group	Yen 750.000.—	
Payment for technical support and goodwill	" 600.000.—	
To be paid in cash	Yen 150.000.—	= ca $43.750.—
Titaninc (I.G.'s and its own part)	70%	= ca $30.625.—
Blumenfeld group	30%	= " $13.125.—

The Titan Kogyo will at its start have at disposal in cash Yen 900.000.— Is this capital sufficient?

We are somewhat in the dark as to the amount of capital necessary in order to erect the factory. A definite estimate can only be arrived at after a cooperation has been established between the Japanese and ourselves, permitting an exchange of technical knowledge.

Dr. Raspe and the I.G. construction department in Leverkusen have estimated the cost of a factory under German conditions to Mk.1.500.000.— including provision for steam plant, refrigeration plant, workshop, transport arrangements and various. At the present rate of exchange this corresponds to Yen 2.143.000.—

Exhibit 622

This factory is however for a normal production of 1500 tons TiO2 with buildings and various installations for a larger production. Recent developments of the sale indicate justification of a larger factory.

The Japanese emphasize the above amount to be far too high and Mr. Splittgerber estimates the purchasing power of a yen in Japan to be approximately equal to Mk.2.—(corresponding to the old par value), which gives Yen 750.000.—

I have recently, in connection with the Naval Conference in London, seen stated that in estimating the costs of building war-ships the purchasing power in U.S.A., England and Japan are in the relation: 15/20 dollars in Japan = 30 dollars in England = 50 dollars in U.S.A.

On this basis, a Japanese factory should cost 50-67% of an English factory.

Our Billingham factory for 2400 t. TiO2 costed	£150.000.—
enclosing the site. Adding for power station, steam plant and various	" 25.000.—
we arrive at	£175.000.—

A factory for 1000 t. TiO2 should then cost perhaps £100.000.— in England, and in Japan £50.000 to 67.000 = Yen 833.000 to 1.130.000.—

On my last visit in New York I mentioned the possible cash investment necessary for I.G. and ourselves to be approximately $80.000.—

GJ/AK
3.2.1936.

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COPY

MEMORANDUM

The arrangements with the Japanese and the Blumenfeld group vary from the lines laid down in the 1920 agreement as to the following principal points:

1) *Licensed Field,* which is defined as follows:
The term "Licensed Field", wherever herein employed, means and includes:

a) all methods, processes and apparatus in the field of manufacture of all titanium compounds, containing two per cent. (2%) or more of the element titanium in a chemically, mechanically or physically combined state and mixtures thereof, which can be used as pigments, whether or not adapted for other uses, and

b) all such titanium compounds and mixtures, which can be used as pigments whether or not adapted for other uses.

2) *No obligation of mutual access to the factories* of the Japanese venture and the various licensees of the Titan. Company Inc. (respectively Titangesellschaft).

3) *The rules for the exchange of patent applications* have been changed for practical reasons in view of the considerable distance and time necessary for correspondence with Japan (see License Agreement "D", article 5-A) and b)).

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4) *Should inventions be put at the disposal* of Titangesellschaft, I.G. or Titaninc by the Japanese enterprise as regards matters in the Licensed Field or the application of Titanium Pigments, which in no way are based on the experience and information of Titangesellschaft and establish something new in principle, such inventions shall be placed at the disposal of Terres Rares and Thann in the same way as it is done for Titangesellschaft and Titan Company, Inc.

It is agreed that the I.G. Farbenindustrie shall decide in a form binding for all parties concerned, whether an invention made in the new Japanese factory is new and independent in the above sense. None of the parties shall be entitled to protest against this decision.

Further, should Titan Kogyo acquire from a third party inventions within the Licensed Field or regarding the application of Titanium pigments, then such inventions should also be placed at the disposal of Terres Rares and Thann for all countries outside the territory of the Japanese enterprise, at self cost.

(Signed) G. JEBSEN

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Letterhead of

TITAN COMPANY, INC.

Paris, March 4th 1936,

SJH/AK

M.D. Cole Esq.
Secretary
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Cole,

Japanese contracts.

Upon leaving for Norway, Dr. Jebsen asked me to acknowledge with thanks receipt of your letter of February 19th, informing you that the proposed resolution for adoption by the Board of Titanium Pigment Co. Inc. is perfectly agreeable to him.

As to the resolution to be adopted by Titan Company Inc., Dr. Jebsen would submit for your consideration the following points:

1 (a) On page 2 the 4th line read:

> "and by the transfer to said Titan Kogyo of "certain patents and patent rights and the busi- "ness. . . ."

because transfers of patents and patent rights of Blumenfeld are not provided for but only an option on a transfer at conditions not stipulated.

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1 (b) It might be clearer if it is said:

"for the exercise by Doitsu on behalf of the "parties to said Pool Agreement of all rights of "ownership . . .".

2(b) Cancel the word "corresponding", and read:

"stipulating the rights and obligations . . .".

Referring to Dr. Jebsen's letter of February 3rd to Mr. Beschorman, at the bottom of page 3, I beg to enclose translations of Mr. Blumenfeld's letter of January 20th and Dr. Jebsen's reply of February 4th, accepting that Thann be a partner together with Terres Rares.

It occurs to me that this is a point that might be mentioned in the minutes, for instance in the form of a resolution reading somewhat as follows:

"Resolved that whenever is mentioned the So- "ciété de Produits Chimiques des Terres-Rares "in the above mentioned Pool Agreement and the "Guaranty Contract, this designation means and "included Société de Produits Chimiques des "Terres Rares and Fabriques de Produits "Chimiques de Thann et de Mulhouse."

You will note that Thann is a partner to the Guaranty Contract but that, as Thann should be a partner to the Pool Agreement, Thann should be referred to in the introduction of the Guaranty Contract where reference is made to the parties of the Pool Agreement.

Please consider the above points merely as suggestions to be taken into account if you find it desirable to do so.

Looking forward to your reply, I am

Yours very truly,

S. J. HENRIKSSEN

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RESOLVED, that this corporation hereby consents to the provisions of those two certain proposed agreements between Titan Company, Inc., (successor in interest to Titan Co. A/S under Agreement between this corporation and said Titan Co. A/S dated July 30, 1920), Doitsu Senryo Gomei Kaisha, of Kobe, Japan, and others, and between said Doitsu and Titan Kogyo Kabushiki Kaisha, of Kobe Japan, relating to the exchange between said Titan Company, Inc., and said Titan Kogyo, through said Doitsu, of licenses and other patent rights with respect to the manufacture and sale of titanium compounds within the respective territories therein specified, substantially as embodied in the forms enclosed with Dr. Gustav Jebsen's letter to Mr. W. C. Beschorman dated February 3, 1936 and submitted at this meeting, particularly in so far as the definition of "Licensed Field" as embodied in said proposed agreements, the omission therefrom of provision for mutual access to manufacturing plants, the provisions thereof for the exchange of patent applications, the provisions thereof for the grant by said Titan Kogyo in certain cases to certain named parties not themselves licensees or sublicensees under said Agreement of July 30, 1920, of licenses and/or other patent rights with respect to inventions developed or acquired by it, and other provisions of said proposed agreements, vary from the exact requirements of said Agreement of July 30, 1920.

I, F. H. Dow, Secretary of TITANIUM PIGMENT COMPANY, INC., a corporation of the State of Maine having a

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principal place of business at 111 Broadway, New York City, do hereby certify that the foregoing is a true copy of a resolution duly adopted by the Board of Directors of said corporation at a regular meeting thereof duly held on the 25th day of February, 1936, at which a quorum was present and voting throughout, as the same appears of record in the minutes of said meeting, and that said resolution is now in full force and effect.

IN WITNESS WHEREOF I have hereunto set my hand and the seal of said corporation this 3rd day of July, 1936.

s/ M. Dow
Secretary.

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TITAN COMPANY, INC.
7 West 10th Street
Wilmington, Delaware U. S. A.

/AK — Paris, May 4th 1937.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Enclosed please find English translation:

1) Minutes No. 29 from Board Meeting in Titangesellschaft, held at Leverkusen, February 2nd and 3rd, 1937.

2) Minutes from Partners' Meeting held at Leverkusen, March 23rd 1937, together with Balance Sheet mentioned in the minutes.

Yours very truly,

s/ S. HENRIKSSEN

Same letter sent Mr. Cornish.

Exhibit 625

February 3, 1937

MINUTES FROM CONFERENCES RE TITANIUM WHITE MATTERS AT LEVERKUSEN, FEBRUARY 2ND AND 3RD 1937.

Present: Dir. Dr. Kühne
Dir. Dr. Jebsen
Dir. Dr. Bruggemann
Koziol
Hanssen (2.2.1937)
Bongwardt (3.2.1937)
Dir. Dr. Raspe
Schwenk (2.2.1937)

* * * * * * * * *

[Sections 1 through 9, eliminated.]

10.—The letter from Titan Company Inc., Paris, of 30.12.1936, concerning the license agreement between the American Zirconium Corp. and the Titanium Pigment Co. was submitted. According to that letter, the licensed field is limited to Titanium White compounds which can be used as pigments, and to processes, apparatus, etc., for the production and use of same. This was acknowledged and the letter was attached to the present minutes.

* * * * * * * * *

[Section 11 eliminated.]

12.—Borgwardt was asked to look into the inquiry received from Aussig concerning an extension of the agreement

and to grant such extension, if possible, with a reduction of the Aussig quota.

13.—Borgwardt is authorized to grant Doitsu permission to pay the balance on the Japanese participation. In view of the fact that Blumenfeld has not yet agreed to pay immediately and that the German partners cannot assume any financial responsibility on account of currency regulations, Dr. Jebsen is willing to agree that Titan Company Inc. assume the guaranty towards Doitsu. Should Blumenfeld, contrary to expectations, not pay at all, the 50:50 arrangement, according to agreement between Titan Company Inc. and I. G. will be extended to the entire capital.

* * * * * * * * *

[Section 14 through 16, eliminated.]

17.—Dr. Jebsen agreed that the royalty due on the stock in Leverkusen on Dec. 31, 1936, amounting to RM.47.027.00 be divided between Titan Co. and Titangesellschaft. in proportion to the purchases in 1936, and that Titan Co.'s share amounting to RM.12.673.78 be debited Titan Company Inc. as per 31.12.1936 Titangesellschaft's share amounting to RM.34.353.22 shall be carried forward and booked to the charge of 1937.

(Sign.) Kühne Brüggemann

" Jebsen Raspe

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Letterhead of

TITAN COMPANY, INC.

Paris, December 18th 1937.

/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Enclosed please find in English translation:

Minutes No. 31 and 32 from Board Meetings in Titangesellschaft, held August 18th and 19th and September 11th, 1937.

" from Board Meeting in Société Industrielle du Titane, held November 3rd 1937.

The forwarding of the minutes of Titangesellschaft has unfortunately been delayed, as it was necessary to await Dr. Kühne's return from America to get his approval.

Yours very truly,

S. J. HENRIKSSEN

Same letter sent Mr. Cornish.

Exhibit 626

Translated from German.

Minutes No. 31.

August 20th 1937.

MINUTES FROM CONFERENCES RE TITANIUM WHITE MATTERS AUGUST 18TH AND 19TH 1937.

Present: Dir. Dr. Kühne
Dir. Dr. Jebsen
Dir. Beschorman
Dir. Borgwardt
Koziol (part time)
Dir. Dr. Raspe

1.) The position of the late Mr. Schwenk can not be definitely filled immediately. For the present, Mr. Koziol will place one of his assistants at the disposal of the Titanium factory.

2.) Dr. Kühne discusses the amount to be paid to support Mr. Schwenk's widow.

3.) Mr. Borgwardt advises of the following:-

a) Blumenfeld has again asked for a delay with regard to his payment for Japan, amounting to Yen 45.000.—He motivated his request by the fact that in view of political developments in the East he would like to await a further devaluation of the Yen. Blumenfeld wants to wait for the report of a man who is now on his way to Japan on his behalf. Borgwardt suggests that, since the Japanese are claiming payment, Blum-

enfeld should be seriously called upon to make the corresponding payment. Borgwardt is authorised again to strongly press for payment. Further, our Japanese agents must be advised of the visit of Blumenfeld's representative and be given definite instructions with regard to negotiations.

b) During the negotiations concerning deliveries of Laporte to the "Non-Aussig" countries, Borgwardt gained the impression that, on account of the information supplied, he could no longer trust Blumenfeld entirely. Borgwardt asks what his further attitude should be and whether he can allow the relations to come to a rupture.

Until further, the firm attitude towards Blumenfeld is to be maintained. Dr. Jebsen requests that a statement showing the various deliveries made by Laporte be submitted at the next meeting in Paris, so that the matter can be discussed again.

c) Borgwardt raises the question as to what our attitude towards Blumenfeld should be in case of a possible increase of capital of the Japanese factory. This is also to be discussed again in Paris.

4.) Borgwardt advises that our Japanese associates have offered to transfer (to Titan Kogyo) the sulphuric acid factory which has been erected near the Titanium factory. Before a decision can be taken in this respect

the necessary data have to be secured soonest possible from Doitsu and Dr. Gretzer, showing under what conditions raw materials (Pyrites) can be secured in Ube for the manufacture of sulphuric acid and what the general situation is with regard to sale of sulphuric acid and especially in respect of the quantities that can not be taken over by the Titanium factory.

5.) Borgwardt reports that so far his endeavours in view of inducing Aussig to reduce the quota payments voluntarily have been in vain. In view of the important payments that are to be made to Aussig under the present circumstances, heavy quota, Borgwardt puts forth for discussion the question as to whether the convention should be denounced as per the end of 1938, in case Aussig should not yield. Although no decision is taken in this question, Borgwardt is authorized to continue the negotiations.

6.) Dr. Raspe advises that, according to information received from Dr. Gretzer, the Japanese factory will start operations at the beginning of November. Dr. Weise will therefore leave for Japan via America on September 3rd this year. He will study conditions in the American Titanium White factory beforehand.

7.) Dr. Raspe advises that, in respect of the license arrangements between the National Lead Company and DuPont, Mr. Beschorman has made a suggestion which is outlined in the letter from Mr. Beschorman to Dr. Jebsen of May 28th 1937:

> "National Lead Company undertakes to carry
> "the charges of all compensation, monetary or in

"kind, for licenses granted to Titan Co. Inc. and "its associated companies outside of the United "States and Canada.

"We will endeavour when requested to do so by "Titan Co. Inc. and/or its associates, to obtain "exclusive licenses in place of non-exclusive li- "censes within the "Licensed Field" now provided "for in certain agreements.

"On the other hand, National Lead Company "shall retain for itself any compensation, mone- "tary or in kind, for licenses whch its licensees "are granted under United States patents owned "by Titan Co. Inc. and by its licensees or sub- "licensees other than the National Lead Company. "The terms and conditions other than compensa- "tion, monetary or in kind, for the licenses "granted to its United States associates, or given "by them, will continue to be subject to approval "of the parties interested.

"We shall appreciate if you will submit the above "to our European associates and inform us of "their views."

The suggestion was accepted.

8.) The Titangesellschaft agrees to DuPont's suggestion concerning the English DuPont patent No. 464.836 "Blended Pigments", subject to investigation by the patent department.

9.) The Canadian agreement will be definitely discussed in Paris.

Exhibit 626

10.) Dr. Raspe advises that a fortnight ago operations in the first step of extension of the factory were successfully started. For the first time 30 tons of TiO2 are being manufactured daily. The plant for a production of 45 to 50 tons of TiO2 daily has all been ordered and is being installed. However, as a result of the scarcity of iron, the completion will meet with considerable difficulties.

It was agreed that a further increase of the production capacity is necessary and Dr. Raspe was requested to submit proposals to that effect as soon as possible, in order to avoid unnecessary delays in erection.

11.) Until further the production is to be run up to full capacity, in order to fill up the stocks.

* * * * * * * * *

(Bottom of page 3, all of pages 4 and 5 elimfinated)

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Translated from German.

Minutes No. 32.

September 13th 1937.

MINUTES FROM CONFERENCES RE TITANIUM WHITE MATTERS IN PARIS, SEPTEMBER 11TH 1937.

Present: Dir. Dr. Kühne
Dir. Dr. Jebsen
Henrikssen
Dir. Borgwardt
Dir. Dr. Raspe.

1.) Dr. Jebsen stated that Mr. Hanssen will give up his work at the Titangesellschaft in the near future, because he will be transferred to the Paris Office. A Mr. Lief F. Neraal has been engaged in his place.

Borgwardt will get in touch with the colour department with regard to this gentleman and inform Dr. Jebsen of the result.

Dr. Raspe asked that Mr. Hanssen's transfer to Paris be postponed until the successor for Schwenk has started work and is broken in.

2.) Dr. Raspe submitted Rodens' suggestion: to divide the office of the Titangesellschaft into a bookkeeping department and another part which would include a secretarial, a shipping, a purchase and a sales department. The gentlemen present were against such splitting up. The office is to be managed by one man as heretofore. However, Dr. Raspe will talk to Dr. Brüggemann regarding the possibility of an extension of Mr. Rodens' activities.

3.) The application of Hastenrath for a position as technical employee of I.G. was accepted.

Exhibit 626

4.) Dr. Jebsen read a letter addressed to him by Mr. Kaegebehn on July 23, 1937. The letter contains suggestions concerning a different handling of the German patent applications in U.S.A.

The opinion of the Patent Department in Leverkusen is to be asked as soon as possible so as to enable Dr. Kühne to discuss the matter in U.S.A.

5.) Dr. Raspe asks for an appropriation of RM. 5.000.— for tests in connection with ore dressing on the Baltic coast, which is approved.

6.) Mk. 60,000.—were granted for the extension of the pilot plant of the Titanium factory. Two small rotary filters, rubber-lined vessels and pipes will be bought.

The plant is to have a capacity of 500-1000 Kg. Titanium Oxide daily and to be equipped with acid proof material, so that also Titanium Dioxide from Tetrachloride can be produced.

7.) With regard to the extension of the agreements with Ludwigshafen concerning the work of the paper expert, negotiations are to be started again with Ludwigshafen regarding the amount of the participation and regarding the inventions of the paper expert in the Titanium field.

The result of the negotiations is to be submitted again for decision.

8.) A request by I.G. has been presented to the effect that metallurgical products containing more than 2% of Titanium be transferred to I.G. for manufacture and sale. Dr. Jebsen will discuss the matter with his American and English friends.

Exhibit 626

9.) With reference to paragraph 8) of the minutes No. 31, the opinion of the Leverkusen Patent Department has not yet been received. Dr. Raspe advises that the Patent Department agrees with the suggestion made by DuPont.

10.) The Canadian agreement between Canadian Industries Limited and National Lead Company was approved.

11.) The proposal of our Japanese friends regarding the purchase of a sulphuric acid factory in Japan was further discussed. In view of the information at hand, the meeting was not inclined to agree to the proposal. Such a transaction would also be rendered difficult by the foreign currency conditions. However, no definite decision will be taken before the arrival of a letter from our Japanese representatives.

12.) Borgwardt advised that his letter to Blumenfeld had been left unanswered. It was decided to request an answer from Blumenfeld and to take a firm attitude.

13.) Dr. Kühne advised that Dr. Basch of the Verein für Chemische und Metallurgische Produktion, Aussig, will come to Leverkusen towards the end of November and that Dr. Basch would then be prepared to discuss the quota question.

14.) Dr. Raspe asked that a commercial man be engaged to assist Dr. Weise in Japan, so that the latter can make the calculation in accordance with our schedules, which will also facilitate the better supervision of the factory.

Borgwardt wll refer this request to Doitsu.

(Sign.) Kühne Jebsen
Raspe Brüggemann

Exhibit 627

Second Mail

GJ/HS. Fredrikstad, 26th January 1940.

Fletcher N. Rockwell Esq.,
President,
National Lead Company,
111 Broadway,
New York, N.Y., U.S.A.

Dear Mr. Rockwell:

We have, for your information, prepared the enclosed Notes re the development of Titan Kogyo, which may interest you.

You will note that the company's development has been satisfactory, although last autumn they have had quite some difficulties because of draught (too little water and electric power). However, we do not get any money out of Japan at present, and it is safest still to consider our investment there as we did when we made it—an insurance premium against Japanese dumping. So far it seems to have served that purpose.

Business last year on this side has in total been satisfactory. Stopford writes me that his company is doing very well. Barley sent me a letter that he had attended the December Board Meeting and was glad to note a magnificent progress.

Also our other interests are developing well, with the exception of France of reasons previously given. Gilbert is, though struggling along well—considering circumstances. Negotiations with Blumenfeld are going on with no definite result yet. Gilbert has though received some goods from him.

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Business in Finland is of course practically none. Feelings here and in Sweden are very strong with regard to Finland, and privately a lot is done. Unfortunately we are far from well prepared for a war, having had no war for more than a hundred years—and even in Sweden they consider themselves not sufficiently equipped. A lot is being done presently improving our defenses, privately and officially,—privately particularly re evacuation and measures against air raids and private training amongst the youth in military matters. My eldest boy wanted to go to Finland but was not permitted because of his operation a year ago. (One of his kidneys was taken away).

At present I am afraid though that Norway and Sweden entering the war would be more of a liability than an asset. Our government is determined to defend our neutrality.

I have in mind to go to France in February or March—and possibly visit England at the same time.

I still think of going to New York in the spring, but you will no doubt realize that it is no use to make any plans at present.

It looks as if the war will be long, but we may see events bringing about a sudden change.

Hoping you and your family are well, I am,

With kindest regards,

Encl: sign. G. JEBSEN

"Notes re Titan Kogyo Kaisha Ltd. Balance Sheet & Statem. of Loss & Gain" in duplicate,

and

"Notes re Titan Kogyo Kaisha Ltd. Production, etc." in duplicate.

Exhibit 628

original regular mail
Copy air m

June 7, 1940

Dr. G. Jebsen
26 rue de la Pepiniere,
Paris,
France

Dear Dr. Jebsen:

Yesterday Mr. Mikitaro Mibo, whose business card states that he is Director of Manchuria Industrial Development Corp., called upon me, being introduced merely by a letter from the President of Stone & Webster Company of New York. He had with him a complete set of copies of the various contracts between our associates and ourselves with Titan Kogyo. He told me that Nihon Yushi K. K., our fellow-shareholders, are a subsidiary of the Manchuria I. D. Corp., and that Mr. Fujita is a brother of Mr. Aikawa, President of the Manchuria I. D. Corp.

He told me that large iron and ilmenite deposits had been located in Manchuria, and that his principals wanted us to give consideration to amending our agreement to permit Titan Kogyo to license a new company in Manchuria to make titanium pigments. I suggested that in view of the fact that the contract stipulated they should *not* sublicense, perhaps it would be better for Titan Kogyo to build and operate any new plant if it was economically justified. To this suggestion, his reply was that the undertaking in Manchuria was a very large one, including the production of iron, steel, vanadium and cement, entailing about 30 million yen of investment, and that their thought was, it would be better to form a new company, but that if we were not

willing to permit such a company to take out a license, that they would consider buying out our shares in Titan Kogyo. Without stating we would be agreeable, I asked if they would be in position to pay for such shares in American dollars, and he said no, he thought perhaps they might pay for it in shipments of ilmenite ore from Manchuria. I told him that I doubted if this would be of interest to us, particularly in view of the fact that the ore is estimated to run about 41% TiO_2. I also stated that we could only negotiate such a deal after conferring with our German associates. We do not know how they might react. We arrived at no conclusion regarding his proposal, but left it for future discussion when he knows more definitely what his Japanese principals have in mind.

Just trying to read what is really in his mind, I have the impression that he was trying to impress us with the marvelous potentialities of Manchuria, and that he perhaps would be pleased to entertain a proposition from National Lead Company to undertake investments in Manchuria. He talked at great length regarding the engineers' report on the possibility of profits and etc., but I stated we were not interested in foreign investments.

He stated that our Japanese organization were worried about their ilmenite supply and in view of the present situation in Norway, felt that they must obtain ores elsewhere. I asked him how many months supply they had on hand, but he had no information; he said, however, he would cable for it immediately. He also intimated that in all probability they would ask our good offices in assisting them in arranging purchases from India. I would particularly like to have a cable from you advising how far we should go with them in this respect, particularly due to what effect it may have on your sales of ilmenite from Norway.

Exhibit 628

I would also appreciate any suggestions you may have regarding what our attitude should be towards selling them our shares in Titan Kogyo. Even if they owned it in its entirety, it would seem to me that they would still not have the right to sub-license another corporation. However, if this new corporation would only supply Japan and its colonies, there might be no objection to granting them this right. I would, however, fear that the new company might be less bound to respect territories and become a menace in the international situation.

Yours very truly,

C. F. GARESCHÈ

2363

Exhibit 629

August 8, 1940

Note from Dr. Jebsen
re: Garesche's letter of June 7th.

I have read your letter of June 7th with considerable interest.

My first reactions to the various questions raised by Mr. Mikitaro Miho are the following:

1. I share your fear that a sale of our shares (which can only be done with Blumenfeld's) will lead to the Japanese respecting less the various territories.
2. If a separate company should be necessary, it seems to me we should only consider:
   a. a company wholly owned by Titan Kogyo
   b. a company controlled by T.K. through a majority interest. The minority only to be held by persons or companies which for particular reasons should be shareholders (acid supply, ore, services or other matters) and with stipulations of similar nature as those used in our T.G. resp. T.E.T., T.S.C., G.&W. agreements—according to circumstances.

The European-American interests are represented and handled by T.G. (and its subsidiary Doitsu in Japan) and we should therefore be very careful (as you have been) not to express any views which may hamper or interfere with any negotiations of these parties.

I suggest you inform Dr. Kuehne and Dr. Brueggeman of the incident and mention that the matter has been discussed by all present here in New York who are interested

Exhibit 629

in the matter (this form is suggested for reasons you will appreciate) and that we do not feel it would be wise to part with the shares; further, that we would appreciate any information or comments they may consider advisable or in a position to send us.

G. JEBSEN

Exhibit 630.

August 13, 1940

Titangesellschaft m.b.H.
Leverkusen,
Germany

Attention Drs. Kuhne and Bruggeman

Gentlemen:

On the sixth of June I had a visit from Mr. Mikitaro Miho, whose business card states that he is Director of Manchuria Industrial Development Corp. He was introduced merely by a letter from the President of Stone & Webster Company of New York. He had with him a complete set of copies of the various contracts between our associates and ourselves with Titan Kogyo. He told me that Nihon Yushi, K. K., our fellow-shareholders, are a subsidiary of the Manchuria I. D. Corp., and that Mr. Fujita is a brother of Mr. Aikawa, President of the Manchuria I. D. Corp.

He told me that large iron and ilmenite deposits had been located in Manchuria, and that his principals wanted us to give consideration to amending our agreement to permit Titan Kogyo to license a new company in Manchuria to make titanium pigments. I suggested that in view of the fact that the contract stipulated they should *not* sublicense, perhaps it would be better for Titan Kogyo to build and operate a new plant if it was economically justified. To this suggestion, his reply was that the undertaking in Manchuria was a very large one, including the production of iron, steel, vanadium and cement, entailing about 30 million yen of investment, and that their thought was, it would be better to form a new company, but that if we were not willing to permit such a company to take out a license, that

they would consider buying out our shares in Titan Kogyo. Without stating we would be agreeable, I asked if they would be in position to pay for such shares in American dollars, and he said no, he thought perhaps they might pay for it in shipments of ilmenite ore from Manchuria. I told him that I doubted if this would be of interest to us, particularly in view of the fact that the ore is estimated to run about 41% TiO2. I also stated that we could only negotiate such a deal after conferring with our German associates. We do not know how they might react. We arrived at no conclusion regarding his proposal, but left it for future discussion when he knows more definitely what his Japanese principals have in mind.

Just trying to read what is really in his mind, I have the impression that he was trying to impress us with the marvelous potentialities of Manchuria, and that he perhaps would be pleased to entertain a proposition from National Lead Company to undertake investments in Manchuria. He talked at great length regarding the engineers' report on the possibility of profits and etc., but I stated we were not interested in foreign investments. We have not heard from him since.

We have discussed the above over here recently and although you presumably have already been informed of these ideas, it was thought you would be interested in the above.

As Titangesellschaft, Frankfort, represents our interests in Titan Kogyo, we have no intention to take up any negotiations with the Japanese. Further, we do not feel that we know sufficiently about the conditions in Japan and the development of Titan Kogyo and its cooperation with our group to form an opinion as to his suggestion. We

Exhibit 630

will, though, not omit to mention that our first reaction has been against any sale of the shares in Titan Kogyo.

The formation of a company in Manchuria licensed by Titan Kogyo seems feasible, if it is considered justified and necessary, it being understood, that we have no thought of investing fresh money.

A basic condition must be that the influence of the European-American group on its policy and cooperation with you and us is sufficiently provided for through share interests and participation in the management—besides the stipulations of the license-agreement.

We shall be interested to hear from you if/and to the extent this is possible in view of existing conditions. We were all here very glad to hear that you are in good health and send you our best regards.

Yours very truly,

C. F. GARESCHÉ
Manager

cc Dr. Jebsen

Exhibit 631

TRANSLATION

Letterhead of

TITANGESELLSCHAFT M.B.H.

National Lead Co.
Titanium Division
111 Broadway
New York, U. S. A.

October 4th, 1940

For: Mr. C. F. Garesché

Dear Sir:—

We thank you for your letter of August 13th, 1940, in which you inform us of your conference with Mr. Mikitaro Miho. Titan Kogyo has no right to grant sub-licenses for Manchuria and we are of the opinion that no licenses should be given there. Titan Kogyo should make an effort to keep the Manchurian market for the Japanese plant. We, accordingly, requested Titan Kogyo to take an active interest in the ilmenite deposits of Manchuria and to make a thorough study of this situation.

All the gentlemen of this company with whom you are acquainted are well. We return your greetings to you and to all the gentlemen of your firm with whom we are acquainted.

Very truly yours,

TITANGESELLSCHAFT M.B.H.

(signed) Kühne Raspe

Translated by:
J. Lüer—Pat. Dept.
October 28th, 1940

Exhibit 632

October 29, 1940

Titangesellschaft m. b. H.
Leverkusen—I. G. Work.
Germany

Attention Dr. Kuhne
&
Dr. Raspe

Gentlemen:

I am pleased to acknowledge receipt of your letter of October 4th with reference to certain proposals discussed with us by Mr. Mikitaro Miho regarding Titan Kogyo.

We are fully in accord with your ideas regarding keeping the Manchurian market for the Japanese plant. We have had no further visits from Mr. Miho, but presume that as a result of our conversations with him, future negotiations will be handled with you.

With kind regards to all of our friends at Leverkusen, we beg to remain

Very truly yours,

NATIONAL LEAD COMPANY—TITANIUM DIV.

C. F. Garesché

cc DR. JEBSEN

Exhibit 633

COPY

NATIONAL LEAD COMPANY

111 Broadway

New York, N. Y.

May 8, 1941

Mr. Fletcher W. Rockwell
President
National Lead Company
Building

RE: TITAN KOGYO

Dear Mr. Rockwell:

Enclosed I send you copy of:

1. Minutes from Board Meeting of November 7, 1940.
2. Extract of Doitsu's notes in this connection roughly translated.
3. Minutes from General Meeting of Shareholders of November 29, 1940.

some of which may interest you. (only as a matter of information)

The notes from Doitsu give some special information concerning the development of an Ilmenite mine in Manchuria. The rest of the notes may not interest you except

Exhibit 633

as a picture of the conditions under which Titan Kogyo is working.

Yours sincerely,

GJ.

Signed: G. JEBSEN

cc Mr.C.F.Garesche

GJ:RK
ENCS.

* * * * * * * *

[Pages 2, 3 and part of 4 eliminated.]

No. 2. Outline of the business.

Demands for Titan white continued rapid increase, and the state of business, from beginning to end, was active.

In September last, owing to the regular inspection of the factory's boiler, the operation was stopped for about half a month. This brought about some influence over the production of the goods. Nevertheless, in the present term the operation of the factory was comparatively smooth, and the amount of the production has by far broken the figure of the previous term. We were able to allow smoother supply to the consumers, comparatively speaking. We are glad that we have thus been able to do something conforming to the national policy of Productive Power Expansion. Speaking about the coming term, owing to the enforcement of the great repair of the factory during the above mentioned holidays, we shall be able to operate full capacity, and we believe that we shall thus be able to anticipate further smoother distribution of the goods.

* * * * * * * *

[Pages 6-11, inclusive, eliminated.]

Exhibit 634

EXTRACT OF NOTES FROM DOITSU OF NOV. 9, 1940 TRANSLATED FROM GERMAN TO ENGLISH CONCERNING A BOARD MEETING OF TITAN KOGYO OF NOV. 7, 1940

The following items represent:

1. Approval of business reports and disposal of the profit of the 8th business period from April 1 to Sept. 30, 1940.
2. The purchase of a generator gas plant.
3. The purchase of a boiler.
4. Construction of workmen's houses.
5. Appropriation for an air protection association and a campaign against tuberculosis.

Further were the following items presented for consideration:

1. Report and explanation of the Ube-Factory.
2. The position regarding the supply of ore.
3. Acquisition of a Raymond Mill.

Fujita reported that the Manshu Tokushu Tekko K.K. had been constituted on October 1, 1940 with a capital of 30 Mill. Yen with the participation of Manshu Kozan K.K., Manshu Jukogyo Kaihatsu K.K., Nihon Yushi K.K. The purpose of the company is the production of Ferro Venadium and Ilmenite by Nekka in Manchuria (Jehol-District). The start of the production is planned for August, 1941 and Fujita assumes as certain that the first ilmenite can be delivered at the end of 1941. The Titan Kogyo has ore in

hand for a period until the middle of 1941 and there are reasons to assume that they will receive about 2000 tons of Travancore ore and 150 tons from Celebes. Fujita considered therefore that there should be no delay in starting the projected gas generator plant. He especially emphasized that in view of the permission from the government to build this plant a further allocation of oil can only be expected by an immediate start of the construction of the gas plant and its completion towards the end of 1941.

The representative of Doitsu objected to the erection of the gas plant on the ground that it would be better to wait until the 2000 tons Travancore S had arrived, as the present stock of oil plus deliveries towards the end of 1941 would be sufficient for a long period if the ore from Travancore should not arrive. The Furjita and Tanaka pointed out that the government in all circumstances expected the construction of the gas plant after the permission had been given and would stop deliveries on an earlier date if the permission to the erection of the plant was not made use of without delay. van der Laan (Doitsu) thought that the financial position of Titan Kogyo, in case of a stop in the production, would not permit the company to meet its obligations if a further expense of 400,000 Yen should be added and he referred to annex 1 giving the major announcement of its obligations (repayment of loan, extensions, dividends, etc.). The auditor Nagasaki meant that the necessary means even in case of a stop of the production could be procured and that if necessary

a. The Nihon Yushi could help.

b. The Yasuda Bank would prolong its loan.

Nakajima said that the contracting firm, Masuno, probably would not be in a position to accept the order in case of a postponement of the order, and one would have to go to second or third class manufacturers. The larger firm, Ishii, had for instance already had to decline quoting on an order. It was therefore decided to take a position at once with a view to great shortness on iron and other material.

After further discussion the representative of Doitsu approved a proposal provided that the financial difficulties could be overcome through an agreement with the Bank to a postponement with regard to repayments of the loan.

Re items of the agenda:

1. The business report for the 8th term was dealt with and the provision for the depreciation and the dividend agreed upon. The dividend must be limited to 8% in view of resent decrees as the total reserves have not yet reached the amount which is demanded by the authorities, which give the permission for an increase of the dividend.

2. The order of a gas plant was postponed until the Yasuda Bank had given their agreement to a prolongation of the loan.

3. The acquisition of a boiler was approved.

4. Workmen's Houses:—Nakajima reported that the permission to erect 40 houses at the cost of 146,367.90 Yen had been given. The efforts to rent the necessary land had not succeeded. However, an offer to purchase an area of 5,400 tsubo (equals 17,820 square meters) at the price of 70,000 Yen was available. The workmen of Titan Kogyo feel that they are in a poorer position than their colleagues in the other industrial enterprises in the Ube-District. As

the wages are regulated by the government and the workmen of the other enterprises are living in houses owned by the factories and pay only a nominal rent, the workman of Titan Kogyo have already complained and a postponement of this matter will lead to the workmen leaving the factory, if not to greater difficulties.

van der Laan gave the information that the telegram from Frankfurt was on hand according to which the European American group in principle agreed to the erection of workmen's houses, but recommended the project only to be carried out in accordance with the available means. As contrary to the original proposal the land now cannot be rented, but is to be bought. The representative of Doitsu promises to cable once more to Frankfurt pointing out the necessity of the project in order to obtain approval to an immediate start.

5. Air protection and campaign against tuberculosis—2500 Yen for each of the purposes were appropriated.

Dr. Rockstroh gave a survey of the operations and the work on extension since the last Board Meeting of August 13. The production was stopped in September for the purpose of repair and inspection of the boiler. Larger improvements in the Titanium Factory were made especially concerning the cooler of the solutions, the Dorr-Tank, the rotary filters, the Raymond Mill, etc. The chamber before the rotary furnace needs repair. This was, however, postponed but has to be made next year. Because of the stop 60 cubic meter of oil was economized. The stop lasted in the

boilerhouse	17 days
digestion	20 "
precipitation	20 "
rotary furnace	27 "

The production is normal since the end of September.

The use of Travancore Ore was postponed in view of the small stock of packed goods and will presumably start in the beginning of December. At that time the second clarification tank will also be available.

The operations of the acid factory have been normal.

The production of the 8th term reached 9427 tons 98% acid, or more than 40 tons per day. Since October important repairs have been undertaken. The purpose of this work is to bring the factory in such a condition that larger stops will as far as possible be avoided later when the Titanium operations will require all the acid production. At the present production is about 30-34 tons 98% acid per day.

Makajima reports on the power question that the regulation of the authorities regarding power will be put into effect in the near future but no reduction of deliveries of power is to be expected for the Ube-Factory, at least at present. The delivery of water is for the time being without disturbance.

Rochstroh gave information regarding the position of the extension of A. and B. Presumably the following terms for the plant will be kept.

Digestion Tank	end	of	Jan. 1941
Clarification Tank	"	"	Nov. 1940
Cooler for Solution	"	"	Dec. 1940
Precipitation	"	"	Jan. 1941
Pigment	"	"	" "
Rotary Filter	"	"	April "

The difficulties regarding the purchase of lead pipes are not yet overcome.

Exhibit 634

The orders which have been given amount to:

Step A and B	¥	437,077.56
Step C	"	37,776.00

The payments which have been made until Sept. 30 were:

Step A and B	¥	192,660.79
Step C	"	6,297.00

Fujita assumes that the production in the 9th term will not be between 120 tons TiO_2 per month and that an increase in the production will only be effected in the 10th term. He has made the following table for himself:

March	1941	120	tons	per	month
April	"	150	"	"	"
May	"	150	"	"	"
June	"	200	"	"	"
July	"	250	"	"	"
August	"	250	"	"	"
September	"	250	"	"	"
October	"	275	"	"	"
November	"	275	"	"	"
December	"	300	"	"	"

The purchase of a Raymond Mill—Tanaka gave the information that the government had declined the purchase of a Raymond Mill on the ground that one had to help oneself with machinery purchased in Japan. It is, however, possible that the importation would be permitted if no foreign exchange was needed. Tanaka and Fujita proposed that the rest of the capital should be called in and the Raymond Mill bought with the German part.

van der Laan mentioned that the German government probably will not give us permission. It had to be considered that Titangesellschaft, respectively the European American group, had invested important capital in Titan Kogyo and that hitherto no part of the dividend had it been possible to get out of Japan. Dr. Rochstroh proposed that a new appeal was made to the financial authorities to acquire 30,000 Mark, plus freight through Siberia for the purchase of a Raymond Mill from which amount could be deducted 4000 Mark which Titan Kogyo has as a credit in Leverkusen.

Outside the Territory of Titan Kogyo

van der Laan referred to Titanium pigment deliveries from Japan to China and expressed the desire on behalf of the European American group that as far as goods from the Titan Kogyo is concerned, necessary steps should be taken to prevent a repetition. Tanaka pointed out that since some time the Japanese government does not permit any further export of Titanium pigments. He agreed to van der Laan's proposal that every invoice concerning Titanium deliveries within Japan should have a printed stipulation according to which the customer accepting the invoice undertake not to sell the purchased goods for export outside Japan and Manchuria neither directly nor indirectly.

GJ:RK
4/28/41

Exhibit 635

WESTERN UNION TELEGRAM

FV870 VIA RCA—F TOKIO 37 31
NLT GARESCHE TITANOX—

NYK—

GARESCHE C/O TITANIUM PIGMENT CORPN.
ROOM 1700 111 BWAY.

FEBRUARY SEVENTH DOITSENRYO SENT LETTER TO TITAN COMPANY WILMINGTON ASKING INFORMATION FOR TRAVANCORE ILMENITE TREATMENT WE WANT TO KNOW WHETHER IT ARRIVED STOP APPRECIATE YOUR ASSISTANCE FOR QUICK REPLY IF LETTER RECEIVED—

TITANCO.

March 31, 1941.

2394

2380

Exhibit 636

WESTERN UNION TELEGRAM

April 2, 1941

Titanco
Tokio
Japan

LETTER FEBRUARY SEVENTH JUST REACHED ME. WILL HAVE INFORMATION COMPILED AND FORWARDED QUICKLY

Titanox
Garesche

Exhibit 637

April 2, 1941

Mr. J. L. Turner—Sayreville
C. F. Gareschè

Dear Mr. Turner:

I am attaching hereto letters from Doitsu Senryo Gomei Kaisha, Tokio, dated February 7th, in both English and German.

We have just received a cable from them asking that we expedite the information. We will appreciate your studying their problem and preparing the information which they desire. Will you please have it prepared in duplicate on onion skin paper and send both copies to us. You may keep these copies of their letters of the 7th as we have the originals.

Yours very truly,

cc Dr. Jebsen

Exhibit 638

April 4, 1941

Information Requested by Doitsu Senryo Gomei Kaisha

We have had no experience at Sayreville with the clarification of solutions under the conditions described. It has always been our practice to use Dorr settling tanks, removing the sediment continuously or semi-continuously from the bottom and either overflowing continuously or syphoning intermittently from the top. The solution thus partially clarified is then passed through a pressure filter in order to complete the clarification. We have never relied upon a sedimentation tank for complete clarification.

It is possible that good results might be obtained at low specific gravities, 1.410 to 1.420, as described under period "C", page 2 of the Doitsu Senryo Gomei Kaisha letter. We do not believe it can be accomplished at higher specific gravities. It is mentioned that under conditions of low specific gravity, the clarified solutions are too dilute for adequate iron removal in the crystallization step. Partial concentration before the crystallization has been practiced in the past at Sayreville. We have had no experience with gysum or other addition agents in the clarification tanks nor have we had any experience with mixed ores.

The following description covers a period of operation at Sayreville which most closely parallels the conditions desired by Messrs. Titan Kogyo K.K. It must be noted, however, that mechanical filtration was used:

Solution delivered from the digestion tanks had a specific gravity of 1.450 at 50° C. The TiO_2 content was 8.2%. This solution was pumped to a 50' Dorr settling tank which is equipped with rakes and bottom connections for removal of underflow. The solution was introduced at

a rate of 2500 cubic feet per hour. A 10% solution of glue was added in a riffle box just prior to discharging into the loading well. One part of glue was used to 1500 parts, by weight, of digestion solution. Sedimentation was then allowed to proceed until a substantial quantity of clear liquor was available which was then syphoned off. At 1.450 specific gravity the average clarity of the liquor was about 0.5 gram per liter. This liquor was then pumped to lead pressure filters for additional clarification. The pressure filters contained 20 duplex leaves, each having a filtration area of 4' x 4' or a total of 32 square feet per leaf. In preparing for a filtration cycle, the lead screens are precoated with a mixture of diatomaceous earth filter-aid (manufactured by John-Manville Company, sold under the name of "Hy-flo"), and paper pulp. An additional quantity of filter-aid, corresponding to about 90 pounds to 2500 cubic feet of solution, was added to the titanium sulphate solution before pumping to the pressure filter. The precoating material was pumped into the filter and circulated until a complete precoat was built up. The filter was then drained under air pressure and the solution to be clarified introduced. The filtrate from the pressure filter contains less than 0.05 gram per liter of suspended residue.

Approximately 2000 to 3000 cubic feet of solution could be filtered before it was necessary to shut down for precoating the filter press. Clarified solution was then pumped into vacuum evaporators and concentrated to 1.525% specific gravity after which the iron was partially removed by crystallization in vacuum crystallizers.

We have had no experience with the method of hydrolysis employed in Japan and therefore cannot make any suggestions regarding optimum solution analyses for hydrolysis.

Exhibit 639

Letterhead of

TITAN COMPANY, INC.

April 11, 1941

AIR MAIL

Doitsu Senryo Gemai Kaisha
Kojimachi-Ku,Maru-No-Uchi 3-Chome No. 6

Gentlemen:

We acknowledge the receipt of your letter of February 7 including Parts 2, 3, and 4, as well as your letter of February 14 concerning the same matter and have herewith the pleasure to send you enclosed information from the Titanium Division of the National Lead Company in reply to your questions, hoping that this to some extent will be of help.

We draw your attention to the above address for correspondence in order to save time.

With best regards,

Yours very truly,

C. F. G.
Vice President

2399

2385

Exhibit 640

WESTERN UNION TELEGRAM

FV978 VIA RCA—F TOKYO 26 24
NLT GARESCHE TITANOX—
NYK—

APR 24; 1941 PM 10 13

GARESCHE C/O TITANIUM PIGMENT CO.
R-1700 111 BWAY

REFERRING OUR TELEGRAM MARCH 31ST YOURS APRIL 3RD WHEN DESPATCHED INFORMATION TO DOITSENRYO STOP IF POSSIBLE APPRECIATE COPY SEND US DIRECT—

TITANCO.

2400

2386

Exhibit 641

WESTERN UNION TELEGRAM

April 25, 1941

Titanco
Tokio
JAPAN

SUGGEST YOU AWAIT LETTER TO DOITSENRYO AIRMAILED APRIL ELEVENTH AS COPY SENT NOW WOULD REQUIRE FEDERAL LICENSE

Garesche
Titanco

2387

Exhibit 642

Letterhead of

DOITSU SENRYO GOMEI KAISHA

Tokyo, July 9, 1941

Titan Company, Inc.,
111 Broadway,
New York

Gentlemen:

We acknowledge receipt of your letter of April 11, which we immediately passed on to the Titan Kogyo K.K., Tokyo.

Our friends asked us to convey their sincere thanks to you for your kind informations, which they found very useful.

With best regards,

Yours very truly,

DOITSU SENRYO GOMEI KAISHA

Exhibit 643

Letterhead of

TITAN CO. A/S

Fredrikstad, September 4, 1941.

RI/HL *No B 68*

By air mail

Titan Company Inc.
111, Broadway
New York, N.Y.

Dear Sirs,

In Board Minutes for Titan Kogyo of January 23, 1941, was mentioned on page 3 (item 12) that the "Nihon (Nippon?) Titan Haku Kogyo Kai" was organized on January 16, 1941. It has chiefly the following object:

1. The development of the Japanese Titanium White industry.
2. The purchase of Titanium Ore and distribution thereof on the basis of fixed quotas to the different members.
3. The control of the sale of Titanium Pigments.
4. The development of the export of Titanium Pigments.

Regarding the last item, Doitsu will ascertain details in view of the agreements existing limiting Titan Kogyo's territory. An exchange between the members of experience in the Titanium field is not foreseen, and Doitsu has

in the Board Meeting of January 23, 1941, especially pointed out that information re secrets in the production, experience, etc., must be prevented.. The Japanese members appear to have stated that they were equally interested as far as this is concerned.

Please find enclosed extract from the paper "Nikkan Kogyo Shimbun" of January 21, 1941, from which you will see that the members of the organization are:

Titan Kogyo K.K.
Sakai Kagaku
Tochigi Kagaku
Nihon Satetsu.

The quotas for the distribution for imported ore have been as follows:

Titan Kogyo K.K.	10 parts
Sakai Kagaku	2 "
Tochigi Kagaku	3 "

The Nihon Satetsu has for the time being no quota because they cover their requirements of ore inland. The quotas are, however, not quite definite. The organization will probably also be extended to the control of other imported raw materials for the production of Titanium Pigments.

Yours very truly

RAGNAR IUELL
Ragnar Iuell

Exhibit 643

COPY /HL

H.Takahashi, No. 21007

Extract from the "Mfkkan Kogyo Shimbun"

Titan White Industrial Association Shall Shortly Be Inaugurated For The Distribution Control of Raw Ma-Materials And Goods

The manufacture of Titan white of this country have since some time ago been making preparations to establish the Nihon Titanhaku Kogyo Kai (Japan Titan White Industrial Association) as a control organ of the Titan industry of this country. It is now reported that the agreement, business plan, committees and others have this time been officially decided for the inauguration of the association. The members of the said association are the following 4 companies, the manufacturing companies of Titan white:

Titan Kogyo.
Sakai Kagaku.
Nihon Satetsu.
Tochigi Kagaku.

and the present purpose of the said association is to carry out the distribution control of the imported raw material ilmenite and also the manufactures. The main office of the said association shall be placed in Tokyo (in the Titan Kogyo), and as the Managing-director of the association the Titan Kogyo Kaisha has been appointed. It is reported that the said association is now making preparations for establishment of the official standard quotation of Titan white, etc. When the official standard quotation was thus settled, the association may possibly be reorganized into a Kogyo Kumiai (Industrial Guild).

Exhibit 644

Letterhead of

TITAN CO. A/S

GJ/HS

Paris, November 16th, 1928.

Dr. G. Jebsen,
Sté Industrielle du Titane,
26 Rue de la Pépinière, Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York City, N. Y.,
U.S.A.

Dear Mr. McCarty:

I beg enclosed to send you some notes I have made of informations Mr. Alcock gave me at his visit on the 5th. of November. Part of the information, which I presume will be of interest to you, I beg you to consider confidential.

I also enclose an information from the Guaranty Trust Co. regarding Mr. Rolo and Mr. Sainderichin, connected with the Egyptian Ilmenite deposits, and further translation of two press clippings concerning "Nord & Alpes", Thann & Mulhouse, and Saint-Gobain.

With kind regards,

Encl.

Yours very truly,

G. JEBSEN

Exhibit 644

MEMORANDUM

Regarding a Visit of Mr. Alcock of 5th of November.

Mr. Alcock left the Laporte Company, June last summer because of a disagreement with the other directors.

The Board consists at present of 3 directors employed by the company and 2 members from outside.

The company has 120.000 preference shares of 7½% and 60.000 preference shares of 6%—limited and accumulati[illegible]ther 90.000 ordinary shares.

Average dividend last 5 years: 8% on the ordinary shares.

When Mr. Alcock left, they reduced the dividend on the ordinary shares to 3%, although, according to his opinion, they should have distributed 7%.

He expects that next year they will distribute 10%.

He estimates the shares at the present to be had for:

Ordinary shares: 13/--
Preference " 17/6.

His idea was that if we were interested, he will send a circular to the shareholders in his name, offering to buy their shares at a certain price, the offer to be binding in case a majority could be bought, for inst. 75%.

The future business of the company he considered should be on two lines: Hydrogene Peroxide of which they practically have the total market now, and Titanium White.

The arrangement with the McArthur Irwin group, Canada, is as follows:

There is a holding company, Titanium Ltd., Montreal, in which Laporte is interested with 50% and the Canadians with 50%.

Exhibit 644

The board consists of 4 directors representing the English interests and 4 Canadian directors.

The Titanium Ltd. has licensed a company which is being formed in Canada for the manufacture of Titanium products and which is financed by the Mineral Separation Co. $500.000 is foreseen for the plant.

This Company will pay royalties to the Titanium Ltd.

The Titanium Ltd has the majority of the voting power. 51% belongs to the Titanium Ltd, 49% to the English interests.

With regard to this point, Mr. Alcock was a little unclear. He told me that 51% of the voting power for enterprises in Europe licensed from the Titanium Ltd, should go to the Laporte group, but as it as understood that outside capital may also be interested, I asked him if the voting power of this interest together with the voting power of the Canadians would put the Laporte group into a minority. He could not answer this and told me he would have to look into the contract.

With regard to the Titanium enterprise, he told me that they were now putting up a factory in Canada, which would be ready in 8 or 10 months, the production to be 10 tons of composite pigment of the same quality as ours with regard to tinting strength.

This factory was intended also to supply the English market to begin with, and very likely Laporte will then a little later put-up their own factory.

I told him that I was in doubt whether Luton was a suitable place for a factory because of the geographical position.

He told me the freight rate for Ilmenite from London to Luton would be about 5 shillings per ton and in average

the freight costs from London to Luton or vice-versa for their material, involve a cost of about 8 shillings per ton.

Laporte has no sulphuric acid plant. They buy about 1500 tons a year. Their requirements of Barytes is about 10.000 tons a year.

They make sodium sulphide as a by-product in a quantity of about 3.000 tons.

Mr. Alcock was now studying the question of putting up a factory of his own. Amongst others he had been thinking of Silvertown where a factory site of 8 acres is for sale. He did not know the price. This site which is along the Thames and has railway connections in the back, is near the Anglo-Continental Superphosphate factory, Spencer Chapman & Messel, Pinchin Johnson.

He told me that the calculated production cost of the Titanium White, according to Irwin & Monk's process, was calculated to be 25-28 Pounds per ton for a product of the same quality and tinting strength as our Standard X.

Later on he told me this product was the Baryum Titanate and had a double tinting strength of our Standard X, so as to this point he was not very clear apart from the figure of the cost.

The Baryum Titanate he said, contained 33% of TiO_2.

He was not in the position to provide me with a sample.

He thought at first that it might be of interest to us to get hold of the Laporte Co in order to control the European development of their titanium business. I told him I did not fear that competition and repeated Mr. McCarty's information to Mr. Godwin as to the interest Laporte eventually may have. He did not seem to think it likely that the National Lead Company would be interested to acquire the Laporte Co only for its interest as a chemical business, as it was too much out of their line.

Exhibit 644

My attitude was neutral. I only repeated what Mr. McCarty had said and could not express any personal opinion as to the National Lead Co's eventual attitude.

He told me he would pay Mr. Butler a visit of courtesy and if R. W. Greeff & Co considered the business to be of interest,—all good and well.

He gave me his business address as

Alcock (Peroxide) Ltd.
8 Gr. Winchester Str.
London E.C.2.

He has registrated his Company and will start trading with some chemicals and at the same time study the question of putting up a factory for hydrogene peroxide.

He has informed the shareholders of the Laporte Co that he would make competition.

When he left the Company, the shares dropped considerably and he thought the shareholders and the two directors from outside would be glad on his recommendation to sell their shares in order to get out of the present impass.

He thought that a sulphuric acid plant put up at Luton would produce sulphuric acid at a self-cost of 30 shillings per ton, using as raw material, partly by-products from the gas works.

Mr. Alcock thought that some kind of combination between the manufacture of hydrogene peroxide and titanium white, could be made as both were using considerable quantities of barytes.

He was in connection with Barytes mines, which he considered very suitable.

We agreed to keep in touch with each other from time to time in order to see if something developed which could make a combination of interest.

Exhibit 644

I told him that from the beginning of next year we would be able to reduce our prices and that some of the people who took up titanium white were wrong in their calulations as they based themselves either upon our present prices or upon the qualities of the material and did not know what prices we eventually could make.

He seemed to understand this but told me that we would have to reckon with Laporte trying to put about 1000 tons of the Canadian product on the market, 8 or 10 months from now.

Mr. Alcock described the Irwin Monk's process to be as follows:

The ilmenite was reduced in a rotary furnace and the iron magnetically removed.

The TiO_2 was treated with Sulphuric Acid to form a sulphate solution.

This was precipitated.—The precipitation done under circumstances which were not covered by our patents, resulted in a product of a cristalline nature. This product was therefore treated by peptisation and transformed into a colloidal product, the peptisation effecting a diminution of the size of the particles.

This material was then calcined.

He told me that the patent agents had found that the method did go around our patents.

I told him of our crypto-cristalline patent of which he did not seem to be aware.

His description was altogether such that he did not seem to be thoroughly familiar with the method.

Exhibit 645

COPY

E. I. DU PONT DE NEMOURS & COMPANY
(Incorporated)

Wilmington, Delaware.
December 3, 1930.

To: HEADS OF DEPARTMENTS AND SUBSIDIARIES.

OBLIGATIONS TO C.I.L. ON PATENTS AND PROCESSES.

As there is considerable doubt among the various Departments and Subsidiaries as to just what are the obligations of the DuPont Company to Canadian Industries Limited, which are covered in the Tri-Party Agreements of January 1st, 1925 and January 1st, 1926, and in Minutes of meetings held with I.C.I. on October 12th, 1928 and March 2nd, 1929, it seems desirable to circularize the proper interpretation of them:

I.C.I. and DuPont are obligated to turn over to C.I.L. free of charge, all patents and processes and all commercial business in Canada on all products manufactured by either principal except that it is recognized that there may be individual cases where the interests of the principals may be better served by other procedure. The sole reason for such exceptions shall not be the desire to retain 100% instead of 45% (which is DuPont Company's approximate equity in C.I.L.) of the profits to be derived from Canada.

The head of each DuPont Industry, bearing the above obligation in mind, should consult with the head of the Patent Division and C.I.L. to ascertain what procedure

should be followed with respect to turning over inventions to C.I.L. In general, the procedure should be automatic in the case of products in which C.I.L. is interested. In the case of other products, steps should be taken to secure proper patent protection and no steps for exploitation in Canada should undertaken without consultation with C.I.L.

Similarly, in cases where it is felt that the interests of the DuPont Company may be better served through other arrangements, the subject must first be thoroughly explored with C.I.L. As such subjects also involve relations with I.C.I. they should be brought to the attention of the Foreign Relations Department as soon as they arise.

LAMMOT DU PONT,
President.

Exhibit 646

COPY

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY,
(Incorporated)

Wilmington, Delaware,
December 10, 1930.

TO: HEADS OF DEPARTMENTS AND SUBSIDIARIES.

OBLIGATIONS TO C.I.L. ON PATENTS AND PROCESSES.

Supplementing letter of December 3, 1930 on the above subject, it has been pointed out that there are some cases where Canadian Industries Limited is obligated to pay Imperial Chemical Industries, Ltd. or DuPont for patents and processes. As stated in the Minute of the meeting of March 2, 1929. "In cases where there is a minority interest to be considered, as is the case where the rights are owned by a subsidiary not 100% owned by I.C.I. and/or DuPont . . . C.I.L. shall be required to pay only such proportion of such payment as would revert to the minority interests involved." Similarly in the case of Canadian rights to a process acquired by either I.C.I. or DuPont from a third party, C.I.L. must pay I.C.I. or DuPont a sum representing the cost of the Canadian rights.

As Canadian Industries Ltd. customarily takes out Canadian patents on I.C.I. and DuPont inventions it thereby assumes the expenses in connection with the filing and maintenance of such patents. In the case of Canadian patents taken out by I.C.I. or DuPont, however, and later assigned or licensed to C.I.L., C.I.L. is obliged to reimburse I.C.I. or DuPont therefor.

LAMMOT DU PONT,
PRESIDENT.

Exhibit 647

ANNEX — "A"

MEMORANDUM TO BE SENT TO DEPARTMENT HEADS OF I.C.I., DU PONT AND C.I.L.

Where, in the interests of developing some particular line coming within the scope of your industry, it is found desirable to make arrangements with some other outside company, domestic or foreign, which involves the pooling of present knowledge and/or joint action on future development work, it must be carefully borne in mind that for products covered by the existing Tri-Party Agreements, Canadian Industries, Ltd. has an obligation towards E. I. du Pont de Nemours & Company and Imperial Chemical Industries Ltd. relative to Patents and secret processes for territory outside of Canada, and DuPont and I.C.I. have a similar obligation towards C.I.L. for Canadian Territory.

Under these circumstances, this obligation should be made clear in advance to the outside company with which the joint arrangement is being effected so that in so far as possible the territories reserved for DuPont and/or I.C.I. on the one hand, and to C.I.L. on the other hand, will be excluded from the operations of the new entity unless or until a mutually acceptable method of procedure for the reserved territory can be made with the party or parties affected.

Exhibit 648

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

Letter No. 17739
BTM/MS

Titanium Pigment Co. Inc.,
111, Broadway,
NEW YORK CITY,
U. S. A.

5th October, 1934.

Dear Sirs,

We acknowledge receipt of your cable reading:

"SHIP PROMPTLY WILSON PATERSON GIFFORD LIMITED MONTREAL FIVE TONS TITANIUM OXIDE. BESCHORMAN."

and we are making arrangements to ship the 5 tons of oxide required per the s.s. "Cairn Glen", which is due to leave Newcastle on Monday. We shall cable you this information as soon as the goods are put on board the vessel.

Your cable makes no mention of price, and we are therefore invoicing this shipment at £93, mentioned in your letter of September 5th to R. W. Greeff & Co. Ltd, less 10%. This price is subject to adjustment when the Canadian position, at present under discussion, is cleared up.

Yours faithfully,

For BRITISH TITAN PRODUCTS CO. LTD.

B. T. MINTER.
Assistant Commercial Manager.

Note: "Discussed with Dr. Jebsen, Nov., 1934" appears in longhand on face of this exhibit.

Exhibit 649

October 19, 1934.

Mr. B. T. Minter, Assistant Commercial Manager
British Titan Products Company Limited
Billingham, Stockton-on-Tees
Co. Durham, England.

Dear Mr. Minter:

Your letter of the 5th addressed to Titanium Pigment Company acknowledging receipt of my cable has been received and referred to me.

In your last paragraph I note that you speak of invoicing this shipment at £93, referring to a letter to Greeff & Co. The letter to Greeff & Co. had nothing to do with trade between our constituent companies and the understanding with the British Titan Products Company was that they would supply any product required by us and for our Canadian trade to the American company who handles the Canadian business on a basis of cost plus 10%.

Your costs at the present time are probably considerably higher due to just starting up than the costs at which we have been billing to you from Germany, and consequently any cost price which you use today I would consider should be adjusted later, either to your estimated cost or to your actual costs over the first year operations.

Yours very truly

Executive Vice President.

Exhibit 650

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

Letter No. 19085
CJS/SL

29th October 1934.

W. C. Beschorman Esq.,
National Lead Company,
111 Broadway,
New York,
U.S.A.

Dear Mr Beschorman,

In reply to your letter of the 9th instant, addressed to Mr Minter, I quite realise that the letter to Greeff & Co., had nothing to do with the trade between our constituent companies, but as you know, there were some slight differences of opinion as to the understanding of the conditions which would control the supply of our product to the American company who handles your Canadian business.

I expect Dr. Jebsen has by now discussed this matter with you and it was with this in mind that the shipment in question was invoiced in what we understood from Greeff's letter to be the equivalent of the Canadian market price, and as pointed out in our letter to the Titanium Pigment Co., the price invoiced was subject to adjustment when the matter had been cleared up.

I suggest that any costs we use at present are subject to adjustment after we hear the result of Dr. Jebsen's talk with you on the matter.

Exhibit 650

In the meantime, we have arranged to invoice the 25 tons shipment which is leaving tomorrow, and any other shipments until some definite arrangement is made at £50. per ton + 10%.

I hope this arrangement will meet with your approval.

Production of pure oxide is proceeding very satisfactorily here and we are at present concentrating all efforts on the erection of the Blanc Fixe plant.

Yours sincerely,

CHAS. J. STOPFORD.

2405

Exhibit 651

RADIOGRAM

Received at 120 Cedar St. at Greenwich

New York, at 934 Nov 2 PM 12 41 Standard Time

GC40 GBK2628 XOX
MIDDLESBROUGH 59 2 1640
BESCHORMAN AND JEBSEN CARE OF
NATIONAL LEAD NEWYORK

WE ARE MEETING LAPORTES NOON NOVEMBER 5-TH TO MAKE A PRICE AGREEMENT COVERING BRITISH EMPIRE STOP THE RESULT WILL PROBABLY BE AN AGREEMENT NOT TO QUOTE PRICES CIF EMPIRE PORTS WHICH ARE LESS THAN BRITISH DELIVERED PRICES STOP DO YOU WISH US TO DISCUSS CANADA IF SO CABLE YOUR VIEWS

STOPFORD

Exhibit 652

WESTERN UNION CABLEGRAM

November 2, 1934

Stopford
Protitan
Billingham

Agreement limiting prices fob British ports to not less than delivered prices to British trade will take care of Canadian situation

BESCHORMAN

Copy for Dr. Jebsen
Mr. Hagar

2407

Exhibit 653

COPY

BRITISH TITAN PRODUCTS COMPANY LIMITED
Billingham, Stockton-on-Tees

In reply please quote
Letter No. 19939
CJS/SL

9th November 1934.

I. D. Hagar Esq.,
Titanium Pigment Co., Inc.,
111 Broadway,
New York,
New York State,
U.S.A.

Dear Mr Hagar,

I thank you for your letter of October 31st in connection with special prices on Titanium Oxide to Canadian Industries Limited and Sherwin-Williams.

We do not give any price advantage to associated companies here nor do we give a price advantage to special industries, although this has been considered from time to time. Both Goodlass Wall & Lead Industries Limited, and Imperial Chemical Industries Limited buy from us at list prices. The only people who have a price which is lower than our list price are Lever Brothers. They have a concession of approximately £5. per ton, for which concession I am afraid I cannot give you any satisfactory reason, except that Lever Brothers generally buy more advantageously than other people.

Exhibit 653

Am I correct in assuming that the prices you give in your letter are free on rail at your works?

To make you au fait with the whole position, I give you below a complete price list for Titanium Oxide, Extra T. (50%) and Standard T. (25%) in Great Britain.

	TiO_2	Extra T.	Standard T.
Under 2 tons	£91. 0.0.	£55. 0. 0.	£34. 0. 0.
2 to 5 "	£90.10.0.	£54.10. 0.	£33.10. 0.
5 to 10 "	£90. 5.0.	£54. 5. 0.	£33. 5. 0.
10 to 20 "	£90. 0.0.	£54. 0. 0.	£33. 0. 0.
20 to 50 "	£89.10.0.	£53.10. 0.	£32.10. 0.
50 to 75 "	£89. 0.0.	£53. 0. 0.	£32. 0. 0.
75 to 100 "	£88. 0.0.	£52. 0. 0.	£31. 0. 0.

These are the prices delivered to the customers' works, we pay the carriage in all cases.

As mentioned to you earlier in this letter, the only customer who buys at prices lower than these in this list is Lever Brothers.

The question of a price concession to the shareholders in this Company was discussed by the Board last year, and it was very firmly laid down that there should be no concession given to associated companies on account of them being in competition with many of our important customers in the paint trade.

I am afraid I cannot offer an opinion as to the advisability of applying the same ruling in Canada.

The question of price concession to associated companies here was decided on a matter of principal. The question of price concession to special industries has been considered many times and really the only reason why it has not been applied is that we foresee difficulties with the other trades.

For instance, some customers in the paint trade might be seriously annoyed if they found that we were charging them a price considerably higher than that at which we were charging to the linoleum trade. We have considered overcoming this difficulty by making a special grade in this instance for the linoleum trade, by the addition of approximately 5% of Calcium Sulphate, but have not as yet decided to do this.

In connection with the reductions in price against quantity, we are considering a general reduction in price at the end of this year and will probably at the same time alter the rate of reduction in price for quantity taken, as at present we consider that the reduction on the lower priced grades is far too great. We shall probably grade the reduction as follows:—

Titanium Oxide

£3. 0.0. reduction from 1 ton lot to 100 ton lots or contracts.

Extra T.

£1.10.0. reduction from 1 ton lot to 100 ton lots or contracts.

Standard T.

£1. 0.0. reduction from 1 ton lot to 100 ton lots or contracts.

In brief, our attitude here to the points you have raised is that we should not give a price advantage to affiliated or associated companies, but that we are prepared to give a price advantage to special industries, provided it is possible to do so without disturbing our other customers.

Exhibit 653

If I may raise another point, you have probably heard that we cabled Mr. Beschorman and Dr. Jebsen last week in connection with a meeting we were having with Laportes to try and arrange agreed prices below which neither of us would quote throughout the British Empire, and we were asked to try and arrange that prices in Canada would not be less than British delivered prices quoted f.o.b. British Port. As it happened Laportes' representatives were not in a position to discuss Canada, so that no decision was taken.

In view of the information given in your letter as to the special price for Titanated Lithopone, it looks as though a general arrangement such as that outlined above would not cover the position, and with this in mind, I should be very glad if you would let me have as soon as you conveniently can, a complete list of prices operating in Canada, so that if we are asked by the National Lead Company to take the prices up again with Laporte, when we meet them at the beginning of December, we will be au fait with the Canadian position.

If we had made the agreement asked for, i.e., British delivered prices f.o.b. British port, that would give a price c.i.f. Canadian port of approximately 20.8 cents per lb. Would we have been correct in saying that you were not at present selling to customers at prices lower than this in Canada?

Yours very truly,

(signed) Chas. J. Stopford

Copy to Dr. Jebsen

Exhibit 653

COPY

SCHEDULE—ENGLISH TITANIUM OXIDE

NOVEMBER 16TH, 1934

10 to 20 tons—£81. 0. 0.	@ $4.8675	$394.27	
	1-½% Excise Tax	5.91	
	Ocean Freight on 2525#	13.00	
	Cartage ($1.00—2000#)	1.12	
	Wharfage	.50	
	Per ton of 2240#	$414.80	
	Per pound	.1852	
	Plus Trucking outward	.10	
		.1862	Montreal
		.1887	Toronto

---

5 to 10 tons—£81. 5. 0.	@ $4.8675	$395.48	
	1-½% Excise Tax	5.93	
	Ocean Freight on 2525#	13.00	
	Cartage ($1.00—2000#)	1.12	
	Wharfage	.50	
	Per ton of 2240#	$416.03	
	Per pound	.1857	
	Plus Trucking outward	.10	
		.1867	Montreal
		.1892	Toronto

Exhibit 653

2 to 5 tons—£81.10. 0.	@ $4.8675	$396.70	
	1-½% Excise Tax	5.95	
	Ocean Freight on 2525#	13.00	
	Cartage ($1.00—2000#)	1.12	
	Wharfage	.50	
	Per ton of 2240#	$417.27	
	Per pound	.1863	
	Plus Trucking outward	.10	
		.1873	Montreal
		.1898	Toronto

Under 2 tons—£82. 0. 0.	@ $4.8675	$399.14	
	1-½% Excise Tax	5.99	
	Ocean Freight on 2525#	13.00	
	Cartage ($1.00—2000#)	1.12	
	Wharfage	.50	
	Per ton of 2240#	$419.75	
	Per pound	.1874	
	Plus Trucking outward	.10	
		.1884	Montreal
		.1909	Toronto

Exhibit 654

COPY FOR MR. W. C. BESCHORMAN, VICE PRESIDENT,
NATIONAL LEAD COMPANY,
BUILDING.

November 23, 1934.

Mr. C. J. Stopford, General Manager,
British Titan Products Company Limited,
Billingham, Stockton-on-Tees, England.

Re: Your Letter No. 19939 CJS/SL.

Dear Mr. Stopford:

We are most appreciative of your very kind letter of November 9th, 1934, in reply to ours of October 31st, and thank you sincerely for the information conveyed therein.

The question asked with regard to special prices for your partners in England, was, of course, inspired by the shipments recently made by you to Wilson, Paterson, Gifford Limited, of Montreal and Toronto, for our account, and was based on the desire to treat the Canadian branches of the du Pont and Sherwin-Williams organizations, on exactly the same basis as exists in England.

We are very pleased to have your confirmation of the fact that you do not give any price advantages to associated companies, nor to special industries. We have passed word of this on to our Canadian distributors, and we are happy to say that Canadian Industries Limited, and the Sherwin-Williams Company of Canada Limited, both accept the situation most philosophically, and are, apparently, content with the arrangement.

Exhibit 654

The only exception to our standard prices in the United States are those applying to manufacturers of Titanated Lithopone, that is, Lithopone made by mechanically mixing 85% of the normal grade of that material with 15% of Titanium Dioxide. For some time, such manufacturers have received a concession of 1¾¢ per pound, in carload lots, over the standard carload price, and this courtesy has been extended to both the Sherwin-Williams and to the du Pont interests in the United States, and in Canada, by ourselves as well as by our competitors.

We note, with interest, your schedule of prices for Titanium Dioxide, for Extra T, and for Standard T. Your policy differs from ours in that, whereas you offer differentials on contract quantities, our differentials are all based upon the amount of individual shipments.

With regard to the prices in Canada, it will be our policy to sell to our customers there at exactly the same schedule as you employ in England, plus ocean freight and other expenses incidental to delivery, which will include cartage from the wharf to warehouse, wharfage charges, and cost of delivery by truck to the customer from the warehouse stock, except that in the latter case, we will allow up to 40¢ per hundred for delivery to those customers who are located in provincial communities at some distances from the main centers of distribution.

We are also intending to use your schedule of quantities to establish differentials, but rather than make it a contract proposition, we shall apply such differentials to individual delivery. One point, however, should be explained to you with regard to present prices.

When Dr. Jebsen was in New York recently, after conference with Mr. Beschorman, those gentlemen decided

Exhibit 654

that, since a 10% reduction in your "Kronos" Titanium pigments was to be put in effect the first of the year, it might be well for us to start Canadian sales on that basis. Consequently, instead of basing our operations on a price of £90 for 10-ton to 20-ton quantities, we have based it on £81, with proportionate increased on 5-ton to 10-ton deliveries, 2-ton to 5-ton deliveries, and under 2-ton deliveries. In order that you may be fully advised of this, I am attaching to this letter, a complete schedule of our Canadian prices, effective November 16th. Those prices will remain in force until your two shipments aggregating 30 tons, have been disposed of.

We note that you are intending to introduce new differentials the first of the year, and we shall be pleased to put such revisions into effect in Canada simultaneously with yourselves. I shall appreciate it, therefore, if you will advise me fully as soon as the details of your policy are definitely decided. It was pointed out that possibly the reduction made in England the first of the year would be even more than 10%, and I should be advised on this point also.

With regard to Lever Brothers, we are selling them at the same price as our other American accounts, and can see no reason for making any exception to our regular schedules for their account in Canada.

In the event that you decide to bring out a special grade for the linoleum industry, we would like information thereon, mainly as a matter of interest, since we do not find any objection on the part of that trade in the United States to our present schedule of prices on Titanium Dioxide. On the other hand, it might help us to gain an entrée with the

Dominion Oil Cloth Company of Canada, which company we have never yet been able to sell.

Through the courtesy of Mr. Beschorman, I am familiar with your conference with Laporte, and of the fact that prices in Canada were not included. I believe he has already advised you that, when this matter comes up for reconsideration, which, I believe, will be the first of the year, Canada should be included if it is possible to so arrange.

Yours very truly,

TITANIUM PIGMENT CO., INC.,

I. D. HAGAR
Eastern Sales Manager.

IDH:LE

cc: Mr. W. C. Beschorman, New York.
Dr. Gustav Jebsen, Paris.

Exhibit 655

December 28, 1934.

Mr. C. J. Stopford
British Titan Products Company Limited
Billingham, Stockton-on-Tees
Co. Durham, England.

Reference: CJS/SL/21811

Dear Mr. Stopford:

Thank you for your letter of December 8 in further reference to the subject of prices applying to the sale of English Titanium Oxide in Canada.

We regret to note that nothing definite was arrived at in the conference with the National Pigment Company on December 7. We were in hopes that an understanding might be consummated at that time so that we could give our Canadian distributors definite advice with regard to the future handling of this material, but apparently the situation will have to continue "in statu quo" a little longer.

With regard to concessions to the manufacturers of Titanated Lithopone in Canada, there is little chance of such concessions being necessary since there are no lithopone producers in Canada, and none are likely to be established there in the near future.

We await your further advice with interest.

Yours very truly,

TITANIUM PIGMENT COMPANY, INC.

I. D. HAGAR
EASTERN SALES MANAGER.

IDH/GAG
W. C. BESCHORMAN—BUILDING

CC: G. JEBSEN—PARIS

Exhibit 656

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

CJS/SL/22936

2nd January 1935

W. C. Beschorman Esq.,
National Lead Company,
111 Broadway,
New York, N. Y.
U. S. A.

Dear Mr Beschorman,

CANADIAN SALES.

I have now heard from National Titanium Pigments Limited that they wish to come to a price agreement covering Canadian sales of titanium pigments.

They have accepted the basis of British delivered prices plus freight, insurance and other expenses incidental to delivery in Canada, but they point out that it would be rather difficult to avoid slight differences in quotations if each price has to be built up from the English price. With this point of view we agree, and we would like you to consider whether it is not possible to fix a schedule of prices for sales in Canada delivered to customers. As a basis we would suggest you should fix a flat price for each grade and quantity to all customers within a definite radius of say Montreal and that to customers outside this area the flat price would apply plus a definite charge for every additional 100 miles transport.

What we consider to be the difficult point in the proposal put forward in Mr. Hagar's letter of November 23rd is th allowance of up to 40 cents per 100 for delivery to

those customers who are located at provincial communities at some distance from the main centres of distribution, as in the event of keen competition between your agents and our competitor's agents, this allowance would enable one or the other to offer a price advantage.

The other point on which there is a slight difference of opinion with National is that they will apply the differentials on contract quantities whereas you suggest only applying differentials on the amount of the individual shipments.

I should like you to reconsider this as I think that National will be at a decided advantage if they quote prices for a contract quantity and we do not.

The other important point is in connection with sales of competitive manufacturers in America, and whilst I understand that you have an arrangement with Krebs, I am not sure whether this covers Canada or not.

These two last points were raised in the Night Letter Telegram which I sent to you to-day as per attached copy.

Yours very truly,

CHAS. J. STOPFORD.

Copies to: Dr. Jebsen.
Mr Hagar

ENCL

2420

Exhibit 657

RADIOGRAM

CCW 25

GLH FN W962
MIDDLESBROUGH 38 2 1026
NLT BESCHORMAN CARE NATIONAL LEAD
NYCITY

NATIONAL WILL AGREE YOUR CANADIAN PRICE PROVOSAL PROVIDED YOU OBTAIN SIMILAR PRICE AGREEMENT WITH OTHER AMERICAN TITANIUM PRODUCERS STOP CAN YOU DO THIS STOP NATIONAL INSIST DIFFERENTIALS ON CONTRACT QUANTITIES

STOPFORD PROTITAN

January 2, 1935.

2421

Exhibit 658

WESTERN UNION CABLEGRAM

January 3, 1935

Stopford
Protitan
Middlesbrough

Assure National American Titanium producers will not only maintain your Canadian price proposal but that the prices of American oxide will be from ten to fifteen percent higher than proposed British prices

Beschorman

Exhibit 659

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

CJS/SL/23062

4th January 1935

W. C. Beschorman Esq.,
National Lead Company,
111 Broadway,
New York, N.Y.,
U. S. A.

Dear Mr Beschorman,

I confirm interchange of cables as follows:—

"NLT BESCHORMAN C/O NATIONAL LEAD
NEW YORK CITY =
NATIONAL WILL AGREE YOUR
CANADIAN PRICE PROPOSAL PROVIDED
YOU OBTAIN SIMILAR PRICE AGREEMENT
WITH OTHER AMERICAN TITANIUM
PRODUCERS STOP CAN YOU DO THIS
STOP NATIONAL INSIST DIFFERENTIALS
ON CONTRACT QUANTITIES =
STOPFORD PROTITAN."

"LC STOPFORD/PROTITAN
MIDDLESBROUGH ASSURE NATIONAL
AMERICAN TITANIUM PRODUCERS WILL
NOT ONLY MAINTAIN YOUR CANADIAN
PRICE PROPOSAL BUT THAT THE PRICES
OF AMERICAN OXIDE WILL BE FROM TEN
TO FIFTEEN PERCENT HIGHER THAN
PROPOSED BRITISH PRICES =
BESCHORMAN"

Exhibit 659

Since writing to you on the 2nd January, I have had a letter from the National Titanium Pigments Limited confirming that until such time as we are in a position to put up a proposal for definite Canadian selling prices they will only quote in Canada on the basis of the British prices plus ocean freight and other expenses incidental to delivery to customers, so that, in general terms, the price arrangement is already in operation.

We appreciate very much the generous manner in which you are treating the British producers in allowing them to sell at a 10/15% price advantage to the customer. This should certainly help the changeover to the British product very considerably.

Yours sincerely,

CHAS. J. STOPFORD

Copy to Dr. Jebsen

Exhibit 660

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, December 29th, 1934.

William C. Beschorman, Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

Mr. Iuell has shown me a letter from Mr. Warshow of December 19th with copies of correspondence with Dr. Walther Baer, Zinnwerke Wilhelmsburg, of November 27th (from Dr. Baer) and of December 19th (from Mr. Warshow). I enclose copies of the same.

I am somewhat puzzled as to this. Mr. Warshow seems to have overlooked the various territorial arrangements as regards the markets of the various companies. Titangesellschaft cannot sell to Canada without the permission of the Titan Company Inc., which again must act in accordance with the Titanium Pigment Co.

Titan Company Inc. has still 109,000 blocked Marks, which it can use as payment for goods up to an amount of 25% of the value of the goods. Titan Company Inc. is, however, for the time being, practically prevented from making use of this for export to their markets in Europe, because of the existing clearing arrangements, and can only do so for export to U. S. A. and Canada, that is to Titanium Pigment Co., and to British Titan Products Co.'s markets

Exhibit 660

of the British Empire, which, however, are supplied by B. T. P.

With regard to export to Canada, B. T. P. has the preference according to the promise given them by you two years back and confirmed by the arrangement of this autumn. In this connection was also considered the conservatism of the buyers with regard to quality, and the advantageous position of the British Titan Products Co. in the long run, as to deliveries to Canada.

I note from a letter from Mr. Hagar of December 17th to you, that the Benjamin Moore Company has not accepted yet B. T. P.'s product. Their criticism, however, would apply, as far as I can see, also to Titangesellschaft's product. It may of course be that certain customers today would take Titangesellschaft's product and not B. T. P.'s. However, in this connection, attention should be paid to two considerations:

1) To avoid anything which may bring a doubt into the mind of B. T. P. as to a loyal observation of the arrangement made with them.

2) Titan Co Inc.'s own desire to liberate their blocked Marks.

In connection with this last, I will also mention the strong appeal I have made to our friends in the I. G., together with a certain pressure, to have them help us to get out of Germany the money due to us by Titangesellschaft (in the form of repayment of loan and profits). If the means available in this respect now are going to be

used to get other money out of Germany, it may easily have an influence on their attitude and interest to help us in this respect.

In view of the mutual cooperation and assistance which should exist between the various companies of the National Lead Co., Titan Company Inc.'s aim is certainly to be of all assistance it can in matters of this kind, but I hope it is clear from the above, that it is necessary to have explanations of the reasons for a transaction as Mr. Warshow has in mind, to interfere with the present line of operations.

Looking forward to hear from you, I am, with kindest regards,

Yours very truly,

G. JEBSEN

COPY TO MR. WARSHOW

2427

Exhibit 660

Letterhead of

ZINNWERKE WILHEMSBURG G.m.b.H.

November 27, 1934.

Mr. H. T. Warshow, Director
National Lead Company
111 Broadway
New York City, N. Y.
U. S. A.

Dear Mr. Warshow:

Thank you very much for your letter of November 9, contents of which I have carefully noted. In the meantime I have made the necessary inquiries and should like to report to you as follows.

Frozen Claim Canada Metal:—The amount can only be compensated by export of German manufactured goods, as 80% of the value must be "German share", i.e. practically consist of wages, salaries and other cost elements paid in Germany. Our mixed tin is not fit for this purpose, as it is considered as a raw material from the manufacturing point of view, and as it contains only a relatively small "German share". The tin content and the lead content as well has been imported in shape of the tin and lead content of our refining material.

I do not doubt that it may be quite possible for you to take German manufactured goods of a $1.200. value. That could settle the whole affair.

I shall be glad to hear from you what kind of manufactured goods you can take from Germany, and I shall

be pleased to be of your assistance to secure the goods to you and to do all necessary formal steps with the authorities in order to get the permit of compensating the German delivery of manufactured goods against the frozen claim of the Canada Metal Company. As far as I can see, it will be wise if the purchase will be made through the medium of the Canada Metal or another Canadian Company, and further to buy the material after having got the permit of compensating by the German authorities.

About the arrangement further mentioned by you, under which you will ship scrap metal against mixed tin, I write you by separate letter.

Sincerely yours,

(signed) DR. BAER

Exhibit 660

Letterhead of

NATIONAL LEAD COMPANY

New York, December 19, 1934.

Mr. Ragnar Iuell
Titan Company A/S
26, rue de la Ppépinière
Paris, France

Dear Mr. Iuell:

I am enclosing a letter from Dr. Baer with reference to a frozen claim of the Canada Metal Company, and a copy of my reply, which is self-explanatory. I assume that at present prices, 5½ tons will approximate $1200.00.

We have not been successful in any other way of getting money out of Germany, so that I have not replied to your recent letter with reference to this subject. However, should anything further develop, I will write to you.

Very truly yours,

(signed) H. T. WARSHOW
Comptroller

Encs. (2)

2444

2430

Exhibit 660

COPY

December 19, 1934.

Dr. Walther Baer
Zinnwerke Wilhemsburg G.m.b.H.
Neuhoferstrasse 5, Wilhemsburg-Elbe
Germany

Dear Dr. Baer:

I am in receipt of your letters dated November 27 and December 5, which are very interesting indeed.

With respect to the debt owing to the Canada Metal Company, the Canada Metal Company would like to purchase 5½ tons of pure Titanium Oxide from the Titangesellschaft, Leverkusen, to be delivered to Wilson, Patterson, Gifford, Ltd., 3552 St. Patrick's St., Montreal, Canada. This will be slightly in excess of the debt which you owe them and they will pay you the difference they owe you in cash. Please let me know what the formal procedure should be in this case. If you wish an order directly from the Canada Metal Company, I will have them write to you.

Very truly yours,

Comptroller

Exhibit 661

January 10, 1935.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

I am in receipt of yours of the 29th of December—#98—referring to Mr. Warshow's letter of December 19th to Dr. Walter Baer, Zinnwerke, Wilhelmsburg.

I was thoroughly familiar with this correspondence at the time it was started and failed to see why anything therein should puzzle you. While it is strictly true that Titangesellschaft cannot sell in Canada without the permission of Titan Company, Inc. and the Titanium Pigment Company, Titangesellschaft was not going to sell in Canada except, so far as the Government was advised, on order from Metallurigical & Chemical Corporation. In other words, whatever was shipped to the Canada Metal Company would have been turned over to the Titanium Pigment Company's agent for sale.

We are fully aware that Titan Company, Inc. has still 109,000 blocked Marks on which it can use 25% of the face value of the goods exported to Metallurgical & Chemical Company in payment, but if we had arranged to use 100% of the account due by Zinnwerke, Wilhelmsburg, to the Canada Metal Company, rest assured that we would do so.

Your statement that the British Titan Products has the preference on shipments into Canada is only partly correct. They were advised that all things being equal the

Exhibit 661

Titanium Pigment Company would buy their Canadian requirements from the B. T. P. We do not feel that a purchase such as was contemplated to get out the amount owed by Zinnwerke to the Canada Metal Company in any way violates or infringes upon this understanding.

The only other point brought out in your letter on which I must comment in your # statement—Titan Co. Inc's own desire to liberate their blocked Marks. As the National Lead Company has a very large interest in Titan Co. Inc. they are just as anxious to liberate Titan Co. Inc's blocked Marks as are you, and you can rest assured that nothing has been done, or will be done, to interfere in any way with any of our arrangements with our associates.

With kindest regards,

Very truly yours,

Executive Vice President.

Exhibit 662

Letterhead of

TITAN COMPANY, INC.

GJ/AK Paris, February 2nd, 1935.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

My best thanks for your letter of January 10th regarding the quantity of Titanium Pigment to be exported from Leverkusen to Canada in order to get out $1200.—

I quite agree with you that Titan Company Inc. should not object to this because of its own interest.

With regard to the British Titan Products Co., in view of the interest they have taken in the Canadian market and remarks made by our English associates, as for instance in connection with the last plant extension, that B. T. P. must be prepared to meet any requirements from Canada, I have thought it best, with a view to good relations, that we should keep them informed of such shipments instead of letting the information come to them otherwise, for instance by statistics. On my last visit to London, I mentioned the matter to Stopford, who appreciated that the information was given him beforehand.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 663

April 9, 1935.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

Replying to yours of the 14th—#116—re Blumenfeld agreements, Blumenfeld-Laporte, and the various conversation with Laporte, all of which are mighty interesting.

I was in Montreal on Friday and discussed very fully with Mr. Purvis of the Canadian Industries, Ltd. the Titanium situation there,—outlined to him our tie up in the United States with duPont and in Great Britain with the Imperial Chemical Industries and others, and also outlined to him the European situation. I further advised him that we would like to develop this situation further during the balance of this year so that when the time came that it would be practical and profitable to put up a plant in Canada that they would join with us in putting it up. Also outlined to him the method by which our good-will in England was arrived at, and that we would expect to arrive at the Canadian good-will in a similar manner.

Mr. Purvis replied to all this that he thought there would be no trouble in getting together when the time came, but he referred to the anticipated visit of Mr. Weber of the Laporte Company and admitted, or rather stated, that he could see no possibility of the Imperial Chemical Industries or the duPont Company permitting him, even if he desired, to tie up with Laporte.

With kindest regards,

Very truly yours

BESCHORMAN

Exhibit 664

May 10, 1935.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

I am in receipt of yours of April 8th—No. 130—enclosing report regarding the National Titanium Pigments Ltd. taken from the files of Somerset House.

We have had one rather long interview with Mr. Weber of Laporte at which Mr. Stopford was present. Mr. Weber was very much interested in what he was going to get for his Canadian and American positions. Frankly, I told him that I did not see that they were worth anything; all that they had in either case were a few patents and no position in the market and, further, that when he and the British Titan Products Company get together on the British Empire position that the Canadian and American positions would take care of themselves.

He has been down to see the Krebs people and they frankly told him that they had no position and nothing to discuss with him and that they were not interested in any of the markets outside of the United States.

With kindest regards,

Very truly yours

W. C. Beschorman
Executive Vice President

Exhibit 665

(COPY)

Letterhead of

CANADIAN INDUSTRIES LIMITED

May 17, 1935.

C. J. Stopford, Esq.
National Lead Company
111 Broadway, New York, N. Y.

Dear Mr. Stopford,

In accordance with the discussion we had with Mr. Purvis the other day, I saw Weber yesterday and mentioned, after he had introduced the subject of titanium, that we had wondered whether we might negotiate for the Blumenfeld Canadian rights, not because we were greatly interested in operating under them, but perhaps to clear up the situation. The reaction from Weber was that he asked what I thought it was worth to us to have the rights. I told him that we had not evaluated the position as it was a thought that had only occurred to us as a possibility to look into.

I wondered from his reaction whether Weber had not already an option on the Canadian rights, and bearing in mind Mr. Purvis' impression that Weber might be intending to cover his position by mentioning titanium to C-I-L, I came to the conclusion that perhaps Weber's plans are considerably advanced. There is no doubt that he is spending a tremendous amount of time with Irwin and came from a meeting with Irwin to lunch with me and then went back again. He has also postponed his departure from Montreal

until Saturday night or Sunday night because of his discussions, largely on titanium, as he told me.

I have sent a copy of this note to Haslett, who will no doubt wish to get in touch with you in London on your return so that you can discuss any plans in regard to Laporte or Blumenfeld.

Please give my regards to Mrs. Stopford and tell her that I hope she will come over with you next time you are visiting this side and perhaps stay a little longer in Canada.

With kind regards,

Yours sincerely

(Signed) H. GREVILLE SMITH

Exhibit 666

Letterhead of

BRITISH TITAN PRODUCTS CO., LTD.

Copies to Mr. Beschorman
Dr. Jebsen
Major Barley

CJS/SL/31394

H. S. Tasker, Esq.,
London House,
3 New London Street,
London, B. C. 3.

20th June 1935.

Dear Mr. Tasker,

I had a further talk with Messrs. Haslett and MacKinnon of C. I. L. when they were at Billingham to-day.

They have not yet seen Weber again, but are seeing him on Tuesday of next week.

Mr. Chase of the Du Pont Paris office has not been able to get into touch with Blumenfeld, but one of Blumenfeld's assistants told Mr. Chase that whilst the position was not clear about the general British Empire rights to the Blumenfeld patent, he thought that they had disposed of the Canadian rights.

Haslett also told me that he had had a cable from Canada in which he was informed that during Weber's visit to Canada the difficulties between Monk and Titanium Limited had been straightened out and also that the control of Titanium Limited was now in London. Whether this means Laporte or not, I do not know.

Exhibit 666

Haslett will communicate with me again after he has seen Laporte when he visits Luton on Tuesday and I shall let you know if any further points of interest arise.

Yours sincerely,

C. J. STOPFORD.

Copies to: Mr. Beschorman
Dr. Jebsen.
Major Barley.

Exhibit 667

Noted
F. S.

Wilmington, Delaware,
June 28, 1935.

To: EXECUTIVE COMMITTEE.

FROM: FOREIGN RELATIONS DEPARTMENT.

I am attaching Minutes of a meeting held in London, between Sir Harry McGowan and Mr. Lammot du Pont. The Minutes record the discussions and the decisions reached on the various subjects listed. They have already been approved by Mr. Lammot du Pont and by Sir Harry McGowan. Mr. du Pont requested me to present the Minutes to your Committee in order that any points mentioned requiring Executive Committee approval might be discussed and suitable action taken.

The important subjects requiring your Committee's approval are those listed under Minute Nos. 3, 4 and 18. Several of the other subjects are important but do not require any action at the moment.

I shall be glad to explain in greater detail, if you wish it, the discussions which took place at the London conference.

Respectfully submitted,

WENDELL R. SWINT, DIRECTOR.

WRS/C-

Exhibit 667

MINUTES OF MEETING

BETWEEN

I. C. I. & DU PONT REPRESENTATIVES

Held at Imperial Chemical House, 17th June, 1935

Present:

For I. C. I. — Sir Harry McGowan
Mr. H. J. Mitchell
Mr. Leonard Smith

For du Pont — Mr. Lammot du Pont
Mr. W. R. Swint
Mr. H. H. Ewing

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1) *"DuPrene"—du Pont Proposals Regarding Manufacturing Licenses for I. C. I.:* The present status of this subject was reported for information only and no comments were made.

2) *Exploitation of Molecular Distillation in U. S. A.:* It was reported that agreements have been negotiated whereby I. C. I. has reserved for du Pont a non-exclusive license in the United States for the limited field requested by du Pont, it being understood that licenses will be granted by the British interests concerned to outside parties for the broad use of this invention.

3) *Position of Canadian Industries, Ltd., opposite Major Stockholders:* This subject was reviewed in the light of Mr. Lammot du Pont's letter to Sir Harry McGowan of April 19th, 1935. After full discussion it was agreed that a new agreement between C. I. L., I. C. I. and du Pont is desirable. Memorandum dated July 10th, 1934, (copy attached) covering heads of proposed new agreement was approved as representing the wishes of the major shareholders in this connection, with the exception that Para-

Exhibit 667

V. Any product not listed in the schedules referred to in Paragraphs I and II may be manufactured or produced in Canada by I. C. I. or du Pont for consumption outside of Canada in their respective operations only.

The intent of this provision is to permit the shareholders to control such operations in Canada as might directly affect its own business in its own territory, as, for example, mining of ilmenite by du Pont for its own consumption in the manufacture of titanium oxide. It is expected that the schedules will contain a large number of individual items and will omit some materials which are included in the present C. I. L. agreements under the general classification of raw materials and ingredients. It was decided that on the next occasion of a meeting with Mr. Purvis he should be advised of the wishes of the shareholders and his comments invited with the object that a new agreement to cover the contractual relations of C. I. L., I. C. I. and du Pont may be drafted promptly for adoption in the near future.

4). *I. C. I.-du Pont Agreement—Sub-Licensees:* After full discussion it was agreed, provided this view can be found acceptable to the du Pont Legal Department, that any revenues which may be derived from the sub-licences on scheduled products granted to outsiders in the licencee's exclusive territory should remain the exclusive property of the licencee.

With regard to non-exclusive territory, it is recognised that the Agreement does not contemplate the granting of sub-licenses to third parties by that principal who has re-

quested and obtained from the other a non-exclusive licence to one of the latter's inventions. Any licences granted to outsiders in non-exclusive territory may be granted only by the principal owning the invention and any revenue obtained from such licences is his exclusive property.

It is realised that the circumstances may arise which might make it inadvisable or inequitable to follow exactly the procedure described in the preceding paragraph. It is obviously impossible, however, to legislate in advance for all contingencies, and it is recognised that when special conditions exist or arise, each case will be discussed on its merits and settled by mutual agreement.

5) *I. C. I.-du Pont Agreement—Treatment of Inventions of an Engineering Nature:* After discussion it was agreed that with regard to inventions of an engineering nature which may be applicable to industries covered by the Agreement and to other industries as well, the principal owning such an invention is obligated to offer non-exclusive licences to the other principal for the latter's exclusive territory, but only for use in Agreement industries, the inventing principal being entirely free to dispose of the invention as it sees fit for use in non-Agreement industries. From practical considerations it is recognised as desirable that each principal should keep the other advised of his plans for the exploitation of such inventions in the other's exclusive territory.

6) *Position of Nobel Chemical Finishes, Ltd., opposite Major Stockholders:* It was agreed that in principle it is desirable for I. C. I. to purchase du Pont's shares in Nobel Chemical Finishes and Leathercloth Proprietary, Ltd., provided a mutually satisfactory price can be agreed upon.

I. C. I. will examine the position as soon as possible and will submit to du Pont an offer for its shares in those two Companies.

7) *Evaluation of Patents and Processes:* It was reported that substantial progress has been made in the evaluation of patents and processes offered and accepted by both parties, and it was agreed that I. C. I. would advise du Pont when they are ready to have discussions opened on this subject, it being understood that Dr. Sparre will come to England for this purpose some time this autumn.

8) *Tetra-Ethyl Lead:* Sir Harry McGowan reported discussions which he had had with representatives of the Ethyl Gasoline Corporation, which indicated that I. C. I. might become interested in undertaking the manufacture of tetra-ethyl lead in co-operation with the Ethyl Gasoline Corporation. In the event that these negotiations led to such an agreement, du Pont declared itself ready to give I. C. I. such technical and engineering information and assistance as it might require upon the same terms as had been agreed by du Pont with respect to the I. G. Farbenindustrie for Germany. Details of these terms will be furnished to I. C. I. shortly. I. C. I. may wish to make a technical investigation of tetra-ethyl lead manufacture before becoming definitely committed with the Ethyl Gasoline Corporation and du Pont expressed its willingness to facilitate such an investigation provided the Ethyl Gasoline Corporation had no objection.

9) *Review of Joint Military Sales Organisation:* It was agreed that no action should be taken at present with regard to the existing arrangement for joint effort on military

sales. It was, however, agreed that Duperial should not represent either or both principals in the sale of products of a military nature manufactured by such principals.

10) *Duperial Control:* This question was raised for the purpose of re-affirming the intention that the shareholders of Duperial shall exercise complete control of major matters of policy affecting the business of Duperial and its subsidiaries. After examination of the records and full discussion it was agreed that the memorandum of February 7th signed by Mr. Mitchell and Mr. Crane, entitled "Merging of Argentine Interests," fully covers the situation and that no further legislation is necessary. It was pointed out that similar regulations should be adopted for the control of Ducilo and the necessary steps will be taken to ensure that this is done. (This subject was discussed in the light of the fact that by agreement between Ducilo and its shareholders Ducilo is free to export; it is, however, the desire of the Ducilo shareholders that such export business shall not be undertaken without their express permission and the point was felt to be covered as above.)

11) *Brazil Developments:* After discussion it was agreed that in principal it is desirable that I. C. I. and du Pont should cooperate in Brazil in a manner similar to that already in force in the Argentine. It was felt by du Pont, however, that it would be preferable to delay any active steps in this direction for some months. Meanwhile, it is important that I. C. I. and du Pont should keep each other advised of any intentions for expansion in Brazil. With regard to the artificial leather plant of Azevedo Soares recently purchased by I. C. I., du Pont has accepted in

principal I. C. I.'s invitation to participate in this enterprise and is awaiting details of the financial position and results of the Soares Company in order to permit a definite decision as to whether it wishes so to participate.

12) *Chile Explosives Company Salaries:* It was decided to defer discussion of this subject pending further examination.

13) *Developments in the Field of Hydrogenation and Hydrogen Manufacture:* The status of the present situation was reported without further comment.

14) *Remington Rolling Mills*: Remington is considering the installation of a rolling mill and has enquired whether I. C. I. will be prepared to assist it with technical and engineering information. I. C. I. declared in principle that they would be pleased to cooperate provided no prior commitments or obligations exist. I. C. I. will examine the position and advise Mr. du Pont about July 1st.

15) *C. I. L. Bonus Shares:* I. C. I. feels that the increasing number of bonus shares may be detrimental to the best interests of the major shareholders through the possibility that these shares may find themselves in the hands of outsiders, i.e. non-employees, and the suggestion was made that some effort should be made to regulate this position, either through substitution of cash bonus for stock bonus or some stipulation that the bonus shares must be offered to C. I. L. before any attempt is made to dispose of them to outsiders. Mr. du Pont felt that stock bonuses were decidedly preferable to cash bonuses and suggested that

C. I. L. should follow a policy of buying in the market any C. I. L. bonus shares offered for sale, provided the price was suitable. It was agreed that this subject would be discussed with Mr. Purvis at the first opportunity.

16) *Carbide & Carbon Chemical Corporation:* The status of I. C. I.'s negotiations with the Carbide & Carbon Chemical Corporation was reported without further comment.

17) *C. I. L.—Equation of du Pont and I. C. I. Holdings:* A brief discussion was had on the extent to which C. I. L. stock owned by an employee of one of the major shareholders could be considered as under the control of that shareholder. It was felt unnecessary to take any decision or action at this time. It was suggested that I. C. I. and du Pont should confer on the desirability of acquiring any shares which may come on the market.

18) *South American Explosives Arrangements:* It was reported for the information of the principals that agreement had been reached with the D. A. G. regarding a renewal of the E. I. L. arrangement and that a new arrangement had been made between D. A. G. and C. S. A. E. regarding the sale of explosives in Chile and Bolivia.

19) *Ducilo Expansion:* Mr. Lammot du Pont reported that after examination it was recommended that no increase in the proposed capacity of Ducilo should be considered at this time in view of expected technical developments. I. C. I. concurred in this recommendation.

20) *Dupont Salaries and Bonuses:* After discussion it was agreed that it is undesirable at the moment to adopt

any hard and fast bonus scheme for Duperial in view of the fact that it is not possible as yet to judge what the results of this new Company will be. It was agreed that until such time as it is considered wise to institute a bonus scheme the shareholders will allocate a sum of money from the earnings of the Company each year for the purpose of paying a bonus to the staff, and that the Duperial management should be advised of this decision. Letter from Mr. Salmon recommending several salary adjustments was briefly discussed and it was decided that Mr. Salmon's recommendations; after revision. agreed between Mr. Mitchell and Mr. Swint, should be authorised.

(S) L. DU PONT
(S) H. McGOWAN

24633

Exhibit 668

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

CJS/SL/31751

28th June 1935.

W. C. Beschorman Esq.,
National Lead Company,
111 Broadway
New York, N. Y.,
U. S. A.

Dear Mr Beschorman,

I enclose herewith a copy of a letter I have just received from Mr Haslett of C.I.L., which will, I think, interest you.

I understand that C.I.L. will be communicating with you after Mr Haslett's return. He proposes to sail for Canada on July 5th.

Yours very truly,

CHAS. J. STOPFORD

Exhibit 668

(COPY)

Letterhead of

IMPERIAL CHEMICAL INDUSTRIES LTD,

26th June 1935.

Mr Stopford,
British Titan Products.
Billingham.

Dear Stopford,

You will no doubt be interested in hearing one or two details of the discussion which Mr MacKinnon and I had yesterday with Mr Weber of Laportes. Mr O'Brien was unavoidably called away through the death of his mother-in-law, and we therefore had Mr Weber to ourselves. I am meeting Mr O'Brien and probably Mr Weber also on Friday afternoon.

First of all Mr Weber stated quite definitely that they were in a position to hand over the Blumenfeld patents for Canada if we could see our way to bring Laportes into the Canadian picture. On being pressed he would not state that they had acquired the patents but was quite positive that they were in a position to contribute them into the pot. As regards the British Empire and United Kingdom patents (excluding the Canadian), Mr Weber refused to state his position, and when we put the question outright he merely repeated that they were in a position to hand over the Canadian patents.

He showed us through a portion of his plant but we did not see the reaction vessels and Mr MacKinnon could not therefore form an opinion as to the suitability of their

process for Canada, except that it would appear as though the initial capital cost for a plant having a capacity sufficient for the Canadian market for the next two or three years would be less if we utilised the Laporte process than would be the case with your process.

Mr Weber did not seem to be unduly worried about the recent decision on prices and, in fact, intimated that further reductions were probable in the comparatively near future. He felt that even with the lower prices prevailing manufacture in Canada with a market of approximately 600 tons per annum would be profitable.

He claimed that they would shortly be producing a 98% product, and stated quite definitely that the process had been satisfactorily tested in practice.

So far as the terms on which they expected to share in the Canadian market are concerned, Mr Weber expressed a preference for a share in the equity of the Canadian Company but implied that if National Lead were prepared to sell their position to C.I.L., then Laportes would do likewise. We spent a considerable time endeavouring to show that the National Lead contribution would be substantially in excess of Laportes, and that if we were faced with the choice between an association with National Lead and an association with Laportes we would undoubtedly select National Lead as partners. In reply to our suggestion that the Laporte contribution would be comparatively slight, he pointed out that we should not regard the bringing in of Laportes as a payment for "nuisance" value, as the Laporte Canadian Company would have commenced manufacture in 1929 had it not been for the depression, and they were quite positive in their intention to go ahead independently if an association with C.I.L. on reasonable terms proved impossible.

Exhibit 668

He added that they would have no difficulty whatsoever in raising the necessary capital, and in this respect I must say that he is probably correct for apart from the ease with which Laportes could raise new capital in England he is associated with people in the U.S. and Canada who would probably be very pleased to put up the necessary money.

Mr Weber asked us directly if we had decided to work in association with Laportes, and we replied that whilst we could not give a definite answer at this stage we had decided to explore the matter with every sympathy.

Yours sincerely,

signed: L. W. HASLETT.

2483

Exhibit 669

BRITISH TITAN PRODUCTS CO., LTD.
BILLINGHAM

May 21, 1935.

L. P. O'Brien, Esq.,
National Titanium Pigments Limited,
Kingsway, Luton, Bedfordshire,
England.

Dear Mr. O'Brien:

Canadian Prices.

As you have probably heard from Mr. Weber, a provisional arrangement was made in Montreal for your agents and ours to hold the following prices for Titanium pigments pending confirmation from Luton and New York, these prices being based on the less than two ton item in the English schedules.

25%— 7¢ per lb. delivered customers in Eastern Canada
80%—16¢ " " " " " " "
98%—18.8¢ " " " " " " "

Pigment delivered to Winnipeg or further West to be sold at half a cent per pound more.

Contracts to be based on the same price differentials for quantity as are already agreed between us for England and the rest of the Empire.

In fixing Canadian prices, it is necessary to consider American as well as English prices, and market conditions. After detailed consideration of all points, we have decided on the following scheme:

Exhibit 669

Basic Prices	British Pigments	American Pigments (for comparison only)
98%	18.4¢ per lb	21.4¢ per lb.
80%	15.7¢ " "	——
25%	7.0¢ " "	7.5¢ per lb.

For under 2 ton lots delivered to customers in Eastern Canada.

Plus 0.5¢ per lb. delivered to Winnipeg and the West.

Deductions in price for contracts and quantity to be based on the English scale as already agreed between us.

These prices are based on a rate of exchange of 4.865 Canadian dollars per Pound Sterling and will be adjusted every fifteen days. The exchange adjustment will be calculated by our New York friends who will instruct Wilson, Paterson, Gifford Limited, their Canadian agents. I would suggest that your Canadian agents should adjust prices for exchange variations in conjunction with Wilson, Paterson, Gifford Limited.

Period contracts should be based on the English currency equivalent of the Canadian price so that the seller is covered against exchange risks.

Intermediate strengths of pigment will be sold at equivalent prices.

I shall be pleased to receive your agreement to or suggested modifications of this arrangement as soon as possible. I expect to be back in England about June 4th, and look forward to meeting you soon afterwards.

Yours sincerely

C. J. STOPFORD,
General Manager.

2 Copies—I. D. Hagar
1 Copy—Mr. Weber

Exhibit 670

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

CJS/SL/31312

W. C. Beschorman Esq., 18th June 1935.
National Lead Company,
111 Broadway,
New York, N. Y.,
U. S. A.

Dear Mr Beschorman,

As you will see from the enclosed copy of a memo. we have had a meeting with Laporte, when nothing was settled in regard to technical co-operation on a quota basis, but we have decided on a 15% reduction in price. This was decided after consideration of an estimated profit statement which showed that on a basis of 3,000 ton sales and the April production costs, we should have a profit of approximately £60,000, before deduction of tax, over 12 months. This profit will not be realised during the present year as of course production costs were higher during the early part of the year and we started the year with stocks at last year's production costs, which was considerably higher. The April cost was £36 per ton TiO2.

You will note from the memo. that whilst these reductions have been agreed to take place as from July 1st in Great Britain, and that the prices for the Empire (excluding Canada) will be fixed at figures equivalent to the British delivered price plus freight and insurance, we have obtained Laporte's agreement not to alter the Canadian prices for the time being. This does leave open the posi-

tion that an unscrupulous buyer in Great Britain could buy material here (although the material is not sold for export) and put it c.i.f. Montreal at a price of approximately 15.9 cents per lb. for oxide and 6.4 cents per lb. for 25% barium pigment, at 4.93 exchange rate, whereas you will remember that the Canadian prices for British pigment were fixed at 18.4 cents per lb. for oxide and 7 cents per lb. for 25% pigment, based on the rate of exchange of 4.865 Canadian dollars per £.. sterling.

I do not think there is much risk of our material being exported to Canada as we keep a fairly close track on the material we sell, but I do not know whether Laporte are so careful.

Yours very truly,

CHAS. J. STOPFORD
C. J. STOPFORD,
General Manager.

Copy to Dr Jebsen.

Exhibit 671

September 15, 1936

Dr. G. Jebsen
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France

STRICTLY PERSONAL

Dear Dr. Jebsen:

For your information I am enclosing copies of two letters received from Mr. W. S. Robinson together with copy of my reply to his first letter.

You will note in his second letter, dated September 5th, that he answers one of the questions which arose in all of our minds when he first brought the matter up by his statement in the last paragraph of that letter that he was only questioning the obligations of the British partners to each other. I am still of the opinion that when he gets the attorney's interpretation of the contract he will find that the rights of the British partners toward each other are limited to the territory covered by the license agreement, in other words, the British Empire, exclusive of Canada, New Foundland, etc.

Please do not show this correspondence to anyone.

Yours very truly,

W. C. Beschorman
Executive Vice President

Encs.

Exhibit 671

(COPY)

Letterhead of

IMPERIAL SMELTING CORPORATION LIMITED

5th September, 1936
Saturday

W. C. Beschorman Esq.
National Lead Company
111 Broadway
New York City

Dear Mr. Beschorman:

I have your letter of the 25th August with its kind references to myself by you and your associates, which I much appreciated.

Your letter supports my belief that you misunderstand my attitude. You say:

> "I do not feel our British partners have any legal right to say what the Titanium Pigment Company shall do in Canada and whom it should select as a partner".

No right of the Titanium Pigment Company to do what it liked in Canada has been challenged by me. Throughout the long negotiations of the past, the rights of the United States Company in Canadian territory were firmly supported by me.

Again, there has never been any claim made by me that British Titan has any authority or power outside of its territory.

Exhibit 671

Neither of these questions was raised by me—if I had desired to do so, I would have approached you first. If any legal point arises on these questions, I leave it to the lawyers to decide.

In my opinion, the obligations of the British partners to each other are such as to justify the belief that any arrangement which either directly or indirectly increased the relative interests of one party in the Titanium industry, should at least have been discussed with the others before it was even in principle agreed. This does not involve any action of yours or affect any of your Company's rights.

My kindest personal regards to your associates and yourself.

Yours sincerely,

(Signed) W. S. ROBINSON

Exhibit 671

(COPY)

Letterhead of

IMPERIAL SMELTING CORPORATION LIMITED

8th August, 1936
Saturday

Mr. W. C. Beschorman,
The National Lead Company
111 Broadway
New York City
U.S.A.

Dear Mr. Beschorman:

British Titan Products

I have been informed that you "are a good deal upset" by [redacted] discussion raised by me on Clause 11 and its relation to the new Canadian company and that you regard my attitude as "an encroachment on the National Lead Company's right to choose the most suitable partner in their opinion for their Canadian business". If these statements correctly represent your views, I feel I should say that you misunderstand my reasons for raising this subject. I thought I had made it abundantly clear at the Board Meeting that I did not raise my point in any spirit of antagonism but solely with the object of determining the rights and obligations of the parties owning British Titan Products.

Before dealing with this matter may I say that ever since the question of Titanium was raised between Mr. Cornish, the late Mr. McCarty and myself I have always

made it perfectly clear that the National Lead Company's rights were clearly recognized by the Imperial Smelting Corporation. I go further and say that examination of our actions throughout the history of this business will, I am confident, show that the protection of the interests of the National Lead Company has been our first consideration. I feel sure that this will be readily recognized by all who were intimately associated with our negotiations from their inception many years ago.

Our records here of past negotiations make frequent reference to the Canadian market. Our English associates were all for attempting in the 1932 negotiations

> "to obtain the Canadian market or at any rate some share in it for the company".

My efforts were directed in bringing about a solution of a difficult problem to the reasonable satisfaction of the National Lead Company. Mr. Cornish wrote me on 20th July, 1932, stating

> "The third modification could not be made to apply to Canada but could be made to apply to all the rest of the British Empire. This is because the American company has exclusive rights in Canada, whereas the European company would not be able to transfer any rights in Canada whatsoever, although the National Lead Company has the controlling interest in both companies. The other stockholders differ in the two companies, Dr. Jebsen holding a minority interest in the European company and none in the American company and some stockholders owning stock in the American company and none in the European.

Exhibit 671

"Inasmuch as our sales department is thoroughly organized in Canada and negotiations have been pending with other Canadian interests to manufacture in Canada and we have $550.000 par value of Canadian gold bonds with which to build the plant (if necessary) in Canada, I think probably this feature will adjust itself by letting our Canadian company instead of building a plant buy from the American company or the new plant to be constructed in England, whichever may prove more advantageous to it, but itself to keep control of its own sales that are already well organized far beyond anything we have in England proper. *For the time being* therefore the Canadian business should be excluded from consideration,"

Our English associates in September of the same year again raised the Canadian question and after discussing the right to deliver to the Canadian Sales Company on an agreed basis plus a reasonable profit it was agreed.

"to ask National Lead Company that when the Canadian company decided to commence manufacturing operations the British company should be given an opportunity to discuss financial participation on equal terms with other parties".

When the Imperial Smelting Corporation finally agreed to the terms of the association with your good selves, the I.C.I. and Goodlass Wall, we did so in the belief that the three English interests were giving up all right, title and claim to the Titanium industry in return for *an equal holding*, viz. 17%, to each. The effect of the proposals which

Exhibit 671

I understand are now being considered for Canada appears to me to definitely alter this ratio.

I trust neither you nor your associates will regard this letter as being any more than an effort to justify—apart from anything there may be in the agreements—my action in raising this point.

In conclusion may I express the hope that you and your associates will accept my assurance that we have no desire to inconvenience the National Lead Company in any way.

My kindest regards to you all,

Yours sincerely,

(Signed) W. S. ROBINSON

Exhibit 672

October 28, 1936.

Dr. G. Jebsen, Vice President
Titan Co., Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

I have your letter of the 16th, No. 199, enclosing copies of two different letters to Mr. Tasker, all of which is quite interesting.

As I have written you before, a representative of the Canadian Industries Limited will be in London within the next month to discuss with the B.T.P. and then, possibly together, take up with Laporte price and quota arrangements for Canada; I presume that the B.T.P. will discuss arrangements at the same time for England and the rest of the British territory outside of Canada.

I have discussed this matter very fully with the representative of the C.I.L. and the tentative arrangements that we have made are entirely on the lines specified in the second paragraph, page three, of your letter of October 14th to Mr. Tasker.

I kept no memoranda of our conversation, but as I recall it now we discussed four different tentative arrangements. First, to buy out LaPorte's Canadian interests, which would include all patents or patent rights including the Blumenfeld patents, for a cash sum paid at once; second, with cash remuneration over a period of ten years; third, if the above does not appeal to them permit them to sell in Canada up to 100 tons of TiO_2, maintaining our prices. Anything that they sell over 100 tons they will buy

from the new Canadian Titanium Pigment Company. 100 tons represents approximately 10% of the Canadian trade.

Under present conditions I cannot see that the English people can discuss anything with Laporte except as you have outlined in the paragraph of your letter to which I have referred above. Maybe some of the other things may develop for discussion later on.

With reference to the last paragraph of your letter, the DuPont matter is is in about the same position as it was when you left here.

With kind regards,

Very truly yours

W. C. Beschorman
Executive Vice President.

Exhibit 673

October 28, 1936.

Dr. G. Jebsen, Vice President
Titan Co., Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

I am in receipt of yours of the 16th—No. 203—referring to Thompson's letter of August 18th regarding arrangements for LaPorte, all of which is very interesting.

Mr. MacKinnon of the Canadian Industries Limited, who will be the manager of the new Titanium plant in Canada when built, is making a trip over to England on some business for the C.I.L. and will at that time contact O'Brien and Weber of the LaPorte Company to sound them out on some kind of a line for arrangements in Canada. Before calling on them he will see Stopford and endeavor to work it together.

With kind regards,

Very truly yours

Executive Vice President.

Exhibit 674

Inter-Office Correspondence

TITANIUM PIGMENT COMPANY, INC.
111 BROADWAY, NEW YORK

October 30, 1936

Subject MEMO—Wilson, Paterson, Gifford, (1935) Ltd.

To MR. BESCHORMAN, Executive Vice-President, National Lead Company

From I. D. Hagar, Eastern Sales Manager, New York Office

Reference

Dear Mr. Berschorman:

Please note the attached copy of a letter just received from Mr. Paterson of Wilson, Paterson, Gifford, relative to the low quotations on titanium dioxide originating with La Porte made by Bruce Ross in Toronto.

This very satisfactorily clarifies an irritating situation and I believe that there is now reason for a greater degree of confidence that the competitive situation in Canada will be reasonably well controlled while Mr. McKinnon is conducting his negotiations in England.

Yours very truly,

TITANIUM PIGMENT COMPANY, INC.

I. D. HAGAR
Eastern Sales Manager

IDH:ELB

Exhibit 674

COPY

WILSON, PATERSON, GIFFORD (1935) LIMITED

Montreal, Que., Canada.

October 28th, 1936

Ivan D. Hagar, Esq.,
Titanium Pigment Co., Inc.,
111 Broadway,
New York, N. Y.

Dear Ivan,

I was up in Toronto on Monday and had a talk with Bruce Ross on the telephone, in reference to the prices at which he had been offering English Titanium Oxide. He told me, first of all, that he had quoted these prices owing to a misunderstanding and that in the meantime they had been withdrawn. He said however that they were offering English Titanium Oxide in bags and, as he understood that the bag price was a quarter of a cent per pound less than the keg price, this might account for some of the difference. I recall some discussion in reference to this phase of the matter when we first established English prices, but I am not sure whether we were charging the extra price for the wooden kegs in which he had been getting the material.

He said that he had no knowledge of the contract basis for this material, and I agreed to send him copies of the type of contract we make with our customers, also a letter explaining this as far as possible. I have done this today, sending him these contract forms, with as much explanation as I could get into a letter, and I am making the same explanation to Walter Dickson here. I saw Walter the

day I got back and went over the whole situation with him, and promised to bring in contract forms and I am now going to get him so that I can do this.

I have reported all this to Mr. McKinnon and I still think that these prices were quoted owing to a misunderstanding of how we are writing contracts for the English material. Bruce Ross was very nice about it and said that if he understood the matter thoroughly he would be very pleased to keep in line. Walter Dickson made one or two remarks to me that might possibly indicate that his people in England were not averse to taking advantage of such a situation, but he did not tell me definitely at all that he had any instructions except to keep in line with our prices and contract idea. I was going to telephone you about this, but I knew that you would be very much tied up at the sales convention and if you knew that the prices had been withdrawn that is the most important thing in the meantime, so that I thought this letter would do, more especially as Mr. McKinnon got all this information just as soon as it was available.

Yours very truly,

WILSON, PATERSON, GIFFORD (1935) LIMITED

A. L. PATERSON
Director

Exhibit 675

MEMORANDUM PREPARED FOR MR. MACKINNON'S NEGOTIATIONS WITH MESSRS. B. LAPORTE & COMPANY, ENGLAND, RE TITANIUM DIOXIDE.

Laporte are perfectly justified in attacking British Titan Products and the National Lead Group in any accessible markets at prices fixed by British Titan Products for England against the wish of Laporte. It is true that this is unfriendly as such a move on their part cannot benefit them for two reasons:

1. With greater production we will no longer be vulnerable and Laporte's threat can only be temporary.

2. They cannot establish themselves in the Canadian market for they must realize we will merely meet their prices and take a loss until we are protected by a tariff or have reduced our costs.

Their action demonstrates clearly that Nuisance Value is their only asset and we were correct therefore in evaluating their patents and market position as Nil.

Laporte are in a position to reduce our estimated profits by $62,000 ($99,532 less $37,776) in 1937, $77,000 ($81,722 less $4,534) in 1938, $64,000 ($153,141 less $56,678) in 1939, and probably $40,000 in 1940—(a total sum of $243,000)—apart from the possibility that they may take away some tonnage by making an active effort in Canada.

If we assume that by 1942 we will be able to earn a satisfactory profit at the lower level of prices applicable in England we can regard this sum as capital spent in the development stages without any chance of being recovered.

We should therefore consider the wisdom of granting Laporte a share in the new Company's profits that will satisfy them and at the same time yield a good return on the $243,000.

We do not want to complicate the operation of the new company by having a third partner, particularly as we do not wish to establish an exchange of information with Laporte and therefore the issue of voting stock does not appeal to us.

On the other hand, Laporte do not favour a sale of their patents and rights for cash, as they are interested in sharing in the prosperity of the industry. I believe there is a chance that they feel so strongly on this point they would be prepared to put up cash if they were given the opportunity.

If we had offered to permit Laporte to subscribe for 5% or 10% of the "A" stock a year ago I believe they would have accepted it. Let us work out an equivalent payment through royalty:

1 Profit	2 Bond Interest	3 Tax 17½%	4 7% on A Stock	5 6% on B Stock	6 Surplus available for A Stock	7 Laporte Income (other than 7% on money invested) with following stockholding or royalty: 5%	7½%	10%
$	$	$	$	$	$	$	$	$
100,000	77,000	4,025	7,000	11,975	—	—	—	—
143,667	77,000	11,667	7,000	48,000	—	—	—	—
150,000	77,000	12,775	7,000	48,000	5,225	261	392	522
175,000	77,000	17,150	7,000	48,000	25,850	1,292	1,939	2,585
200,000	77,000	21,525	7,000	48,000	46,475	2,324	3,486	4,647
225,000	77,000	25,900	7,000	48,000	67,100	3,355	5,032	6,710
250,000	77,000	30,275	7,000	48,000	87,725	4,386	6,579	8,772
275,000	77,000	34,650	7,000	48,000	108,350	5,417	8,126	10,835
300,000	77,000	39,025	7,000	48,000	128,975	6,449	9,673	12,897

Another method of satisfying Laporte might be to offer them a fixed tonnage (say 100 tons per annum) for resale in Canada at an agreed formula price or, alternatively, to permit them to resell a fixed percentage (say 10%) of the market. In either case their sales would depend on their ability to obtain business at equal prices, subject to the tonnage limitation.

Laporte might prefer to sell their English product, but we would regard this with disfavour as they have no established position and the maximum outlet is essential to economical operation of the Canadian plant. In any case we should be able to offer them a price that will make it more profitable to purchase as their costs are believed to be high.

The basis for arriving at the price would be the subject of negotiation but our aim would naturally be to relate their resale profit to the income they would receive under the royalty plan. Its advantage over the royalty plan would be the preservation of competition with its resultant stimulation to sales volume and to our own selling organization, together with the fact that Leporte would have to work for their profit. On the other hand, the royalty plan is probably simpler in practice and is perhaps less likely to be regarded as being contrary to anti-combine legislation.

Prices could be made to vary with selling prices by allowing a fixed discount from selling prices or with cost of manufacture by adding a fixed percentage to the new company's cost. The former method appears more satisfactory as we do not wish to divulge cost information.

At present U. K. selling prices of $311.95 per ton for Titanium Dioxide (15% below Canadian level), and assuming a 5% selling cost, Laporte would derive the following net profit at varying discounts:

Exhibit 675

Discount	15%	20%	25%
	$	$	$
Net Profits with annual tonnage fixed as follows:			
100 tons	3,119	4,679	6,239
200 tons	6,239	9,359	12,478
10% of 1937 market (1,115 tons)	3,478	5,217	6,956
7½% " " " "	2,608	3,912	5,217
5% " " " "	1,739	2,608	3,478
10% of 1938 market (1,393 tons)	4,345	6,516	8,690
7½% " " " "	3,258	4,887	6,516
5% " " " "	2,172	3,258	4,345
10% of 1939 market (1,740 tons)	5,427	8,140	10,854
7½% " " " "	4,070	6,105	8,140
5% " " " "	2,713	4,070	5,427
10% of 1942 market (3,500 tons)	10,916	16,374	21,832
7½% " " " "	8,187	12,280	16,374
5% " " " "	5,458	8,187	10,916

It is not likely that Laporte would be satisfied with less than 10% of the market in the early stages and yet we would prefer to limit their sales to a maximum tonnage. We might suggest, therefore, a combination of the two schemes by offering him 10% of the market up to a maximum of 200 tons per annum. With a 15% commission, the net profit would be $6,239 per annum, which is approximately equal to the following royalties:

	$
5% with profits at	300,000 per annum
7½% " " "	250,000 " "
10% " " "	225,000 " "

Below I have listed in their order of preference the various schemes that have been discussed in this memorandum:

Exhibit 675

A. *Outright Purchase for Cash*

A payment of $20,000 might appeal to Laporte, but actually $50,000 (spread over 5 or 10 years) would be well worth while from Canadian Titanium Pigment's viewpoint.

B. *Fixed Quota for 10 Years or Life of Patents*

An offer to sell Laporte 100 tons per annum at a 15% discount, (or even 25% discount), would cost us between $3,119 and $6,239 per annum.

C. *Percentage quota with Limitation for 10 Years of Life of Patents*

An offer to sell Laporte 10% of total market at 15% discount, (or even 20% discount), with a limit of 200 tons per annum would not cost more than $6,239 or $9,359 per annum, with commissions of 15% and 20% respectively.

D. *Percentage Royalty on Profits after Charging Taxes, Bond Interest, First 7% Dividend on "A" Stock and 6% Dividend on "B" Stock for 10 Years or Life of Patents*

An offer to allow Laporte a royalty on surplus profits would be simple and might appeal to them inasmuch as it would be more in line than any other scheme with their original desire to acquire a stock-holding in the new company. A 5% royalty would cost up to $6,449 with total profits at $300,000 and a 10% royalty would cost $12,897.

Exhibit 675

E. *Percentage quota for 10 Years or Life of Patents.*

An offer of this nature would give Laporte a large tonnage after the market is fully developed and if the discount were fixed so as to give Laporte an acceptable return during the early years, the cost would eventually be of greater dimension than we would wish.

F. *Bonds or "B" Stock for Cash*

An offer of Bonds or "B" Stock to Laporte for cash might appeal to them if they place great value on stock ownership even if it did not permit them to share in surplus profits. An obvious objection from our point of view is, however, that they might control company if Bond interest or "B" Stock dividend were not earned.

G. *Bonds or "B" Stock free of Charge*

The same objections as those applicable under "F" above would exist.

It should be noted that an essential feature of any arrangement with Laporte is their agreement to assign all their Canadian Titanium Dioxide patents to Canadian Titanium Pigments Limited.

L. W. HASLETT
V. B.

7th November 1936.
L.W.H.—V.B.

Exhibit 676

Letterhead of

TITAN COMPANY, INC.

Paris, November 9th, 1936.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I refer to Mr. Tasker's letter to you of November 6th, re Canadian supplies.

I was not informed about your last letter before in the Board Meeting, and felt that your request regarding an obligation on behalf of B. T. P. towards the Canadian Titanium Pigment Co. as to deliveries for an undetermined period after the two years subsequent to the starting of a Canadian factory was going rather far, particularly in view of the possibility of having B. T. P. supply some of Titan Company Inc.'s markets, as such an obligation will give the Canadian company preference as to deliveries from B. T. P. for all times, even if regular supplies had ceased during a certain period.

There was no intention by the Board, in not entering into this obligation, not to supply Canada if material is available also after the expiration of the two years, but the obligation seems rather far going.

It seemed from your letter that the main point was to arrange for supplies from B. T. P. similar to the arrangements for deliveries from Titangesellschaft at B. T. P.'s

start and I hope therefore that the minute is satisfactory to you. If not, please let me know. There was some doubt as to whether you wished a separate agreement drawn up, which of course, in case, can be done, but it was assumed that the resolution would be satisfactory to you and would avoid the working out of details which seemed unnecessary in view of the relationship between the companies.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 677

Letterhead of

CANADIAN INDUSTRIES LIMITED

Dear Mr. Beschorman: 21st November 1936.

I thank you for your letter of 18th November enclosing copy of a letter written by Mr. Tasker to Mr. Stopford regarding the status of discussions between British Titan and Laporte on their Australian relations. From this it appears that our thoughts for Canada coincide closely with theirs for Australia and there would seem to be a good chance, therefore, of Mr. MacKinnon concluding a satisfactory arrangement.

I am enclosing copy of the cable from MacKinnon about which I spoke to Mr. Hagar on the telephone to-day, and in reply I have despatched the following cable:

"See no reason for price differential between United Kingdom and United States products unless Weber product substantially inferior. If Weber insists we may postpone reduction in price United States product but Canadian product must be equal or lower in price than Weber's. Understand 25% may disappear gradually from United States market, and whilst we prefer same price for 25% and 30% Weber's claim for differential has some justification but differential suggested entirely out of line. If 30% price fixed at $6.80 we might have to consider $6.50 for 25%. Undue depression of prices not to Weber's long range advantage if he buys Canadian product. Suggest you ask Barley or Stopford for Tasker's letter 19th October re Australia."

Yours very truly,

L. W. HASLETT.

W. C. Beschorman, Esq.,
National Lead Company,
111 Broadway, New York City.

/VB

2479

Exhibit 677

COPY

London, 20th November 1936.

HASLETT,
Canadian Industries Limited,
Montreal.

B. Laporte Limited endeavouring to retain price differential between United Kingdom and United States product together with pro rata differential between 25% and 30% strength of composite pigment. Their schedule pure oxide $18.35 100 lbs., 30% $6.50 100 lbs., 25% $5.60 100 lbs. Expressed Weber my reluctance at submitting such schedule to you but believe it only leader on their part and that they will be more reasonable future conversations. In meantime, however, they insist this be submitted to you. We have not discussed with him B. Laporte Limited position in Canada as yet.

MAC KINNON

Exhibit 678

C
O
P
Y

CANADIAN INDUSTRIES LIMITED

January 8, 1937

Dear Mr. du Pont:

Thank you for the two letters of December 21st relating to the Tri-Party Agreement. I am returning the duplicate copy of the letter covering the method of handling du Pont patents in Canada, the basis of which was agreed by representatives of our companies some time ago, having noted our acceptance thereon.

I note from the third paragraph of your letter that should du Pont become interested in the development in Canada or Newfoundland of products marked with a double asterisk, the matter would be taken up with C-I-L on the same basis as if these products came within the provisions of Article V.

With regard to obtaining ratification of the agreement by subsidiary companies where there is a minority interest, we agree that it is unnecessary to obtain the consent of the Gardinol Corporation and the International Freighting Corporation. Also that ratification by the du Pont Film Manufacturing Company and Kinetic Chemicals Company be deferred until some one of their products becomes of interest for Canadian manufacture.

C-I-L has the following subsidiaries in which it owns the majority of the outstanding voting stock:

Aluminate Chemicals Limited
Canadian Hanson & Van Winkle Company Limited

Exhibit 678

Canadian Safety Fuse Company Limited
Canadian Titanium Pigments Limited
Gardinol of Canada Limited
Neepawa Salt Limited

We propose to obtain ratification by Canadian Hanson & Van Winkle Company Limited at the first opportunity but would suggest that under present arrangements there is no need to obtain ratification by the other subsidiaries for the following reasons:

In the case of Aluminate Chemicals, Canadian Safety Fuse and Neepawa Salt, the products are excluded from exchange between du Pont and C-I-L;

Gardinol of Canada Limited is covered by their agreement with the Gardinol Corporation in the United States;

the formation of Canadian Titanium Pigments Limited is at present under negotiation and the exchange will be influenced by your agreement with our partner, National Lead.

Yours sincerely,

(S) A. B. Purvis

Lammot du Pont, Esq.,
E. I. du Pont de Nemours & Co.,
Wilmington, Delaware.

Exhibit 670

April 6, 1937

Dr. G. Jebsen, Vice President
Titan Co., Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

I am in receipt of yours of the 30th of March, No. 9, and am glad to note that Blumenfeld is forcing Laporte to live up to his agreement.

Do not think the Canadian Titanium Pigments Co., or ourselves, will have any trouble with Laporte as he has more to lose than to gain by not living up to the suggested agreement with the Canadian Titanium Pigments Co.

With kind regards,

Very truly yours

Executive Vice President.

Exhibit 680

Letterhead of

TITAN COMPANY, INC.

Paris, April 15th, 1937.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

Many thanks for your letters of April 2nd and 6th.

I am glad to note your approval of the various steps mentioned in my letter of March 25th.

Samples of Tidovit, as well as Dolomite, will be sent you from Norway (a sample of Dolomite was sent quite some time ago to the Titanium Pigment Corp.).

With regard to Laporte, I may mention the following:

If I am rightly informed, the agreement between the Canadian Titanium Pigments Co. and Laporte obliges Laporte to transfer some of the Blumenfeld patents to the Canadian Titanium Pigments Co., and also to endeavour to obtain that in connection with such patents as Laporte acquire from Terres Rares during the period of the agreement, any corresponding Canadian patents are offered to Canadian Titanium, it being the intention that such patents shall be licensed to Canadian Titanium without payment during the period of the agreement.

When Laporte break their agreement with Blumenfeld, he can either withdraw his licenses or sue Laporte for

compensation. He has had both alternatives under consideration and asked my opinion. With the reservation on my part that such matters are dependent upon legal advice, I gave him as a preliminary opinion that it would probably be wisest to maintain the agreement and sue Laporte for compensation.

When, however, Laporte so frankly have broken their agreement, they are no doubt very much in the hands of Blumenfeld as to their ability of living up to the agreement with the Canadian Titanium Pigments Co.

However, the matter seems to be settled now, as apparently Laporte have withdrawn from our markets.

With kind regards,

Yours very truly,

G. JEBSEN

Exhibit 681

April 27, 1937.

Dr. G. Jebsen, Vice President
Titan Co., Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

Many thanks for yours of the 15th, No. 10, with further comments on the Laporte-Blumenfeld licenses.

While I note that you consider the matter settled now that Laporte has withdrawn from your markets, I wonder whether it is settled so far as Blumenfeld and Laporte are concerned and consequently have warned our Canadian friends to be very certain before they pay any money to Laporte for the Blumenfeld patents that they are getting them with Blumenfeld's consent.

With best regards,

Very truly yours,

Executive Vice President.

2500

Exhibit 682

Paris, October 1st, 1937.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I beg to inform you that the agreement between the Canadian Industries Limited and the National Lead Company, as well as the Canadian Titanium Pigments Limited, of January this year, has been formally approved by the Titangesellschaft, British Titan Products Company and Sté Industrielle du Titane.

I should be much obliged if you would now arrange for resolutions of Titan Company Inc. to the same purpose.

With kindest regards,

Yours very truly,

Sgn. G. JEBSEN

Copy to Mr. Cole.
" " Kaegebehn.

Exhibit 683

January 8, 1940.

Mr. R. G. Beck,
Canadian Titanium Pigments Limited,
630 Dorchester Street, West,
Montreal, Canada

Dear Mr. Beck:

Thank you for your letter of January 4th which accompanied price lists No. 47 to 51 inclusive, made effective by you on January 2nd.

We note that you have made a general reduction of 35¢ per hundred in the price of "TITANOX"-C following our reduction in the United States of 25¢ per hundred.

I also note two types of letters of transmittal which accompanied this announcement, one of short letter of two paragraphs; the other a longer one of four paragraphs. Will you please advise me to what types of customers these different letters went?

Following our reduction in the United States, Lithopone manufacturers reduced the price of regular Lithopone from $3.75 per hundred to $3.60 per hundred pounds. Also, they reduced the price of double-strength Lithopone and Titanated Lithopone ¼¢ per pound.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. HAGAR—General Sales Manager.

Exhibit 684

September 3, 1940

To: L. W. Haslett, Esq.
From: G. N. Bates

SELLING PRICES

Essentially selling prices of Titanium Pigments in Canada have always been based upon American selling prices plus duty and other charges. On the other hand Lithopone, prior to the outbreak of war, sold at prices lower than those in the United States due to the dumping of German, Dutch and British pigments. As Lithopone was cheaper than Titanium Pigments on a hiding basis, the latter was sold to the paint industry on quality and, while the market developed slowly, it was impossible to realize any large scale replacement of Lithopone. As a result a lag occurred between the rate of development of the market in Canada as compared to the United States. For example in 1938 the ratio of sales of Titanium Pigments to Lithopone on a hiding basis was 1.84 : 1 in the United States and .66 : 1 in Canada.

After the outbreak of war the shutting-off of supplies of continental Lithopone and a scarcity of the British product resulted in the importation of American Lithopone, which was sold at the U. S. price plus duty plus exchange, and in an increase in the price of the British material to nearly this level. Although Titanium Pigments increased in price to compensate for the adverse rate of exchange on U. S. Funds, the change was proportionately less than that for Lithopone and the ratio of the prices of the two pigments became nearly the same as in the United States. As this meant that Titanium Pigments could replace Lithopone

on a hiding basis and show some saving in cost, it was expected that progress would be made in overcoming the lag between the development of the American and Canadian markets.

While some progress was made, it was interrupted by the imposition of the War Exchange Tax, which resulted in increased prices for Titanium Pigments and American Lithopone but did not affect the price of British Lithopone. This occurred when supplies of the British product were becoming more plentiful and, as a result, a white pigment was available which was as cheap as or cheaper than Titanium Pigments on a hiding basis.

In the following table the comparison of Lithopone prices with the cost of replacement by Titanium Pigments illustrates the changed conditions during the past year.

	Selling Price of Lithopone Per 100 Lbs.		Cost of Replacing 100 lbs. of Lithopone		
			On a Hiding Basis		On Volume Basis
	American	British	By "TX." A	By "TX." C	By "TX." C
	$	$	$	$	$
Prior to Outbreak of War	—	3.40	3.66	3.97	4.53
After Outbreak of War	4.60	4.30	3.92	4.06	4.64
After War Exchange Tax	4.95	4.30	4.20	4.40	5.04

If a large scale replacement of Lithopone is to be accomplished it is essential that Titanium Pigments provide hiding more economically than Lithopone although this alone will not necessarily induce replacement as Lithopone is a well-established pigment and its replacement usually involves some change in formulation. As the least drastic change is involved when "TITANOX" C is used to replace Lithopone, it is logical to use this pigment in converting customers to the use of the Company's products. In order

to permit the economical replacement of British Lithopone with "TITANOX" C on a hiding basis, it would be necessary to sell "TITANOX" C at 6.5¢ per pound, a reduction of .4¢ from its present price of 6.9¢ per pound. As it is undesirable from the standpoint of profit to sacrifice the sales of "TITANOX" A in favor of "TITANOX" C, it would also be necessary to reduce the price of "TITANOX" A from 17.85¢ to 17¢ per pound. At the proposed prices of 6.5¢ and 17¢ per pound for "TITANOX" C and "TITANOX" A respectively, the cost of replacement of Lithopone would be as follows:

	Selling Price of Lithopone Per 100 Lbs.		Cost of Replacing 100 # of Lithopone		
			On a Hiding Basis		On Volume Basis
	American	British	By "TX." A	By "TX." C	By "TX." C
	$	$	$	$	$
At Proposed Prices	4.95	4.30	4.03	4.16	4.75

Although the proposed prices do not place Titanium Pigments in as favorable position as they would enjoy if the prices were reduced sufficiently to compare with British Lithopone in the same ratio as that existing between the two pigments in the United States, the necessary reductions of .9¢ and 2.25¢ per pound for "TITANOX" C and A respectively would not be feasible. While the larger reduction in the selling prices of Titanium Pigments would increase the incentive for Canadian customers to replace Lithopone, it would lead as well to speculation concerning the margin of profit presently enjoyed, which would not be of advantage to the Company. The proposed prices are sufficiently low to provide a basis for working with customers on the replacement of British Lithopone and, furthermore, if supplies from Great Britain are not adequate to meet the re-

quirements of the Canadian market, a rapid expansion could be expected, particularly in the sales of "TITANOX" C as it could replace American Lithopone on a volume basis with some saving in cost, which is the easiest and most attractive means of replacement for the paint manufacturer, and is an advantage not presently enjoyed in the United States.

As "TITANOX" B-30 has not been mentioned, it should be stated that it is not proposed to reduce its selling price in view of the trend toward the replacement of this pigment by "TITANOX" A or "TITANOX" C. The acceleration of this trend would assist in the elimination of "TITANOX" B-30, which would increase profit when Titanium Pigments are manufactured in Canada.

If the lag in the development of the Canadian market could be overcome, it is estimated that sales of Titanium Pigments in 1941 would amount to 3,750 tons as TiO_2, a quantity 750 tons in excess of the forecast of sales for 1941 on the basis of present prices. In the event of a price reduction it is not expected that the lag in development could be overcome in one year, due to the amount of work necessary in effecting changes in customers' formulations, nor is it expected that it could be entirely overcome as long as supplies of British Lithopone are available. However, it is believed that one-third of the lag can be made good during the coming year, which would be equivalent to 250 tons as Titanium Dioxide.

On this basis the forecast of sales for 1941 is as follows:

Forecast sales 1940	2,580 tons
Additional consumption in 1940 due to large 1939 carry-over	170 "
Increase in 1941, due to industrial expansion	150 "

Exhibit 684

Increase in 1941, due to replacement of American Lithopone	100	"
Forecast sales 1941 at present prices	3,000	"
Increase in 1941, due to price reduction	250	"
Forecast sales 1941 at proposed prices	3,250	"

The increase of 6% due to industrial expansion may appear low but the expansion of the paint industry to meet war-time requirements does not necessarily favor the use of Titanium Pigments to the same extent as the older and more established pigments and, in some cases, consumption of Titanium may decline due to curtailment of the production of normal lines.

In forecasting Net Profit for 1941 and in order to determine the effect of the proposed price reduction, the following range of conditions has been used:

1. Volume of Sales:
   (a) 3,000 tons at present selling prices
   (b) 3,250 tons at proposed selling prices
   (c) 2,580 tons at proposed selling prices, representing no increase in sales, which would be equivalent to a reduction in consumption of approximately 6%.
2. Cost of Pigment:
   (a) Plant costs of $135, $66 and $56 per ton for "TITANOX" A, B-30 and C respectively, representing the maximum estimate of costs for

1940, as given by Mr. I. D. Hagar in his letter of December 18, 1939.

(b) Plant costs of $127.50, $63 and $53.50 per ton for "TITANOX" A, B-30 and C respectively, representing no change from the estimated costs for 1940.

(c) Plant costs of $148.50, $72.60 and $61.60 per ton for "TITANOX" A, B-30 and C respectively, representing an increase of 10% above (a) and taken as the maximum increase in cost without a selling price revision in the United States.

Net Profits, calculated on the various bases, at cost plus 10%, are as follows:

	Volume of Sales Tons	Net Sales $	Gross Profit from Sales $	Income Tax $	Excess Profits Tax $	Net Profit $	
Plant Cost (a)	3,000	1,183,000	319,000	50,500	59,500	93,000	*
	3,250	1,233,000	289,000	43,000	40,000	88,000	
	2,580	981,000	231,000	32,000	17,000	74,000	
Plant Cost (b)	3,000	1,183,000	348,000	57,000	77,000	98,000	*
	3,250	1,233,000	322,000	51,000	60,000	93,000	
	2,580	981,000	258,000	37,500	25,500	85,000	
Plant Cost (c)	3,000	1,183,000	264,000	37,500	25,500	85,000	*
	3,250	1,233,000	230,000	29,500	15,500	67,000	
	2,580	981,000	183,000	21,000	11,000	43,000	

* On the basis of the proposed prices Net Sales would be $1,132,000. Net Profit would be $7,000, $8,000 and $25,000 lower for Plant Costs (a), (b) and (c) respectively.

From the above table it will be seen that in only one case does Net Profit fall below dividend requirements and it results from a combination of conditions which are un-

likely to be experienced, that is a decrease in consumption of 6% from that in 1940, and an increase in U. S. Costs of 10% above those estimated for 1941. Furthermore if we assume that sales in 1941 will be between 3,000 and 3,250 tons and that costs will be between plant costs (a) and (b), the effect on Net Profit of the proposed price reduction would be limited to an amount varying from $5,000 to $8,000.

As taxation absorbs the major portion of Net Profit from Sales in excess of $166,000, it is interesting to note the extent to which prices could be reduced without seriously affecting Net Profit. If it is assumed that Plant cost (a) will be in effect during 1941 and that the volume of sales will be 3,250 tons as TiO_2, the selling prices of "TITANOX" A and "TITANOX" C could be reduced an additional amount of .5¢ and .15¢ per pound respectively below the proposed prices without seriously affecting Net Profit, which would decrease from $88,000 to $84,000 as compared with a decrease of $30,000 in Net Sales. However, any reduction below this amount would have a larger affect on Net Profit as the Excess Profits Tax would then be calculated as 12% of Net Taxable Income. Similarly with the same cost and a volume of 3,000 tons as TiO_2, the selling prices of "TITANOX" A and "TITANOX" C could be reduced an additional .35¢ and .1¢ per pound respectively and Net Profit would only decrease from $86,000 to $83,000 as compared with a decrease of $19,000 in Net Sales. However, as mentioned previously, the proposed reduction in selling prices represents a maximum to which it is believed we can go without exciting speculation on the margin of Profit enjoyed by the Company and, consequently,

it is not proposed to increase the reduction by any proportion of the amounts mentioned above.

While a price reduction would probably create goodwill with customers at the moment, it does disrupt the logical basis of Canadian prices to which the trade has become accustomed. As a price lower than the American price plus duty and other charges would only persist as long as the surcharges due to war are in effect, it is likely that some ill-will would be created when the taxes are removed and Canadian prices revert to the U. S. price plus duty, as the reduction in selling prices would be less than the amount of tax removed. However, if the proposed price reduction were explained as an effort to stabilize the Canadian market and continue its development, which has been deterred to some extent by rising prices, it is believed that the possibilities of ill-will might be lessened. Also it is possible that price changes may occur in the United States before war taxes are removed in Canada, in which case there would be an opportunity to gradually adjust prices. Regardless of this possibility, war taxes will undoubtedly apply for some years and the opportunity of expanding the Canadian market justifies some risk of ill-will at a later date.

Other disadvantages to the proposed price reduction are the reaction of American customers who have branches in Canada and the association in our customers' minds of the Company with Excess Profits Taxation. The former is not believed to be a serious disadvantage as similar situations have existed on other products sold in Canada but should be reviewed with Titanium Pigment Corporation. The latter is relatively minor but may tend to cause ill-will in a few isolated cases.

If the proposed price reduction is approved it is recommended that the change in price be effected 1st October 1940. The effect on this year's business, without considering a possibility of increased volume, would be to reduce Net Sales by $12,000 and Net Profit by $2,000.

In conclusion it is recommended that:

1. A reduction of .85¢ and .4¢ per pound be made in the prices of "TITANOX" A and "TITANOX" C respectively, effective 1st October, 1940.
2. The price of "TITANOX" B-30 remain unchanged.
3. The reduction in price be explained to Canadian customers as an attempt to stabilize the market and decrease the deterring effect that rising prices have on development of the market.

GNR:PWR

2497

Exhibit 685

November 12, 1940.

To: Traffic Department

Attention: Mr. C. Thompson

FROM: G. N. Bates

FAIR MARKET VALUE OF "TITANOX" PIGMENTS

Canadian Titanium Pigments Limited was originally formed to manufacture Titanium Pigments in Canada but until the Canadian market is sufficiently large to justify this step, we are purchasing and importing our supply of finished pigment from Titanium Pigment Corporation, New York, U. S. A. This company is a non-profit wholly-owned subsidiary of National Lead Company and handles the sales of Titanium Pigments for the manufacturer, the Titanium Division of National Lead Company. Presently we are obtaining a Fair Market Value below the retail price in the United States and it is our understanding that we should submit information to indicate the extent to which this deduction can be justified.

In the United States the majority of sales are made by Titanium Pigment Corporation directly to customers but some are made through selling agents. Since all Canadian sales are through selling agents, our position is similar to that of Titanium Pigment Corporation when selling through their agents.

The Sales Agents of Titanium Pigment Corporation receive a commission of 5%, which is expected to cover general selling expenses and customers' credit risk. How-

ever, Titanium Pigment Corporation continues to supply technical service and the facilities of their technical laboratory, pay the delivery charges on the shipments from factory or warehouse, pay warehousing expenses and bear the entire cost of advertising and patent expenses in connection with Titanium Pigments. They feel that, if any of these duties were performed by the selling agent, the agent would expect and be entitled to additional commission.

In Canada the formation of Canadian Titanium Pigments Limited relieved Titanium Pigment Corporation of all such expenses as the pigment is sold f. o. b. plant and from there all expenses are borne by Canadian Titanium Pigments Limited. For instance, we have installed a technical service laboratory in Montreal, from which our technical service man operates to provide Canadian customers with assistance in the use of our product. Thus, as Canadian Titanium Pigments Limited is performing a function in Canada greater than that expected of a selling agent, it would seem reasonable to expect a commission correspondingly higher than the 5% normally allowed.

To arrive at the commission that could be expected for a Company performing the work done by Canadian Titanium Pigments Limited, a review has been made of Titanium Pigment Corporation's accounts, and we have determined the cost of performing the various services of which Canadian Titanium Pigments Limited has relieved Titanium Pigment Corporation of the expense and have expressed these costs as a percentage of sales. In calculating the following figures, an average of expenses for the years 1938, 1939 and nine months of 1940 has been taken.

Exhibit 685

(a) Agents' Commission	5.00%	of sales
(b) Cost of technical service	1.56%	" "
(c) Freight and cartage expense....	6.55%	" "
(d) Warehousing expense	.61%	" "
(e) Advertising expense	.38%	" "
(f) Patent expense	.12%	" "
(g) General Administrative expense	1.12%	" "
Total	15.34%	" "

Please note that the expenses listed do not include general office or selling expenses in connection with the sales made directly by Titanium Pigment Corporation to customers, but only include expenses normally incurred in addition to the 5% selling expense allowed on sales through selling agents.

Upon this basis, it would appear that Titanium Pigment Corporation would be justified in establishing a commission of 15% if a selling agent performed all the functions performed by Canadian Titanium Pigments Limited. Would not this indicate that we are entitled to a reduction of 15% from U. S. retail selling prices in determining the Fair Market Value?

G. N. B.

GNB:OVM

Exhibit 686

June 18, 1941

Mr. G. W. Corddry, General Sales Manager
Titanium Pigment Corporation
111 Broadway
New York, N. Y.

Dear Graham:

Many thaanks for your letter of 16th June advising of the new selling prices which will become effective in the United States on 1st July and enclosing a copy of the type of price list you will be distributing. The new prices have been noted and it is intended that we shall make equivalent increases in Canada on 2nd July (1st is a holiday) amounting to 1.4¢ per pound for "TITANOX" A, .35¢ for "TITANOX" B-30 and "TITANOX" C, and 1.05¢ for "TITANOX" L.

It is particularly interesting to see that you have discontinued the differential in favour of "TITANOX" A-Ceramic Grade. Several years ago we managed to swing customers from this grade to the then cheaper "KRONOS" material but since the outbreak of war, there have been times when interest has been expressed in the Ceramic Grade.

I will appreciate greatly knowing your policy concerning forward buying at the current prices, as this is a common problem and we are always glad to have the benefit of your experience. Please accept my thanks for the information you have already passed along as it will enable us to proceed at once with preparing our announcement.

In connection with shipments to Canada, if you allow current prices on shipments to American customers for

Exhibit 686

some definite period or amount after July 1st, it would be quite legal to continue allowing the Fair Market Value based upon current prices on shipments to Canada during this same period. This is a point which I wished to bring to your attention as it means some saving in duty to which we are entitled. If there are any points in connection with this situation on which you are not clear or feel that I have overlooked, please let me know.

Very truly yours,

CANADIAN TITANIUM PIGMENTS LIMITED

GNB

G. N. Bates, Acting Sales Manager

GNB:EMY

cc: Mr. I. D. Hagar

Exhibit 687.

Letterhead of
TITAN CO. A/S

GJ/KL

July 24, 1937.

W. C. Beschorman, Esq.,
c/o Park Lane Hotel,
Piccadilly,
London.

Dear Mr. Beschorman:—

Re. Agreement with Canadian Industries Limited,
of January 1, 1937.

I enclose copy of a personal letter of July 5th from Mr. Stopford to me, for your information. I don't think Mr. Stopford has discussed this particular matter with any of the members of the Board of the British Titan Products Co., and I may suggest that we discuss it together before it be talked over with anybody of the B.T.P., unless they take it up with you before my arrival in London.

I also enclosed copy of another letter from Mr. Stopford of July 5th re the approval by British Titan Products Co.'s Board of the above-mentioned agreement.

Yours sincerely,

G. JEBSEN

Enclosures.

2503

Exhibit 687

(COPY)

BRITISH TITAN PRODUCTS COMPANY LIMITED

BILLINGHAM

CJS/SL/73220.

5th. July 1937.

Dr. G. Jebsen,
c/o Titan Co. A/S,
Fredrikstad,
NORWAY.

Dear Dr. Jebsen,

This letter is to intimate officially that the agreement made the first day of January 1937 between Canadian Industries Limited and the National Lead Company of America was considered and approved by my Board on July 1st. 1937.

Yours very truly

C. J. STOPFORD,
General Manager. (sign.)

Exhibit 687

(COPY)

BRITISH TITAN PRODUCTS COMPANY LIMITED

BILLINGHAM

CJS/SL/73221

5th. July 1937.

Dr. G. Jebsen,
C/o Titan Company A/S,
Fredrikstad,
NORWAY.

Dear Dr. Jebsen,

With reference to the exclusion of titanium tetrachloride from the Licensed Field in the Agreement dated 1st January 1937 between Canadian Industries Ltd and the National Lead Company of America, I would like to point out that this creates a condition which I think has so far not been fully considered, that is with the probable increase in importance of titanium tetrachloride as a step in the manufacture of titanium pigments, I can visualize the position arising where under these agreements, we are obliged to disclose full details of developments in the manufacture of titanium tetrachloride to the Canadian company, whereas the Canadian company is under no reciprocal agreement in return.

Personally, I think titanium tetrachloride is going to play a very important part indeed in the near future and I think it is unfortunate that we should be in the position of giving full details of titanium tetrachloride manufacture rights under patents and current development in the

process as part of a process for the manufacture of titanium pigments, to a company which is under no obligation to reciprocate in so far as titanium tetrachloride is concerned.

There is also the probability that knowledge in connection with the manufacture of titanium tetrachloride may be of considerable assistance to a competitor considering the manufacture of titanium pigments and if it were at all possible, I would prefer that all members of our titanium manufacturing family were under equal obligations in this respect.

So far as I know, the only exclusion of titanium tetrachloride from the Licensed Field previous to the Canadian one, was in B.T.P.'s agreement with I.C.I., but in this case, there is a decided difference, as I.C.I. is under agreement not to manufacture titanium pigments, and we are under no agreement to give titanium tetrachloride information to I.C.I.

I am afraid that it may be too late for anything to be done about this, but having given you my views on the position, I should be glad if you would see whether anything can be done.

Yours sincerely

C. J. STOPFORD. (sign.)

Exhibit 688

Letterhead of

TITAN CO. A/S

GJ/KL

August 6, 1937.

C. F. Kaegebehn, Esq.,
National Lead Company,
Patent Department,
111 Broadway,
New York.

Dear Mr. Kaegebehn:

Your letter of July 20th re. "T. 186 German Pat. Appl. J. 55,645" has been forwarded to me in copy. I am sending you a few words just to confirm what you have said about our conversations as to a widening of the "Licensed Field" in the agreements with the Canadian Titanium Pigments Limited and the Canadian Industries Limited, as well as in the DuPont Agreement.

I am inclined to think that the Canadian Industries Limited after closer consideration will find it very much to their advantage to have this done and that it will meet with no objection unless the arrangements with DuPont or somebody else should prevent them in some way.

I have no opportunity at present to study the agreement, but if I remember correctly it reserves the right for DuPont to obtain licenses from the Canadian Pigments Limited for United States. If this is so, the following situation may arise:

The Canadian Titanium Pigments Limited establish a production of "Titanium compounds not useful as pigments" on the basis of developments by Titan Company,

Exhibit 688

Incorporated and its associated companies and by further developments of this industry by the Canadian DuPont will have the right to these.

If the patent protection is not sufficient, DuPont is put on its feet with regard to the new industry and a competitive situation may arise between DuPont on the one side and Titan Company, Incorporated and its associated companies on the other side.

I presume that, with the friendly relations between the companies, an arrangement will be made of a satisfactory nature, but even so the situation does not provide for equity, as it gives DuPont kind of an option on such developments from Europe with no corresponding opportunity for Titan Company, Incorporated and its associated companies.

The above considerations may seem far-fetched, but, as you know, the chemical industry may also develop very quickly, and I trust that you in case will have this in mind.

I hope that DuPont also will come in line and realize the advantage of our co-operation in the whole Titanium field.

With kindest regards,

Yours very truly,

G. JEBSEN

Copy to Mr. Beschorman.

Exhibit 689

MEMORANDUM OF A CONFERENCE

Held in Montreal during the Week of August 23rd, 1937, between Mr. C. F. Kaegebehn, National Lead Company and Canadian Titanium Pigments Limited.

Those Present:

Messrs.	C. F. Kaegebehn	(Throughout)
	A. E. MacKinnon	(Occasionally)
	R. G. Beck	(Occasionally)
	G. H. Findlay	(Throughout)
	J. C. Asselin	(Occasionally)
	T. W. Smith	(Occasionally)
	C. W. Taylor (Fetherstonhaugh & Co.)	(Occasionally)
	R. J. Walley	(Throughout)

1. *General "T" Case Information.*

(a) "T" Case defined.

During discussion the "T" Cases were fully explained, also procedure followed for allocating "T" numbers and the handling of applications. This was also explained in Mr. Kaegebehn's letter of August 1st.

(b) A copy of List of Patent "T" Cases showing situation as of December 31st, 1936 and up to T-181 was received for C.T.P. Files.

(c) A table of cases T-.01 to T-187 specific to the status of these cases in Canada was received for C.T.P. files. This list was reviewed with spe-

cial reference to those cases "In the Licensed Field" and those "Not in the Licensed Field", and the importance of some of the cases. A notation was made on list as each individual case was discussed.

2. *Issued Canadian Patents.*

A table of issued Canadian Patents in which C.T.P. is entitled to rights (showing the situation as of August 1st, 1937) was received and discussed. Copy to be retained by C.T.P. C.T.P. will prepare a list in more detail for their own requirements. Copy will be sent to Mr. Kaegebehn. (Mr. Kaegebehn will investigate ownership of Canadian Patent 225,569 to Buckman).

3. *Pending Canadian Applications.*

(a) Copies of three pending applications filed in Canada by Titangesellschaft I. G. Farbenindustrie were received. These applications have now issued as Canadian Patents 367,934 (T-142), 367,935 (T-141), 367,936 (T-140).

(b) A list of all cases filed in Canada. This list included those cases filed by:—

1. National Lead through Fetherstonhaugh Co., Montreal, (Mr. Taylor). These Canadian applications were discussed with Mr. Kaegebehn and Mr. Taylor and the status of all cases noted.

2. Titangesellschaft through Hutz and Joslin, New York, with Fetherstonhaugh, Ottawa.

Exhibit 689

3. Other cases originating with associates of National Lead filed by National Lead in Canada, in which C.T.P. is to obtain rights in Canada through National Lead were also discussed. The status of the corresponding U. S. applications on all cases was also discussed.

4. *Pending U.S. Applications.*

(a) Copies of specifications of all pending U.S. cases were received by C.T.P. These cases are to be considered by C.T.P. for filing in Canada.

(b) A table of information concerning (a) was received and discussed. Cases at present coming *outside* the "License Field" were noted. C.T.P. will consider these cases as to filing in Canada on the basis of the U. S. Applications. A brief description was given on each case by Mr. Kaegebehn who also pointed out cases which are considered important. Cases that have been filed in France will receive our immediate attention.

Mr. Kaegebehn has promised to keep C.T.P. posted on the status of the U.S. Applications and will send copies of U.S. Office Actions and his replies as dealt with. Also any information which will assist our decision on filing or not in Canada. We will also receive information on the status of U.S. Applications filed by the American Zirconium Corporation.

5. *Cases Authorized for Filing in U. S. and/or Canada.*

(a) Translations of cases filed in Germany and on which filing of corresponding applications in

U. S. and/or Canada has been authorized by National Lead were received by C. T. P.

(b) A table giving information concerning (a) handed to C. T. P. for their files. This table was also discussed.

6. *Trade Marks.*

A letter and table giving information with respect to the trade-mark registration of "TITANOX" and "KRONOS" was received for C. T. P. file.

After a discussion with Mr. Taylor, it was considered advisable to have these trade-marks assigned to C. T. P. Deferred—the assignment of the Trade-marks to C. T. P. will be discussed at a later date.

7. *Cases T-175 to 178 inclusive—Delustring Artificial Silk.*

These cases originated from inventions of I. C. I. These cases were submitted by I. C. I. to C-I-L for filing in Canada. It was considered in December, 1935, that these cases were not of sufficient importance to be filed in Canada. I. C. I. were notified of this in January, 1936. Cases were not filed in Canada and it is now too late.

8. *Burgess TiO_2 Process.*

C. T. P. requested an opinion from Mr. Kaegebehn on the commercial value of the pending Canadian Patent Applications corresponding to U. S. patents. C. T. P. received a letter from Mr. Kaegebehn outlining the National Lead's opinion on the U. S. patents, a copy of a letter received from Mr. J. L. Turner

stating the commercial possibilities. Copy of Report No. 1 Research Project No. 125 was also received. The conclusions were that the Fluoride process described in the Burgess process is not economical when compared with the sulphuric acid treatment of titanium ores.

9. *Canadian Patent No. 345,236 (Case T-104) and No. 345,237 (Case T-102)*

Notice was received from a Canadian Firm of Patent Attorneys that they would maintain the Canadian Patent Office "Working Clause" by advertising at a fee. Mr. Kaegebehn was advised that this notice and all future notices should be referred to C. T. P. who will take care of the requirements of the Canadian Patent Office. Mr. Kaegebehn agreed.

10. *Use of Titanium Dioxide Pigments in Paper Making.*

At C. T. P's request, Mr. C. F. Kaegebehn discussed the patent situation in the U. S. A. Indices of references and copies of selected patents and literature were handed to C. T. P. and discussed. These references were considered with respect to Genberg Canadian Patent No. 327,642.

The reason for requesting an opinion on Canadian Patent 327,642 was because Canadian paper mills were afraid of an infringement suit if they used Titanium Pigments in the manufacture of paper. From the valuable information supplied by Mr. C. F. Kaegebehn it was considered that Can. 327,642 was probably invalid. This is also confirmed by additional information, namely, Meredith Interference No. 63,614

supplied to Mr. Taylor of Fetherstonhaugh by Mr. C. F. Kaegebehn.

The entire Canadian situation was discussed with Mr. Taylor who represented Genberg in obtaining the Canadian Patent and was also connected with the unsuccessful prosecution of the U. S. case. Since this discussion with Mr. Taylor, Mr. Taylor considers that Can. 327,642 is probably invalid and the rights to the Canadian patents could be obtained from the Fraser Company, assignee of Genberg for a very nominal payment. Mr. Taylor has been instructed to enter into negotiation with Fraser Company, which he has done. The matter is now being taken care of by C. T. P.

Mr. C. F. Kaegebehn informed C. T. P. of the situation in the U. S. A. with respect to the use of Titanium Pigments in waxed paper. Canadian Patent No. 343,801 corresponding to U. S. Patent 1,938,948 to Nashua was noted. It was decided to defer any active investigation into the status of the Canadian patent until such time as the situation in the United States has been cleared up.

11. *Jenness Patent.*

Canadian Patent 346,006 equivalent to U. S. 1,923,094 and 2,044,753.

C. T. P. received a notice from Marks and Clerk, Ottawa, that the owner of Can. 346,006 is desirous of disposing of his rights or granting license for manufacture in Canada. The notice was sent out to satisfy the Canadian Patent Office under the "Working Clause."

Mr. C. F. Kaegebehn discussed the U. S. patents and imparted all information possessed by National

Lead concerning the Jenness patents and the Intermetal Corporation.

It was considered advisable to let the matter drop.

12. *Titanium Dioxide from Titanium Tetrachloride.*

In the C.T.P.—National Lead Agreement the "License Field" specifically excludes titanium tetrachloride. It was thought that in view of certain recent developments, particularly the work of I. G. Farbenindustrie on the chloride processes, where titanium tetrachloride is used as a step in the method of preparing TiO_2, that arrangements may be mutually agreed upon to bring the process in the "License Field."

13. *Future Modus Operandi.*

The handling of patent applications submitted by National Lead to C.T.P. for their consideration as to filing in Canada was discussed. A plan was formulated whereby Mr. Kaegebehn will submit cases to C.T.P., C.T.P. will hold patent committee meetings, after the cases have been studied, C.T.P. will report their decisions to Mr. Kaegebehn. Mr. Kaegebehn has promised to assist C.T.P. in any way they desire. Mr. Kaegebehn will send copies of U. S. Office Actions and his replies thereto.

14. *C. T. P.—National Lead Agreement.*

A general discussion of the term "License Field", wherein the C. T. P.—National Lead Agreement differs from the Agreement of 1920, the I. G Agreement and the B. T. P. Agreement were noted and discussed more or less informally. Mr. Kaegebehn pointed out

the most important differences arising out of the discussion and on further study of the greement by C. T. P., C. T. P. considered it would be desirable to make changes in the present agreement, and to have an agreement drawn up which would give C. T. P. the same rights as B. T. P. enjoys in Great Britain. This matter was left open for further discussion at some future time.

15. *Relations between E. I. duPont (Krebs) and C. T. P.*

The arrangement whereby duPont submit inventions to C-I-L for filing in Canada and C-I-L grants rights to C. T. P. for Canada and duPont receives through National Lead Company rights to inventions from C. T. P. in the United States was considered.

16. *U. S. 2,083,887—Wieneke Oliver Filter,* now installed by National Lead was discussed. It was agreed that C. T. P. would not be required to pay a royalty on such equipment.

R. J. Walley
C. T. P.

Exhibit 690

"LICENSED FIELD" OF CANADIAN AGREEMENTS

August 31st, 1937.

Mr. W. C. Beschorman—Executive Vice-President
Mr. C. F. Kaegebein—Manager—Patent Department

Dear Mr. Beschorman:

On July 20th I wrote you a memo in Case T. 186, German Patent Application No. J. 53,645, which case, as was called to our attention by Titan Company, Inc., lies outside the scope of the "Licensed Field" of our Agreement with Canadian Titanium Pigments, Ltd.

I have spoken of this case and other similar cases which lie outside the "Licensed Field" with our Canadian friends. In this connection, we have considered the relation of such cases to the "Licensed Field" of the Canadian Agreements. I beg to report to you on the subject of these conversations.

The Canadian people wish to exchange with us rights to the same extent as B. T. P. and Titanine exchange rights. I assured them that it was your intention that they should obtain such rights, and, in fact, to be treated in every way "as one of the family." I pointed out that even though C. I. L. restricted what it gave C. T. P., just as I. C. I. has restricted what it gives to B. T. P., the exchange between National Lead and C. T. P. need not be restricted correspondingly, just as the exchange between B. T. P. and Titanine is wider than what I. C. I. gives B. T. P.

I found the Canadian people willing and, indeed, desirous to cooperate on any lines which would bring such an exchange about. However, I pointed out that the situation

is somewhat complicated by the fact that DuPont is entitled to receive through National Lead rights in the United States for developments of C. T. P.

My conversations with the Canadian people in this matter were merely to acquaint them with the situation, so that they may consider it as the relations between our two companies develop. I hope that, after careful consideration with the Canadians and with Titan Company, Inc., we will be able to place before you some concrete recommendations in this matter. In the meantime, I have agreed to patent in Canada such inventions which now lie outside the "Licensed Field," but which, if the "Licensed Field" were similar to that of the B. T. P.—Titaninc Agreement, would automatically pass to C. T. P., thus protecting C. T. P.

I attach hereto a copy of my letter to Dr. Jebsen, which discusses the situation somewhat more in detail. This letter is in reply to Dr. Jebsen's letter to me of August 6th, copy of which he sent you.

Yours very truly,

CFK:lo
encl.
c.c. Dr. G. Jebsen
Mr. T. W. Smith (C. I. L.)

Exhibit 691

EXTRA COPY

August 31st
1937

Dr. G. Jebsen
c/o Titan Company, Inc.
26, Rue de la Pepiniere
Paris—8e—France

Dear Dr. Jebsen:

Your letter of August 6th with reference to Case T. 186, D. R. P. Application No. J. 55,645, was received on August 17th. This was five days before I left for Montreal and, consequently, was most opportune because it enabled me to have in mind your thoughts in my talks with our Canadian friends. Please accept my thanks.

As a result of my conversations in Canada on the "Licensed Field," I am now able to present a somewhat clearer view of the situation.

The principle laid down by Mr. Beschorman to govern the formation of The Canadian Titanium Pigments, Ltd. and the relationship between that company and National Lead Company on the one hand, and Canadian Indstries, Ltd. on the other, was that C. T. P. should be placed in a position analogous to that of B. T. P. vis-a-vis I. C. I. on the one hand, and Titan Company, Inc. on the other. You are aware that the rights given B. T. P. by I. C. I. are considerably more restricted in scope than the rights exchanged between B. T. P. and Titaninc. The C. I. L. apparently desired that the rights which it would give to C. T. P. should be similar to those given by I. C. I. to

Exhibit 691

B. T. P. In any event, the "Licensed Field" as contained in the C. T. P. — National Lead Agreement and the C. T. P. — C. I. L. Agreement, excluding titanium tetrachloride and limiting the definition of titanium compounds to those which are useful as pigments, suffices to place C. I. L. in an analogous position with respect to C. T. P. as I. C. I. stands in relation to B. T. P. However, although the "Licensed Field" of the B. T. P. — Titanine Agreement covers a wider field than is given by I. C. I. to B. T. P., the "Licensed Field" of the C. T. P. — National Lead Agreement was made identical with the C. I. L. — C. T. P. Agreement.

I pointed out to our Canadian friends that, inasmuch as there was no mutual exchange of rights as between I. C. I. and B. T. P., nor between C. T. P. and C. I. L., the "Licensed Field" of the C. T. P.—National Lead Agreement could have been, like the "Licensed Field" of the B. T. P.—Titanine Agreement, of wider scope because there is here provided a mutual exchange. Thus, National Lead and C. T. P. could exchange rights in, e.g. titanium tetrachloride developments, whereas C. I. L. would not receive any such developments from C. T. P. and would not give any to C. T. P.

The relation of DuPont to this situation should be noted here:

Under the existing arrangement, C. T. P. obtains rights for Canada from DuPont through C. I. L. in a field which is substantially that of the "Licensed Field" of the C. T. P.—National Lead Agreement. Thus, it was comparatively easy to stipulate in the C. T. P.—National Lead Agreement that DuPont should receive, on their request, a non-exclusive license for the United States in developments

given National Lead by C. T. P. The comments contained in your letter of August 6th bear directly upon this situation. Therefore, in considering any widening of the "Licensed Field" of the C. T. P.—National Lead Agreement, the position of DuPont must be borne in mind.

I believe I correctly interpret the attitude of the C. I. L. and C. T. P. people in saying that they are willing and, in fact, desirous of securing an arrangement which will enable C. T. P. to enjoy a mutual exchange of rights with National Lead, similar to that which is enjoyed by B. T. P. and Titaninc. I pointed out to our Canadian associates that any arrangement or suggestions in this direction must be carefully considered, in order that the ultimate arrangement be equitable to all parties concerned. In this connection, I further pointed out (1) that any widening of the "Licensed Field" as between National Lead and C. T. P., say to the scope of the B. T. P.—Titaninc "Licensed Field", would automatically place at the disposal of DuPont in the United States a wider field than the "Licensed Field" of our Agreement with Krebs and (2) that there was at present no arrangement for an exchange between Titaninc and DuPont. Thus, as pointed out in your letter of August 6th, DuPont might be placed through C. T. P. in a preferred position with respect to developments of Titaninc and its European associates. Therefore, it would be necessary when widening the "Licensed Field" of the National Lead—C. T. P. Agreement, to correspondingly limit the field placed at the disposal of DuPont in the United States, in order to keep the rights placed at the disposal of DuPont within the existing bounds.

In connection with Mr. Ravnestad's letter to me of July 25th, re Case T. 186, and my letter of August 20th

in reply thereto, I sent a memo to Mr. Beschorman, copy of which is enclosed. I also enclose herewith copy of my memo to Mr. Beschorman of today's date, which reports further to him in this situation.

With very kind regards,

Yours very truly,

CFK:lo
encls.
c.c. Mr. W. C. Beschorman
Mr. T. W. Smith (C. I. L.)

Exhibit 692

Letterhead of

TITAN COMPANY, INC.

GJ/AK Paris, October 1st 1937.

Charles F. Kaegebehn Esq.
National Lead Company
Patent Department
111 Broadway
New York City, U.S.A.

Dear Mr. Kaegebehn,

Many thanks for your interesting letter of August 31st regarding your conversation in Canada on the agreement with the Canadian Industries Ltd. and the Canadian Titanium Pigments Ltd.

You have described the situation well and I am glad to note that you have found the Canadians desirous to follow our line. I hope that DuPont also will take this view, and the very important latest developments on this side, as regards the pigment of higher tinting strength and the effect of the antimony addition as regards the chalking resistance may, although not outside the pigment field, help to open their eyes for the assistance they may have from this side.

As regards the analogy in the relations between the two firms and between I.C.I. and British Titan Products Company, I may draw your attention to the following:

Canadian Industries Ltd. have 50% of the shares of the Canadian Titanium Pigments Ltd., whereas I.C.I. has only 17% of the ordinary shares of the British Titan Products Company. This "only 17%" was an argument of consider-

able weight when I.C.I. declined for their part to accept a Licensed Field as wide as we have it in our agreement with I.G. Farbenindustrie and with British Titan Products Co. However, I.C.I. practically accepted the wider Licensed Field in so far as they anyhow undertook to refrain from any industrial or commercial activity within the wider Licensed Field applied in the agreement with B.T.P.—with the only exception of $TiCl_4$. The Canadian Industries Ltd. are however unrestrained as regards Titanium Compounds, which cannot be used as pigments, as you rightly point out. It should also be borne in mind that the British Titan Products Company is an entirely separate independent organisation and the I.C.I.'s people have only access to its factory and experience to the extent this from time to time may be permitted by the B.T.P.

I do not know how the Canadian Industries Ltd.'s relations to the Canadian Titanium Pigments Ltd. will be, but with 50% interest and no other Canadian shareholder— is it likely and even presumed that the Canadian Industries Ltd. will take a far more direct hand in the management than I.C.I. in the British Titan Products Co.—i.e. their chemists and engineers will assist and have access to the Pigment Co.'s plants and developments (as I.G. to Titangesellschaft's). If so, it will mean that they can build up industries in Titanium compounds other than pigments and compete outside Canada on the basis of the experience in the Pigment Co.

I further enclose a personal letter from Mr. Stopford of July 5th, commenting on the Canadian agreement. I sent Mr. Beschorman a copy to London on July 24th. I do not agree with Stopford's supposition that the Canadian Industries Ltd. and also the Canadian Titanium Pigments Ltd.

can withhold any experience re the manufacture of $TiCl_4$ if they do not use this for the manufacture of pigments, even when we use $TiCl_4$ to this purpose. I interpret the agreement so that if we need the $TiCl_4$ for the production of pigments, we will have the benefit of the experience of the Canadian Titanium Pigments Ltd.

However, he is right in the following:

Canadian Titanium Pigments Ltd. will have the benefit of our experience re $TiCl_4$ and consequently (as far as it is not patented) also the Canadian Industries Ltd., which can use it for $TiCl_4$ manufacture without restrictions as to markets. Further—if C.T.P. do not make use of $TiCl_4$ for the manufacture of their pigments, we may not have access to developments in $TiCl_4$ of the C.I.L.

I should appreciate if the points raised by Mr. Stopford and mentioned above could be definitely clarified as it is always better to have this done in advance before they become of actual interest.

With kindest regards,

Yours very truly

G. JEBSEN

Copy to Mr. Beschorman

Exhibit 692

COPY

BRITISH TITAN PRODUCTS CO. LTD.

BILLINGHAM

CJS/SL/73221.

5th July 1937.

Dr. G. Jebsen,
C/o Titan Company A/S.
Fredrikstad,
NORWAY.

Dear Dr. Jebsen,

With reference to the exclusion of titanium tetrachloride from the Licensed Field in the Agreement dated 1st January 1937 between Canadian Industries Ltd. and the National Lead Company of America, I would like to point out that this creates a condition which I think has so far not been fully considered, that is with the probable increase in importance of titanium tetrachloride as a step in the manufacture of titanium pigments, I can visualize the position arising where under these agreements, we are obliged to disclose full details of developments in the manufacture of titanium tetrachloride to the Canadian company, whereas the Canadian company is under no reciprocal agreement in return.

Personally, I think titanium tetrachloride is going to play a very important part indeed in the near future and I think it is unfortunate that we should be in the position of giving full details of titanium tetrachloride manufacture rights under patents and current developments in the process as part of a process for the manufacture of titanium

Exhibit 692

pigments, to a company which is under no obligation to reciprocate in so far as titanium tetrachloride is concerned.

There is also the probability that knowledge in connection with the manufacture of titanium tetrachloride may be of considerable assistance to a competitor considering the manufacture of titanium pigments and if it were at all possible, I would prefer that all members of our titanium manufacturing family were under equal obligations in this respect.

So far as I know, the only exclusion of titanium tetrachloride from the Licensed Field previous to the Canadian one, was in B.T.P.'s agreement with I.C.I., but in this case, there is a decided difference, as I.C.I. is under agreement not to manufacture titanium pigments, and we are under no agreement to give titanium tetrachloride information to I.C.I.

I am afraid that it may be too late for anything to be done about this, but having given you my views on the position, I should be glad if you would see whether anything can be done.

Yours sincerely.

C.J. STOPFORD. (Sgd.)

Exhibit 693

Letterhead of

CANADIAN INDUSTRIES LIMITED

10th January 1938

Dear Mr. Beschorman:

It has been recently brought to my notice that under the various agreements leading up to the formation of Canadian Titanium Pigments Limited, C.T.P. is not entitled to the manufacturing and selling co-operation of National Lead and C-I-L on titanium tetrachloride, whereas British Titan Products, under their group of agreements with yourselves and the three other stockholders, are entitled to manufacture and sell this product.

In eliminating titanium tetrachloride entirely from the C.T.P. agreement I believe I am correct in saying that C-I-L was influenced by its obligation to I.C.I. to refrain from divulging I.C.I.'s information on titanium tetrachloride and I do not think there was any intention that C.T.P.'s activities should be limited except in so far as this prior obligation of C-I-L made it necessary.

As Mr. MacKinnon and I will be in New York on Tuesday, January 18th, we would appreciate an opportunity of discussing this point if you can spare some time on that day.

With kind regards and best wishes for 1938.

Yours sincerely,

L. W. HASLETT

L. W. Haslett.

W. C. Beschorman, Esq.,
National Lead Company Inc.,
111 Broadway,
New York City.

Exhibit 694

Letterhead of

TITAN COMPANY, INC.

Paris, March 8th 1938.

GJ/AK

Charles F. Kaegebehn Esq.
National Lead Company
Patent Department
111 Broadway
New York City, U.S.A.

Dear Mr. Kaegebehn,

Re Cahen Agreements.

Many thanks for your letter of January 24th, which I have read with much interest, and I am very glad to note the developments.

I am enclosing copy of a letter of even date to Mr. Garesché, regarding international cooperation. Although part of the letter is of no direct interest to you, there are certain points which have a bearing on patent matters and therefore may interest you.

Yours very truly,

G. JEBSEN

2543

Exhibit 694

Paris, March 8th, 1938.

GJ/AK.

C.E. Garesché Esq.
National Lead Company
Titanium Division
111 Broadway
New York City, U.S.A.

Dear Mr. Garesché,

I refer to your letter of November 24th, received December 2nd, and my preliminary answer of December 30th, re sending reports to the Canadian Titanium Pigments Ltd.

There are certain considerations in this connection, which slipped my mind when I wrote you on December 30th, but which Dr. Raspe has brought forward and have made him and Dr. Kühne hesitate to comply with the wishes expressed by Mr. McKinnon.

I may first recall the situation as it has developed.

According to the agreements, there is provided for an exchange between the associated companies through semi-annual plant progress reports and mutual visits of the plants. This developed into exchange of plant experience, also by letters, and exchange of research reports regarding matters introduced in the plants. Based on the good experience as regards cooperation, it has been voluntarily agreed also to exchange research reports and information on matters which are under development and have not yet reached a more or less final state.

In this way the various associated companies are kept informed also about research work which is on the way and,

may form a basis for important patents. It has been done in the confidence that the various companies will take fully into consideration the interests of the other companies as regards patent protection.

You will appreciate that an organisation, which has been working for many years on a difficult problem, might find considerable inconvenience if another organisation, before the matter has reached a final stage for patent applications, steps in with research work and also applies for patents. This inconvenience may be felt in two ways:

1) The patent applications of the first company may interfere with the patent applications of the other company.

2) Certain patentable improvements, which easily could have been made by the first organisation if their time had not been too occupied with the basic invention, are made by one of the other organisations and patents applied for.

This is partly a psychological matter, which of course should not be given any primary importance, but, considering human nature, must be taken into account.

Both points have, however, a special importance as far as our relations with DuPont and the Canadian Titanium Pigments Ltd. are concerned, in view of the DuPont agreements' inconsistency with the agreements of the National Lead Company group, and the Canadian Company's connection with DuPont and the respective clauses in their license agreement with National Lead Company.

An instance how patent applications can interfere with each other, we have had in the antimony patent of B.T.P.

You may remember that when this invention was made by the B.T.P. they applied for a patent immediately and

informed the Titanium Pigment Co. On a following visit to U.S.A., Mr. Stopford got the information that work on that line had been done for several months in U.S.A. with other additions (and may be antimony), and that it was intended there to put in an application including a range of additions. The complications which arose out of this matter were settled satisfactorily to both parties.

The above manner of cooperation has been developed first of all by the provision in the agreements that the associated companies, each in their territory, have an option on gratuitously exclusive licenses from the others and the right to be informed as soon as a company sends in an application for a patent under a new invention and the right to request that protection for such invention is applied for in the countries within their territory.

As you know, your agreement with the DuPont de Nemours Company does not contain the same provisions, and further, your cooperation with DuPont de Nemours does not go so far as within our associated companies. Instance of this kind we have

a) in the Rutiox matter. (I refer to my correspondence with Mr. Beschorman in connection with Dr. Booge's visit to Europe.

b) The applications for patents by DuPont in the countries outside of North America and the conditions for a license are more or less a matter of Du Pont's discretion.

What is now the situation as regards the Canadian Titanium Pigments Ltd. and their relations to Du Pont?

According to the agreement between the National Lead Co. and Canadian Titanium Pigments Ltd., the latter com-

pany is free to give Du Pont licenses for U.S.A. under inventions developed by Canadian Titanium Pigments Ltd.

This matter concerns only the National Lead Company and not Titan Company Inc. and its associated companies as long as DuPont does not start or is incited to start research work resulting in patent applications, and it is a parallel to the situation already established by the National Lead Company—Du Pont agreement.

Another question is, to what extent do DuPont and Canadian Titanium Pigments Ltd. directly or indirectly exchange experience?

If the Canadian Titanium Pigments Ltd. receive research reports concerning matters under development and where the protection by patents has not been fully explored nor provided for, and this information should go further to Du Pont in the Canadian Titanium Pigments' discretion, then a situation arises which may lead to very undesirable results.

I pointed out this matter when I was over in New York last year and it came naturally up particularly in my conversations with Mr. Beschorman and Mr. Kaegebehn. I also pointed out to Dr. Booge the desirability of arrangements in our direct relations with DuPont (not in connection with Canadian Titanium Pigments Ltd.), which would avoid frictions arising out of situations as above mentioned.

The Germans have now brought the matter up.

I have pointed out that the National Lead Company would be the first to be afflicted, but it cannot be denied that both directly and indirectly the European companies' interests can also be affected.

There is every desire on the part of the Germans to establish a cooperation with the Canadian Titanium Pig-

ments Ltd. and the above is first of all brought up with a view to the interests of all the associated companies, but it has naturally a particular bearing on the actual situation of the German organisation with regard to their Rutiox developments.

I may mention in this connection that the Germans have been very willing to work in the spirit of an open cooperation from the earliest development of a new matter, and have particularly shown this in the case of the use of Aluminium Oxide coating, which they brought to the attention of the associated companies after a relatively short investigation as soon as they felt that here was an important matter, which should be closer investigated. You will probably remember that the first results of Billingham, and I believe also Titanium Pigment Co.'s investigations, did not confirm the German experience due to the method used by the Germans being not sufficiently developed and the thing not sufficiently investigated before it was brought to the associated companies' attention.

In the same spirit of cooperation the Germans have brought forward the Rutiox matter and this enabled the B.T.P. to immediately make themselves familiar with the work, and there has been since then a certain amount of developments going on on both sides under cooperation, which has made it possible for the B.T.P. to save a considerable amount of time.

In this connection, we have instances of developments made in B.T.P. on the basis of the German experience, which seems to illustrate the cases mentioned under b), with the exception that the psychological effect is not yet there, and I trust the matter will be satisfactorily arranged, particularly as the B.T.P.'s organisation fully recognize the priority of the Germans as regards this case.

Exhibit 694

You will no doubt have in mind that informtaion on the Rutiox matter has also been given to your organisation at the earliest moment in order to enable you to take up the matter if you found it of interest, which Mr. Turner has done.

As regards B.T.P.'s standpoint, Mr. Stopford, who knows the Canadian Industries Ltd. and their manner of cooperation with I.C.I., has less fear of the kind mentioned by the Germans. He suggests that the correspondence arising out of reports should be carried out directly between the issuing Company and the recipient, rather than such correspondence passing through the New York and the Paris offices, assuming, though, that copies should be sent to New York and Paris. Mr. Stopford says that he would not like to correspond directly with C.T.P. on technical matters, without a definite agreement from Paris and from National Lead Company.

Provided the above considerations can be met with in a satisfactory way, I think Mr. Stopford's suggestion is a good one, as it would facilitate matters and save time and expenses.

In this connection, I should appreciate if you would ask the C.T.P. to send me copies of their letters to Titan Company Inc.'s European associates, where they concern questions outside of routine commercial matters.

The solution of the questions mentioned above will, I suggest, be found:

1) By an undertaking of the Canadian Titanium Pigments Ltd., which can satisfy the question as to information going prematurely to DuPont (a matter which also is in the interest of National Lead Com-

pany in certain cases, i.e. the development of new pigment qualities).

or 2) By a revision of the arrangement with Du Pont bringing this company wholeheartedly into the family. I hope this last will come off.

Further, that in some way the spirit of the cooperation as regards dealing with patentable developments is brought to the Canadian Titanium Pigments' knowledge and has their agreement.

This last, I trust, will present no difficulty.

There is a third way, which, however, is not so simple to effect in practice and may lead to unpleasant situations arising, namely that the Canadian Company does only receive the semi-annual report and other reports and information concerning matters already introduced in the plants, which would be in accordance with the agreements and even go a little further than this. In this case they can have no representatives in our International Works and Research Committee and it may even be difficult to have them in the International Technical Sales Committee, as the work of the latter sometimes overlaps the work of the other. Such a situation I think would be regrettable. I suggest that our aim should be to have the Canadian Titanium Pigments Ltd. cooperating in the same manner and the same spirit as the associated companies of Titan Company Inc., with representatives in our various Committees.

I enclose for your information a memorandum on the organisation of our International Committees, which may be useful in giving the Canadians an idea of how we work, if you think you should forward a copy to them.

I Exhibit 694

I should also appreciate that you give it your careful attention with regard to any representatives of the National Lead Company, Titanium Division, coming over this year.

We are going to have a relatively short meeting in the I. W. & R. G. in March or beginning of April, chiefly dealing with matters under Section B, and presumably Sales Committee meetings, either end of June—early July, or in September. In September we will probably also have another I. W. & R. G. meeting.

I suppose we can talk over this nearer on my coming visit to New York.

Looking forward to hear from you, I am, with kindest regards,

Yours very truly,

sign. G. JEBSEN.

P.S. I am sorry that this letter has been so much delayed, but it is, as you will perceive, the result of several conversations with our German and English friends.

Copy to Mr. Beschorman
" " Kaegebehn

Exhibit 695

Letterhead of

CANADIAN TITANIUM PIGMENTS LIMITED

21st May, 1938

Dear Mr. Garesche:

From time to time we have discussed the advantages that our Company would derive if we were permitted to join the International Committees that have been formed to promote co-operation in the development of the titanium industry amongst the various companies associated by licence agreements. In the hope that you may be able to make the necessary arrangements for us to join these Committees, and so give us access to the development work of the other member companies, I am writing to confirm the following points:

1. With respect to information concerning laboratory work, research projects, pilot plant and other developments which—

   (a) may be placed at our disposal through copies of research reports emanating from your company or from your foreign associates, or

   (b) may be obtained by our representatives as a result of visits by them to plants and laboratories operated by you and your foreign associates, or

   (c) may be obtained by our representatives when attending meetings of the International Committees or meetings with other members of the staffs of the associated companies,

Exhibit 695

it is understood that such information is entirely confidential and must not be discussed with any individual other than officials or proper employees of either your company or your foreign associates. This understanding will apply to any original thoughts or suggestions acquired from either your company or your foreign associates, even though these thoughts or suggestions may not yet have been made the subject of a research or development programme or of a patent application.

2. With respect to research work undertaken by our company, it is understood that such work will be regarded as confidential and information or reports resulting therefrom will be imparted only to your company and your foreign associates. It is further understood that such information and reports may be disclosed to other parties at the discretion of your company, subject, of course, to the obligation provided in Article 3 of the Agreement between National Lead and Canadian Titanium Pigments Limited, dated 1st January 1937, to grant non-exclusive rights for North America and South America to E. I. duPont de Nemours and Company Inc., whenever so requested by them.

3. With respect to patent applications covering inventions made by us, it is understood that, throughout the course of the development of such inventions and of the preparation of patent applications covering them, we will consult with your Patent Department and will first apply for patents in the United States through your Patent Department, and, to

this end, will be glad to invite a National Lead Company representative, appointed by you, to sit with our Patent Committee. It is also understood that any information concerning our inventions and the patent applications covering such inventions will be divulged only through your company at its discretion, subject, of course, to the obligation provided in Article 3 of the Agreement between National Lead and Canadian Titanium Pigments Limited, dated 1st January 1937, to grant non-exclusive rights for North America and South America to E. I. duPont de Nemours and Company Inc., whenever so requested by them.

With kind regards,

Yours sincerely,

L. W. HASLETT
L. W. Haslett.

C. F. Garesche, Esq.,
National Lead Company,
111 Broadway,
New York City.

/VB

Exhibit 696

May 26th
1938

Air Mail

Mr. R. G. Beck—Manager
Canadian Titanium Pigments, Ltd.
P. O. Box 10
Montreal, Que., Canada

Dear Bob:—

Your letter of May 25th came in this morning. Last evening there was mailed to Mr. Haslett a letter by Mr. Garesché, suggesting only two minor changes in the letter written by Mr. Haslett to Mr. Garesché.

As stated in Mr. Garesché's letter to Mr. Haslett, Mr. Haslett's letters of May 21st and May 23rd were reviewed with Dr. Jebsen. The spirit of the letter rather than its wording was regarded as the decisive consideration and it appeared that the same spirit was contained in Mr. Haslett's letter as was embodied in the draft you took back. As Dr. Jebsen pointed out, the spirit of the international coöperation rests upon mutual confidence and the idea of the letter was merely to affirm for benefit of the European associates the moral obligation which, of course, C. T. P. understood.

In connection with your European trip, may I offer a suggestion, the value of which was impressed upon me in recent talks with Dr. Jebsen: Do not discuss any questions respecting the various agreements between the associated companies with any of the European people. Such discussion lies within the perogatives of Dr. Jebsen and the extent to which such questions should be discussed and the manner

in which they should be approached are entirely discretionary with Dr. Jebsen. Perhaps a word in this regard to Mr. Haslett would be helpful also.

With many kind regards and good wishes for a pleasant trip and sojourn in Europe. Please also say bon voyage to Mr. Haslett for me.

Yours very truly,

CFK:lo

Exhibit 697

Letterhead of

CANADIAN TITANIUM PIGMENTS LIMITED

May 28, 1938

Mr. Charles F. Kaegebehn, Manager
Patent Department
National Lead Company
111 Broadway
New York, N.Y., U.S.A.

C.T.P.L. AGREEMENT

Dear Kaegy:

Many thanks for your letter of May 26, in which you have given us further suggestions with regard to any possible discussions concerning Agreements, while in Europe.

We appreciate greatly receiving such suggestions from you because, as you know, we are most anxious to co-operate with the various members of the Titanium family.

Since Mr. MacKinnon is already in Europe, we are relaying to him the suggestions as made by you.

Thank you for your good wishes for a pleasant trip and, in return, may I wish you the same for your trip to Europe this fall. I may say also, that I am looking forward to seeing you at that time.

Yours very truly,

CANADIAN TITANIUM PIGMENTS LIMITED

R G BECK

R. G. Beck, Manager

RGB:PWR

Exhibit 698

July 26th, 1938

CONFIDENTIAL

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company, Inc.
26, Rue de la Pepiniere
Paris — VIIIe — France

Re: Canadian Situation

Dear Dr. Jebsen:—

On July 20th and July 21st, I conferred with Mr. J. C. Asselin Manager of the Legal Department of Canadian Industries Limited, concerning the discrepancies which exist in the Canadian agreements as compared with the agreements between the other members of our titanium family. We endeavored to review the situation, to state the problems and to develop a formula by which these discrepancies may be reconciled in a manner equitable to all members of the family. The results of this conference were summarized in a "Memorandum" and some notes entitled "Alternatives Concerning the Manufacture and Sale in Canada and Newfoundland of Titanium Compounds (which cannot properly be considered as pigments) and Excluding Titanium Tetrachloride and Titanated Lithopones". Copies of these documents are enclosed herewith and in connection with their consideration the following comments may prove helpful:

A. *As to the Memorandum:* The first paragraph serves to introduce the subject. Four alternatives, which are dis-

cussed in the notes, are stated and it is indicated that one—Alternative D—appeared to Mr. Asselin and me to be the most equitable. The concluding three paragraphs stated basic considerations which were taken into account when developing the four alternatives. These are: (1) that the rights reserved for Du Pont shall be restricted to pigments; (2) that C.I.L. desires to reserve rights with respect to titanium tetrachloride and titanated lithopone; (3) that the question of the division of profits as between National Lead Co. and C.I.L. under each of the four alternatives were to be disregarded in seeking an equitable solution.

In connection with the reservation by C.I.L. of rights to manufacture and sell titanium tetrachloride and titanated lithopones, the reasons for this were explained to me to be the following:

(a) Titanium tetrachloride being a war material, C.I.L., like I.C.I. wishes to reserve the right to manufacture this material without restrictions.

(b) C.I.L. acts as selling agent in Canada for titanated Lithopones produced by Du Pont; they have developed the Canadian market and wish to continue activities in this material.

B. *As to Alternative A:* This sets forth the disadvantages and complications which are foreseen, if the present situation is allowed to remain unchanged.

C. *As to Alternative B:* This considers the possibility of C.I.L. refraining from activities (manufacture and sale) of titanium compounds—excluding titanium tetchrachloride and titanated lithopones—in Canada and Newfoundland, and turning over to C.T.P. inventions relating to titanium

compounds which it may acquire. This alternative would probably be most acceptable to C.T.P. because it would mean that C. T. P. would receive developments from the National Lead group and also from Du Pont and I.C.I through C.I.L. However, certain difficulties, set forth in the notes, are presented. The principal one, in my opinion, is that under such a situation Du Pont and I.C.I. would be justified in expecting rights in developments of C.T.P. and this may well involve, as stated in your letter of August 6th, 1937—re. Case T. 186—placing at the disposal of Du Pont information and experience acquired by C.T.P. from the National Lead group.

D. *As to Alternative C:* This considers the possibility that C.I.L. retain the right to activities (manufacture and sale) of titanium compounds in Canada and Newfoundland, while C.T.P. is enabled to obtain rights regarding titanium compounds from the National Lead group. Such an alternative might be favorable to C.I.L., inasmuch as it does not place any restrictions on C.I.L. with respect to exploiting developments that it may receive from Du Pont and I.C.I. However, in this instance, what might well amount to an intolerable situation could develop; namely, National Lead Company and its associates could not be expected to grant exclusive rights to C.T.P. where C.I.L. reserved the privilege of competing in compounds in Canada and Newfoundland. Accordingly, a situation may arise where National Lead and its associates, on the one hand, would be competing with C.I.L. on the other hand. Furthermore, it might prove difficult for C.T.P. to prevent information concerning compounds which it may receive from National Lead Company from flowing to C.I.L.

Exhibit 698

C. *As to Alternative D:* This considers the possibility that C.I.L. will refrain from engaging in activities (manufacture and sale) of titanium compounds—excluding titanium tetrachloride and titanated lithopones—in Canada, except through or at the request of C.T.P. The words "except through or at the request of" are taken verbatim from Article 11 of the Partnership Agreement between I.C.I. et al. and Titan Company, Inc. This alternative appeared to be the most acceptable to all parties. It will result in a complete exchange between all the members of our titanium family, including C.T.P.; it places C.I.L. in a position, with respect to C.T.P., analogous to the position of I.C.I. with respect to B.T.P.; it does not prevent C.I.L. from engaging in activities in titanium compounds but they may do so only pursuant to arrangements made with C.T.P. It may be, however, that in agreeing to refrain from activities itself, C.I.L. may not develop as many improvements as it would if it were not so restrained and, hence, the number of developments placed at the disposal of Du Pont and I.C.I. may be somewhat diminished.

It will be further noted that the possibility of information reaching Du Pont through C.I.L. or directly, concerning developments in compounds placed by our group at the disposal of C.T.P., has not been touched upon. With the C.I.L. people I have studied several of the contractual arrangements of C.I.L. These arrangements are of such nature that with respect to various processes no information is passed on to Du Pont and I believe that it will be possible to insure that the same be carried out by C.T.P. with respect to titanium compounds. C.T.B. is willing to undertake the same assurances as are contained in Mr Haslett's letter to Mr. Garesché, dated May 21st, 1938.

They feel that this letter is sufficiently broad to apply not only to pigments but to compounds as well, but are willing to reaffirm that the undertakings contained therein apply to compounds as well as to pigments. Furthermore, I believe that similar assurances can be obtained from C.I.L. with respect to any information concerning compounds which may have been acquired inadvertently or otherwise from C.T.P.

I would much appreciate any comments you may have concerning the situation as here presented, particularly with respect to alternative D. If, in your opinion, the situation envisioned in alternative D would be acceptable to Titan Company, Inc. and its European associates, then I will endeavor to obtain the acceptance in principle of National Lead Co. I then plan to go to Canada with these comments and, if in the meantime Mr. Asselin has obtained the approval, in principle, of C.I.L. and C.T.P., Mr. Asselin and I will undertake to revise the present agreements accordingly.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL
Encs.

Exhibit 698

MEMORANDUM

The alternatives outlined on the attached sheets result from consideration of the desirability of amending the existing agreements between National Lead Company, Canadian Industries Limited and Canadian Titanium Pigments Limited with a view to making available to C.T.P. all the information freely exchanged among all the members of the National Lead Group.

Alternative A indicates the present situation which it is now desired to alter.

Alternative B would appear to be the most favourable to C. T. P. but does not seem feasible.

Alternative C would appear especially favourable to C-I-L but is probably not feasible under the existing circumstances.

Alternative D appears to be at present the most equitable to all parties.

It is realized that although the operating field of C.T.P. may be enlarged to include compounds, the non-exclusive rights that are reserved for du Pont in the case of developments by C.T.P. or C-I-L will remain limited to pigments.

It must be noted also that the addition of compounds to the field of C.T.P. will not include the grant by C-I-L to C.T.P. of any rights regarding titanium tetrachloride and titanated lithopones or the relinquishment by C-I-L of its rights to manufacture and sell such products in Canada and Newfoundland.

Exhibit 698

In the consideration of the above-mentioned alternatives, the varying shares of profits derived by National Lead and C-I-L under the respective alternatives have been disregarded.

21st July, 1938.

C.F.K.
J.C.A.

Exhibit 698

ALTERNATIVES CONCERNING THE MANUFACTURE AND SALE IN CANADA AND NEWFOUNDLAND OF TITANIUM COMPOUNDS (WHICH CANNOT PROPERLY BE CONSIDERED AS PIGMENTS) AND EXCLUDING TITANIUM TETRACHLORIDE AND TITANATED LITHOPONES.

21st July, 1938.

Exhibit 698

ALTERNATIVE A

If the present arrangement is left unchanged, that is, remains limited to pigments:

1. Both National Lead and C-I-L will be free to manufacture and sell compounds in Canada and Newfoundland.

2. The exchange of information between the N. L. Group and C.T.P. will be complicated to the extent of the difficulty involved in segregating the information regarding pigments from that regarding compounds.

3. C. T. P. will be placed in a less preferable position as compared with the other members of the N. L. Group on account of the basis of co-operation necessarily having to be different.

4. By the terms of the present arrangement, C. T. P. does not appear to be prohibited from engaging in the manufacture and sale of compounds in Canada and Newfoundland but, if it engages in such field, it will then be subject to the competition from National Lead and/or C-I-L and will be deprived of the benefit of the inventions and information of the N. L. Group and/or C-I-L on compounds.

Exhibit 698

ALTERNATIVE B

If C-I-L undertakes to refrain from the manufacture and sale of compounds in Canada and Newfoundland and undertakes to transmit to C.T.P. the inventions possessed by it on compounds for use by C. T. P. in Canada and Newfoundland:

The transmission of inventions and information by C-I-L to C.T.P. (even if limited to those developed by C-I-L) would in all probability involve or embody information originating from either du Pont or I. C.I., which would give rise to the following complications:

a) The information of du Pont and I.C.I. may possibly become known to the N. L. Group through C. T. P. and under these circumstances du Pont and I. C. I. would have to be consulted before this undertaking is given by C-I-L;

b) du Pont and I. C. I. may consent to this undertaking by C-I-L provided that they are assured that the information disclosed by C-I-L to C. T. P. will not become known to the N. L. Group, but it may be practically impossible for C. T. P., in its exchange of information with the N. L. Group, to segregate the information received from C-I-L from that received from the N. L. group;

c) The consent of I. C. I. and du Pont, and especially that of the latter, may be conditional upon their being entitled to C. T. P.'s developments on compounds, which condition might be objectionable to the N. L. Group on account of the fact that such developments might embody information and experience derived by C. T. P. from the N. L. Group.

Exhibit 698

ALTERNATIVE C

If C-I-L retains as at present the right to the inventions and information possessed by it on compounds with the right to manufacture and sell compounds in Canada and Newfoundland even though the field of C. T. P. and the exchange of information between C. T. P. and National Lead is extended to compounds:

1. C-I-L will then be in a position to use du Pont's and I. C. I.'s inventions (at present withheld from the N. L. Group) which otherwise would not be practised in Canada and Newfoundland.

2. C-I-L would then be in a position to compete with C. T. P. with compounds competitive to compounds manufactured by C. T. P.

3. Du Pont may be inclined to favour the manufacturing of compounds by C-I-L as it may result in a greater activity in research work by C-I-L on compounds and consequently developments resulting from such research work would be of benefit to du Pont.

4. However, the retention by C-I-L of the privilege to manufacture compounds would favour the belief that it would be rather difficult, despite any assurance given by C. T. P., for C. T. P. to withhold from C-I-L, which is its parent company, information derived from the N. L. Group so that the result might be a possible curtailment of the flow of all information from the N. L.

Group to C. T. P. and an adverse effect on the general co-operative relationship.

5. Furthermore, the retention by C-I-L of the privilege to manufacture and sell compounds would no doubt induce National Lead to reserve the similar privilege to manufacture and sell compounds in Canada and Newfoundland.

Exhibit 698

ALTERNATIVE D

If C-I-L retains the inventions possessed by it on compounds but undertakes to refrain from the manufacture and sale of compounds in Canada and Newfoundland except through or at the request of C. T. P:

1. The position of C-I-L toward C. T. P. will be substantially similar to that of I. C. I. toward B. T. P.

2. The field of C. T. P. may then be extended to compounds with the benefit of exclusive rights from the N. L. Group on compounds (probably without reservation by the N. L. Group as to titanium tetrachloride and titanated lithopones.)

3. C. T. P. will then be accepted as a full-fledged member of the N. L. Group.

4. The inventions of C-I-L on compounds may be practised in Canada and Newfoundland pursuant to arrangements with C.T.P.

5. The relinquishment by C-I-L of its rights to manufacture compounds may tend to diminish C-I-L's research work on compounds and to this extent deprive du Pont of possible developments that might result from such research work.

N. L. - C-I-L AGREEMENT

Field of Co-operation

Titanium compounds as now defined, but extended to all uses, and to include titanium tetrachloride subject to reservation by C-I-L.

Note:

1) Determine whether titanated lithopones should remain excluded.

2a) Determine meaning of simple mixtures.

b) Whether such mixtures should remain included as at present or excluded as in case of B.T.P.

c) No mention is made of such mixtures in du Pont - N. L. Agreement.

d) Simple mixtures not included in agreement with Germans.

Clause 1

Both parties will purchase from C.T.P. their requirements of titanium compounds.

This undertaking will not apply to tetrachloride required by C-I-L. and its associated and subsidiary companies.

Clause 11

For the purpose of this Clause neither du Pont nor I.C.I. shall be deemed associates of C-I-L.

C-I-L will reserve for itself and its subsidiary and associated companies the right to manufacture and/or sell titanium tetrachloride.

Note:

I.C.I. - I.S.C. - G.W. - Titaninc. Agreement.

This undertaking might be said to extend even to titanium compounds containing less than 2% titanium.

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Exhibit 698

2556

C-I-L - C.T.P. AGREEMENT

Field

1. Processes relating to titanium compounds.
2. Titanium compounds according to revised scope.

Exchange of Rights

1. *Grant of rights by C-I-L.*

Same rights as at present except:

1) Obligation of C.T.P. to grant sub-licenses to du Pont (a) shall be limited to titanium compounds which can be used as pigments, and (b) shall not apply to titanium tetrachloride.

2) The privilege of C-I-L to reserve for itself and to grant to I.C.I. non-exclusive rights under its own inventions relating to titanium tetrachloride.

3) Privilege for C-I-L to grant non-exclusive rights to I.C.I. on its own inventions relating to titanium compounds which may be adapted to uses other than pigments.

1. *Grant of rights by C.T.P.*

Alternative A.

Grant to C-I-L of sub-licenses, if possible, for Canada and Newfoundland under inventions licensed to C.T.P. relating to titanium tetrachloride.

Grant of non-exclusive rights to C-I-L for itself and I.C.I. under inventions of C.T.P. relating to titanium tetrachloride.

Alternative B.

Grant of non-exclusive rights to C-I-L for itself and I.C.I. under inventions of C.T.P. relating to titanium tetrachloride which are considered to be improvements of inventions previously licensed to C.T.P. by C-I-L.

Exhibit 698 2557

2557

Exchange of Rights

1. *Grant of rights by N.L.*

Alternative A.

Same rights as at present.

Note: Since C.T.P. has right to grant sub-licenses if N.L. was entitled to confer such right, C.T.P. will be in a position to grant sub-licenses to C-I-L for Canada and Newfoundland on patents relating to titanium tetrachloride.

Alternative B.

Same rights as at present.

Note: It will probably be necessary to review the wording of the agreement in order to make it clear that such rights shall be limited to C.T.P. and shall not pass on to C-I-L.

1. *Grant of rights by C.T.P.*

Alternative A.

Same rights as at present except:

1) The obligation of N.L. to grant sub-licenses to du Pont (a) shall be limited to titanium compounds which can be used as pigments, and (b) shall not apply to titanium tetrachloride.

2) C-I-L and I.C.I. shall be entitled to non-exclusive rights on inventions of C.T.P. relating to titanium tetrachloride.

Alternative B.

Same rights as at present except:

1) Obligation of N.L. to grant sub-licenses to du Pont (a) shall be limited to titanium compounds which can be used as pigments, and (b) shall not apply to titanium tetrachloride.

2) C-I-L and I.C.I. shall be entitled to non-exclusive rights on such inventions of C.T.P. relating to titanium tetrachloride which are considered improvements of inventions on such product which were previously licensed to C.T.P. by C-I-L.

Exhibit 698 2558

Exhibit 699

November 21st, 1938

J. C. Asselin, Esq.
Secretary Department
Canadian Industries, Ltd.
Box 126
Montreal, Canada

Dear Mr. Asselin:—

On July 26th I wrote to Dr. Jebsen of Titan Co., Inc. sending him a copy of our memorandum of July 21st, 1938 in regard to the alternatives for reconciling the Canadian agreements with those of the other members of the National Lead group.

I have just received a reply to that letter. Dr. Jebsen states that he has discussed this matter with the English and German associates, and that they are in agreement that the principal idea suggested in Alternative D. He makes one point regarding this alternative which I herewith quote:

"The C.I.L. can, according to this alternative, take up the manufacture and sale of titanium compounds in Canada and Newfoundland at the request of C.T.P. As, however, C.I.L. has 51% of the shares, the position is different from I.C.I.'s position in the British Titan Products Co., where I.C.I. has 17% of the shares.

The permission for C.I.L. should only be given by C.T.P. with the approval of the National Lead Company, which I assume is also the intention.

When the corresponding clause was formulated in the B.T.P. agreement, we had in mind that the selling or-

ganisations of the mentioned companies might come in useful for the sale of B.T.P.'s products—a manufacture was not contemplated and I assume that National Lead Co. will be very cautious if giving any permission of that kind, taking into consideration the possible effect this may have not only on the market position but also on the patent position of our associated companies.

I note that C.I.L. is willing to take the obligation not to compete in Titanium compounds outside Canada and Newfoundland. An unpleasant situation may, though, arise if a competition as regards patent rights should take place. I suppose, though, that at the time such a matter will become of actual interest a solution can be found. It will also partly be dependent on the character of the compound to be manufactured.

You may remember that Goodlass Wall and Lead Ind. for instance, have been given the permission by B.T.P. to manufacture a titanium Lead Frit under a patent of Goodlass Wall under which B.T.P. has the right to an exclusive license.

This could be done 1) because the invention, although leading to a Titanium compound, chiefly is an application of TiO2, and the manufacture was more within the range of Goodlass Wall's activities than B.T.P.'s; 2) because B.T.P. has the right to exclusive licenses under all patents of Goodlass Wall covering the manufacture of titanium compounds."

It now appears, that you and I should get together with a view to working out the actual mechanism for applying the principle of Alternative D.

Exhibit 699

I should be pleased to come to Canada at some mutually convenient date in the near future, or if you have in prospect a trip to New York, we could discuss it at that time.

With very kind regards,

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. C. F. Garesché

Exhibit 700

COPY

February 28th, 1939

Dr. G. Jebsen
c/o Titan Co., Inc.
26, Rue de la Pépiniere
Paris — VIIIe — France

Re: Agreement Re. Extension of the Exchange of Patent Licenses between the Associated Titanium Companies.

Dear Dr. Jebsen:—

In connection with the Agreement between Canadian Titanium Pigments and National Lead Company, copy of which was sent you with my letter of today's date, I beg to submit to you two questions which have arisen as between ourselves and Canadian Titanium Pigments in connection with this matter:

1.) Our Canadian friends suggested an arrangement which would include an affirmation, in the Agreement, that upon execution of this new Agreement the provisions would apply retroactively, placing at the disposal of Canadian Titanium Pigments any inventions which to date had been exchanged between the associated companies but which had not been offered to Canadian Titanium Pigments. Mr. Garesché felt that such a clause should not be included in the Agreement; it would be contra to the whole spirit of the Agreement which is a broad affirmation of the general cooperative spirit. He stated that it was the intention that everything possible would be made available to our Canadian friends, but to include such statement in a broad agreement such as the present might induce some of our other

associates to question why such a confirmation would be deemed necessary.

We do not know of any cases to which this question, raised by our Canadian friends, would apply but we would like your opinion as to whether or not we can assure our Canadian friends that everything of interest, envisioned by the new Agreements, in existence at the present time is at their disposal.

2.) Our Canadian friends noted in the British Agreement the expression "unless reservations are made". They have asked us the meaning of this. We note that you touched upon this in the third paragraph, on page 2 of your letter to Mr. Rockwell of December 29th, 1938. We gave as our opinion to the Canadians that this whole arrangement was a voluntary one on the part of the associated companies, there being no obligation on their part under their previous contracts to follow the procedure set forth in the new Agreement. Therefore, we believed Mr. Stopford was contemplating a situation where, for some reason or other not now evident, it might be necessary for him to make certain reservations on the rights which he conveyed under the new arrangement. In other words, we thought that this expression was largely a matter of precautionary safeguard. Would you please confirm our opinion, or make whatever comments you care to, so that we may reassure our Canadian friends on this point.

With kind regards, I remain,

Yours very truly,

CFK:JL

c.c. Mr. C. F. Garesché

Exhibit 701

Letterhead of

TITAN COMPANY, INC.

CJ/AK

Paris, March 10th 1939.

Charles F. Kaegebehn Esq.
National Lead Company
Patent Department
111 Broadway
New York City, U.S.A.

Dear Mr. Kaegebehn,

Re: agreement re extension of the exchange of patent licences between the associated titanium companies.

Many thanks for your letter of February 28th enclosing a draft of the agreement between National Lead Company and the Canadian Titanium Pigments, Ltd., regarding the above matter.

The draft seems quite all right to me.

As regards the question you put forward, whether the manufacture of extender pigments, viz. calcium sulfate and barium sulfate, come within the Licensed Field of the agreement of 1920, we have considered on this side that such is the case—however, only to the extent the process and the products are employed in the production of the substances within the Licensed Field. You will note that this limitation is also made in the extension agreements.

However, as I do not see any harm in the National Lead Company making the arrangement with Titan Company Inc., as you suggest, and as you have already practically everything prepared, I think, to remove any doubt, it is

well to follow your proposal and have executed a similar arrangement between the National Lead Company and Titan Company Inc.

I also acknowledge receipt of your second letter of February 28th, regarding the above.

Ad question 1.) The intention is that the agreement should apply to inventions of the past as well as future.

I think Mr. Garesché's point of not including a clause as suggested by our Canadian friends is well taken, although we have not had that particularly in mind when drafting our agreements on this line.

You will note that in the German agreement it is expressly said that it covers also licences offered in the past. In the English agreement it was left out I believe because I was informed that there were no cases of the kind to which the agreement would apply.

The matter was not of very great importance, in view of the spirit of the agreement, as Mr. Garesché has very well expressed it.

Ad. question 2.) You will find in the German agreement also the expression "unless reservations are made".

This was not put in by Mr. Stopford but by myself, as a general precautionary safeguard, when I made the proposal to our associated companies.

I may add: These extension agreements do not represent a change or a widening of the spirit of cooperation between our companies, but is more to be considered as a confirmation of the existing spirit and lays this down more formally.

I had in mind that in view of the good spirit between the companies the handling of these licence matters had be-

come I may say a little "sloppy", and wished to put the responsibility on the licensors, so that they had to make the reservations when offering the licences, instead of having the licensee not knowing definitely what was meant when licences were offered.

The agreement does not put anybody under a contractual obligation to offer licences on inventions the scope of which goes outside the Licensed Field, but the companies would be interested to do so in view of the reciprocity and I do not think that the Canadian Titanium Pigments need have any fear of our associates quibbling in these matters, as long as they act in the same spirit, which I also have no doubt that they will do.

I trust that this will be satisfactory to our Canadian friends.

With kind regards,

Yours very truly,

G. JEBSEN

Copy to Mr. Rockwell

" Garesché

Exhibit 702

Minutes of Monthly Meeting of the BOARD OF DIRECTORS of NATIONAL LEAD COMPANY held at No. 111 Broadway, New York City, Tuesday, March 28, 1939, at 11:15 o'clock A. M.

* * * * * * * * *

[MATTER ON PAGE 1 OMITTED]

PRESENT BY INVITATION: N. D. Cole

ABSENT: E. F. Beale, W. C. Beschorman, Kendall Marsh, W. H. Croft

* * * * * * * * *

[BALANCE OF PAGE 1 AND PART OF PAGE 2 OMITTED]

RESOLVED, that the action of the officers of the Company in executing and delivering in its name and behalf that certain Agreement with Canadian Titanium Pigments Limited, dated February 27, 1939, as submitted and read at this meeting, providing for the exchange between the parties thereto of rights to practice inventions covering subject-matters partly or wholly outside the Licensed Field as defined in the License Agreement between the same parties dated January 1, 1937, but restricting said rights to the practice of such intentions for the purposes of the production, use and sale of products within the said Licensed Field as so defined, be and it hereby is and said Agreement is, approved, ratified and confirmed; and that said officers be and they hereby are further authorized, empowered and directed in the name and behalf of the Com-

pany to enter into an agreement with Titan Company Inc., substantially in the form submitted and read at this meeting, to the same purpose and effect as the Agreement with Canadian Titanium Pigments Limited, first above referred to.

On motion the meeting then adjourned.

Secretary.

Exhibit 703

COPY

Paris, France
June 6th, 1939.

Dr. G. Jebsen
Titan Company, Inc.
26 rue de la Pépiniere
Paris — 8e — France

Canadian Agreements

Dear Dr. Jebsen:

I now revert to my letter of July 26, 1938 and your reply thereto of August 25, 1938, relative to arrangements with our Canadian associates in order to reconcile the existing disparities in the various agreements.

We are happy to learn that you had obtained from our English and German friends the agreement in principal to the idea suggested in Alternative D, sent with my letter of July 26th. Subsequent to the receipt of your letter and up to the present time I have had several conferences with Mr. Asselin of the legal department of C.I.L., in which we considered various ways of putting Alternative D. into effect; for instance, rewriting the agreements, or merely executing a supplementary agreement. We believed the latter to be preferred.

During the actual drafting of a supplementary agreement, certain questions arose which were laid before our respective companies by Mr. Asselin and myself. We have gotten an agreement in principle to what we believe goes even further than Alternative D. That is to say, we have obtained from C.I.L. agreement to turn over to C.T.P.

rights in titanated lithopones, titanium tetrachloride when this material is to be used in producing titanium pigments, and wherever possible, rights and information with respect to titanium compounds.

With respect to titanium compounds particularly, which are not useful as pigments, we did not desire to develop a situation where any particularly valuable development would remain unexploited. For instance, we have provided that wherever possible, C.I.L. will turn over information and rights with respect to titanium compounds to C.T.P. but if, in the event I.C.I. or DuPont insist that C.I.L. exploit in Canada a development given C.I.L. by either I.C.I. or DuPont, C.I.L. reserves the right to undertake this manufacture. C.I.L. cannot in any event compete in compounds outside Canada due to its prior agreements. We have further endeavored to provide that where C.I.L. places at the disposal of C.T.P. rights in titanium compounds, National Lead must agree to the transfer, thus placing National in the position of safeguarding the interest of its associates with respect to any improvements which C.T.P. may make, using experience and knowledge acquired by C.T.P. from National.

C.I.L. is willing to make a commitment in the agreement that it will not use its voting power in C.T.P. to obtain from C.T.P. or to have C.T.P. request C.I.L. to engage in the manufacture of titanium compounds. Personally, I do not think we should have such a definite commitment in writing. It seems to me to go a little beyond the spirit of the co-operation for which we are all working, and which is based upon a mutual confidence and respect in the good faith of all the associates. A letter, similar to Mr. Haslett's letter to Mr. Garesché of May 21, 1938, might

better cover the situation, if considered desirable. However, if it is your opinion that our European associates would feel better satisfied with such a commitment written into the agreement, the Canadians are willing to do this.

I enclose some notes, both by Mr. Asselin and myself, relative to the draft agreement, in which I have endeavored to express the principles underlying the various provisions of the draft agreement. Mr. Asselin has secured the approval of C.I.L. and Canadian Titanium Pigments, and I have the approval of Mr. Garesché for the execution of an agreement substantially on the lines expressed in this draft. I would appreciate it very much if you would let us have your comments and suggestions, and particularly your opinion as to whether or not, in your judgment, the draft itself adequately expresses the principles of agreement as set forth in the notes and further whether these principles themselves should prove acceptable to our European associates. I have the impression that the principles should be acceptable because they embody all that was embodied in Alternative D. and something more.

Yours very truly,

NATIONAL LEAD COMPANY

C. F. KAEGEBEHN

Exhibit 704

Letterhead of

TITAN COMPANY, INC.

GJ/AK Paris, June 17th 1939.

C.F. Kaegebehn Esq.
p.t. 26, rue de la Pépinière
Paris (8e)

Dear Mr. Kaegebehn,

Canadian agreements.

Many thanks for your letter of June 6th.

I am very glad to see the results you have arrived at and, as far as I can see, the proposed agreement will be acceptable to our associated companies in Europe.

I beg, though, to draw your attention to a matter which chiefly concerns the National Lead Company.

The definition of "Titanium compounds" includes all substances containing 2% or more of Titanium, with exclusion of the alloys.

This means that the National Lead Company for the period of the agreement, which is of a considerable length, is bound to work in Canada through the Canadian Titanium Pigments Ltd. with regard to any production where the product contains more than 2% of Titanium.

It lays down a line of policy for the National Lead Co., as far as Canada is concerned, of a very broad nature. If National Lead Co. should desire to develop or acquire an industry of this kind, which may cost N.L.Co. a considerable amount of money or may involve large profits, it has

to leave the whole market of Canada to the Canadian Titanium Pigments Ltd., even if Titanium is a relatively small factor in this industry.

The Canadian Industries Ltd. are not in the same position. Without knowing their prior engagements, one must assume that they are fairly broad towards I.C.I. and Du-Pont, and that these firms will request C.I.L. to exploit such matters themselves. The Canadian Industries may, however, be such an important factor in Canada, that the National Lead Company will under any circumstances prefer to cooperate with them on the basis of leaving 51% to them and 49% to National Lead Co. and National Lead Co. may reckon that in such cases the entrance of the Canadian Titanium Pigments Ltd. in such an industry will prevent the C.I.L. to start a competition.

There are many aspects to this matter, which it will take too long to discuss in a letter, and much to be said pro and con. It is not up to me and it is not my intention to give an advice in the matter, but I feel I ought to point out that the definition involves engagements influencing very broadly the lines of policy of the National Lead Company for a considerable time, as regards the Canadian market and possibly indirectly as regards the United States and the European markets.

The definition provides for cooperation in a field very similar to that of the 1920 agreement, in which case such a broad line of mutual obligations was quite justified for various reasons in which it would be too long to enter here. The English and the German agreements are, as you know, not going so far.

Let me repeat that I am writing this not in the interest of Titan Company Inc. or its European associates which,

as far as I can see, could have no objection—rather the opposite—but only as a matter which should be carefully considered by the National Lead Company from a broad point of view of their policy as regards the future for a long period ahead.

I refer to our conversation of to-day, in which we went into this matter more in detail and according to which you will take the question up for discussion on your return to New York.

In the meantime, as agreed upon, I am not going to present the agreement to our European associates to the purpose of getting their approval, but will await to hear further from you after you return to New York.

With kindest regards,

Yours very truly,

G. JEBSEN

Copy to Mr. Rockwell
" " Garesché

Exhibit 705

Mr. J. C. Asselin, Legal Section,
Canadian Industries, Ltd., Paris, July 5, 1939.
Montreal, Canada.

Dear Mr. Asselin:—

During my conversations here in Paris I took up the two questions of definitions as arise from the various agreements and which you put forward. The following comments may help clear up the situation which affects these:

1.) As to the Phrase "above 2.0%" as it appears in the agreement of 1920, and the phrase "2.0% or more" as appears in certain other agreements, both defining a titanium compound.

The slight disparity between the two expressions is recognized here on this side. It is considered, however, to be of such slight importance as not to justify the trouble which would be required to reconcile the disparity. No questions have thus far arisen where this disparity has been involved as a basis for withholding any information regarding titanium compounds nor is it expected, in view of the cooperative spirit which exists between the companies over here, that it will be invoked in the future.

2.) Regarding the definition of "simple mixtures."

The difficulty of exactly defining this term is appreciated over here. This phrase developed in the course of the negotiations leading up to the formation of Titangesellschaft due to the objections of I. G. Farbenindustrie to limit itself to respect such a wide field as defined in the 1920 Agreement. The term "titanverbindungen" as em-

ployed in the I. G. Agreement to define its obligations is generally recognized over here to mean "titanium compounds" where the word "compound" carries its chemical connotation implying an actual chemical combination of titanium. The exclusion of simple mixtures was apparently designed to give emphasis to this meaning of "titanium compounds" and was carried thru into the British Agreements.

There have been no difficulties over here arising from the fact that, on the one hand, National Lead Company and Titan Company, Inc. exchange information and patent rights regarding simple mixtures whereas, on the other hand, these are excluded from certain of the other agreements. The question of whether a given material constituted a "simple mixture" or a "titanium compound" has come up from time to time but it has in each case always been settled amicable. It is expected that future questions of the same nature will be similarly settled.

My trip has been most interesting and, I am sure, valuable. I will have much to tell you when I see you again, particularly about the cooperation which exists over here and the manner by which it works.

Best regards to you and all my friends in C.T.P. and C.I.L.

Very truly,

C. F. KAEGEBEHN

cc.

Mr. Rockwell
Mr. Garesche
Mr. Jebsen

Exhibit 705

NOTES RE AMENDMENTS TO EXISTING AGREEMENTS BETWEEN NATIONAL LEAD COMPANY, CANADIAN INDUSTRIES LIMITED AND CANADIAN TITANIUM PIGMENTS LIMITED

I. *Comparison of Licensed Fields*

a) *Basic Licensed Field — 1920 Agreement*

The Licensed Field in the 1920 agreement between Titan Company Inc. and National Lead Company is described as comprising substances, etc., containing *above 2%* of titanium. This 1920 agreement is the basis on which the other members of the Titanium Group were established, but the Licensed Fields of such other titanium companies are described as comprising substances, etc., containing *2% or more* of titanium. There appears, therefore, to be a slight discrepancy between the basic agreement and the consequent agreements.

What is the meaning of the words "consisting of or containing above two per cent (2%) of titanium, or a compound, or compounds, thereof," which appear in the definition of the Licensed Field of the 1920 agreement?

In Dr. Jebsen's letter to Mr. Rockwell of 29th December, 1938, he states that the Licensed Field by the 1920 agreement (which applies also to Société Industrielle du Titane) is the widest one. In what way is that Licensed Field the widest one? Is it only because it includes simple mixtures?

b) *Simple Mixtures*

I understand that simple mixtures might be described as mechanical mixtures, the component parts of which could be detected by mechanical means.

Simple mixtures are specifically included in the Licensed Fields of C.T.P. and DuPont and are presumably also included in the Licensed Fields of National Lead and Titan Company Inc., since they are not specifically excluded. They are also presumably included in the Licensed Field of Société Industrielle du Titane, since it has a Licensed Field similar to that of Titan Company, Inc.

What is the reason for the exclusion of simple mixtures from the License Fields of British Titan and Titan Gesellschaft?

c) *Inventions for use of Titanium Products*

The inventions relating to the use of titanium products are specifically included in the Licensed Fields of C.T.P. and DuPont and presumably also in the Licensed Fields of Titan Company Inc., National Lead and Société Industrielle du Titane.

Such inventions, however are apparently excluded from the Licensed Fields of British Titan and Titan Gesellschaft.

d) *Titanium Tetrachloride*

I understand that titanium tetrachloride is a compound which per se cannot be used as a pigment.

It is specifically excluded from the Licensed Field of C.T.P., and it is presumably automatically excluded from the Licensed Field of DuPont as it is limited to pigments.

Titanium tetrachloride, however, is presumably included in the Licensed Fields of Titan Company Inc., National Lead and Titan Gesellschaft and also in the Licensed Field of British Titan, subject, however, to British Titan's not being entitled to inventions from I.C.I. on such product. It is probably also included in the Licensed Field of Société Industrielle du Titane.

e) *Titanated Lithopones*

I understand that titanated lithopones are pigments.

Whilst they are expressly excluded from the Licensed Field of C.T.P., they are presumably included in the Licensed Fields of the other companies, since they are not mentioned in the definition of such Licensed Fields.

f) *Certain Titanium Compounds Containing more than 5% of another Metal*

Such compounds are specifically excluded from the Licensed Fields of Titan Company Inc., National Lead, British Titan, and presumably Société Industrielle du Titane.

No mention, however, is made as to the exclusion of such compounds from the Licensed Fields of C.T.P., Titan Gesellschaft or DuPont, except that the Licensed Field of DuPont excludes alloys which probably fall within the class of such compounds but may not, however, comprise all such compounds.

Exhibit 705

II. *General Remarks*

Is my understanding correct that I.C.I. transmits to British Titan only patents and information relating to titanium oxide and titanium pigments? If so, it transmits patents and information on titanated lithopones (which are pigments) but not on titanium tetrachloride and other compounds which cannot be used as pigments. Is it accurate to say that, as the Licensed Field in the agreement between DuPont and National Lead is limited to pigments, the exchange of patents and information between these two parties will apply to titanated lithopones but not to titanium tetrachloride?

It would appear that the undertaking of I.C.I. and others in Clause 11 relating to the organization of British Titan could be interpreted as applying even to compounds containing less than 2% of titanium.

Exhibit 706

Letterhead of

CANADIAN INDUSTRIES LIMITED

18th July, 1939.

Mr. Charles F. Kaegebehn,
Manager — Patent Dept.,
National Lead Company,
111 Broadway
New York City.

Dear Mr. Kaegebehn:

I wish to thank you for your letter of 5th July in which you outlined the principle which you have discussed in France and Germany whereby Canadian Titanium could handle the prosecution of patent applications originating from Titangesellschaft and possibly from other members of the Titanium Group and eventually take title to the patents issued on such applications upon paying all expenses connected with prosecuting such applications and securing patents thereon, and provided, however, that Canadian Titanium is prepared to apply this principle reciprocally to its own patent applications in foreign countries.

The proposed arrangement would appear to meet adequately the wishes of Canadian Titanium and the preliminary reaction of Messrs. Haslett and Beck is favourable to the idea but naturally its definite adoption will depend upon the full consideration of the manner in which, and the extent to which, it will operate. I presume, therefore, that it is your intention to arrange upon your return for a detailed discussion of this matter in the light of the information which you have gathered in your talks abroad.

Exhibit 706

Mr. Walley is away on vacation and I am leaving myself at the end of this week, so that this conference will probably take place sometime in August if it is satisfactory to you.

I still believe that this arrangement, if adopted, can be worked out satisfactorily without amending the existing agreements except possibly in cases (which you intimated might happen) where one party should wish to retain ownership of a certain patent which had potential value beyond the titanium field and as a result only an exclusive license is available, and in the event that it is decided that in such cases the licensee should pay only one-half of the expenses connected with such patent instead of the full expenses, an amendment to the existing provisions relating to this question of expenses may thereupon be desirable.

Yours very truly,

J. C. ASSELIN
Legal Section
CANADIAN INDUSTRIES LIMITED

JCA:GM

Exhibit 707

August 9th, 1939

Dr. G. Jebsen
c/o Titan Co., Inc.
26, Rue de la Pépiniere
Paris—VIIIe—France

Re: Canadian Agreements.

Dear Dr. Jebsen:—

During the past week I had the opportunity to discuss with Mr. Rockwell and Mr. Garesché the Canadian Agreements in general, and particularly the points brought forth in your letter of June 17th. I found that Mr. Garesché and Mr. Rockwell had given some thought to this matter upon receipt of their copies of your letter.

It is felt here, taking all things into consideration, that it probably would be better to align ourselves with C. I. L. in Canada and operate through C. T. P. than to endeavor to establish for ourselves any possible new titanium industry. It is felt here that it would be difficult to foresee in the future the development of a new titanium industry where we would not be assisted by our present association in Canada. In the meantime, it is believed that we have protected the future by broadening the cooperation with C. T. P. in association with C. I. L.

I may mention to you that shortly after my return Mr. Beck was in to see me. He is rather anxious that C. T. P. receive copies of Research Reports distributed amongst the associated companies, and stated that C. T. P. was not on the list of parties receiving such reports. I told him that I thought the request for such copies should be made by

Exhibit 707

C. T. P. to Mr. Garesché after the adjustment of the outstanding differences which we expect to resolve along the lines I discussed with you in Paris. Does my suggestion conform with your ideas on the subject of sending copies of Research Reports to C. T. P.?

I am going to Montreal about the 29th of August to finally clean up this question of the agreements, bring up to date the information on Canadian "T" cases, and will write you shortly thereafter.

With kindest regards,

Yours very truly,

CFK:JL

Exhibit 708

MEMORANDUM

re: Amendments to 1937 agreements.

1) Du Pont is negotiating a new agreement with National Lead providing for exchange of only licences under patents relating to pigments and ingredients used in the production of extended pigments.

   a) Such exchange will not include any technical information.

   b) It is not clear to us yet whether the exchange of licences will extend to titanated lithopones.

   c) As a result of this new agreement, the right of du Pont under the 1937 agreement to sub-licences under C.T.P.'s and C-I-L's inventions relating to pigments should probably be limited to sub-licences under patented inventions only without including any technical information.

2) Du Pont expects that C-I-L will be free to grant to du Pont exclusive rights under its own inventions relating to titanated lithopones(?) and compounds other than pigments in accordance with the Tri-party Agreement.

3) Du Pont expects that C-I-L will not commit itself to transmit information or issue licences to C.T.P. under du Pont's patents or processes relating to titanated lithopones and compounds other than pigments.

4) Whilst C-I-L may not pass on technical information to C.T.P. on titanated lithopones, it is probable that it will be in a position to issue licences for Canada under patented inventions of C-I-L and du Pont relating to titanated lithopones.

5) Du Pont raises the point that even if inventions of C-I-L and du Pont relating to compounds other than pigments were made available to C.T.P., the inventions of C.T.P. in that field would not be available to du Pont through C-I-L even though C.T.P. may be regarded as a subsidiary of C-I-L in accordance with the Tri-party agreement.

6) Du Pont queries whether C-I-L would be prevented from obtaining in Canada on behalf of DuPont and exporting to du Pont titanium ore.

7) In Articles 2 (a) and 5 (a) of the proposed agreement, it should probably be stated that commitments by C-I-L to C.T.P. of titanated lithopones are limited to licences for Canada under patented inventions and do not extend to technical information. This is in view of the fact that our information might include some information which du Pont might decide to transmit to us.

8) In Articles 2 (b) and 2 (c), should it not be clearly stated that rights which C-I-L may transmit to third parties on titanium tetrachloride and compounds other than pigments are exclusive?

22nd May, 1940
J.C.Asselin:GM

Exhibit 709

Letterhead of

CANADIAN TITANIUM PIGMENTS LIMITED

23rd May 1940.

Dear Mr. Garesché:

For some time it was felt that it would be in the best interests of Canadian Titanium Pigments Limited, National Lead Company and its European associates if the various patents under which Canadian Titanium has an exclusive license to operate were owned by Canadian Titanium. It is believed that ownership by Canadian Titanium of the various Canadian patents of our associates would put us in a more favourable position to oppose any grant for a compulsory licence, particularly as we have made definite preparations to operate on a commercial scale in Canada when conditions justify it.

We are pleased to note that National Lead Company concurs in our views and has accordingly, by resolution of its Board of Directors adopted 4th April, 1940, authorized the assignment from time to time to Canadian Titanium of any and all Canadian patents and patent applications as acquired or developed by National Lead Company and falling within the scope of the Licensed Field as defined in our agreement of 1st January, 1937.

We are therefore in agreement to assign from time to time to National Lead Company any and all the patents and patent applications of Canadian Titanium falling within the above-mentioned Licensed Field and pertaining to countries which are not reserved to National Lead Company's associates, upon the understanding, however, that du Pont shall, as already agreed, remain entitled to non-

exclusive licences for North and South America (excluding Canada and Newfoundland) under patented inventions relating to titanium compounds which can be used as pigments.

We are also prepared through you as intermediary to extend this arrangement to any associate of your company whenever such associate is agreeable to permit the assignment to Canadian Titanium of the Canadian patents and patent applications originating with it.

It is our understanding that this general arrangement will embody all the patents and patent applications falling within the Licensed Field when broadened as contemplated.

It is understood, of course, that this arrangement pertains only to those patents and patent applications full title to which is vested in the parties concerned.

Yours very truly,

L. W. HASLETT.
L. W. Haslett.

C. F. Garesché, Esq.,
Titanium Division,
National Lead Company,
111 Broadway,
New York City.

/VB

Exhibit 710

Letterhead of

CANADIAN TITANIUM PIGMENTS LIMITED

Mr. C. F. Kaegebehn,
National Lead Company,
111 Broadway,
New York City, U.S.A.

May 27, 1940.

Dear Mr. Kaegebehn:

Mr. Stopford, of British Titan Products, has recently asked if we cannot sell his Blanc Fixe in Canada. This possibility, however, raises a number of questions, as Canadian Industries Limited at present hold all Blanc Fixe business in this country.

It will therefore be necessary for us to have a strict interpretation of our license field, and also that of British Titan Products, with respect to the following questions:

(1) Does our license field entitle us to deal in Blanc Fixe as such?

(2) Does British Titan Products' agreement with National Lead, Imperial Chemical Industries, etc., allow them to sell Blanc Fixe as such, in Canada? For instance, in the event that we are excluded from dealing in this product, could British Titan Products appoint another Canadian agent?

Inasmuch as you are very familiar with all of these agreements, I wonder if you would be kind enough to let us have your thoughts with regard to this problem?

Yours very truly,

CANADIAN TITANIUM PIGMENTS LIMITED

R. G. BECK

RGB:N

R. G. Beck, Manager.

Exhibit 711

June 4th, 1940

Mr. R. G. Beck—Manager
Canadian Titanium Pigments, Ltd.
P. O. Box 10
Montreal, Canada

Dear Mr. Beck:—

The questions raised in your letter of May 27th, 1940 are rather complex and the only opinions I can express are based solely upon the agreements as written.

As to your first question: The Licensed Field of the Canadian agreements, as also those of the other agreements, has never been construed as including extender pigments, as such, although it has been interpreted as including extender pigments when these are to be incorporated with titanium dioxide to form composite pigments. With respect to the agreements as limiting the field of activities of C. T. P., it must be borne in mind that the Licensed Field merely sets forth a field in which the partners who own C. T. P. (National and C. I. L.) will refrain from dealing in Canada except through C. T. P. and in which C. T. P. is entitled to receive from the partners information and patent rights. C. T. P. was formed to carry on in Canada the activities within the Licensed Field relinquished by the partners, but, since extender pigments per se, are not included within the Licensed Field, the partners have given no undertakings to refrain from dealing in these

materials in Canada or to pass on to C. T. P. information and patent rights concerning them. Conversely, there is nothing in the agreements which specifically prohibits C. T. P. from dealing in extender pigments or in any other articles of commerce. However, it is possible that the corporate charter of C. T. P. might contain a limitation as to the activities which C. T. P. is permitted to undertake. And, in view of the fact that C. I. L. holds at present all the Blanc Fixe business in Canada, I am rather inclined to believe that C. T. P.'s charter may contain some such limitation.

As to your second question: As with the Canadian agreements I find nothing in the B. T. P. agreements which specifically prohibits B. T. P. from dealing in extender pigments, although these are not included in the Licensed Field of the B. T. P. agreements. Hence, as far as I know from merely examining the agreements, B. T. P. may actually be competing with one or more of the owners of B. T. P. However, I am inclined to believe that if B. T. P. is dealing in Blanc Fixe within its territory it is doing so with the permission, previously obtained, of its owners.

It would appear to me that the possibility of C. T. P. selling B. T. P.'s Blanc Fixe in Canada might be investigated also by first ascertaining whether C. T. P.'s charter would permit doing so. If there was no prohibition in the charter, C. T. P. might then ascertain whether the owning partners had any objections. Presumably, C. T. P. would undertake to sell B. T. P.'s Blanc Fixe only with consent of its Board of Directors and that body, in all probability, would want to know the attitude of C. I. L. and National.

I hope the foregoing observations will be helpful to you. Please do not regard them as more than opinions based

solely upon my examination of the written word of the agreements, without reference to any commercial considerations.

If I can be of any additional service in this matter, please call on me.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. C. F. Garesche

Exhibit 712

TITANIUM PIGMENTS

C-I-L will grant to C.T.P.:

a) Licences for the world under patented inventions.

b) Information for the world.

c) Licences under du Pont's Canadian patents.

du Pont will grant to C-I-L:

a) Licences under du Pont's Canadian patents (under Tri-party agreement).

C.T.P. will grant to du Pont through National Lead:

a) Sub-licences for North and South Americas (except Canada and Newfoundland) under C.T.P.'s patented inventions only.

b) Sub-licences for North and South Americas (except Canada and Newfoundland) under C-I-L's patented inventions only.

TITANIUM TETRACHLORIDE

C-I-L will grant to C.T.P.:

a) Non-exclusive rights for Canada and Newfoundland only to patented inventions and information for the production of pigments.

C-I-L reserves:

a) The right to manufacture, use and/or sell in Canada and Newfoundland under patents and information owned or acquired by it.

b) Right to sell outside of Canada and Newfoundland.

c) Right to grant exclusive rights outside of Canada and Newfoundland to its own patented inventions and information.

TITANATED LITHOPONES

C-I-L will grant to C.T.P.:

a) Non-exclusive licences for Canada and Newfoundland under patented inventions.

b) Non-exclusive licences for Canada and Newfoundland under du Pont's patented inventions.

N.B. C-I-L will transmit no information.

Du Pont will grant to C-I-L:

a) Exclusive licences under du Pont's Canadian patents (under Tri-party agreement).

C.T.P. will grant to du Pont through National Lead:

a) Sub-licences for North and South Americas (except Canada and Newfoundland) under C.T.P.'s patented inventions.

C-I-L reserves:

a) Right to manufacture, use and/or sell in Canada and Newfoundland under patents and information owned or acquired by it.

b) Right to transmit exclusive rights outside of Canada and Newfoundland to its patented inventions and information.

Exhibit 712

TITANIUM COMPOUNDS WHICH CANNOT BE USED AS PIGMENTS

C-I-L will:

a) If permitted to do so by du Pont and I.C.I., grant exclusive rights to C.T.P. for Canada and Newfoundland to patented inventions and information.

C-I-L reserves the right:

a) To manufacture, use and/or sell in Canada and Newfoundland under patented inventions and information owned or acquired by it when not permitted to transmit such inventions and information to C.T.P.

b) To grant exclusive rights outside of Canada and Newfoundland to patented inventions and information owned by it.

5th July, 1940.
JCA:GM

Exhibit 713

Letterhead of

TITAN COMPANY, INC

Stockholm, the 29th July 1940

ADDRESS FOR CORRESPONDENCE:
Sigurd Andersen.
Stora Nygatan 31
Stockholm.

Dr. G. Jebsen Esq.,
c/o National Lead Co.
111 Broadway,
New York U.S.A.

Dear Dr. Jebsen,

Suggested arrangement Titanine C.T.P.
Regarding reciprocal patent assignment

I have received from Mr. Kaegebehn copy of his letter to you of the 25th June as well as copies of his memo of the 2nd of April, Leadco's board resolution of the 4th of April, C. T.P. /Mr. Hallett's/ letter of the 23rd of May and Mr. Kaegebehn's letter to Mr. Henry of the 3rd of June.

I appreciate that the suggested understanding Titaninc-C. T. P. would be a step in harmony with the principle that each Titanium Company owns the patents in its territory and I understand that the arrangement would be of particular importance to C.T.P. in view of stipulations in the Canadian patent law and the war situation.

I take the liberty to make the following remarks as to the position of the suggested arrangement in an intercompany policy following the above principle:

p.t.o.

Exhibit 713

In my understanding steps towards realisation of the principle of ownership of patents by the territorially interested Companies should preferably follow the agreement-structure of the concern, in other words the arrangements should be based on excisting license agreements.

The suggested understanding between Titaninc and C.T.P. would be a departure from the lines mentioned as a license agreement between Titaninc and C.T.P. does not exist, the rights of C.T.P. under Titaninc patents being derived from C.T.P.'s agreement with Leadco, to which latter Company Titaninc has obligations concerning its patent rights in Canada,—by virtue of the license agreement of 1920. This involves the complication of Leadco's participating in any direct arrangement between Titaninc and C.T.P.

Would it not be a preferable arrangement that Titaninc and Leadco come to an understanding regarding reciprocal assignment of patents,—/excepting U.S.A. where Titaninc prefers to retain ownership to its patents in view of its exchange of licenses with D./—and that Leadco upon such understanding with Titaninc endeavours to extend their understanding with C.T.P. to include the assignment to Leadco of all C.T.P. patent rights outside Canada?

In this connection I note that according to Leadco's Board Resolution of the 4th of April 1940 the assignment of Leadco's Canadian patents and applications should be in exchange of C.T.P.'s agreement to assign to Leadco *or its nominee* all patents and applications outside Canada and New Foundland—while according to Mr. Hallett's letter of the 23r of May C.T.P. will assign to Leadco only in such countries which are not reserved to Leadco's associates. C.T.P. will, however, extend the arrangement

p.t.o.

to associates willing to permit the assignment of their Canadian patents and applications to C.T.P.

It seems thus that Leadco's intention has been to make an arrangement with C.T.P. for all countries—presumably for the benefit of Titaninc in countries outside Leadco's territory—and perhaps this can be reached in the mentioned way.

As to the consequences of an arrangement obliging Titaninc to assign—direct or via Leadco—patents and applications to C.T.P. this would involve the assignment to C.T.P. of Canadian patents on two T.G. inventions, namely, cases T.187 and T.227 mentioned in Mr. Kaegebehn's letter of the 25th of June. These were assigned to Titaninc by T.G. in the beginning of this year and I presume that you find an assignment of these patents to C.T.P. to be hardly adviseable in the present situation.

Our understanding with T.G. regarding assignment of patents does not include the assignment of T.G.'s patents and applications in France and the British Empire and thus not Canada—this question having been left in abeyance—nevertheless T.G. offered to assign to us the above mentioned Canadian patents, which offer we accepted.

It seems to me that an understanding involving assignment of Titaninc patents to C.T.P. should contain the reservation that patents on inventions of T.G. and I.G. and possibly also S.I.T. should be excepted from assignment until further.

I am aware that an understanding involving reciprocal assignments C.T.P.-Titaninc would also have as a consequence that we have to assign to T.G. patents and applications in T.G.'s territory on C.T.P. inventions in view of our arrangement with T.G. I take it, however, that no such

p.t.o.

patents would be applied for in the present situation during which T.G. would not be notified of C.T.P. inventions—in view of the principle not to pass any information from one belligerant party to the other.

In the event of an arrangement between C.T.P. and Titaninc being contemplated the mode of operating could, as far as I can see, be similar to that suggested in Mr. Kaegebehn's letter to Mr. Henry of the 3rd of June, however, in case with reservations as to assignment of Titaninc patents and applications on T.G., I.G. and S.I.T. inventions. Under these C.T.P. would get exclusive licenses and it would have to be agreed upon how their cost should be shared. As a possibility I might indicate the arrangement that Titaninc pays half of the costs and C.T.P. the other half against a corresponding arrangement for sharing of costs on C.T.P. patents, which might be excepted from assignment and under which Titaninc or associates /other than Leadco/ have exclusive licenses. Leadco is not obliged to pay more than 50% of the costs of Titaninc's and associates' Canadian patents under which they have exclusive licenses and assuming that C.T.P. reimburses only Leadco's share, it seems equitable that C.T.P. gives exclusive licenses to Titaninc under corresponding conditions.

An exception would have to be made for licenses procured C.T.P. by Titaninc under patents belonging to Companies with which Titaninc has no direct agreement, for example I.G. patents. It seems to me that in such cases the rule should be that Titaninc is reimbursed for their expenses for such licenses.

I presume that Leadco has acquainted C.T.P. with the conditions agreed upon with I.G. for our licenses under I.G. patents viz. that the exclusive licensee should pay costs

p.t.o.

with 100% for patents within the licensed field while for patents of which an important part of the scope is beyond the licensed field the exclusive licensee pays 50% and I.G. 50% of the costs.

In paragraphs 2a and 2b of Mr. Kaegebehn's letter to Mr. Henry of the 3rd of June it might for clearness sake be preferable to insert "within the licensed field of this said agreement" after "exclusive license" in line 4 from the bottom of each of the paragraphs. I understand that the licenses are meant to be only for those features of the patents which are within the licensed field. I would mention this for the event that a similar wording is used in a possible arrangement between C.T.P. and Titaninc. I presume that the licensed field governing such arrangement would be that of the Leadco-C.T.P. agreement.

As you may perhaps wish a review of the present situation with regard to ownership of licensed field patents outside the inventor Company's territory, I enclose a brief note regarding this.

Hoping that the above remarks may be of some interest for your consideration of the matter I am,

Yours sincerely,

SIGURD ANDERSEN
Sigurd Andersen

Encl. note

Exhibit 713 2615

Letterhead of

TITAN COMPANY, INC.

Enclosure to letter to Dr. G. Jebsen
from Mr. Sigurd Andersen,
dated 29th July 1940.

NOTE RE

OWNERSHIP OF "LICENSED FIELD" PATENTS AND APPLICATIONS OUTSIDE INVENTOR COMPANY'S TERRITORY

With *T.G.* Titanine has an understanding regarding reciprocal assignment of patents and patent applications of the parties to the territorially interested Company. In this understanding is not included an assignment of T.G.'s patents in the British Empire and France. This has been left in abeyance until further.

An assignment of *I.G.* patents is not foreseen in the agreements but they have agreed to study the question of assigning certain of their patents outside T.G.'s territory to Titanine. We have as yet no further news on this question.

As to *Leadco, B.T.P. and S.I.T.*, the usual practice has been and is that these Companies do not retain ownership to their patents outside their territories but leave it to Titanine to apply for patents in Titanine's name and on its cost, wherever Titanine finds this desirable.

Patents in the territories of these Companies on Titanine's inventions and inventions for which Titanine has got the right to apply in the countries in question, have been taken out by Titanine in cases which we consider more important while we in less important cases have not retained ownership but have applied on behalf of the territorially interested Company for patents desired by it. In U.S.A. Titanine has however in the last years retained ownership to all patents on such inventions—with a view to using them in an exchange of licenses with D.

Exhibit 714

COPIES

Memorandum to the Executive Committee
April 2, 1940
Mr. R. W. Rockwell, Chairman
Mr. C. F. Kaegebehn

Gentlemen:

Concerning the division of cost of obtaining patents within the titanium field, all agreements between the associated companies, with one exception, provide that the inventor company (licensor) if it wishes to keep title to a patent, shares 50 per cent of the expense with the exclusive licensee. It is further provided in the agreements that the inventor company may relieve itself of any share of the expense by delivering title to the licensee, in which case the licensee becomes the owner and pays 100 per cent of the expense.

The one exception above referred to is our agreement with Canadian Titanium Pigments, Limited. In that agreement it is provided that the exclusive licensee will pay 100 per cent of the cost of obtaining a patent while the inventor company keeps title. This means that we are not in a position to deliver to our European associates, pursuant to our other agreements, more than an exclusive license for which under their agreements with us they are chargeable with only 50 per cent of the expense. Hence, the situation may arise where we will be in the disadvantageous position of being expected to pay 50 per cent of the cost of obtaining foreign patents on inventions of Canadian Titanium Pigments, Ltd.

Since the execution of the Canadian agreements the Patent Department has cooperated with the Patent Depart-

Exhibit 714

ment of Canadian Titanium Pigments, Ltd. to obtain Canadian patents as requested by Canadian Titanium Pigments, Ltd. but has, in accordance with the Canadian agreements, retained title to the patents for National Lead Company.

Recently the Patent Department has been approached by representatives of Canadian Titanium Pigments, Ltd. on the question of whether or not it would be possible to assign the Canadian patents now owned by National Lead Company to Canadian Titanium Pigments, Ltd. It was pointed out that to do so would materially strengthen the patent position of Canadian Titanium Pigments, Ltd.; it would better enable Canadian Titanium Pigments, Ltd. to resist any request for compulsory licenses which is permitted under Canadian law; it would permit a better enforcement of the Canadian patents if they were owned by a Canadian company.

It was the attitude of the Patent Department in the conversations which have taken place in this matter that any possible assignment of Canadian patents to Canadian Titanium Pigments, Ltd. should be in connection with a reconciliation of the variance in their agreement to effect a reciprocal passing of title. The Canadian Titanium Pigments, Ltd. has expressed its willingness to furnish a written statement of its intention when in the future it develops any patentable inventions to pass title to any patents outside Canada to National Lead Company.

Such an arrangement would, of course, mean our passing title to Canadian Titanium Pigments, Ltd. of a group of existing patents in exchange for a promise on the part of Canadian Titanium Pigments, Ltd. to relinquish title to any future developments they may make when they begin operating a plant.

Exhibit 714

However, the recent drift of the international cooperation is all toward permitting each of the associated companies to take title and to control patents within their territory, regardless of the company originally making the development. This tendency was noted when the writer was in Europe last year and has been mentioned in his reports. It was furthered in conversations at Paris, Billingham, Leverkusen and Le Zoute. Recently the Executive Committee and the Board of Directors approved an assignment of patents standing in our name in Germany to Titangesellschaft in exchange for the assignment of United States and other foreign patents of Titangesellschaft to Titan Co., Inc. To permit the reciprocal exchange of title to patents between ourselves and Canadian Titanium Pigments, Ltd. is, therefore, a step in accordance with the trend of the international cooperation. Mr. Garesché authorizes me to state that he is in full agreement with the reciprocal passing of title to patents to the associated companies operating in the territory covered by the patent.

Recommendation is, therefore, made to the Committee that its approval be given to assign our Canadian patents in the titanium field to Canadian Titanium Pigments, Ltd. in exchange for their promise to assign to us title to patents outside of Canada covering their inventions and to permit the Patent Department, under the supervision of Mr. Garesché, to arrange the details and to effect the actual transfer.

Respectfully,

CFK:JM

Manager—Patent Dept.

Exhibit 715

BOOK E—pages 1311, 1312 & 1313

Minutes of Meeting of the EXECUTIVE COMMITTEE held April 4, 1940.

PRESENT: Messrs. Rockwell, Geatty, Simon and Warshow, (also H. O. Bates, Secy.)

ABSENT: Messrs. Croft, Garesche, Rowe and Sidford.

The minutes of the meeting of March 28, 1940 were duly approved.

On separate motions the following resolutions were each unanimously adopted:

RESOLVED, that in furtherance of the interests of both parties to that certain License Agreement between this Company and Canadian Titanium Pigments Ltd. dated January 1, 1937, the officers of the Company be and they hereby are authorized and empowered in its name and behalf to assign to said Canadian Titanium Pigments Ltd. from time to time as acquired or developed any and all patents and patent applications of this Company, within the "Licensed Field" as defined in said Agreement, in the Dominion of Canada and the Colony of Newfoundland, against an agreement on the part of said Canadian Titanium Pigments Ltd. to assign to this Company or its nominee from time to time as acquired or developed any and all patents and patent applications of said Canadian Titanium Pigments Ltd., within said "Licensed Field", in countries other than the Dominion of Canada and the Colony of Newfoundland, and upon the understanding and condition that such reciprocal assignments shall in no way alter or limit the

general intent and operating effect of said License Agreement or any of the several other rights and obligations of the respective parties thereunder; and that the Patent Department of the Company, under the supervision of the Manager of the Titanium Division, be and it hereby is instructed to make the necessary arrangements for effecting the foregoing exchange of assignments on the part of this Company.

On motion the meeting then adjourned.

H. O. BATES
Secretary

Exhibit 716

[COPY]

Mr. E. T. Henry
Canadian Titanium Pigments, Ltd.
P. O. Box 10
Montreal, Canada

May 7th, 1940

Re: Assignment to C. T. P.

Dear Mr. Henry:—

Your letter of April 26th, 1940 was received.

When I tried to check the lists you had enclosed, I found that apparently it has been the practice for C. T. P. to retain in Canada original Letters Patents and assignment documents of those cases which, since the conclusion of our agreements, have been filed by Mr. Smith. Hence, I was not able to check title of a good many cases included in your lists and, accordingly, I wrote you on May 6th, asking for a list of such documents as you may have in Canada. At this time I shall try to give you as much information, in response to the questions contained in your letter, as is possible.

First, it is my feeling that the patents to be transferred should be those falling within the scope of the Licensed Field of January 1, 1937, broadened according to the arrangement which is now nearing completion. The supplementary agreement of February 27th, 1939 provides for an exchange of rights under patents which are outside of this Licensed Field but which may have an application within the field. It would appear better for the present not to transfer title under such patents. However, this point could be considered later on in collaboration with all the associated companies.

Exhibit 716

As to the lists of patents sent with your letter, I shall take these up in a separate communication.

As to patent No. 314,856 (T. 138), I have in my possession assignments transferring title to this patent from the Metal & Thermit Corporation to Titanium Pigment Co., Inc. and from them to the National Lead Company.

As to Canadian application, Ser. No. 455,022 (Case T. 188) I have an assignment vesting title in National Lead Company. Mr. Taylor of Fetherstonhaugh & Co. is prosecuting this application. This is the case, not case T. 180, (Canadian Ser. No. 438,935), which is in interference with with the United States Deyrup application. Fetherstonhaugh & Co. have a stop-order against the Canadian application, pending the outcome of the United States interference. At present it appears that Deyrup will get one claim and Read, our inventor, will also get one claim so that two patents will issue.

Case T. 180 (Canadian Ser. No. 438,935) is an application covering an improvement on the Louisville Drying Machine. When this case originated in the United States there was some dispute between ourselves and the Louisville Drying Machinery Co. which was amicably settled on the basis of Louisville taking the patent and we an exclusive license within the titanium field. The Canadian patent has already issued but I do not know its number. I have written to the attorney of the Louisville Drying Machinery Co. for this information.

With respect to Case T. 111 (Canadian Patent No. 349,030) as with cases T. 128 and T. 119, and possibly others, I am inclined to regard these as cases which fall within the purview of the supplementary agreement of February 27th, 1939. Hence, it is my opinion that title to

these should not be transferred but that C. T. P. should have an exclusive license to practice the processes and use the products within the Licensed Field of the Agreement of January 1st, 1937 as it will be broadened.

Regarding the patents and applications of the I. G. Farbenindustrie and Titangesellschaft, we will first be in a position to transfer title to the Titangesellschaft cases. As yet no understanding has been reached with respect to the I.C. Farbenindustrie cases and these latter cases will have to wait until such time as the international situation permits further consideration. In my opinion, I think we should proceed first to transfer only those patents and applications which now stand in the name of National Lead Company. Thereafter we can transfer those which stand in the name of Titan Co. A/S, Titan Co., Inc. and Titangesellschaft. In each of the latter cases we shall, of course, have to work more slowly since the transfer will have to be done in collaboration with thos companies.

Regarding the filing of Canadian application in Case T. 240 and others touched upon in the penultimate paragraph of your letter, there is really no objection to filing these in the name of C. T. P. However, for the sake of order, I recommend that they be filed in our name and subsequently transferred. Before the exchange of title will be effected, we shall receive from C. T. P. a letter announcing the intention of C. T. P. in the future to assign to us its patents and applications for countries outside of Canada. I have still to consider the form letter submitted by Mr. Asselin, which I hope to do in the near future. I should like to have this more or less formal matter disposed of before initiating the procedure of filing our cases in C. T. P.'s name.

Exhibit 716

I think it might be well before actually recording our assignments if I came to Canada for a final check on the entire situation.

Yours very truly,

NATIONAL LEAD COMPANY

C. F. KAEGEBEHN

CFK:JL

c.c. Mr. C. F. Garesché

Exhibit 716

May 7th, 1940.

Mr. E. T. Henry
Canadian Titanium Pigments, Ltd.
P. O. Box 10
Montreal, Canada

Re: Assignment to C. T. P.

Dear Mr. Henry:—

As to the lists sent with your letter of April 26th, we have the following comments:

As to page 1 of the list, all patents on this page stand in the name of National Lead Co. except Cases T. 62, T. 64, T. 65, T. 71-A and 71-B. These stand in the name of the I. G. Farbenindustrie. Two years ago I took up with Titan Co., Inc. the reason why these cases have been designated in the List of T-Cases as "Transferred to Titanium Pigment Co., Inc." At that time we endeavored to get a formal transfer of these patents but the I. G. Farbenindustrie was rather reluctant to transfer title. You have through us under these cases an exclusive license and it is possible that in the future the I. G. Farbenindustrie will consent to transfer title to you through us.

As to page 2, there is nothing in my files which will indicate the title to the patents listed as being owned by Titan Co. A/S and Titan Co., Inc. These are early patents, handled by attorneys other than ourselves and I presume that the original letters patents and assignment documents are in the European files of Titan Co., Inc.

As to page 3, Case T. 227 listed under the I. G. Farbenindustrie applications, is in reality a Titangesellschaft case. This together with Case T. 187 is being transferred to Titan Co., Inc.

Exhibit 716

As to page 4, et seq. I am able to confirm that the first 13 patents, Case T. 25 through Case T. 173 and T. 165 and T. 154-B stand in the name of National Lead Company. Apparently you have the original letters patents in Case T. 165 and Case T. 154-B. You also apparently have both assignment documents and letters patents in cases T. 130-B, T. 179 and T. 162.

As to all other cases listed on these pages with the exception of Case T. 188, discussed in my other letter of today's date, these all apparently stand in the name of National Lead Company. I note that the applications listed on these pages include cases, e.g., T. 115-C, T. 125-C, which originated with European companies. If I receive from you a list of assignment documents and original letters patents which you have obtained in Canada, I can give further attention to the applications listed.

Yours very truly,

NATIONAL LEAD COMPANY

C. F. KAEGEBEHN

CFK:JL

c.c. Mr. C. F. Garesché

Exhibit 717

COPY

June 25, 1940

Dr. G. Jebsen
c/o Titan Company, Inc.
26, Rue de la Pépiniere
Paris—8e—France

Dear Dr. Jebsen:

You are aware that the agreement with our Canadian associate, Canadian Titanium Pigments Limited, provides that the party who obtains from the other an exclusive license, is chargeable with 100 per cent of the cost of obtaining the patent. Thus, it is possible under this agreement for the inventor company to retain title to patents covering the inventions of that company without sharing any of the cost of obtaining the patent. To this extent the agreement is somewhat at variance with the other agreements existing between members of our titanium group.

From the beginning of the Canadian Company, we have followed the practice set forth in the Canadian agreement, namely, we have filed Canadian patents at the request of the Canadian company and have retained title to these patents while charging the Canadians with the entire cost of the prosecution of the applications. Lately, we were approached by the Canadian Titanium Pigments Limited with a proposal to assign to them Canadian patents within the Licensed Field, title to which resided in National Lead Company. Various reasons were advanced by the Canadians why such assignment should be effected. The matter was discussed with Mr. Garesché and at his suggestion, on April 2nd I presented the proposal to our Executive Committee.

Exhibit 717

Copy of my memorandum of April 2nd is enclosed herewith. On April 4th the Board of Directors of National Lead approved this transfer. Copy of the notification by Mr. Bates to Mr. Garesché is enclosed herewith.

Having obtained National Lead's consent, it was necessary to consider with Canadian Titanium Pigments Limited how to effect this transfer in order to place C. T. P. in the reciprocal position of giving title to their future patents to National Lead Company for National Lead's territory. We had several conferences with Mr. Asselin of the Legal Department of the Canadian Company, and with him worked out the procedure which was followed.

On May 23rd Mr. Haslett, as President of Canadian Titanium Pigments Limited, addressed a letter to Mr. Garesché, affirming the intention of C. T. P. to assign its patents outside of its territory to National Lead Company and to act in a similar manner with respect to National Lead's associates whenever such associates would assign their Canadian patents to Canadian Titanium Pigments. A photostatic copy of that letter of May 23rd is enclosed herewith. In order to avoid modification in the agreement, we then consulted with Mr. Henry of the Patent Department of Canadian Titanium Pigments and developed a modus operandi for handling future patents. Copy of my letter of June 3rd to Mr. Henry is enclosed.

I should like now to present for your consideration the possibility of assigning to Canadian Titanium Pigments Canadian patents owned by Titan Company Inc. in consideration of the assurance on the part of the Canadian Company to assign to Titan Company Inc. its future patents within the territory of Titan Company Inc. In this connection also should be considered the assignment of Titan-

gesellschaft's Canadian patents which have recently been assigned to Titan Company Inc., namely, patents in Cases T. 187 and T. 227. Furthermore, the question of the title to the I. G. patents comes up. We understand that the assignment of I. G. patents is to be left for future consideration. With respect to British Titan Products Ltd., we note that they do not at this time hold title to any Canadian patents. Hence, the arrangement with respect to this company would be in the nature of exchange of promises.

With respect to the patents now owned by Titan Company Inc., title to which may have been derived either from Titangesellschaft, British Titan Products, or any other of the associated companies, from the strictly legal viewpoint, Titan Company Inc. could assign these to the Canadian Company without any consultation with the original inventor company. However, if Titan Company agreed to enter into this reciprocal arrangement with the Canadian Company, it would appear that the various associated companies should be informed that Titan Company Inc. intends to transfer title to patents which Titan Company Inc. obtained from the associate to Canadian Titanium Pigments and at the same time to assure the associated company that Titan Company Inc. was now in a position to deliver to that associate full title to patents for its territory covering inventions originating with the Canadian Company.

On the whole, it is our view that this step brings the Canadian Company in closer harmony with the arrangements existing between the other members of the titanium family and is a step in the direction of permitting each associate to own and control the patents within its respective territory which was mentioned at Le Zoute last June and which has been put into effect recently with respect to as-

signing Titangesellschaft's patents within Titan Company Inc.'s territory to Titan Company Inc. and Titan Company Inc.'s and National Lead's patents within Titangesellschaft's territory to Titangesellschaft. We are, therefore, presenting this matter to you with our favorable recommendation. Your comments will be much appreciated.

With very kind regards,

Yours very truly,

C. F. KAEGEBEHN

CFK:JM

Mr. C. F. Garesché—Mr. S. Andersen—Mr. A. Ravnestad

Exhibit 718

Letterhead of

CANADIAN TITANIUM PIGMENTS LIMITED
P.O. Box 10,
Montreal, P.Q.

Our File: 10/6

3rd September, 1940.

Mr. Fletcher W. Rockwell,
National Lead Company,
111 Broadway,
NEW YORK, N. Y., U.S.A.

Dear Mr. Rockwell:—

Enclosed herewith please find a copy of the minutes of the Special General Meeting of Shareholders, the 12th Meeting of Directors and the Adjourned 12th Meeting of Directors of Canadian Titanium Pigments Limited, held in Montreal, on 2nd August, 1940. We also enclose two copies of the Agenda and you already have the President's Report with financial statements.

Yours very truly,

RUSSELL SMITH
Russell Smith
Secretary.

Encls.
RS:HB

2618

Exhibit 718

MINUTES OF THE 12TH MEETING
of Directors of
CANADIAN TITANIUM PIGMENTS LIMITED
held at 1135 Beaver Hall Hill, Montreal, Que.,
on Friday, 2nd August, 1940, at 11.00 a.m.

Present: C. F. Garesche
L. W. Haslett
E. A. MacKinnon
F. W. Rockwell

In attendance: Russell Smith,
Secretary.

In the absence of the Chairman of the Board, the President, L. W. Haslett, acted as Chairman of the meeting.

* * * * * * * * *

[Sections 84 through 90, eliminated.]

No. 91: It was considered desirable that the various patents of National Lead Company and its associates in the titanium industry, under which the Company has an exclusive licence to operate within its territory, should be owned by the Company in order to assist it in safeguarding its e...sive use of such patents against third parties who may seek compulsory licences, and as the acquisition of such ownership by the Company was predicated upon an undertaking by the Company to assign its similar patents to National Lead Company and such of its associates that become parties to this reciprocal arrangement for their respective territories, it was

Exhibit 718

RESOLVED—That the Company is hereby authorized to assign from time to time, as acquired or developed, any and all patents and patent applications of the Company falling within the scope of the "Licensed Field" now defined in the License Agreement dated 1st January, 1937, between National Lead Company and the Company, or hereafter broadened as contemplated.

(a) to National Lead Company for countries other than Canada, Newfoundland and those countries which are reserved to National Lead Company's associates in the titanium industry subject however to the understanding that E. I. du Pont de Nemours & Company shall remain entitled to non-exclusive licences for North and South America (excluding Canada and Newfoundland) under such of the said patents and patent applications which relate to titanium compounds that can be used as pigments;

(b) to such associates of National Lead Company in the titanium industry, for their respective countries, who have undertaken reciprocally to assign to the Company for Canada and Newfoundland the patents and patent applications originating with them,

provided that such reciprocal assignments shall in no way alter or limit the general intent and operating effect of the said Licence Agreement or any of the other rights and obligations of the respective parties thereunder.

* * * * * * * * *

[Section 92 and balance eliminated.]

Exhibit 719

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, September 21st, 1934.

Dr. G.W. Thompson
National Lead Company
Research Laboratories
105 York Street
Brooklyn, N.Y.

Dear Dr. Thompson,

I acknowledge receipt of your favour of August 20th and am glad to note the cooperation established between Messrs. Dorsey & Cole and Mr. Kaegebehn.

The patent applications of Titangesellschaft are handled by I.G.'s Patent Department in Leverkusen and through them by Dr. Duisberg in New York. It will presumably be very useful if the suggested cooperation could be established with Dr. Duisberg. He has also handled Titanium patents applied for in the name of I.G. Farbenindustrie.

I shall take up your proposal with Dr. Kühne who will, I trust, welcome the suggested cooperation.

I presume that it can only be to the good if you take up the matter with Dr. Duisberg direct already now.

For your information, I may mention that in the first years there was some confusion in these matters as some of Titangesellschaft's patents were applied for in the name of I.G. Farbenindustrie, but this seems to be satisfactorily corrected now. As Titangeselschaft and its associated companies have the right to an exclusive license under I.G.

Exhibit 719

Farbenindustrie's Titanium patents, as far as the Titanium industry is concerned, no particular harm has been done through the confusion.

Mr. Raynestad informs me that case T 114 concerns the subject matter dealt with in the Titanium Pigment Co.'s U.S.A. Appl. Ser. No. 736,045 and refers to a letter from here of August 31st this year.

Looking forward to see you in the latter part of October, I am

Yours very truly,

G. JEBSEN

Exhibit 720

November 1, 1934

Dr. G. Jebsen
Ste. Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Re: Our Cooperation with Respect to
U. S. Appls. of the Titangesellschaft.

Dear Dr. Jebsen:

This letter reviews the relations which have been established with Dr. Duisberg, Attorney for the I. G. Farbenindustrie in the United States, who has handled applications for the Titangesellschaft.

From the T. Case lists which were sent to Dr. Thompson on March 28, 1934, it was shown that certain applications under which the Titanium Pigment Company would receive exclusive license, were being prosecuted by Dr. Duisberg.

On August 20, 1934, Dr. Thompson wrote to Dr. Jebsen informing him of the cooperation established between Messrs. Dorsey and Cole and Mr. Kaegebehn, and asking approval for establishing similar relations with Dr. Duisberg. Dr. Jebsen replied on September 21, stating that he believed such relations could well be established with the approval of Dr. Kuhne. Accordingly, relations with Dr. Duisberg were established at a conference in Dr. Duisberg's office between him and Mr. Kaegebehn.

Dr. Duisberg welcomed such cooperation and, in fact, carried the proposal further than was expected by the Titanium Pigment Company. He outlined four proposals for future relations, namely:

Exhibit 720

1) Dr. Duisberg will send a copy of all applications, Patent Office actions, and amendments thereto, concerning Titanium Pigment Company. (Copies have already been received in three cases which Dr. Duisberg is prosecuting; Cases T.108, T.111, and T.112).

2) Dr. Duisberg wishes us to consider the advisability of consolidating the prosecution of all titanium applications which will eventually be controlled by the Titanium Pigment Company, into one agency.
In working out this arrangement, the matters will receive as much attention as Dr. Duisberg now devotes to them, while, at the same time, the Titanium Pigment will be in a position of assisting and cooperating in the prosecution of the cases.

3) Dr. Duisberg is willing to gradually withdraw the filing of these application from the firm of Washington attorneys who now handle the cases, and to file through whatever agencies the Titanium Pigment Company might think best.

4) The Titanium Pigment Company, if it be thought desirable, will send to the European associates copies of all Patent Office actions, citations, and amendments to United States applications filed by the Titanium Pigment Company, which are being prosecuted in the respective license fields of the European companies. This suggestion is made with the idea that such papers may be of assistance to the European companies in prosecuting their applications.

These proposals were discussed with Dr. Jebsen at a meeting in Dr. Thompson's office October 30, 1934, at

which were present Drs. Thompson and Jebsen and Messrs. Turner and Kaegebehn. Dr. Jebsen expressed his approval of what had been done thus far and the proposals reached with Dr. Duisberg outlined above. He suggested that the matter of future relations and the manner in which they could be worked out should be left to the discretion of Dr. Duisberg and the Titanium Pigment Company. He expressed himself as believing that what would be decided upon would meet with the approval of the Titangesellschaft.

As regards future applications, it is suggested that copies of the initial communication instructing Dr. Duisberg to file a United States application be sent to Mr. Kaegenbehn, thus informing him of the matter and enabling him to establish connections with Dr. Duisberg and to cooperate in the matter along the lines of the above outlined proposals in whatever ways will best assist in the prosecution of the case.

Very truly yours,

TITANIUM PIGMENT CO., INC.

(signed) C. F. GARESCHÉ

V-P

CFK:MCY

This letter handed to Dr. Jebsen at the N.Y. Office, Nov. 8, 1934

Exhibit 721

"Majestic" February 5, 1935

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company, Inc.
26, Rue de la Pepinière
Paris, 8e
France

Gentlemen:

Re: U.S. Applications of the Titangesellschaft m.b.H and Patent Expense

We have your very informative letter of January 22, 1935 and thank you for the trouble you have taken to explain the situation to us. We wish, however, to go into certain phases of this matter somewhat more in detail.

We observe that our letter of January 4, we have used the term "Titangesellschaft" in places where perhaps we might have used Titan Company, Inc. more accurately. This, however, has not been confusing to us, since we are clear on the point that the rights which we secure in United States Patents of the Titangesellschaft come to us as a result of our Agreement with the Titan Company, Inc.

We understand the situation regarding patent expense to be somewhat as follows:

A. Where we do not desire an exclusive license and the Titan Company, Inc. decides to file in our territory, we obtain a non-exclusive license but are not charged with any portion of the expense.

B. Where we desire an exclusive license and the Titan Company, Inc. wishes to file in their own behalf in the

United States, we obtain an exclusive license and are charged with 50% of the expense.

C. Where we request filing on our behalf and the Titan Company, Inc. does not care to file on their behalf in our territory, we are charged with 100% of the cost.

We are clear on A. and B. above, and the latter's relation to Article VI, Section 2, Paragraph (d) of the Agreement of 1920.

We have interpreted Article V, Paragraph (e) to refer specifically to *"expense of* MAINTAINING AND DEFENDING *any Letters Patent"* which has already been issued. We do not find any specific reference to the expense of prosecuting an application. We note, however, the obligations incurred by the contracting parties with respect to filing applications as specified in Article V, Sections A. and B. as amended, but in these paragraphs find no reference to expense. As we are able now to interpret Paragraph (e) of Article V., in the light of your letter of January 22, 1935, we would assume, then, that a United States Patent issuing from an application originating from the Titangesellschaft under which we desired exclusive license but which the Titan Company, Inc. had no desire to file in their own behalf, would be fully and completely assigned to the Titanium Pigment Company as to all rights, title and interest in the invention, and we would be charged with the entire cost of the prosecution. Can you inform us whether such has been the case with respect to any cases considered to come within the license field of the Agreement between the Titan Company, Inc. and the I.G., that is the Titangesellschaft applications which are referred to by you as "T" cases.

We have assumed, however, that in cases where we have requested an exclusive license and the application was

prosecuted to patent in the United States and, as issued, showed the I.G., or the Titan Company, Inc., or the Titan Company A/S or, in the future, will show the Titangesellschaft or British Titan Products Company as assignee, and, consequently, under United States Law as owners, such application and patent would be construed as showing the desire on the part of the Titan Company, Inc. to apply for patent in the United States, the expense of which would be 50% chargeable to us.

As we have interpreted Article VI, Section 2, Paragraph (e) of the Agreement of 1920, we have understood that where the inventor company or, as is the case, the Titan Company, Inc., does not wish to file in our territory, they will *on request by us, ... execute and deliver to us,* papers necessary to the preparation, filing and prosecution of the application for patent. This paragraph of the 1920 Agreement, as we have understood it, provides for our taking over complete filing and prosecution of the case. If we are correct in this assumption, then we would be in a position to entirely supervise the prosecution in the United States.

You will note that in recent cases where we have requested an exclusive license, as for example, cases T.108, 118, 120, and 121, we have not desired that you execute to us papers necessary for the prosecution of these cases, and have understood that it was your desire to file on your own behalf in the United States.

With respect to Cases T.118, 120, 121, which, according to our letters of February 1, 1935, we requested exclusive license, this request was predicated on the assumption that the Titan Company, Inc. intended to file in the United States in our territory. We noted, however, that you had informed us that you had not reached a decision in the

matter. Accordingly, in view of the above, in any of these cases should you come to a decision not to file in your own behalf, we beg of you to advise us in order that we may reconsider the case in the light of being charged with the entire cost of the prosecution.

With respect to the filing of the Titangesellschaft cases in the United States under which, through the Titan Company, Inc., we obtain exclusive license, you will note that we have not yet received the comment of the Titangesellschaft to paragraphs 2 and 3 of our letter of November 1, 1934 to Dr. Jebsen.

Since, as you point out in your letter of January 22, 1935, the expense of filing an application in our territory depends upon the decision of the Titan Company, Inc. and ourselves, it would appear that points 2 and 3 of our November 1st letter are particularly pertinent. If the Titan Company, Inc. and ourselves are only concerned, then there appears to be no reason why the Titangesellschaft should have any objection to the points raised in these two paragraphs. Should there be no objections, it appears that the prosecution of these cases might well be handled by the Titan Company's United States attorneys, Messrs. Dorsey and Cole, with the understanding, of course, that the expense involved will not be greater than the present arrangement. In considering such a suggestion, it can be pointed out that much of the actual detail work in connection with the literature searches, preparation of the application, amendments, etc. could be undertaken by our office, with Messrs. Dorsey and Cole acting in a consulting and supervisory capacity and filing the application and amendments in their name. Such an arrangement, consequently, should not involve added expense over the present arrangement.

We are not quite clear on one possible situation. Suppose, for example, the Titangesellschaft files an application

in Germany which, through the Titan Company, Inc., is called to our attention for decision regarding our desires with respect to it. Assuming that the Titan Company, Inc. did not wish to file on their behalf, would the Titangesellschaft have the right to file on their own behalf and in their own name in our territory, regardless of the Titan Company's decision and, in such case, what would be the interest of the Titanium Pigment Company in such application?

In the future, when informing you of our desire for exclusive or non-exclusive license, we shall be careful to take into consideration in our decision whether we are prepared to accept the entire cost of the prosecution of the application, or whether our decision is based upon the assumption that the Titan Company, Inc. will also desire to file on its own behalf in our territory. It would be very helpful to us if we could be informed of your decision at the time you transmit to us copy of the application for our consideration.

We trust that our remarks will not be considered in any critical light whatever. We are endeavoring only to establish a meeting of the minds between all interested parties with a view to establishing a modus operandi whereby these cases will receive the detailed attention they deserve.

Very truly yours,

TITANIUM PIGMENT CO., INC.
Sec'y.—Patent Committee

CFK:MCY

cc: GWT

JLT

Exhibit 722

Letterhead of

TITAN COMPANY, INC.

Titanium Pigment Co. Inc.
105 York Street
BROOKLYN N.Y.

Paris, 14th May 1935

Att. Mr. C.F.Kaegebehn

Dear Sirs,

Patent Expenses on U.S.applications under Agreement

We revert to your letter of 5th February this year and beg to apologize for the delay in giving our comments to the questions raised by you, the reason being that the writer has been abroad for a long period.

We are in agreement with your understanding of the situation as expressed under items A, B, C of your letter.

As to item C, we fear we did not express ourselves very clearly with regard to our interpretation of the Agreement in our letter of the 22nd January this year.

As you rightly remark, Article V (e) does not refer specifically to the expense of prosecuting an application. However, your item C follows of article VI (d) providing for equal division of expenses between the Parties, also in case of obtaining Letters Patent, and the release from this charge can be had under conditions stated

1. In Article V (b) for the licensor
2. " " V (d) " " licensee

It may be questioned whether an expense in obtaining Letters Patent provided for under Article V (a) is not in any case to be shared according to Article VI (d) if any of

the Parties will keep strictly to the words of the Agreement, but we do not think it worth while to raise this question as this has never been practised and seems unreasonable in view of the preceding paragraph.

As to Article VI (e), you are right in assuming that this paragraph provides for your taking over the complete filing and prosecution of cases in which Titan Company Inc. and/or the inventor company does not wish to obtain patents in your territory. In this connection we may mention that according to the practice followed between the associated companies up to now, the inventor company has, in most cases, for the sake of convenience, taken care of the prosecution of the cases.

Article VI (e) does, in our opinion, not provide a right for the licensees to ask for papers re the prosecution of applications in case the licensor applies himself. (We refer to last paragraph page 2 and 3rd paragraph page 3 in your letter.)

In reply to your question at the end of the 3rd paragraph page 2 of your letter, you will find from our correspondence that the following cases which have been taken entirely over by you have been assigned to you and the patents have issued in your name:

T.41	U.S.patent	No.	1.773.727
T.44	"	"	1.831.852
T.54	"	"	1.738.765
T.63	"	"	1.758.472

In some other cases originating from Titangesellschaft (I.G. Farbenindustrie), in which cases the Titan Company Inc. did not wish to apply for patents, you expressed the wish to become the owner, and this matter was arranged

between you and Dr. Duisberg's office (see your letter to us of July 19.1932). The cases are the following:,

T.55	U.S.patent	No.	1.891.911
T.64	"	"	1.850.154
T.65	"	"	1.849.153
T.71A	"	"	1.941.285
T.71B	"	"	1.934.778

We are aware that the patents in these cases have issued in the name of I.G.Farbenindustrie.

With reference to the last paragraph on page 3 of your letter, you have now received our letter of 23rd March 1935 informing you of the approval by Titangesellschaft of the proposal contained in your letter of 1st November 1934, and we understand from correspondence with you that you are arranging with Dr. Duisberg's office the details with regard to the future cooperation in the prosecution of the Titangesellschaft's U.S.patent applications.

With regard to cases T.108 and T.118 and upwards referred to in the 2nd and 3rd paragraph on page 3 of your letter, we will inform you later on in separate letters regarding our decision as to applications in your territory.

We now refer to paragraph 2 on page 4 of your letter. The inventor company has the right to file patent applications in its name in all countries. We interpret paragraph V (a) of our Agreement in this manner. In the case of an application originating from the Titangesellschaft, this company has thus the right to file an application in its name if it so wishes. If the Titangesellschaft does not wish to file such application, the Titan Company Inc. may file in its name according to agreement with Titangesellschaft. If again, Titan Company Inc. does not wish to file an application, the right to file will pass on to you, according to your

Exhibit 722

agreement with us. As to exclusive licences, the Titangesellschaft is, according to its agreement with us, under obligation on our request to give us such licences in all countries outside their territory and we are, according to our agreement with you under obligation, at your request to provide and to hand on to you this right to exclusive licences in countries of your territory. Consequently you could in the case you suppose, always obtain an exclusive licence from us (See Article III, Agreement of 1920). Your right to non exclusive licence under such patent develops from the agreements in the same manner as your right to exclusive licence. Your interest in a patent applied for and owned by the Titangesellschaft in the "Licensed Field" and in your territory would thus—dependent on your wish—amount to either an exclusive or a non exclusive licence under the patent.

We have noted your wish to be informed of our decision when we transmit to you a copy of an application under the Agreement. We will do our best to have this done and will also call the attention of the Titangesellschaft to your wish. We may, however mention that, in most cases, this will be very difficult, as the copies of the applications are forwarded on from here without delay.

We welcome the opportunity to discuss this matter with you and we quite agree that it will be of mutual interest to establish the best possible way of proceeding in the handling of the "T" Cases between our companies.

We should be pleased to receive any further remarks which you might wish to make in connection with the above.

Yours very truly,

Per TITAN COMPANY INC.

ANDREAS RAVNESTAD

Exhibit 723

May 31, 1935.

Dr. G. Jebsen
For Mr. Andreas Ravnestad,
c/o Titan Company, Inc.,
26, rue de la Papiniere,
Paris, 8e-France

RE. Titangesellschaft U. S. Patent Applications.

Gentlemen:

We thank you for your letter of May 14, 1935.

We wish to assure you that we fully appreciate the difficulties you encounter in securing more detailed information from the I. G. relative to Patent applications, and understand the special circumstances from which these difficulties arise.

We have no doubt that our recently established cooperation with Dr. Duisberg's office, which is progressing most satisfactorily coupled with your own efforts to adjust this situation, will eventually bring about an arrangement satisfactory to all parties.

We agree that the matter has to be handled with some care, and will welcome further information from you.

Very truly yours,

TITANIUM PIGMENT CO., INC

Secretary,
Patent Committee.

CFK:AL

Exhibit 724

Dr. G. Jebsen
For. Mr. Andreas Ravnestad,
c/o Titan Company, Inc.,
26, rue de la Pepiniere,
Paris, 8e—France.

June 10, 1935.

Re: Patent Expense on U. S. Applications Under Agreement

Gentlemen:

This will acknowledge the receipt of your very instructive letter of May 14th. Please accept our thanks for the trouble you have taken in so painstakingly answering the various questions raised in our letter of February 5th. This exchange of correspondence has resulted, we believe, in a complete understanding of the situation. We do not believe there remains any important differences between us with respect to the interpretation of this feature of the Agreement of 1920.

Having reached this understanding, we feel that we can now discuss the alternatives which confront us when we receive an application from you which has originated either from yourself, Titangesellschaft, or the British Titan Products Company.

1). In these cases regarding which you are able to tell us definitely at the time you send us the application that both yourself and the inventor company have decided not to file in our territory.

In this situation we are faced with only one alternative; namely, to decide whether we wish a corresponding application to be filed on our behalf and at our expense. In acquainting you of our decision we will say either that *we do*

not wish a corresponding application filed on our behalf or that *we wish a corresponding application to be filed on our behalf and at our expense.*

If the application we wish filed originates with the British Titan Products Company or yourself, we expect that the U. S. application will be filed through Messrs. Dorsey & Cole and that we shall have virtual control over the prosecution of the application, working with Messrs. Dorsey & Cole and keeping you fully advised.

If the application we wish filed originates with the Titangesellschaft, we expect that the U. S. application will be forwarded, as at present, to Dr. Duisberg's office. In cases coming under this heading, we will have the privilege of designating the attorneys through whom the application will be filed; and, in other ways, virtually controlling the prosecution of the case, keeping you fully informed thereof.

Such cases, originating with yourself, the British Titan Products Company, or Titangesellschaft, will be assigned to us so that the patent will issue in the name of the Titanium Pigment Company.

2). In those cases regarding which you are able to tell us definitely at the time you send us the application that either yourself or the inventor company has decided to file a corresponding application in our territory.

In this situation, we are faced with only one alternative; namely, to decide whether we wish an exclusive or non-exclusive license. In acquainting you of our decision we will say either that *we wish only a non-exclusive license* or that *we wish an exclusive license and are prepared to stand 50% of the cost of prosecuting the U. S. application.*

If we request only a non-exclusive license, we have no right to share in or control the prosecution of the U. S.

application, except as you or the inventor company may wish to avail yourselves of our cooperation which will be always at your disposal.

If we request an exclusive license, then we expect to share in the prosecution of the application, cooperating with the U. S. attorneys, i.e. Messrs. Dorsey & Cole (for yourself or British Titan Products Co.) or Dr. Duisberg's office (for Titangesellschaft,) who may be handling the case. Patents issuing from applications coming under this heading will issue in the name of the inventor company.

3). In those cases concerning which you are unable to acquaint us with the decisions of either yourself or the inventor company.

In this situation we are faced with the following three alternatives:

(a) To request only a non-exclusive license should either you or the inventor company decide to file in our territory. This would be tantamount to saying that we had no interest in having a corresponding application filed. Accordingly, should neither you nor the inventor company decide to file in the U. S., then no application would be filed. On the other hand, should either you or the inventor company decide to file, then the U. S. application would be handled as described in that section of No. 2 above dealing with non-exclusive licenses.

(b) To request an exclusive license but only dependent upon the understanding that either yourself or the inventor company will also wish to file. We do not anticipate that the situation will arise very frequently and, in general, we will endeavor to state our decision as per 3 (a) above or 3 (c) below. Should we be forced, however, to make a

decision of this kind, we will say in acquainting you of our decision that *in the event you or the inventor company decide to file a corresponding application in our territory we will want an exclusive license and are prepared to accept a charge of 50% of the prosecution of the application.* Should you or the inventor company decide to file in our territory, then the matter would be handled as described in that section of No. 2 above dealing with exclusive licenses.

(c) To request an exclusive license and to inform you that in the event neither you nor the inventor company would wish to file in our territory, we are prepared to have the application filed on our behalf and at our expense. In cases of this nature, we will say in advising you of our decision that *we desire a corresponding application to be filed on your behalf.* We will not know whether such cases will be handled according to that part of No. 2 above dealing with exclusive licenses or that part of No. 1 above dealing with the filing of an application on our behalf until we are informed of the decisions reached by you and the inventor company. Accordingly, we understand you will advise us of these decisions as soon as possible after receiving our decision. If you decide to file then the case would be handled as under No. 2 above, relating to exclusive licenses or, in the event you decided not to file, as under No. 1 above, relating to filing on our behalf.

The import of the discussion under No. 1 and No. 3 (c) above is that where we are charged with the entire cost, we will want to assume virtual control of the prosecution of the application and to have the patent issue in the name of the Titanium Pigment Company. We note from your letter of May 29th that you have already taken steps

to have the patents in Cases T. 108, 111, 112, and 115 issue in the name of the Titanium Pigment Company. We intend to write separately at a later date regarding how we will want the further prosecution of these cases handled.

If the suggestions contained in this letter conform with your ideas, please advise us. Then, we believe, a modus operandi will have been established with respect to handling U. S. applications originating abroad which will be as efficient and workable as that which prevails with respect to our applications handled by you.

We again thank you for your cooperation in this matter.

Very truly yours,

TITANIUM PIGMENT CO., INC.

Secretary,
Patent Committee.

CFK:AL

Exhibit 725

INTER-OFFICE CORRESPONDENCE
TITANIUM PIGMENT COMPANY, INC.
RESEARCH LABORATORIES
105 YORK STREET BROOKLYN, N. Y.

DATE June 10, 1935.

SUBJECT Exchange of Licenses with our Foreign Associates and Cost of the Same.

TO Patent Committee.

FROM C. F. Kaegebein

REFERENCE

As a result of protracted correspondence with Dr. Ravnestad of Titan Co., Inc., I am now in a position to report definitely regarding the cost of obtaining licenses in U. S. patents originating from our foreign affiliates.

The right to file a U. S. Application rests primarily with the inventor company; e. g. Titangesellschaft or British Titan Products Company. If the inventor company does not exercise this right it passes to Titan Co., Inc. If Titan Co., Inc. also declines to file in our territory the right to file then passes to us.

In the event that either the inventor company or Titan Co., Inc. decides to file, then we may obtain either a non-exclusive or an exclusive license. Where we request an exclusive license, we are charged with 50% of the cost of obtaining the patent. Regardless of whether we want an exclusive or non-exclusive license, the patent will issue in the name of the inventor company or Titan Co., Inc.

In the event that neither the inventor company nor Titan Co., Inc. wish to file, then our request for an exclusive license is tantamount to authorizing the filing of the U. S. application on our behalf and at our entire expense.

The confusion in the past has resulted from the fact that we have been called upon to reach a decision before we were in possession of the decisions of Titan Co., Inc. and the inventor company. In some instances where we had requested an exclusive license, believing we would be charged with only 50% of the cost of prosecuting the application, our European affiliates subsequent to our decision came to the conclusion they did not wish to file. Consequently, the application was filed on our behalf and at our expense. The prosecution was controlled from abroad and the patent issued in the name of either the Titan Co., Inc. or the European affiliate.

We have agreed with Dr. Ravnestad on a course of procedure which we believe will eliminate future misunderstandings. This procedure may be summarized as follows:

Titan Co., Inc. will endeavor to inform us of their decision as well as that of the inventor company at the time they send us an application. We will then only have to decide whether we wish to authorize the filing of a corresponding application on our own behalf and at our expense.

In those cases where Titan Co., Inc. find it impossible to inform us of their decision or that of the inventor company, prior to submitting an application to us, we will reach our decision bearing in mind that our request for an exclusive license may be, in effect, an authorization to file on our behalf and at our expense. Titan Co., Inc. will later, as soon as possible, advise us of their decision and that of the inventor company. Should they decide to file, then the application will be jointly prosecuted, the cost equally divided,

Exhibit 725

and the patent will issue in the name of the European company.

In the future, in all cases where we are chargeable with the entire cost of the case, we will control the prosecution and the patent will issue in the name of the Titanium Pigment Company.

C. F. KAEGEBEHN
Secretary,
Patent Committee.

CFK/AL

Exhibit 726

Letterhead of

TITANIUM PIGMENT CO., INC.

Mr. W. C. Beschorman,
Executive Vice President,
National Lead Company,
111 Broadway,
New York, N. Y.

December 4, 1935

Dear Mr. Beschorman:

I beg to refer to my letter to you dated May 13, 1935 which referred to the status of our rights in the following United States patents owned by I. G. Farbenindustrie:

1,816,388	July 28, 1931	A. Mittasch et al.
1,850,286	Mar. 22, 1932	"
1,878,013	Sep. 20, 1932	K. Staib
1,891,210	Dec. 13, 1932	H. Wolff

The question of the rights arose in connection with our agreement with the American Zirconium Corporation.

I have today, been officially informed by the Titan Co., Inc. that the I. G. Farbenindustrie considers these patents to fall within the license field of the various agreements and accordingly, rights have been granted to us in the above U. S. patents. Thus, we are in a position to grant sub-licenses to any of our cross-licensees.

Please advise me if I can be of any further service in this matter.

Yours very truly,

TITANIUM PIGMENT COMPANY, INC.,

Charles F. Kaegebehn
Secretary,
Patent Committee.

CFK:PS

Exhibit 727

Copy.

TITAN COMPANY, INC.
Wilmington, Delaware, U.S.A.

G. Jebsen,
Vice President

Paris, February 18th 1936.

GJ/AK

Titangesellschaft m.b.H.
Leverkusen I.G. Werk

Dear Sirs;

Re Patent Application in the territories of associated companies.

It has been suggested that the filing of a patent application by the company who has made or is controlling an invention (the inventor company) should not be undertaken in any country outside its territory, without consulting the associated company which has the right to be licensed for the country in question, thus giving this company an opportunity to express its view as to the advisability of such filing.

There have been cases where such filing has been feared to cause inconvenience and where possibilities of obtaining a satisfactory patent have been so small that by nearer consideration an agreement may have been reached as to refraining from such application.

Such a consultation may also bring forward points for the improvement of the application in cases where changes from the basic application are permitted.

Exhibit 727

I propose therefore that it be agreed in principle that such practice be established reciprocally between the associated companies who are in agreement with the above suggestion.

Yours very truly,

(sign.) G. Jebsen.

Exhibit 728

March 5, 1936

The Titan Company,
26, rue de la Pepiniere,
Paris, 8e—France.

Subject: Patent Applications in Territories of Associated Companies.

Attention: Dr. G. Jebsen

Gentlemen:

Dr. Jebsen's letter of February 18 has been referred to us for reply.

As we understand the proposal contained in Dr. Jebsen's letter, the associated companies are asked to agree in principle that applications will not be filed in territories outside of that of the respective companies without consulting the associated company in whose territory it is proposed to file an application.

We believe that such an arrangement is actually in operation at the present time, although, perhaps no expressed agreement has been made as to the principle involved.

For example, when the Titanium Pigment Company files an application in the U. S., the question of filing applications in the territories of Titan Company Inc. and its associates is left entirely to the discretion of the Titan Company Inc. and its said affiliates. At the same time applications originating with Titan Company Inc. and its affiliates are always presented to Titanium Pigment Company before filing in our territory.

A distinction, however, exists in this: that whereas Titanium Pigment Company has adopted a practice of per-

mitting Titan Company and its affiliates to decide in what countries outside the territory of Titanium Pigment Company applications are to be filed, Titanium Pigment Company is only consulted as to the nature of licenses it may desire in applications of Titan Company and its affiliates. We therefore believe that the principle of the proposal contained in Dr. Jebsen's letter is desirable if thereby the Titanium Pigment Company will secure, in addition to the right of choosing the nature of the license it desires, the privilege of expressing its opinion on the desirability of filing applications in its territory. It is presumed that such an opinion will have considerable weight in deciding whether such applications should be filed, if not actually determining the question.

If these considerations are correct we believe there will be no difficulty in securing the approval of Titanium Pigment Company to the proposal contained in Dr. Jebsen's letter. However we should like a reply commenting on our remarks before presenting the proposal to our executives for their approval.

Yours very truly,

TITANIUM PIGMENT COMPANY, INC.,

C. F. Kaegebehn
Secretary,
Patent Committee.

CFK:BR

Exhibit 729

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, March 20th 1936.

Titanium Pigment Co. Inc.
Research Laboratory
P.O. Box 58
South Amboy, N. J.

Attention Mr. Charles F. Kaegebehn
Secretary of the Patent Committee.

Dear Sirs,

Subject: Patent Applications in Territories of Associated Companies.

We acknowledge receipt of your letter of March 5th and agree with your interpretation of the writer's letter of February 18th, with the comment however that it is left open to the "inventor company" to put such weight on the opinions expressed by the associated company (licensee) as the inventor company may find advisable.

It is assumed that practice will develop this matter and the writer considers that it goes without saying that such opinions will be given due consideration.

The proposal has been brought forward because it has happened that inventor companies have applied for patents in countries outside their territory, without consulting the respective associated company beforehand. Such incidents may occur still, but, as the European associates have agreed to the above and it has in fact been the practice of the Tita-

nium Pigment Co, and the Titan Company Inc., it may be assumed that these will be rare exceptions.

As the writer has understood from Mr. Ravnestad that the suggested practice has not always been followed by our European associates as regards U.S.A., he notes with pleasure that you have not been inconvenienced in matters of this kind and shall be glad to receive your approval of the suggestion made.

Yours very truly,

TITAN COMPANY INC.

G. JEBSEN

Copy to Mr. Beschorman.

Exhibit 730

April 4, 1936.

Titan Company, Inc.,
26, due de la Pepiniere,
Paris, 8e— France.

Attention: Dr. G. Jebsen

Re: Patent Applications in Territories of Associated Companies.

Gentlemen:

Your letter of March 20th, 1936 was received and the matter was at once laid before Mr. Beschorman with the recommendation that the proposal contained in your letter of February 18th, 1936, be approved.

With Mr. Beschorman's consent, we are happy to inform you of our approval of the suggestion.

In handling matters relating to patent applications of the associated companies, the writer enjoys a most satisfactory relationship with Mr. Ravnestad and a cooperation has been established in this country with Messrs. Hutz and Joslin, successors to Dr. Duisberg, on matters pertaining to the United States applications of Titangesellschaft. We expect that the suggested proposal will even further strengthen these relations.

Very truly yours,

TITANIUM PIGMENT COMPANY, INC.,

Secretary,
Patent Committee.

CFK/T

Exhibit 731

Letterhead of

TITAN COMPANY, INC.

Paris, 12th. June 1936

SA/GK

Titanium Pigment Co. Inc.,
P. O. Box 58,
South Amboy N. J. U.S.A.

Att. Mr. C. F. Kaegebehn

Dear Sirs,

Patent Situation Canada

We beg to acknowledge the receipt of your letter of the 14th.ult. and are much obliged for the information given therein regarding patent applications filed by you in Canada in some of your recent patent cases.

With reference to the last paragraph of your letter, we beg to inform you that an application was filed in France in Case T.128 on the 4th. February 1936, and it may be expected that a patent will be published about August this year.

If, for some reason, you wish us to try and delay the publication of this patent, please inform us by return.

Yours very truly,

per TITAN COMPANY INC.

SIGURD ANDERSEN

Exhibit 732

June 22, 1936

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company, Inc.
26 rue de la Pepiniere
Paris—8e—France

Subject: Case T.128—French Patent

Gentlemen:

Your letter of June 12 was duly received.

We would very much appreciate your obtaining a delay in the publication of the French patent for as long a time as is possible under the French law.

This request is promoted by the fact that we are encountering some difficulty in the prosecution of the U. S. application and would prefer not to have any disclosure of the subject matter of this case published until after we have had some further actions by the United States Patent Office.

Yours very truly,

TITANIUM PIGMENT COMPANY, INC.

Secretary,
Patent Committee.

CFK:BR

Exhibit 733

Letterhead of

TITAN COMPANY, INC.

SA/LA

Paris, 15, July 1936

Titanium Pigment Co.Inc.
P.O. Box 58
South Amboy N.J.

Att. Mr. C.F.Kuegebehn

Dear Sirs,

T. 128 French Pat.Appl. No.396.043 (Pat.No.803.198)

We acknowledge with thanks the receipt of your letter of the 22nd ult. in the above.

Immediately upon receipt of your letter we examined the possibility of having the publication of the above patent postponed. The French Patent Office usually refuses all requests for delay of publication of patents upon applications filed under the Convention. For non-convention applications filed in France a delay of 6 to a year is generally granted. In the above case it turned out that the application had already advanced at a stage where any possibility of a request for the delay of publication being granted was quite excluded. We accordingly filed no such request, and have now just been informed that a patent has been granted under No.803.198 and will be published by the middle of September this year.

The circumstances were thus unfortunately such as not to permit our being of assistance to you in this matter. We hope that the publication of the French patent will not inconvenience too much the prosecution of your U.S.application.

Yours very truly,

Per TITAN COMPANY INC.

ANDREAS RAYNESTAD

Exhibit 734

July 23, 1936.

Dr. G. Jebsen,
For Mr. Andreas Ravnestad,
c/o Titan Company, Inc.,
26, rue de la Pepiniere,
Paris, Se—France.

Subject: Case T.128—French Patent No. 803,198.

Gentlemen:

We have your letter of July 15th informing us that it was not possible to delay publication and that consequently, the patent issue is due the middle of September, this year. The publication of the French patent will not inconvenience us in the prosecution of United States application. Our intention was that in the event U. S. application was disallowed, then there would be no other publication of the subject matter.

With the French patent issuing in September, there now no longer exists any reason for delaying the prosecution of our Canadian application and we are, accordingly, informing Messrs. Fetherstenbaugh to resume prosecution of the Canadian case.

Very truly yours,

TITANIUM PIGMENT COMPANY, INC.

Secretary,
Patent Committee.

CFK/T

2670

Exhibit 735

October 5, 1936

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company, Inc.
26 rue de la Pepiniere
Paris—8e—France

Re: Canadian applications corresponding to U. S. applications of Titangesellschaft—particularly Cases T. 115, T. 118, T. 120, and T. 125-B.

Gentlemen:

We have just completed an investigation of the status of Canadian applications corresponding to American applications of Titangesellschaft in which we have an exclusive license, and for which we are defraying the entire cost of prosecution.

In this connection we have had some correspondence with Messrs. Hutz and Joslin.

The result of our correspondence with Messrs. Hutz and Joslin and our individual study discloses that there are in some cases pending Canadian applications, and in others none have been filed. A table showing the status of the situation is enclosed herewith.

We feel that the question of filing Canadian applications in certain of these T. Cases should be considered. For example, we believe that Canadian applications should be filed in Case T. 115, Case T. 120, and Case T. 125-B.

As to Case T. 118, the U. S. application was abandoned, and we do not feel the case is of sufficient importance to justify the Canadian application. Furthermore, the sub-

Exhibit 735

ject of Case T. 134 filed by the American Zirconium Corporation, we believe, substantially covers the subject matter of Case T. 118. (On September 22nd we wrote you concerning Canadian applications of the American Zirconium Corporation.)

We recommend filing Canadian applications in Case T. 115, T. 120 and T. 125-B on our behalf. In connection with the preparation of these applications we believe that they should be prepared in the United States because changes have been made in the specifications and claims to strengthen the cases, particularly in Case T. 125-B. We suggest that the applications be prepared by us in conjunction with Messrs. Hutz and Joslin or Potter, Pierce and Scheffler, and sent to Titangesellschaft for execution.

We urge you to consider this matter, and to let us hear from you as soon as possible. Please bear in mind that we will give these cases the same careful attention that we are trying to give to the U. S. applications of Titangesellschaft filed on our behalf.

Yours very truly,

TITANIUM PIGMENT COMPANY, INC.,

Secretary,
Patent Committee.

CFK:BR

Exhibit 735

LIST OF U. S. APPLICATIONS
in which
TITANIUM PIGMENT COMPANY IS EXCLUSIVE LICENSEE OR ASSIGNEE
and
SITUATION IN CANADA

Reference No.	U. S. Ser. No.	Inventor	Canadian Application	Canadian Patent
Case T. 111	707,222	Raspe, et al	—	349,030
" T. 112	735,289	Rockstroh	410,229	—
" T. 115.	11,164	Lederle	None filed.	—
" T. 118	42,147	Weise	"	—
" T. 120	33,383	Petersen	"	—
" T. 125-B	55,937	Weise, et al	"	—
" T. 126	6,599	Drucker	415,612	—
" T. 140	85,438	Raspe, et al	432,070	—
" T. 141	85,440	Raspe, et al	432,043	—
" T. 142	85,439	Raspe, et al	432,042	—

C. F. Kaegebehn
Patent Department
September 22, 1936

Exhibit 736

Letterhead of

TITAN COMPANY, INC.

No. 28.

GJ/AK

Paris October 18th 1937.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

The I.G. Farbenindustrie has requested Titangesellschaft to submit the following question:

" With regard to the possible development of the sales of
" Titanium alloys, we would suggest to obtain the agree-
" ment of Dr. Jebsen that also in general metallurgical
" products containing Titanium, with more than 2%
" of Ti, will be excepted from the Licensed Field as
" regards production and sale. This should so much
" more be possible as we already in 1932 were permit-
" ted to produce 40% Ferro-Titanium.
" Besides Ferro-Titanium the following materials are
" first of all to be considered:
"
" Ferro-Titanium-Carbon,
" Titanium Carbide, as well as perhaps also
" hard alloys containing Titanium Carbide,
" Titanium-Manganese-Aluminium,
" Titanium-Aluminium".

I have answered this today as per enclosed translation, to which I trust you will agree.

Exhibit 736

I beg, though, to mention that this matter in part was up for consideration in the meeting of April 20th (please see minutes No. 30, point 6.-) At the same time was raised the question of Titanium Silicite, Titanium Phosphite and similar products.

These questions are likely to come up again and I would therefore appreciate to have National Lead Company's standpoint in this matter.

I enclose a memorandum I wrote on May 1st 1933, as to the contractual position as far as the agreements between Titan Company Inc. and Titanium Pigment Company (National Lead Company), Titangesellschaft and British Titan Products Company are concerned.

With kindest regards,

Yours very truly,

G. JEBSEN.

Exhibit 736

MEMORANDUM

re the question raised by the I.G. Farbenindustrie Akt. Ges. whether the I.G. is free to manufacture Titanium Metal and Titanium Carbide, Titanium-Silicite, Titanium Phospite and similar products.

This matter is to be studied not only from the point of view of our agreement with the I.G., but also with a view to our other agreements, with Titanium Pigment Company, British Titan Products Co. and Société Industrielle du Titane.

All the "Licensed Field" definitions include Titanium Compounds and as such must be considered the above products with the exception of Titanium metal.

It is therefore beyond doubt that the I.G. is bound not to manufacture the above mentioned products ex metal without our permission, and this cannot be given without the consent of the other above mentioned associated companies.

It is a question to be studied, whether these products should be excluded of the "Licensed Field".

With regard to Titanium metal, the agreements are as follows:

Agreement with the Titanium Pigment Company.

This includes the Titanium metal (as long as it does not contain by weight more than 5% of a metal other than Titanium in its purely metallic state) and, according to article XIV, no license can be given by us on the production of Titanium metal, without abiding to the conditions of this article XIV of the 1920 agreement.

Exhibit 736

Agreement with the I.G. and our associates in B.T.P.

In these two cases the agreement establishing the co-operation mentions the manufacture and sale of Titanium and Titanium Compounds.

The License Agreement annexed thereto defines the "Licensed Field" as including only Titanium Compounds, etc., but not the Titanium metal. This definition of "Licensed Field" pertains also to the License Agreement between the Titangesellschaft, resp. the B.T.P., and the other associates in the respective companies (with the exception of I.C.I.).

A strict interpretation of this seems therefore to be, that a cooperation with regard to Titanium metal is foreseen between ourselves and our German, as well as our English associates, but the conditions as to such cooperation are not established.

Our agreement with B.T.P. art. XIV, puts the Titan Company Inc. under restrictions as to the licenses which Titan Co. Inc. can give (restrictions similar to those of art XIV in the 1920 agreement), but this article XIV of the B.T.P. agreement does not include Titanium metal, and we should consequently be free to act as we wish towards the I.G. Farbenindustrie as regard our relations with the B.T.P.

Article XIV of the 1920 agreement includes, however, Titanium metal, so that any cooperation with I. G. or Titangesellschaft, including a grant of licenses, will have to take regard to our agreement with the Titanium Pigment Company.

It goes without saying, that in any cases, according to the spirit of the agreements, the matter will have to be considered with all parties concerned.

May 1st, 1933.

Exhibit 736

Translated from German.

Paris, October 18th 1937.

Titangesellschaft m.b.H.
Leverkusen I.G. Werk

Attention Dr. Raspe.

In connection with the inquiry of the I.G. Farbenindustrie concerning the attitude of the Titangesellschaft, respectively Titan Company Inc., with regard to the manufacture of metallurgical products, I beg to state the following:

The definition of the "Licensed Field" in the agreement of 1927, amongst other things, says the following:

"Excluded are such materials which contain more than "5% of a metal other than Titanium in its purely "metallic (i.e. chemically uncombined) state."

I do not know the exact composition of the products in question, but I believe that products like Ferro-Titanium-Carbo Titanium-Manganese-Aluminium and Titanium Aluminium would come under the above exception, while Titanium Carbide and metal Titanium are covered by the "Licensed Field".

This is in full accord with the opinions expressed by the various parties present at the meeting of September 11th, as to the products which are of interest to Titangesellschaft for its manufacturing field—without going any further into the contractual definition of the Licensed Field.

I therefore trust that this will have satisfactorily answered the question asked and furnished the necessary data in reply to I.G. Farbenindustrie's inquiry.

Yours very truly,

(sign.) G. JEBSEN

Exhibit 737

October 26, 1937

Dr. G. Jebsen, Vice President
Titan Co. Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

Replying to your No. 28 of October 18th, the subject matter of this letter was read to the Titanium Pigment Company Board today at their monthly meeting. It was the concensus of opinion that before a positive reply was made to the request of I. G. Farbenindustrie both you and ourselves should know the composition of the products—Ferro-Titanium Carbon, Titanium-Manganese-Aluminum and Titanium Aluminum.

If the analyses prove that these products are outside of the License Field we, of course, cannot object to their manufacturing and selling, but would it be possible to arrange in such cases for an exchange of information between the I. G. and all of our associates on the production of these products, and further to restrict the sale of them to the territorial lines provided for materials which do come under the License Agreement.

With kind regards,

Very truly yours

Executive Vice President.

Exhibit 738

Letterhead of

TITAN COMPANY, INC.

No. 3.

Paris, January 11th 1938.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company.
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I refer to your letter of October 26th in which you enquire whether it would be possible to arrange for an exchange of information between the I.G. and all of our associates on the production of Ferro-Titanium-Carbon, Titanium-Manganese-Aluminium and Titanium-Aluminium if these products were outside of the Licensed Field, and further to restrict the sale of them to the territorial lines provided for the materials which do come under the License Agreement.

I took up the matter with Dr. Kühne on his return and reminded him of it again last Tuesday, January 4th, at the meeting we had in Leverkusen.

Dr. Kühne has been very busy since his return from U.S.A. and has evidently had no time to attend to the matter. Dr. Raspe has been requested to inquire at the I.G. works in Bitterfeld, which have this matter in hand.

I am writing you this as I wanted you to know that the matter has not been forgotten.

Exhibit 738

Personally I do not think that I. G. Bitterfeld will be inclined to do this without a compensation or knowledge that experience on the same line (Titanium alloys) is available within the associated companies suggested. The British Titan Products Company has nothing to offer on this line; neither has the Titanium Division of the National Lead Company, as far as I know.

I do not know what you may have in mind and if some sort of cooperation with the Titanium Alloy Manufacturing Company has been thought of.

I should appreciate any information you will give me in this respect.

With kind regards,

Yours very truly,

G. JEBSEN

2667

2681

Exhibit 739

January 24, 1938

Dr. G. Jebsen, Vice President
Titan Co., Inc.
26 Rue de la Pepiniere
Paris, France

Dear Mr. Jebsen:

In reply to your letter No. 3 of January 11th referring to my letter of October 26th and asking what I had in mind at the time.

In your letter of October 18th regarding the question of the I. G. Farbenindustrie to Titangesellschaft, you asked as to the composition of the products—Ferro Titanium Carbon, Titanium Manganese Aluminum and Titanium Aluminum—before you passed definitely on their question. We did likewise; we certainly could not pass intelligently on their request until we knew the compositions.

Further than this I visualized the possibility of working up some kind of cooperation between the Titanium Alloy Manufacturing Company and our European associates. For that reason I suggested in my letter that the territorial lines should be the same for these products as those provided for materials which do come under the License Agreement.

With kindest regards,

Very truly yours

Executive Vice President.

2668

Exhibit 740

Letterhead of

TITAN COMPANY, INC.

No. 6.

GJ/AK

Paris, February 1st 1938.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Referring to my letter of January 11th, I beg to inform you that Dr. Raspe writes me in a letter of January 27th that he has taken up the matter with Director Meyer-Küster, the commercial manager for metal matters, who answered him that he has received the enquiry with interest. As at present a reorganization of this department of the I.G. is under consideration, he will revert to the matter later on when he is in a position to do so.

With kindest regards,

Yours sincerely,

G. JEBSEN

Exhibit 741

[COPY]

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company Inc.
26 rue de la Pepinere
Paris—8e—France

December 14, 1937

Re: Assignment of Titangesellschaft's (I.G. Farbenindustrie's) U. S. and Canadian Patents

Gentlemen:

Confirming the writer's recent conversations with Mr. Ravnestad, we beg to present for your consideration the following:

1. There are five United States patents and five Canadian patents in Cases T.55, T.64, T.65, T.71A, and T.71B, which stand in the name of I. G. Farbenindustrie in the Patent Offices of the respective countries although in the "List of T. Cases" it is stated that these patents have been transferred to Titanium Pigment Company. As you know, there exists no documentary evidence that these patents have, in fact, been transferred to us.

Accordingly, if I.G. Farbenindustrie regards these patents as transferred to us, as is indicated by the "List of T. Cases", i.e., has no desire to maintain these patents on their own behalf, then assignment documents should be executed. These assignment documents should be as follows:

a) A separate document transferring title from I.G. Farbenindustrie to Titangesellschaft; and

b) Another separate document transferring title from Titangesellschaft to Titan Company Inc.

This procedure is in accord with the existing agreements and follows that set forth in those agreements. The ques-

tion of whether or not Titan Co. Inc. will in turn assign the patents to us is one which can be settled between ourselves. Attached hereto are forms for these assignments. Instruction for the execution of these documents are attached to each document.

2. If, on the other hand, I.G. wishes to keep title and to maintain these U.S. and Canadian patents on their own behalf, we understand that since they fall within the Licensed Fields of the various agreements we are entitled to an exclusive sub-license under them through Titan Company Inc., and are in a position with respect to the Canadian patents to grant a sub-license thereunder to our affiliate—Canadian Titanium Pigments, Ltd. If the understanding is correct, then we desire from I.G. Farbenindustrie a statement to this effect. This statement should be made directly to Titan Company Inc. and acknowledge that Titan Company Inc. enjoys an exclusive license under these patents by virtue of the agreement between I.G. Farbenindustrie and Titangesellschaft, on the one hand; and the agreement between Titangesellschaft and Titan Company Inc. on the other hand. Titan Company Inc. will then be in a position to inform us that we enjoy an exclusive license under the Agreement of 1920. A letter in the form of the enclosure marked No. 1 will serve for this purpose.

We trust that we have made our position in this matter clear to you and that you will be able to conclude the matter with I.G. Farbenindustrie.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:RC
encls.

Exhibit 742

Letterhead of

HUTZ AND JOSLIN

December 27, 1937

Re: Proposed U. S. appln. corresponding to German applns. T. 48,568; T. 49,296 and T. 49,448

Mr. Charles F. Kaegebehn, Manager,
Patent Department, National Lead Co.,
111 Broadway,
New York City.

Dear Mr. Kaegebehn:

We enclose herewith one copy each of the above mentioned German applications filed by Titan Gesellschaft m.b.H. Leverkusen advises us that the process described in these applications has proven to be of considerable technical importance, because it is possible thereby to obtain titanium pigments of very high covering power and excellent whiteness. It is, therefore intended to file a corresponding U.S. application (or several, if necessary).

Leverkusen states that they have forwarded copies of these applications at the request of the Titan Co. Inc., in order to give you an opportunity to familiarize yourself with the situation and to draft one or more U.S. applications. Leverkusen asks that we also give some thought to the drafting of the U.S. case and that we inform them as soon as possible of your and our proposals with respect thereto. Leverkusen had originally intended to prepare a draft of a U.S. application and to submit it to you for your comments. However, they are still awaiting results of

further investigations which will probably form the subject matter of a further German "Zusatz" application. They, therefore, decided to forward the German applications at this time, so that you would have sufficient time to consider the question of drafting the U.S. case. Leverkusen has promised to send us a copy of the further German "Zusatz" application as soon as it has been prepared.

We are also forwarding, for your information, copies of several reports by Dr. Tillmann regarding the process. These consist of a summary of the reports Nos. 37/19, 37/20, 37/21 and 37/22, as well as the complete report No. 37/23.

We have not yet given much thought to the proper drafting of a U.S. application. At first glance it appears desirable to combine the subject matter of all three German applications in a single U.S. case. The first German application was filed April 29, 1937, consequently the U.S. application should be filed not later than April 29, 1938.

We have noted that the process is in some respects similar to that described in your U. S. P. 2,029,799. This patent should, therefore, be kept in mind when drafting the proposed U. S. patent application. We believe it advisable for us to discuss the matter of drafting the proposed U. S. application in the near future. Kindly advise us when it would be convenient for you to have such discussion take place.

Very truly yours,

HUTZ AND JOSLIN

encls.

Exhibit 743

September 20, 1938.

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company, Inc.
26 rue de la Pepiniere
Paris-8e-France

Re: New T. case—T. 217
British Application No. 18,646

Gentlemen:

This letter supplements ours of September 13, 1938.

We beg to inform you that we desire the corresponding United States application to be filed here, under which we shall enjoy an exclusive license.

In the event you wish us to prepare the United States specifications and to take over the prosecution of the same, we should like some additional information, as follows:

1) A description of several distinctive experiments in which tantalum or columbium (niobium) is used, which will serve as specific examples for the United States specifications.

2) Specific data showing the improvement obtained by calcination in the presence of these elements; a direct comparison of the properties of pigments calcined with and without columbium or tantalum would be valuable.

If you would furnish us this information as soon as possible we will endeavor promptly to draft the United

Exhibit 743

States specifications for the approval of British Titan Products, Ltd.

As soon as we have heard from our Canadian associates we will write you further.

Yours very truly,

NATIONAL LEAD COMPANY

CFK/rd

cc. Dr. Plechner
Mr. Garesche
Mr. Walley

Exhibit 746

Letterhead of

TITAN COMPANY, INC.

GJ/GK

Paris, 26th. October 1938

Mr.C.F.Kaegebehn
National Lead Company
Patent Department
111 Broadway
New York

Dear Mr. Kaegebehn,

Concerning: Exclusive Licences to the National Lead Co. Titanium Divison under patents belonging to I.G.Farbenindustrie

These exclusive licences are given to National Lead Co. by Titan Co. Inc. which has received them from the Titangesellschaft which, in turn has received them from the I.G.Farbenindustrie.

The National Lead Co. has, for these licences, been charged with 100% of the expenses in obtaining and maintaining the patents. The National Lead Co. has objected to this considering that under the Licence Agreement National Lead should only pay 50%.

Taking this matter up with the I.G.Farbenindustre Patent Department, Leverkusen, they maintain their position of 100% charge referring to Article 5 (e) of the Licence Agreement which says that a party can relieve itself of its obligation to pay its share in any Letters Patent controlled by it by delivering to the other party an assignment

of all the right, title and interest of such party in and to the same.

The rights which Titan Co. Inc. and Titangesellschaft have to this patent consists in an exclusive licence. The I.G.Farbenindustrie writes further that the Titangesellschaft is prepared formally to transfer these rights, i.e. exclusive licence to National Lead Co. and therefore should be freed of any of the above-mentioned expenses. The same applies to Titan Co. Inc.

When no formal transfer of exclusive licence has been requested, this is due to the extra expense involved.

The National Lead would anyhow not receive an assignment of ownership.

Our agreements with the I.G.Farbenindustrie by which the Titangesellschaft obtains the licences from the I.G.Farbeniindustre provides that Titangesellschaft shall carry 100% of the expense.

To me it seems perfectly fair that the Titangesellschaft and Titan Co. Inc. are free of sharing in the expense.

The Licence Agreement between Titangesellschaft and I.G.Farbenindustre, as agreed upon in 1927 is not an agreement based on reciprocity as regards exchange of licences and the contributions which the I.G.Farbenindustrie is making is due to many other considerations and not to matters (Article XIV) which Titan Co.A/S. respectively Titan Co. Inc. was obliged to arrange on the basis of the 1920 Agreement. In other words, those contributions, is an extra advantage which Titan Co.A/S. thought desirable or proper to secure for the Group.

I talked this matter over with Mr. Garesché during his visit and he was inclined to think that the contractual interpretation of the agreements as above-mentioned was

right but made a reservation that he wanted to consider it with his legal advisors.

I note that we have forgotten to put it into the Memo. Mr. Garesché had prepared before he left. Will you please therefore bring it to his attention and see if we can get the matter definitely settled?

With kind regards,

Yours very truly,

G. JEBSEN

Copy to Mr. Garesché

Exhibit 747

November 16, 1938

Dr. G. Jebsen
c/o Titan Company, Inc.
26 rue de la Pépiniere
Paris-8e-France

Re: Exclusive Licences to the National Lead Co. Titanium Division under patents belonging to I.G.Farbenindustrie

Dear Dr. Jebsen:

Shortly after the receipt of your letter of October 26th we put the matter to Mr. Garesché.

It does not appear to us that Article 5 (e) of the Agreement of 1920, which is between Titanium Pigment Company, National Lead respectively and Titan Company A/S, Titan Company, Inc. respectively, furnishes the I. G. with a basis for contending that we should pay 100% of the cost of obtaining I. G.'s patents in our territory. We believe that since our contractual arrangements are not with the I. G. but with Titan Company, Inc. there is basis for maintaining that we should only be chargeable with 50% of the cost where I.G. Farbenindustrie retains title.

However, in view of the concessions made by I.G., as stated in the last paragraph, page 2, of your letter and in the interest of promoting a friendly and reciprocal cooperation between all the members of the family we are pleased to advise you that we will accept the entire cost for obtaining patents of the I.G. Farbenindustrie in our territory under which we have an exclusive license. This, of course, applies only to the I. G. patents but not to those of Titange-

sellschaft or the other members of the family who enjoy a reciprocal arrangement with Titan Company, Inc.

The costs of patents which relate to subject matters within, as well as outside the Licensed Field have not been considered. We suggest, if this meets with your approval, that such future cases be considered individually as they arise.

With very kind regards,

CFK/rd
cc. Mr. Garesché

Exhibit 748

Letterhead of

TITAN COMPANY, INC.

Paris, December 24th 1938.

GJ/AK

C.F. Kaegebehn Esq.
National Lead Company
Patent Department
111 Broadway
New York City, U.S.A.

Dear Mr. Kaegebehn,

Re: exclusive licenses to the National Lead Company, Titanium Division, under patents belonging to I.G. Farbenindustrie.

Many thanks for your letter of November 16th.

You seem to have overlooked that Article V e) of the agreement of 1920 between the Titanium Pigment Co. (respectively National Lead Company) and Titan Co. A/S (resp. Titan Company Inc.) is the same as Article V e) of the agreement of 1927 between Titangesellschaft and Titan Co. A/S (resp. Titan Company Inc.)

I. G.'s standpoint is of course based on the latter agreement and whatever interpretation is given to Article V e), the same should be applied in both cases. It is not reasonable that Titan Company Inc. should accept one interpretation towards Titangesellschaft and I. G., and another between Titan Company Inc. and National Lead Company; resulting in Titan Co. Inc. carrying the expenses in such a case.

Exhibit 748 —

I appreciate the intention as expressed in the penultimate paragraph of your letter. However, the reservation made in the last paragraph will, I am afraid, cover quite a number of the cases in question. It is namely likely that I. G. will leave more or less developments, which are exclusively within the Licensed Field, to Titangesellschaft to work on, and I. G.'s developments more relate to subject matters which are of interest both within and outside the Licensed Field.

It seems to me that when the National Lead Company is interested in a protection and wishes an exclusive licence within the Licensed Field, the value of the protection can be considered sufficient to justify the payment of the 100% of the cost. If the value does not justify this then a non-exclusive license will presumably be sufficient for the National Lead Company in order not to be prevented from making use of the invention.

Looking forward to your news, I am, with kindest regards and my best wishes for a happy New Year.

Yours sincerely,

G. JEBSEN

Copy to Mr. Garesché.

Exhibit 749

Letterhead of

TITAN COMPANY, INC.

GJ/AK Paris, February 8th 1939.

C.F. Kaegebehn Esq.
National Lead Company
Patent Department
111 Broadway
New York City, U.S.A.

Dear Mr. Kaegebehn,

Re: exclusive licences to the National Lead Company, Titanium Division under patents belonging to I. G. Farbenindustrie.

I revert to my letter of December 24th, regarding the above.

You will remember that I. G., according to the agreement, charged 100% to Titangesellschaft of the costs incurred in obtaining letters patent in National Lead Company's territory on inventions regarding which the National Lead Company wishes an exclusive license or, if possible, the transfer of the patent, and that Titangesellschaft has charged Titan Company Inc. correspondingly, which in turn has charged the National Lead Company.

Further, according to your letter of November 16th, the National Lead Company agreed to accept that charge, if the subject matter of the invention wholly falls within the Licensed Field. The National Lead Company made, however, a reservation for patents falling partly outside the Licensed Field.

Exhibit 749

I felt that Titangesellschaft, which is only acting as an intermediary, should not have to carry any charges in this connection, and did not like to take the matter up with the I. G. expressly to the purpose of an alteration in the agreement of 1927 concerning their grant of licences to Titangesellschaft.

About two weeks ago I had a conference with the I. G. Patent Department, Leverkusen, straightening out various questions re patent matters, and found an opportunity to mention the above point.

I am glad to say that I found quite a good understanding of the question, and the Patent Department agreed that in cases where the protection of the patent covered subject matters outside the Licensed Field they were willing to charge Titangesellschaft only 50% of the costs, provided the part outside the Licensed Field represented an important part of the scope of the patent. In judging this question the real inventive idea of the case should be guiding and if only a relatively small part of the invention goes outside the scope of the Licensed Field, this should not lead to I. G. carrying 50% of the costs.

You will appreciate that this is a considerable concession from the I. G.

In making this concession, the head of the Patent Department, Dr. Redies, remarked that he assumed that matters of this kind, when they come up, will be treated in a broad spirit, to which I agreed.

I suppose this will meet the views of the National Lead Company, which you expressed in your letter of November 16th.

I will write you later when the matter is definite. It will not be dealt with as a change of the agreement but

as a mode of operation agreed upon between the Departments. I do not think it will be wise to suggest that it should be carried further.

With kindest regards,

Yours very truly,

G. JEBSEN

Copy to Mr. Garesché
" " Andersen

Exhibit 750

Dr. G. Jebsen
c/o Titan Co., Inc.
26, Rue de la Pépiniere
Paris—VIIIe—France

February 20th, 1939

Re: Exclusive Licenses to the National Lead Co. Titanium Div. under patents belonging to I. G. Farbenindustrie

Dear Dr. Jebsen:—

Thank you very much for your letter of December 24th, 1938 and your letter of February 8th, 1939. We had just had a conference with Mr. Garesché last week, and were about to reply to your letter of the 24th of December when your letter of February 8th was received.

We had not intended that the last paragraph of our letter of November 16th, 1938 should constitute a serious or paramount reservation to the proposed arrangement regarding the I. G. Farbenindustrie's patents in our territory. It was our intention rather to call your attention to the possibility of such cases arising in the future in which cases a substantial and important part of the patent protection might lie outside the Licensed Field. I had in mind, for instance, Case T. 123, in which case the United States patent covered the preparation of pigmentary compositions by thermal combination of metallic oxide. Zinc oxide was the only metal oxide common to all combinations of the patent; titanium dioxide being an incidental and occasional constituent. Under the patent National Lead Company, under the agreements, would be entitled to an exclusive license within the Licensed Field, yet an important part, namely

the manufacturing of pigment compositions containing no titanium dioxide remain entirely the property of the I. G. Farbenindustrie to dispose of. We were suggesting in our letter of November 16th that cases covering subject matters both inside and outside of the Licensed Field be considered as they arose, feeling sure that the broad basis of coöperation between the companies would in every instance lead to a satisfactory division of course. Your letter of February 8th assures us that such is the case.

We also believe that it would not be wise to try to effect any change of agreement, but rather to leave the matter on the basis of a mode of operation between the Departments.

We appreciate the understanding attitude displayed by the I. G. Farbenindustrie and beg you, if you deem it expedient, to convey the same to Dr. Redies with the assurance that National Lead Co. will always endeavor to approach these matters in a broad spirit of mutual coöperation.

With very kind regards,

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL
cc. Mr. C. F. Garesche

Exhibit 751

Letterhead of

TITAN COMPANY, INC.

SA/AK

National Lead Company
Titanium Division
111 Broadway
New York City, U. S. A.
Attention Mr. C. F. Kaegebehn.

Paris, March 10th, 1939.

Dear Sirs,

We enclose in English translation extracts of a memorandum from a conference between Dr. Jebsen, Mr. Andersen, Dr. Raspe and Dr. Redies (manager of the I. G. Patent Department, Leverkusen), regarding certain lines concerning the cooperation between Titangesellschaft-I. G. and Titan Company Inc. in patent matters.

You will note that certain of the arrangements which have been agreed upon as desirable and to be aimed at are also of interest to you, and we should much appreciate if you will join us in these lines regarding the handling of patent matters.

Looking forward to your comments and, in case, your approval, we are

Yours very truly,

SIGURD ANDERSEN

P.S.—We enclose two copies of the extracts, signed by Dr. Jebsen, and would appreciate, in case you are in agreement, if you will return one copy marked "approved" with your signature.

P. P. S.—You will note that point 4.) is in accordance with Dr. Jebsen's letter to Mr. Kaegebehn of February 8th. Copy to Mr. Garesché—Not received by 3/23 '39.

Exhibit 751

Translated from German.

EXTRACT OF

NOTE OF CONFERENCE IN LUDWIGSHAFEN BETWEEN DR. JEBSEN, MR. ANDERSEN, DR. RASPE AND DR. REDLS, ON JANUARY 19TH, 1939

1.) In the case of inventions in the titanium field, the practice up to now has been that the inventor company files patent applications in all countries and prosecutes the applications before the Patent Offices. The Titangesellschaft decides for itself in which countries of its territory applications should be filed, while—as far as the territory of Titan Co. Inc. is concerned—the Titangesellschaft asks Paris to what extent patents are desired by Titan Co. Inc. Foreign applications desired by Paris are prosecuted by the Titangesellschaft at Titan Company Inc.'s expense. Some exceptions from this rule have already been made. Dr. Jebsen now raises the question whether it would not be convenient that the titanium companies take over the responsibility for the prosecution of patent applications each in their territory, to a greater extent than has been the case up to now. Dr. Jebsen bases himself on the fact that the titanium company to the territory of which the country in question belongs is the one most directly interested in the fate of the patent application and will therefore also be the most concerned with the application in question. Perhaps also in certain cases a saving of costs would be obtained, as the applicant company—when not carrying the cost itself but charging it to an associated titanium company—may be

inclined to defend certain patent rights further than may be justified.

Dr. Jebsen suggests that in all cases in which the inventor company does not give an exclusive license but assigns the entire ownership of the patent to the firm to which the territory in question has been reserved, this latter company take over the entire responsibility for the prosecution of the application. Thus, in these cases the company to which the territory in question has been reserved would be directly in touch with the Patent Office. It is left to that company to ask the inventor company for information in individual cases.

The persons present are in agreement with Dr. Jebsen's suggestion.

2.) According to the agreement, the inventor company is under obligation to exchange within a certain term new patent applications filed, and later on to ascertain in which countries the associated companies wish foreign applications. In Dr. Jebsen's opinion, the letters which are exchanged between Leverkusen and Paris and vice versa in this connection, are frequently written in a schematic form. Dr. Jebsen is of the opinion that it would be in the interest of all titanium companies if all parties would endeavour to give as complete information as possible in this connection, whereby the other titanium companies would have a more substantial basis in support of their decisions than they had before. Particularly not enough attention had, in the past, been paid to the question whether the exchanged patent applications really are within the frame of the titanium agreements or are only partly

covered by these agreements. In the past, frequent cases had taken place in which exchange of licences had been agreed upon although the patent right partly does not come under the titanium agreements.

The persons present welcome this suggestion. It is agreed that all parties will develop future correspondence in accordance with this suggestion.

4.) In those countries in which the Titangesellschaft (on its own initiative or upon request of the Titan Co. Inc.) wishes to secure a patent right on inventions of the I. G., the Titangesellschaft has to carry as a rule 100% of the costs involved. In such cases in which the patent right does not come entirely within the licensed field but falls outside this field for a substantial part, the costs in future are to be charged 50% to the Titangesellschaft and 50% to the I. G. Whether a substantial part of the right falls outside the licensed field is to be established for each individual case. In this connection it is to be borne in mind that the real inventive idea should be guiding in judging this question and the fact that an unimportant part of the invention falls outside the licensed field should not lead to one half of the costs being charged to I. G.

Dr. Jebsen calls attention to License Agreement D/V (e) in which it is stated that each party can free itself from the obligation to carry its share of the costs for maintaining or defending a patent which it controls, etc., by sending the other party the necessary documents for a formal assignment of the first party's right to the patent.

Dr. Jebsen points out that in this paragraph only the costs "to maintain" are mentioned and that the

costs for obtaining a patent right are not covered by the term "maintain a patent".

This results in a charge to the Titangesellschaft from which that company cannot free itself in the cases where Titan Co. Inc. takes a licence.

As will be known, the Titan Company Inc. hands these licences on to its other licencees for their respective territories, and the Titan Co. Inc. has refunded the costs to the Titangesellschaft in the cases where Titan Company Inc. was itself reimbursed, as well as with regard to the countries in which Titan Co. Inc. does not hand on the licences.

The National Lead Company has objected to these charges, but has, upon the initiative of Titan Co. Inc., declared itself willing to accept this charge in the cases in which the invention comes entirely within the licensed field, but has made reservations for the cases where the invention falls partly outside the licensed field.

It is expected that it will be possible to settle the matter in a satisfactory manner in view of the above arrangement between the Titangesellschaft and the I. G. regarding the charging of the expenses.

6.) It may happen that one of the associated titanium companies wishes an invention to be kept secret. As it is of no use to keep the invention secret in one territory while it is published in other countries, it must in such cases be agreed upon in due time between the associated titanium companies, whether it is generally considered convenient to keep the method secret so that either all companies renounce taking

out patent, or the obtaining of patents is made possible for all companies. In cases where it comes into question to keep the method secret the inventor company or other company who wishes to keep secret the method should therefore as soon as possible get in touch with all associated companies (generally through Titan Company Inc.) in order to ascertain whether the method should be kept secret. To be taken into consideration in this connection are processes where an infringement of the patent is difficult to ascertain.

The above agreement does not affect situations in which the method, on account of government regulations, has to be kept secret and acordingly a disclosure to third parties cannot be considered.

8.) Dr. Jebsen refers to the arrangement between the associated companies, according to which the inventor companies are not to file patent applications within the territories of the associated companies without having consulted the company which disposes of the territory in question.

It is considered desirable that the I. G. collaborates in this agreement to the extent that is possible.

G. JEBSEN

Exhibit 752

Letterhead of

TITAN COMPANY, INC.

GJ/AK

C.F. Kaegebehn Esq.
National Lead Company
Patent Department
111 Broadway
New York City, U.S.A.

Paris, December 2nd 1938.

Dear Mr. Kaegebehn,

On June 20th we prepared a "Memorandum concerning Procedure re U. S. Patent Applications and their Prosecution to Patents for Inventions of Titangesellschaft and I.G. Farbenindustrie—Conference between Dr. G. Jebsen and Mr. C.F. Kaegebehn", which expressed your wishes as regards the handling of these patent applications to the extent I thought it possible to carry them through in a practical way considering the conditions existing in the Titangesellschaft and the I. G. Farbenindustrie.

Dr. Raspe personally accepted the memorandum, subject to the approval of I. G.'s Patent Department, Leverkusen.

I have now been advised in a letter of November 30th from Dr. Raspe, as per enclosed copy.

You have thus got an opportunity to try out a modus of cooperation as suggested, and I hope this practice will prove to be satisfactory.

I enclosed a copy of the memorandum in question.

With kindest regards,

Yours very truly,

G. JEBSEN

Copy to Mr. Garesché
Mr. Ravnestad and Andersen.

Exhibit 752

Translated by:
Lüer
Patent Dept.
Dec. 13, 1938

TRANSLATION

TITANGESELLSCHAFT m.b.H.

Leverkusen I.G. Werk
November 11th, 1938

Dr. G. Jebsen, Director
Societé Industrielle du Titane
26, Rue de la Pépiniere
Paris

My dear Dr. Jebsen:—

3. *Memorandum.*

MEMORANDUM CONCERNING PROCEDURE RE U.S. PATENT APPLICATIONS AND THEIR PROSECUTION TO PATENTS FOR INVENTIONS OF TITANGSELLSCHAFT AND I.G. FARBENINDUSTRIE.

In connection with the above matter, our Patent Department wishes to say that they see no objection to having the National Lead Co. work out the final text of the United States application with the assistance of Hutz & Joslin. From practical experience which Leverkusen has had in connection with cooperation of this type, Leverkusen thinks it very likely that National Lead Co. will have quite a great deal of difficulty in working out the American text as they

will not immediately be in possession of the inventor's point of view.

In conclusion we wish to state that we are in agreement with the memo as it stands.

Yours very truly,

TITANGESELLSCHAFT m.b.H (signed) Raspe

(signed) (i.A.) Maus

Exhibit 752

MEMORANDUM

CONCERNING PROCEDURE RE U.S. PATENT APPLICATIONS AND THEIR PROSECUTION TO PATENTS FOR INVENTIONS OF TITANGESELLSCHAFT AND I. G. FARBENINDUSTRIE

CONFERENCE BETWEEN DR. G. JEBSEN AND MR. C. F. KAEGEBEHN—June 20th, 1938.

In order to obtain the best possible patents, it is desirable that the National Lead Company's patent department is informed of technical data which constitutes the basis for the patent application soon after the German patent application has been filed, and copy thereof sent to the National Lead Company through Titan Company Inc.

In view of the different manner of handling the prosecution of patent applications in the U.S. and in Germany and the great interest National Lead Company has in obtaining the strongest possible patents, it is suggested that the development (drafting) of these applications be handled by the National Lead Company's patent department in cooperation with Messrs. Hutz and Joslin. It should be investigated whether the above way of handling the matter can be done as regards Titangesellschaft. It may be that the I.G. Farbenindustrie's patent department in Leverkusen, as regards the U.S. applications of Titangesellschaft, in this way will be left out with the possible exception of formal notification to Messrs. Hutz and Joslin through the I.G. Farbenindustrie's patent department of Titangesellschaft's desire to file a patent application in the U.S. and the authorization of Messrs. Hutz and Joslin to do so, and also the transmission by Messrs. Hutz and Joslin

Exhibit 752

to the I.G. Farbenindustrie's patent department of formal papers to be executed together with information as to the allowance of patent. The rest will be a matter of cooperation between the National Lead Company's patent department, the research department of National Lead with Messrs. Hutz and Joslin on the one side and Titangesellschaft, through Dr. Jebsen's office, on the other side.

As regards the patent applications covering inventions emanating from the I.G. Farbenindustrie, it will be impracticable to make general arrangements of the above kind because:

1. Such patents will generally be of interest in other than titanium matters and, therefore, of interest to the I.G. Farbenindustrie.

2. The organization of the I.G. Farbenindustrie is so wide and has so many ramifications that it will be impracticable to have exceptions made as a general rule from their own way of handling patent applications. Dr. Raspe's attention may, however, be drawn to patent applications from the I.G. Farbenindustrie which may represent a specific and a strong interest to the National Lead Company, and also to lines of development where there is a cooperation between Titiangesellschaft and other departments of the I.G. Farbenindustrie, leading to patent applications taken out by one or the other. Dr. Raspe may here be able to arrange for such treatment of these cases as regards the U.S. with a view to more cooperation with the National Lead Company in the hope of permitting National Lead Company possibly to act in an advisory capacity. (Mr. Kaegebehn mentioned that he already has this.)

Exhibit 753

December 20, 1938.

Dr. G. Jebsen
Titan Company, Inc.
26 rue de la Pépiniere
Paris—80—France

Dear Dr. Jebsen:—

I beg to acknowledge your letter of December 2nd, enclosing a copy of Dr. Maus' letter to you of November 30. as well as a copy of your letter to Mr. Garesché of December 2nd, notes on Leverkusen meetings of October 10-13th, and memorandum concerning procedure regarding U. S. applications of Titangesellschaft and I. G. Farbenindustrie.

This arrangement, I hope, will work out to the mutual satisfaction of all parties and contribute to obtaining stronger United States patents. You may assure our German associates that the Patent Department will give their best efforts toward the satisfactory application of the new modus of the cooperation.

I wish to thank you very much for the interest you have taken in this matter which I deeply appreciate.

With very kind regards,

Yours very truly,

CFK/rd
cc. Garesché

Exhibit 754

December 20, 1938

Mr. J. L. Turner—Director of Research
Mr. C. F. Kaegebehn, Manager—Patent Department

Dear Mr. Turner:—

I have received a letter from Dr. Jebsen enclosing a copy of a memorandum, setting forth the principal of cooperation regarding the United States applications of Titangesellschaft and I. G. Farbenindustrie. This memo has been agreed to by Dr. Raspe and the I. G.'s Patent Department. I think it gives us substantially all that we have previously wanted in this connection, and I think that we should be very happy that Dr. Jebsen has obtained for us this new base for cooperation.

Yours very truly,

CFK—rd
cc. Dr. Jebsen
Mr. Garesché

Exhibit 755

December 20, 1938

Messrs. Hutz & Joslin
521 Fifth Avenue
New York, New York

Attention: Mr. W. H. Hutz

Gentlemen:—

During Dr. Jebsen's visit to the United States last spring, he and I discussed at some length procedure for handling United States applications for Titangesellschaft and I. G. Farbenindustrie, under which National Lead Company has rights. I believe I mentioned these discussions to you at the time.

I have now received from Dr. Jebsen a letter which tells me that Dr. Raspe, General Manager and Director of Titangesellschaft, has accepted a principal of cooperation, contained in a memo of the discussion between Dr. Jebsen and myself. This suggested procedure, while not exactly approved by the I. G. Patent Department, meets with no objection from them.

For your information and future guidance in these matters I enclose herewith a copy of the memorandum together with a translation of the letter of transmittal, signed by Dr. Raspe and Dr. Maus.

Yours very truly,

NATIONAL LEAD COMPANY

CFK/rd
Encs.

Exhibit 744

Mr. C. F. Garesché—Manager
Titanium Division
National Lead Company
Building

May 20th, 1938.

Case T. 123.
Re: Proposed License under U. S. Patent No. 2,068,294—I. G.

Dear Mr. Garesché:

In connection with the translation of I. G.'s letter to Titan Company, Inc. of April 19th, 1938 in the above-identified case, you will be interested in the background of this matter.

The original U. S. application from which U. S. Patent No. 2,068,294 issued was filed in the United States on February 3rd, 1932, by I. G. who, under their agreements should have brought this case promptly to the attention of Titan Company, Inc., who could then have informed us thereof. However, we were not aware of the existence of the U. S. application until the beginning of January 1935. The then existing Patent Committee, on the recommendation of Mr. Barton, decided to request only a non-exclusive license for the United States. Thereby we were relieved of any part of the cost of prosecution of the United States application. However, I. G. actually billed Titan Company, Inc. for expenses in connection with the application and Titan Company, Inc. has billed us in the case. (Cf. Titan Company's invoice of March 31st, 1937). It is only in connection with grant of an exclusive license that charges are justified. To the extent, therefore, that we have been charged with a share of the prosecution of the United States application, we are, in effect, an exclusive licensee

under the patent for as far as the subject-matter relates to the Licensed Field of the 1920 Agreement.

C. K. Williams Company, some time last summer, approached Messrs. Hutz and Joslin, attorneys for I. G., for terms for granting them a license under the patent. On October 31st, 1937, Dr. Jebsen wrote to Mr. Beschorman stating that I. G. had had an offer to grant licenses under the patent. I do not have a copy of that letter, but it is my recollection that it was understood by I. G. that the license contemplated for C. K. Williams was not to include the right to make pigments containing titanium dioxide.

It did not appear to Mr. Beschorman to be desirable that another U. S. company should have any rights in this patent and he instructed me to write to Dr. Jebsen asking that the license we enjoyed be acknowledged or be changed to be an exclusive one and what sum of money I. G. would expect to make our exclusive license applicable for the entire scope of the patent.

I enclose herewith a copy of my letter to Dr. Jebsen of November 17th, 1937 in answer to his of October 21st.

I. G.'s letter of April 29th indicates that they would consider $5,000.00 to grant us an exclusive license. However, the last sentence of the German letter does not state that if we should accept this offer, we would be the sole arbiters for the grant of license to C. K. Williams or anybody else, but appears to indicate that they would expect to be a party to the consideration of conditions for grant of sub-licenses under the exclusive license we might obtain for the $5,000.00.

Yours very truly,

CFK:lo
enc.

Exhibit 745

Paris, 30. July 1938.

MEMO.

for Mr. Rockwell.

1) *Zinnwerke Wilhelmsburg.*

Dr. Jebsen will inform Mr. Rockwell of Dr. Kühne's preliminary reply as to I. G.'s possible interest in this matter.

If I. G. are interested, Dr. Jebsen will start negotiations with the I. G. in September, with a view of developing a proposal for I. G. to take an interest in Zinnwerke Wilhelmsburg, and take over the responsibility for the management, alternatively I. G. taking over the National Lead Co.'s interests.

Included in N. L. Co.'s interests are Patino's interest—and will be, possibly Kohn-Speyer, resp. Mr. Brindley's interests.

Mr. Rockwell will leave a Memo. with Mr. Henriksen giving the result of his conference with Patino regarding this matter.

Mr. Rockwell will, on his return to the United States, send Dr. Jebsen information as to the cash amounts which have been invested by N. L. Co. and partners from the beginning, including the dates of investment as well as the amounts, which they have got out in cash in free value. He will further inform Dr. Jebsen of the amount which stands in N. L. Co.'s books, and the interests which have been booked, with specification as to what has been paid in German Marks, and what has not been paid, resp. credited.

Exhibit 745

2) *Dupont.*

In view of Titan Company Inc.'s obligation towards our associated companies in this matter, the licence agreements between DuPont and Titan Company Inc. shall be exclusively signed in the Paris Office by Dr. Jebsen (or his assistants), unless he specifically requests to have them signed in New York. The licence agreements will have to be drawn by Mr. Kaegebehn in cooperation with the Dupont people, and sent us to Paris for signature.

Mr. Rockwell will see Mr. Rupprecht and inform him of our European companies' attitude in these matters, and particularly mention the I. G.'s and T. G.'s questions arisen as regards the South-American markets.

3) *Kuhlmann.*

It was considered desirable that Dr. Jebsen continues negotiations with Kuhlmann regarding cooperation in France with a view of the erection of a factory. As a basis for cooperation was considered a 50/50 participation as regards cash investment and voting power, and a compensation for Sté Industrielle du Titane's position in the form of a part of the profit, after a reasonable interest or dividend has been given to the cash investment (7%):

4) *Norwegian Ilmenite.*

Mr. Rockwell is aware of the desirability of taking over ilmenite from Norway as soon as possible, and further to have pushed the investigations regarding an extensive use of the ore. This refers to the use in the

present qualities as well as to the development of the Rutiox pigment.

Dr. Jebsen did draw his attention to the indications resulting from certain experiences in Billingham of the Norwegian ore being particularly suitable for the production of Rutiox. Whether the Travancore or the Quilon ore are equally suitable will be of special interest in connection with the question of Dupont eventually taking up production of Rutiox. If namely the last mentioned ores are less suitable, we may get a request from Dupont for deliveries of Norwegian ore—and the possible difference in the ores may influence the price.

5) *Lead Titanium Frits—Goodlass, Wall & Ass. Lead Industries' development.*

Mr. Rockwell had a talk with Mr. Tasker, without arriving at any definite conclusion regarding this matter.

Mr. Rockwell has seen Kaegebehn's letter of June 24th to Dr. Jebsen and will inform Dr. Jebsen as soon as possible about N. L. Co.'s standpoint.

At the request of N. L. Co., Goodlass, Wall & Ass. Lead Ind. applied for a Canadian patent and instructed their agents to have it assigned to N. L. Co. and send it to them.

The application was filed on the 5th of July 1938.

6) *Exclusive licence under the I. G. Patent U. S. P. 2,068,294,* for which C. K. Williams Co. Inc. had expressed an interest and I. G. had given N. L. Co. a first call, suggesting $5.000.- compensation. To N. L.

Co.'s reply through Dr. Jebsen, that this sum was so far above what the N. L. Co. could have in mind, that they would refrain from making an offer, the I. G. has answered, that in view of the friendly relations, they were quite prepared to consider a different proposal.

Mr. Rockwell will arrange that Garesché discusses this matter with the I. G. on his forthcoming visit in September.

2721

Exhibit 756

Paris, December 2nd 1938.

GJ/AK

C.F. Garesché Esq.
National Lead Company
Titanium Division
111 Broadway
New York City, U.S.A.

Dear Mr. Garesché,

I write to advise you that I have now been informed by Titangesellschaft by a letter of November 30th, that the arrangement agreed upon with Dr. Kühne and Dr. Brüggemann in our meetings of October 10-13 in Leverkusen, as laid down in our note of October 14th, has passed and been accepted by the various instances in the I.G.

I have now handed the matter to Mr. Ravnestad and Mr. Andersen, to take care of the further steps of formal nature.

Enclosed please find copy of the note of October 14th.

With kindest regards,

Yours very truly,

sign. G. JEBSEN

Copy to Mr. Kaegebehn.

2722

Exhibit 756

Note

ON LEVERKUSEN MEETINGS OCTOBER 10th-13th 1938.

Dr. Weise's patent covering Reduction of Copperas and incidentally the manufacture of Iron Oxide Pigment was discussed with Dr. Kühne, Dr. Brüggemann and Dr. Raspe, and it was agreed that I.G. would give National Lead Company, through Titangesellschaft and Titan Company Inc. without compensation, an exclusive license in the titanium field for the use of this patent, restricted however to the manufacture of sulphuric acid from copperas, and not to be used by National Lead Company for the production of an iron oxide pigment.

At a later date National Lead Company, should they desire to use this patent to produce an iron oxide pigment, may negotiate the matter with the I.G., but it was specifically agreed that this should not be understood as an option on such a license.

In other words, the patent would be treated as coming within the License Agreement between I.G., Titangesellschaft and Titan Company Inc. with a limitation as regards the production of red iron oxide.

U. S. Patent No. 2,068,294 (Case T. 123).—C. K. Williams has been negotiating for a license under this patent).

It was agreed that the I.G. would give National Lead Co., through Titangesellschaft and Titan Company Inc., an exclusive license with no compensation for the use of this patent, insofar as it had to do with the use of titanium, but that they would be free to license in any way they might see fit, other companies to produce other pigments not containing titanium.

Dictated by: Mr. Garesché and Dr. Jebsen
14/10 1938.

Exhibit 757

Letterhead of

TITAN CO. A/S

GJ/KL

Mr. C. F. Kaegebehn, September 15, 1939.
Patent Department
National Lead Company,
New York City.

Dear Mr. Kaegebehn:

With regard to the present war situation and its affect on the international cooperation as to exchange of patents, experience, etc., I have in mind that we until further should apply the following principle, and have instructed our people to do so:

No exchange takes place communicating information from the belligerent countries on one side to the belligerent countries on the other side, but the exchange continues between the neutral countries and the belligerent countries on each side.

This is relatively easy to observe as regards patent applications and licenses, but care will have to be taken as regards exchange of technical experience.

As regards the attitude of our associated companies in the belligerent countries, I have no information as yet, and will have to give them some time, until conditions more or less adjust themselves to the new situation. I should much appreciate to have information from your side concerning the patent situation in this matter.

Hoping that Mrs. Kaegebehn and yourself are well, I am, with kindest regards,

Yours very truly,

G. JEBSEN

Copy to Mr. Rockwell
" " Mr. Garesché

Exhibit 758

COPY

Dr. G. Jebsen
c/o Titan Co. A/S
Fredrikstad, Norway

October 5th, 1939

Dear Dr. Jebsen:—

Your letter of September 15th, 1939, with regard to the present war situation and its effect on the international cooperation as to exchange of patents, was received. I trust that the following information concerning the patent situation on our side is what you seek, and will be of interest to you.

1. *Applications of Titangesellschaft and I. G. Farbenindustrie, Respectively.*

On August 29th, in the course of a conference I was having with Mr. Hutz of the firm of Messrs. Hutz and Joslin, attorneys for the I. G. Farbenindustrie, Mr. Hutz received a cable from the I. G. Farbenindustrie to the effect that they feared that communications would be interrupted for a considerable time, and asking Mr. Hutz to do whatever he could to keep the I. G. Farbenindustrie's United States cases alive. Mr. Hutz and I presumed that this request applied equally to the patent applications of both Titangesellschaft and the I. G. Farbenindustrie, relating to subject matters within the Licensed Field. We agreed between ourselves to cooperate even more closely in doing whatever we could to maintain and, if possible, to issue into patents the now pending United States patent applications of Titangesellschaft and the I. G. Farbenindustrie. Accordingly, Mr. Hutz and I will have to use our best judgment regarding the drafting of amendments in response to Patent Office actions, and to avail ourselves wherever pos-

sible of the research and experimental facilities of the National Lead Company. In any event, we are working very closely with Mr. Hutz, and will do whatever possible to minimize the effect of the war situation on the United States patent applications of Titangesellschaft and the I. G. Farbenindustrie, the latter insofar as we have an interest in them.

2. Canadian Patent Situation.

In Canada, the Dominion Parliament has already passed a "War Measures Act". This act is of very broad, general nature, and the power vested in the government to control alien property, including patents, is very sweeping. The Canadian Secretary of State has been designated as the Custodian of Alien Property. In this general act, the only specific reference to patents is a short section which provides that the Custodian may, if he sees fit, cause an allowed, but not issued, patent of an enemy alien inventor to be issued to himself as patentee. Our Canadian legal advisers inform us that this act, being directed in general to all forms of enemy property, is applicable to patents, and they anticipate, following the course of procedure in the last war, that the Canadian Parliament will issue in the near future regulations specific to patents.

The "War Measures Act" provides that there shall be no dealing with the enemy, either directly or indirectly, for example, with people whose relationships present or past with the enemy might place them in the light of being an agent of the enemy. The purpose is, of course, to prevent the flow of capital to the enemy and also information.

By virtue of the passage of this act, the title to those patents of Titangesellschaft and the I. G. Farbenindustrie

which have issued in Canada and under which Canadian Titanium Pigments, Ltd., through us, enjoy an exclusive license, becomes, in the opinion of our legal advisers, vested in the Custodian of Alien Property. The Custodian has the right to declare any enemy patent null and void; to grant licenses to any Canadian company who may apply for a license, regardless of whether there are any existing outstanding licenses to a Canadian company which have been obtained from the enemy; to declare any existing license agreement, by virtue of which a Canadian company has obtained a license from an enemy, null and void, and, in general, to act very drastically in any way he sees fit to dispose of enemy property.

During the past week I have been in Canada for a series of conferences with the legal people of Canadian Industries Limited and Canadian Titanium Pigments, Ltd. and our own advisers on the best course of procedure to adopt. It was agreed that some representation should be made promptly to the Custodian before he takes any irrevocable steps and before any legislation is enacted specific to patents. In representing this matter to the Custodian, the endeavor will be made to show him that the logical party in Canada to hold licenses under the patents of Titangesellschaft and the I. G. Farbenindustrie, relating to subject matters within the Licensed Field, is C. T. P. It is anticipated that the Custodian may inquire into the relations of C. T. P. and National Lead Company out of which comes the exclusive license to C. T. P. If he does make such inquiry, it is to be anticipated that National Lead Company will have to represent that no part of the profits derived from C. T. P. finds its way into Germany. C. T. P. by virtue of the act itself is, of course, prohibited from having

and direct or indirect dealings with the enemy, and it may be expected that the Custodian will even require that C. T. P. refrain from passing any information regarding technical or patent matters to National Lead Company, regardless of any assurance National Lead Company could make that such information would not find its way to the enemy, because National Lead Company is not within the jurisdiction of the Canadian government. We are, of course, prepared to cooperate with C. T. P. as far as necessary to protect their licenses in Canada. You will appreciate that if we are successful, the effect will be to actually protect the patents of Titangesellschaft and the I. G. Farbenindustrie in Canada.

With respect to the now pending applications of Titangesellschaft and the I. G. Farbenindustrie in Canada, the Canadian Patent Office is withholding issue of these patents. Steps will be taken to ascertain whether it is desirable to request the Custodian where possible to issue the patents in his name and grant licenses to C. T. P.

Mr. T. W. Smith, manager of the Patent Department of C. I. L., expects in the near future to have a personal, informal conference with the Canadian Commissioner of Patents regarding the proper and most effective way to present our case. We have also had a discussion with Hutz and Joslin, United States patent attorneys for the I. G. Farbenindustrie, who are cooperating whole-heartedly with us. They have advised their Canadian attorneys, Messrs. Fetherstenbaugh and Co. of Ottawa, to cooperate with Mr. Smith. As soon as Mr. Smith has had his first conference he will communicate with me regarding the steps which should be taken, and I, in turn, will write you further.

To sum up, the Canadian situation appears to be crystallizing in the direction similar to that existing in Great

Britain, as described in Mr. Tasker's letter. It may be expected that if C. T. P. is able to protect its licenses in Canada, National Lead Company will have to forego its right to receive technical and patent information from Canada. This latter point is not of practical importance. As a matter of fact, the Canadians are not manufacturing or experimenting and very little information could be expected, in any event, from them. However, it indicates that as far as Canada is concerned, as in England, even the flow of information to neutrals will probably be cut off by Government regulations.

With respect to the cooperation between ourselves and C. T. P., regarding the prosecution of patent applications, we will continue as far as possible to place at their disposal our inventions and such other inventions of the associated companies, for example, British Titan Products Co., Ltd., Titan Co. A/S, etc. as may come to us. We appreciate, of course, that we will not be able to do this with respect to any invention which may possibly originate from Germany during the present hostilities.

3. United States and Canadian Applications of British Titan Products Co.

The war situation has in no way altered our practice with respect to the United States and Canadian applications originating with British Titan Products Co., Ltd. The former are being prosecuted by this department in the same manner as in the past and the Canadian applications are being prosecuted by Canadian Titanium Pigments, Ltd. in cooperation with us. Except for some inconvenience in getting inventors' comments and remarks, we do not expect that the war situation should materially affect this cooperation.

Exhibit 758

4. Cooperation with Titan Co., Inc.

We are following exactly the same procedure as in the past, addressing all communications regarding patent matters, which were formerly sent to Paris, to Fredrikstad, Norway. We are being more careful that *all* correspondence go directly to Titan Co., Inc. at Fredrikstad, rather than to endeavor to establish direct communication with any inventor company. For instance, with respect to several matters affecting British Titan Products Co., Ltd. we could have endeavored to communicate directly with British Titan Products Co., Ltd., thus possibly saving some time, but we considered, in view of the war situation, that it was best to send our communications directly to Titan Co., Inc. As long as the present situation exists, we will refrain from endeavoring to establish any direct communications with associated companies in belligerent countries, unless advised by you to change our procedure.

5. Du Pont Cooperation.

We have not altered our method of cooperating with Du Pont concerning foreign patent matters in any way as a result of the war situation. All matters affecting the Du Pont cooperation have been taken up with Titan Co., Inc. at Fredrikstad, and we will continue to do so until such time as you advise us to alter our procedure. We expect, however, that as a result of the war situation the exchange of rights between ~~Du~~ Pont and the associated companies through Titan Co., Inc. and the filing of foreign patent applications corresponding to Du Pont's United States applications may be somewhat retarded but it is yet too early for us to form an opinion as to how the war situation may affect the Du Pont cooperation.

Exhibit 758

The foregoing represents the situation here at the present time. We shall be most interested in having any suggestions and advice you may care to give us regarding our procedure in handling patent matters as a result of the present war situation.

Mrs. Kaegebehn and I are very well indeed, but we are sick at heart at the contemplation of what may happen to those lovely places in Europe, particularly Paris, which we liked so well. We trust that you and Mrs. Jebsen, as well as your sons, are all very well.

With very kind regards,

Sincerly,

C. F. KAEGEBEHN

CFK:JL

Exhibit 759

Letterhead of

HUTZ AND JOSLIN

Re: Tillmann et al.
Serial No. 204,838
Lev. 1481 T. 187
Titan #20

October 26, 1939.

Mr. Charles F. Kaegebehn
National Lead Company
111 Broadway
New York City

Dear Mr. Kaegebehn:

Enclosed herewith you will find your copies of the amendment which I prepared in response to the Office action of April 26, 1939 and forwarded to the Patent Office yesterday. Unfortunately I was not able to send you the amendment earlier, partly due to the fact that I just received a proposed amendment from Leverkusen and wished to embody some of their suggestions into my amendment. Leverkusen's proposals turned out to be quite similar to the course of action decided upon in our recent discussions.

I would appreciate it if you would carefully consider the amendment and let me know whether it meets with your approval. Should you have any suggestions as to additional claims or arguments, I would be glad to embody them in a supplemental amendment.

You will note that I canceled all of the claims and replaced them by new claims 24 to 33, inclusive. I intentionally restricted the number of claims so far as possible.

27382

Exhibit 759

Should we receive favorable action on these claims, it will be possible to insert additional specific claims if it is considered advisable, in order to more adequately protect the subject matter of the case. While I do not expect that the application will now be allowed without further ado I do hope that the Examiner will drop most of the references and objections mentioned in the last Office action.

As you know, I have spent considerable time in connection with the interview and the amendment. Ordinarily we would charge I. G. for these services. I understand, however, that under your arrangements such charges would ultimately have to be borne by National Lead Co. If I am correct in this assumption, it would seem the simplest thing to do, particularly under the prevailing circumstances, for us to charge National Lead Co. directly for these services.

Please let me know whether such procedure would be agreeable to you.

Very truly yours,

W. H. HUTZ

encls.
cc-Lev.

Exhibit 760

Tillmann et al.—Ser. No. 204,838—Case T. 187
October 31st, 1939
Mr. J. L. Turner—Director of Research
Mr. C. F. Kaegebehn—Patent Department

Dear Mr. Turner:

As you know, we are billed through Titan Co., Inc. for the services of Messrs. Hutz and Joslin in prosecuting United States applications filed by the I. G. Farbenindustrie and Titangesellschaft in which we have an exclusive license. These services are on the whole always very reasonable, and we have had no objection in the past to the amounts involved.

In view of the present war situation, Hutz and Joslin are finding it increasingly difficult to get returns from Germany and they have asked me whether it would be proper for them to bill us directly for their services. I have replied that such procedure would be proper with respect to one case only, namely the Tillmann Rutiox nuclei application, Case T. 187. In this case, as you know, I conferred at length with Mr. Hutz and met him in Washington for an interview with the Examiner. Mr. Hutz prepared the amendment which was filed on October 26th on the basis of our conferences and some notes received from the I. G. Farbenindustrie. Therefore, it may be expected that in this case the charge for services would be somewhat higher than ordinarily, but as yet I do not have the bill.

It would be possible to save some expense by taking over the prosecution of the I. G. Farbenindustrie and Titangesellschaft applications now on file and being prosecuted by Hutz and Joslin. However, this would require the

consent of the I. G. Farbenindustrie and Titangesellschaft. Dr. Redies himself had suggested such a procedure when I was in Leverkusen, but the war has interrupted all further action on this proposal. Furthermore, Hutz and Joslin have a better source of contact with the I. G. Farbenindustrie for obtaining information regarding amendments, and I do not see what else we could do except for the present to work closely with Hutz and Joslin and do as much work as we can ourselves in order to keep the charges as low as possible.

Yours very truly,

CFK:JL

c.c. Mr. C. F. Garesché
Dr. W. W. Plechner

Exhibit 761

October 31st, 1939

Werner H. Hutz, Esq.
Hutz and Joslin
521 Fifth Avenue
New York, New York

Re: Tillmann et al. Ser. No. 204,838
Lev. 1481—Case T. 187—Titan 20

Dear Mr. Hutz:—

Thank you for your letter of October 26th, 1939, enclosing copies of the amendment filed in the above identified case.

We have no comments to add to what has been stated in the amendment. It appears to cover what you and I discussed together and with the Examiner.

It will be quite proper for you to bill us directly in this case. As a matter of fact, this is a simpler procedure than going through the I. G. Farbenindustrie and Titangesellschaft before reaching us.

Yours very truly,

CFK:JL

c.c. Dr. W. W. Plechner

Exhibit 762

Letterhead of

TITAN COMPANY, INC.

GJ/HS.

C. F. Kaegebehn Esq.,
Manager, Patent Department,
National Lead Company,
111 Broadway,
New York, N. Y., U. S. A.

Fredrikstad, Norway,
9th November 1939.

Dear Mr. Kaegebehn:

My very best thanks for your letter of October 5th.

I much appreciate the full description you have given as to the patent situation on your side.

Re: 1. I am glad to see the steps you have taken and hope to be able to write you nearer in a not very far future.

Re: 2. You have given a very good picture of the situation. I have no suggestions to make in the matter and look forward to hear further from you as soon as there are any new developments.

Re: 4. The course you will follow as regards communications and patent matters is for the time being no doubt the best one and quite in line with our arrangements on this side.

As you know, the British Titan Products Co.'s patents have been dealt with by a committee consisting of Stopford, Oppegaard, Ravnestad and Andersen. Ravnestad and Andersen have been doing the work for B. T. P. —at the same time as they are doing the patent work Titan Company Inc. on this side—and have constituted so to say the Patent Department of B. T. P. Shortly after the war broke out, Stopford wrote and suggested, that this

Exhibit 762

should continue, and the Patent Committee to continue to be constituted as formerly—the work being done by correspondence along certain lines.

We will advise you if circumstances should necessitate a change.

Re: 3. I have no special comments to make with the exception that if you should find it an advantage to have the Canadian Titanium Pigments Limited corresponding direct with British Titan Products Co. regarding Inventors' Comments and Remarks"—we see no objection to this and would not consider it as an interference of importance with the lines for general communication, as mentioned under point 4.

Re: 5. Du Pont Corporation.

I agree with you that this matter will have to be subject to further experience.

With regard to France we are informed that the French Government has issued certain War Regulations re Patent Matters on October 15th 1939. We have not received them yet but shall inform you as soon as we have got them. We only know that they are not quite so sweeping as the English and Canadian Regulations.

Mr. S. J. Henrikssen, who left Frederikstad on the 30th of Septbr. for France, and who has also paid a visit to England for a few days, is expected back here on Saturday the 11th inst.

Everybody is well over here, and things are developing as well as there can be expected under the present circumstances.

Hoping Mrs. Kaegebehn and yourself are well, I remain, with very kind regards to both of you,

Yours very sincerely

G. JEBSEN

Mr. Garesché.

Exhibit 763

Dr. G. Jebsen
c/o Titan Co. A/S
Fredrikstad, Norway

December 27th, 1939.

Dear Dr. Jebsen:

This will acknowledge your letter of November 9th, 1939 and serve to bring you up-to-date on subsequent developments occasioned by the war situation as these may affect the international cooperation.

1. Applications of Titangesellschaft and I. G. Farbenindustrie, Respectively.

There is very little now to report. We have not received any patent applications filed in Germany by either the T. G. or the I. G. since the war, and believe this is probably due to a diminishing research activity, war regulations and interruption of communications, etc. With respect to one case—T. 236, German Patent Application J. 64,030, originating with the I. G. at Frankfurt—received by us before the war, we have announced our desire to have corresponding applications filed in the United States and, if possible, Canada. Canadian War Regulations, as pointed out later, permit the filing by enemy aliens under certain conditions, but we are not aware that German regulations will permit this. Our Canadian associate, C. T. P., has not been advised of this case.

2. Canadian Patent Situation.

Since writing you on October 5th last, we have had several conferences both here and in Montreal on this subject. In the meantime, the Canadian Government has

enacted and published certain war regulations dealing generally with the war situation. Copies of these are enclosed as follows:

1. Defence of Canada Regulations.
2. Regulations Respecting Trading with the Enemy.
3. The Patents, Designs, Copyright and Trade Mark (Emergency) Order, 1939.

These constitute all regulations I know of which Canada has enacted as a result of the war.

Shortly after my last letter, Mr. T W. Smith paid his expected call upon the Canadian Commissioner of Patents and Custodian of Alien Property. He met with a very sympathetic attitude to the effect that the Canadian Government is anxious to cooperate with all legitimate parties to protect their interests in Canadian patents and applications owned by the enemy. Mr. Smith was advised to file statements setting forth C. T. P.'s interest in specified Canadian patents and patent applications of T. G. and I. G. and he was informed that these statements would be kept on file. Mr. Smith was assured that if this be done the Custodian would not be favorably inclined to granting license to any third parties who might apply. By the time this letter reaches you, such statements will have been filed. A separate statement will be presented for each patent and application and will follow closely the draft enclosed. No information regarding the relationship between National Lead Company and C. T. P., or the relationship between National Lead Company has been requested.

Messrs. Hutz and Joslin, attorneys for the I. G. have been constantly consulted and informed in these matters

and have fully coöperated, directly and through their Canadian agents.

Regarding such Canadian applications as were pending in the Patent Office awaiting response to a Patent Office Action, we agreed with Messrs. Hutz and Joslin and C. T. P. that the Canadian agents of Hutz and Joslin be instructed to prepare and file such responses as were necessary to hold the cases, that National Lead Company would accept charges for the same and that C. T. P. would, in turn, reimburse us. This procedure has been followed as responses become due.

With respect to any new patent cases which may be developed in Europe, there will, of course, be no difficulty in filing those of B. T. P. in Canada. Canadian applications may be filed by T. G. and I. G. according to the regulations, but these applications will be held by the Custodian in the same manner as applications filed before the war. Were it possible to do so, we should prefer that Canadian applications be filed in Canada by T. G. and I. G. in those cases which we elect such filing during the duration of the war, it being understood that we will pass no information concerning such cases to C. T. P. However, we can foresee difficulties arising in Germany toward carrying out such a program

There is nothing new at present to report concerning coöperation with B. T. P., Titan Co., Inc. and Du Pont. Should anything develop, I will promptly inform you, together with any further news from Canada.

With very kind regards,

Yours very truly,

CFK:JL
Encs:3 c.c. Mr. C. F. Garesché

2728

Exhibit 764

September 28th, 1939

Mr. S. Andersen
c/o Titan Co. A/S
Fredrikstad, Nodway

Re: I. G. Farbenindustrie Patents
U. S. Pat. Nos. 2,161,290—2,161,319

Gentlemen:—

We enclose copies of the above identified patents. Both of these patents of the I. G. Farbenindustrie appear to relate, at least in part, to titanium dioxide, in such manner as to come within the Licensed Field of the Agreements.

We presume, therefore, that we enjoy a license under these patents to the extent to which the patents relate to the Licensed Field. At this time we merely call these patents to your attention, and beg you to confirm our understanding that we enjoy licenses thereunder.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

Encs:2
c.c. Mr. C. F. Garesché

Exhibit 765

Letterhead of

TITAN CO. INC.

SA/HS. Fredrikstad, 30th Novbr. 1939.

C. F. Kaegebehn Esq.,
Manager, Patent Department,
National Lead Company,
111 Broadway,
New York, N. Y., U.S.A.

Dear Mr. Kaegebehn:

RE: I.G. FARBENINDUSTRIES' U.S. PATENTS
Nr. 2161290 and 2161319.

I thank you for your letter of the 28th of September [illegible] copies of the above mentioned patents, and note that you consider these patents to come within the license field of the agreements—at least in part.

As the patents are owned by I.G. Farbenindustrie, it is the license field definition in the agreement between I.G. Farbenindustrie and T.G. (which is identical with the license field of the agreement between T.G. and Titan Company Inc.), which must be taken into consideration when considering this question.

As you are aware, it is expressly stated in this licensed field definition that "simple mixtures" do not come under the definition.

The above patents relate both to coating compositions having phosphoric acid as a vehicle, and in which the pigment may be Titanium Dioxide.

Exhibit 765

As far as I understand the specifications, the coating compositions are prepared by mechanically mixing the constituents, and it seems to me that the product is a "simple mixture" in the sense of the agreement.

If I am correct in this, the patents do not come under the licensed field of the agreement between I.G. Farbenindustrie and T.G. (and between T.G. and Titan Company Inc.), but—to the extent they relate to the use of Titanium pigments in the coating compositions in question—come under the stipulations in this agreement relating to "finished products," i.e. the I.G. have to put on their licencees the obligation to buy titanium pigments for use in the manufacture under the patents from the asosciated Titanium companies—in this case from the National Lead Company.

I am awaiting your comments to the above before taking further steps in the matter.

With kind regards,

Yours sincerely

SIGURD ANDERSEN

Exhibit 766

Mr. S. Andersen, December 20th, 1939
c/o Titan Co., A/S
Fredrikstad, Norway

Re: I. G. Farbenindustrie's U. S.
Patents Nos. 2,161,290 and 2,161,319

Dear Mr. Andersen:—

Thank you for your letter of November 30th, 1939.

I am inclined to agree with your interpretation of the Licensed Field of the I. G. Farbenindustrie-Titangesellschaft Agreement, and also with your conclusion that the above identified patents would come within such licensed Field. We had not consulted the Agreement before writing you our letter of September 28th and evidently considered the cooperation to relate both to the use as well as manufacture of titanium compounds.

Such a stipulation as is contained in the I. G. Farbenindustrie-Titangesellschaft Agreement, relating to "finished products", namely that in this case the I. G. would have to put upon American licensees under these two patents the obligation to buy their requirements of titanium pigments from us, would clearly be illegal. Only recently it has been decided by the Supreme Court that to do just what is contemplated in the stipulation respecting "finished products" is an unjustifiable extension of the patent monopoly. The theory upon which this interpretation of the law is based is that a patent is only good to protect the monopoly as defined in its claims. These two patents of the I. G. do not cover, per se, titanium dioxide pigments and, hence, any attempt on the part of the I. G. to require a licensee

to buy their pigment requirements from us, would, it appears, certainly be contra to the present legal situation in the United States.

I believe I mentioned this situation rather briefly to Dr. Jebsen and others during my visit to Paris. It seems to me that as a result of this interpretation of American law, the provisions in the various agreements with respect to "finished products" would become inoperative, at least with the United States, and that as a result there possibly should be some reconsideration of this aspect of the agreements.

With respect to the present question, namely these two German patents, I would suggest that the I. G. be informed that we have noted them and, in view of the legal situation in America, in the event they considered granting a license under them in the United States, we should like to be informed and possibly to consider with the attorneys of the I. G. the question of how to protect our interests, as contemplated by the "finished products" provision of the agreement.

Should you wish me to discuss more fully the decisions which have brought about the present legal situation in the United States, I shall be glad to do so.

With kind regards,

Yours very truly,

C. F. KAEGEBEHN

CFK:JL
c.c. Mr. C. F. Garesché

Exhibit 767

TRANSLATION

Fredrikstad, March 5th, 1940

SA/EE
Titangesellschaft m.b.H.
z/H: I. G. Patent Deparment
Leverkusen—I. G. Works

As a result of a conference had with Dr. Jebsen we take the liberty of making the following suggestion: Due to the difficulty of communicating with the United States and the resulting delays and possible future disturbances, we ask you to handle the below enumerated patent matters by direct correspondence with Titan Company, Inc., attention Mr. C. F. Kaegebehn, 111 Broadway, New York.

As far as we are able to determine at the present time, the following matters could be handled directly between you and Titan Co., Inc., in New York. We would like to remark that the suggested change will cover matters which have already been under active consideration:

A. *Information from Titangesellschaft to Titan Co., Inc., New York:*

1) Sending new applications of T. G. and I. G. inventions to be filed in the name of National Lead Company. (We ask you to keep us informed of these applications, as previously done, by writing us at Fredrikstad and by sending copy of the application in question.)

2) Giving National Lead Company agreed upon information and possibly also additional information with regard to the above mentioned new applications.

3.) Giving information regarding the wishes of Titangesellschaft and Titan Kogyo K. K. regarding Licenses and new applications in connection with patent matters which originate with National Lead Company (and The American Zirconium Corp.), as well as questions and other information destined for National Lead Co. in the matters in question.

4.) Information concerning licenses which may be desired by Titangesellschaft and Titan Kogyo K. K. in Du Pont applications, as well as questions and other information concerning such matters to the extent that they have to be forwarded to National Lead Company.

5.) Giving National Lead Co. specific information regarding possible other T. G. and I. G. patents and patent applications as those mentioned under A. 1) and A. 2).

B. *Information from Titan Co., Inc., New York to Titangesellschaft.*

1.) Sending new applications of National Lead Inventions (and The American Zirconium Corp.) destined for Titangesellschaft.

2.) Sending copies of Du Pont applications destined for Titangesellschaft and Titan Kogyo.

Regardless of the fact that the above provide for the sending of new applications to Titangesellschaft, National Lead Co. must in the usual manner inform us of these inventions and send directly to us copies of the same, by addressing

them to Fredrikstad. (Applications mentioned under B.1) and B.2) above.)

3.) Information meant for Titangesellschaft and other information regarding applications mentioned under B. 1) and B. 2).

4.) Information concerning wishes of the National Lead Co. regarding licenses and new applications in patent matters, which originate from T. G. or I. G., as well as questions meant for T. G. and other information in such matters.

It might be possible for you to ask Mr. Kaegebein to send in duplicate letters of Titan Co., Inc., addressed to you.

We hope that our suggestion will meet with your approval, and that you will carry on in the best manner possible the mailing of correspondence between you and Titan Co., Inc. in New York, and are looking forward to your reply.

Yours very truly,

(signed) SIGURD ANDERSEN

copy to Mr. Raspe.

Translated by:
J. Lüer
April 26th. 1940

2736

Exhibit 768

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, March 5th, 1940.

SA/LRA

C. F. Kaegebehn Esq.,
C/o National Lead Company,
Patent Department,
New York.

Dear Mr. Kaegebehn,

Re: *Patents No. 2.161.290 and 2.161.319.*

I thank you for your letter of the 20th of December, 1939, to which Dr. Jebsen has already replied in his letter of the 24th of January, 1940, to the question you raise in connection with the "Finished Product" Clause of the agreements.

In accordance with your wishes we have notified the patentees that you wish to be informed in the event of their considering to grant licenses under these U.S. patents, so that you may in case consider the question of how to protect the National Lead Company's interests according to the agreements.

With kind regards,

Yours sincerely,

SIGURD ANDERSEN

Exhibit 769

TRANSLATION

I. G. FARBENINDUSTRIE A. G.

Leverkusen—I.G. Werk
March 29, 1940

Titan Company, Inc.
Attention: Mr. C. F. Kaegebehn
111 Broadway
New York, U. S. A.

Re: U. S. Patents Nos. 2,161,290 (156094 Lu)
and 2,161,319 (76769 Lu)

Gentlemen:—

Titan Company Inc., Fredrikstad, wrote us on March 5, 1940, calling our attention to the above identified U. S. patents, which patents, in their opinion, are subject to our agreements, inasmuch as they relate to the use of titanium pigments.

We are in agreement with the view of Titan Co., Fredrikstad, that our U. S. patent No. 2,161,290, dated June 6, 1939, and No. 2,161,319, dated June 6, 1939, and the corresponding patents in other countries are subject to the Titan Agreements (Article III, Paragraph 3 of agreement D. and paragraph 9 of agreement C), inasmuch as they relate to employment of titanium compounds.

We own corresponding patents:

(a) in the following countries of Titangesellschaft

Germany—No. 641,725, dated March 13, 1934
Sudeten, Bohemia-Moravia—No. 60,299 dated July 15, 1937 and 65,013, dated Jan. 15, 1939
Japan—No. 126,224, dated May 16, 1938, and No. 131,301 dated April 15, 1939

Exhibit 769

(b) In the following countries of Titan Co.

Belgium	—No. 415,206, dated April 25, 1936 and No. 422,809, dated July 23, 1937
England	—No. 465,945, dated April 29, 1935 and No. 481,969, dated Sept. 28, 1936
France	—No. 805,474, dated April 25, 1936 and No. 824,517, dated July 19, 1937
Holland	—No. 42,815, dated Feb. 16, 1938 and No. 46,728, dated Aug. 16, 1939
Italy	—No. 341,152, dated April 14, 1936 and No. 353,063, dated July 21, 1937
Canada	—No. 379,106, dated Jan. 24, 1939 and No. 379,108, dated Jan. 24, 1939

No licenses have as yet been issued under these patents. According to information which we have received from our factory in Ludwigshafen, which is the inventor of these patents, the question of distributing licenses in these patents is, at this time, not yet ripe for discussion. Of course, we shall safe guard your rights should we distribute licenses. All our patents will, for the present time, be maintained.

Respectfully yours,

I. G. FARBENINDUSTRIE ÄKTIENGESELLSCHAFT

Translated by:
R. Dannenbaum
Patent Department
National Lead Company
May 13, 1940

Exhibit 770

TRANSLATION

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Leverkusen, I. G. Works
March 19th, 1940

Patent Department
Refer in your reply to:
Fi/Gr 7541

Titan Company, Inc.
111 Broadway
New York, N. Y.

Att.: Mr. C. F. Kaegebehn

Re: Correspondence between T. G. and Titan Co., Inc.

Gentlemen:

We are enclosing herewith copy of a letter received from Fredrikstad, addressed to Titangesellschaft. We hereby declare ourselves to be in agreement with the suggestions contained in that letter and shall accordingly carry on correspondence with you directly in the matters enumerated in the letter from Fredrikstad concerning titanium matters. We ask you to please send your letters dealing with these matters in duplicate.

Yours very truly,

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

7541

4

Enclosure

Translated by:
J. Lüer
April 26th, 1940

Exhibit 770

TRANSLATION

SA/EE Fredrikstad, March 5th, 1940.
Titangesellschaft m.b.H.
z/H: I. G. Patent Department
Leverkusen—I. G. Works

As a result of a conference had with Dr. Jebsen we take the liberty of making the following suggestion: Due to the difficulty of communicating with the United States and the resulting delays and possible future disturbances, we ask you to handle the below enumerated patent matters by direct correspondence with Titan Company, Inc., attention Mr. C. F. Kaegebehn, 111 Broadway, New York.

As far as we are able to determine at the present time, the following matters could be handled directly between you and Titan Co., Inc. in New York. We would like to remark that the suggested change will cover matters which have already been under active consideration!

A. *Information from Titangesellschaft to Titan Co., Inc., New York:*

1) Sending new applications of T. G. and I. G. inventions to be filed in the name of National Lead Company. (We ask you to keep us informed of these applications, as previously done, by writing us at Fredrikstad and by sending copy of the application in question.)

2) Giving National Lead Company agreed upon information and possibly also additional information with regard to the above mentioned new applications.

3) Giving information regarding the wishes of Titangesellschaft and Titan Kogyo K. K. regarding Licenses and new applications in connection with patent matters which originate with National Lead Company (and The American Zirconium Corp.), as well as questions and other information destined for National Lead Co. in the matters in question.

4) Information concerning licenses which may be desired by Titangesellschaft and Titan Kogyo K. K. in Du Pont applications, as well as questions and other information concerning such matters to the extent that they have to be forwarded to National Lead Co.

5) Giving National Lead Co. specific information regarding possible other T. G. and I. G. patents and patent applications as those mentioned under A. 1) and A. 2).

B. *Information from Titan Co., Inc., New York to Titangesellschaft.*

1) Sending new applications of National Lead Inventions (and The American Zirconium Corp.) destined for Titangesellschaft.

2) Sending copies of Du Pont applications destined for Titangesellschaft and Titan Kogyo.

Regardless of the fact that the above provide for the sending of new applications to Titangesellschaft, National Lead Co. must in the usual manner inform us of these inventions and send

directly to us copies of the same, by addressing them to Fredrikstad. (Applications mentioned under B. 1) and B. 2) above.)

3) Information meant for Titangesellschaft and other information regarding applications mentioned under B. 1) and B. 2).

4) Information concerning wishes of the National Lead Co. regarding licenses and new applications in patent matters, which originate from T. G. or I. G.; as well as questions meant for T. G. and other information in such matters.

It might be possible for you to ask Mr. Kaegebehn to send in duplicate letters of Titan Co., Inc. addressed to you.

We hope that our suggestion will meet with your approval, and that you will carry on in the best manner possible the mailing of correspondence between you and Titan Co., Inc. in New York, and are looking forward to your reply.

Yours very truly,

(signed) SIGURD ANDERSEN

copy to Dr. Raspe.
Translated by:
J. Lüer
April 26th, 1940

Exhibit 771

TRANSLATION

May 7th, 1940

I. G. Farbenindustrie Aktiengesellschaft
Leverkusen-I. G. Werk
Leverkusen bei Köln
Germany

Your Reference: Fi/Gr 7541
Re: Correspondence between T. G. and Titan Co., Inc.

Gentlemen:—

We acknowledge with thanks receipt of your letter of March 19th, and also copy of a letter of Titan Co., Inc., dated March 5, 1940, signed by Mr. Andersen and addressed to Titangesellschaft.

On our part we also agree with the suggestions contained in the letter of Titan Co., Inc. In the future we shall communicate directly with you regarding the matters enumerated in that letter, sending you duplicate copies of correspondence.

We ask you, at this time, to inform us how many copies of applications filed by us, the American Zirconium Corp. and Du Pont in the United States you will require for yourself and Titan Kogyo.

Yours very truly,

TITAN COMPANY, INC.
C. F. KAEGEBEHN

CFK:JL

Exhibit 772

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Leverkusen-I. G. Werk, May 24, 1940

Titan Company, Inc.
c/o Mr. Ch. F. Kaegebehn
111 Broadway
New York

Re: Correspondence between Titangesellschaft and Titan Company, Inc.

Gentlemen:—

With reference to your letter of May 7, 1940, we wish to inform you that we and Titan Kogyo together need 6 copies of new patent applications.

I. G. Farbenindustrie Aktiengsellschaft

Exhibit 773

May 8th, 1940

Werner H. Hutz, Esq.
Messrs. Hutz and Joslin
521 Fifth Ave.
New York, New York

Re: Correspondence between T. G. and Titan Co., Inc.

Dear Mr. Hutz:—

A propos of our recent telephone conversation, I enclose the following: Translation of a letter addressed to Titangesellschaft by Titan Co., Inc., signed by Mr. Andersen and copy of the letter addressed to Titan Co., Inc., my attention, by the I. G. Farbenindustrie, dated March 19th, 1940. This letter is signed by Dr. Redies and another whose signature is illegible. I am also enclosing copy of my reply.

You will note that there will be established between ourselves and the I. G. Farbenindustrie, on behalf of the Titangesellschaft, a direct correspondence relative to the matters enumerated in Titan Co., Inc.'s letter to Titangesellschaft.

Yours very truly,

CFK:JL
Encs.

Exhibit 774

AIR-MAIL May 24th, 1940

Mr. Andreas Ravnestad
c/o Titan Co. A/S
Fredrikstad, Norway

Dear Mr. Ravnestad:—

We acknowledge receipt of your cable, dated May 22nd, reading as follows:

> "PATENT CASE T 202 WILL REVERT TO QUESTION OF DISTRIBUTION UPON RECEIPT OF COPIES OF APPLICATION EXPECT AIRMAIL TRANSMITTED MORE FREELY THAN ORDINARY LETTERS" (Letter No. 20c)

Under separate cover we have sent today five copies of Divisional Application in Case T. 202, as requested in your previous cable of May 21st.

We are somewhat confused regarding the present situation with respect to handling correspondence. A short time ago we received from the I. G. Farbenindustrie copy of Mr. Andersen's letter to them, dated March 5th, in which a procedure for handling correspondence had been agreed to. In that procedure it was suggested that the I. G. would send directly to us in New York copies of newly filed applications and that we should, in turn, send copies of our applications directly to them. The I. G.'s letter included the statement that they were in agreement with this suggestion and we replied to the effect that we were also in agreement. Your cable of May 21st, however, indicated to us that you wished us to send copies of patent applications to you and

we wondered whether you were familiar with Mr. Andersen's letter of March 5th. Accordingly we cabled you to that affect on May 21st.

While we have had no specific suggestions with respect to British Titan Products Co., Ltd. it has been indicated that we should also carry on direct correspondence with them as a result of conversations between Mr. Stopford and Dr. Jebsen.

Today we received a cable from Mr. Andersen from Stockholm which says that he will consult Dr. Jebsen regarding arrangements for correspondence. This further suggests that the situation is somewhat unsettled. We can well understand that this is so in view of recent developments.

We will endeavor to follow any suggestions received from you regarding the handling of correspondence. We especially wish to have you consider the situation with respect to Titangesellschaft inasmuch as they have, on their part, already written us directly in several matters. Our correspondence with the I. G. Farbenindustrie has been confined to replying to their letters but we have not yet initiated any direct correspondence with them.

Since March a considerable number of letters, which would ordinarily have been sent to Fredrikstad, have accumulated. We have held these pending instructions as to where they should be sent. Will you please consider this question and advise us.

Yours very truly,

CFK:JL
c. c. Dr. Jebsen—Paris
Mr. C. F. Garesché

Exhibit 775

Letterhead of

TITAN COMPANY, INC.

GJ/AK. Paris, May 29th 1940.

Charles F. Kaegebehn Esq.
National Lead Company
Patent Department
111 Broadway
New York City, U.S.A.

Dear Mr. Kaegebehn,

I confirm my cable of yesterday, as follows:

"REQUESTED ANDERSEN CABLE YOU COUN-
"TRIES HE CONSIDERS BEST YOU TAKE OVER
"PATENTWORK AND CONTACT AGENTS
"DIRECTLY STOP FURTHER COUNTRIES
"WHERE PATENTEXPENSES MUST BE PAID
"DIRECTLY FROM NEW YORK STOP EXPENSES
"PAID BY ASSOCIATED COMPANIES FOR
"TITANINC MUST BE REIMBURSED BY
"NEWYORK."

I cabled also Mr. Andersen as per enclosed copy.

My contact with Mr. Andersen is still only by cable and I am rather ignorant as to what extent he is able to do his patent work. I think therefore it is best that he cables you directly regarding the work he wishes you to take over. With regard to expenses, he cabled me as follows:

"SUGGEST UPON CONFERENCE ANKER TO
"REDUCE TITANCOS PAYMENTS THAT

Exhibit 775

"TITANINCS PATENT EXPENSES SWEDEN
"FINLAND ITALY BRITISH EMPIRE FRANCE
"AND COLONIES JAPAN NORTH AMERICA BE
"PAID FROM NEWYORK OR PARIS
"WHICHEVER CONVENIENT STOP DESIRABLE
"INCLUDE ALSO HOLLAND BELGIUM BUT
"YET UNCERTAIN WHETHER POSSIBLE STOP
"ASSOCIATED COMPANIES PAY BILLS ABOVE
"COUNTRIES BELONGING THEIR
"TERRITORIES AND TITANINCS SHARE
"REMITTED THEM STOP KINDLY CABLE
"WHETHER YOU APPROVE AND IN CASE
"WHETHER NEWYORK OR PARIS SHOULD
"REMIT.".

You will realise that this is due to New York's and my rejection of sending money to Titan Co A/S.

The request is only reasonable. I presume it will be difficult to provide the money from Scandinavia and Titanic being an American company will have to provide it from New York. We could not provide that money from Paris with reimbursement from New York, without considerable formalities complicating matters.

As regards the associated companies making payments, you will note that Sté Industrielle du Titane can deal with the French and Belgian expenses. Our agents for these two countries are

Messrs. Emmanuel Bert & G. de Keravenant
115, Boulevard Haussmann
Paris

and in case of evacuation their address will be

Questembert près Vannes
Morbihan.

This firm will attend to the payments for these two countries and be reimbursed by Sté Industrielle du Titane, with which Company Titan Company Inc. has a small credit balance sufficient for these purposes.

The British Titan Products Co. will take care of the patents for the British Empire and send us a bill for Titan Co. Inc.'s part of the expenses.

Messrs. Bert & de Keravenant can of course not receive any instructions from Mr. Andersen except by cable and consequently the technical side of the patentwork cannot be attended to towards them in view of the difficulty of corresponding with Sweden by letters.

They have been instructed by Mr. Andersen and myself to apply for a patent on case T-237 where the inventor company is B.T.P., which will send them all the technical information and take care of that development. The patent application is supplementing the Antimony addition cases.

If you have any new patent application in U.S.A., which you think should be applied for in France and/or Belgium, I suggest you send a request in Titaninc's name to Messrs. Bert & de Keravenant together with the necessary papers and information.

You will realise that under the present circumstances it is better that you communicate direct with Andersen, concerning the division of the work and other information, and what I am saying above is subject to any request and information from Andersen.

With regard to the question of decisions concerning new patent applications, the following may serve you as a guidance:

We generally follow the wishes of associated manufacturing companies, as regards securing patent rights within their territories.

In France we apply sometimes for patents simply for the sake of publication, that is where we do not think a patent protection of sufficient strength and interest is obtainable but at the same time we will not run the risk of having competitors apply for these patents. We further apply for patents in France where they are or may develop to be of importance of the first order.

The same applies to Belgium, Holland, Norway and Sweden and we are here particularly interested in patents regarding which infringements can be proven without entering into the factories. In other words, where the infringement can be characterised by the product, as for instance the patent containing antimony.

With regard to Belgium and Holland we have always in mind the possibility of competition turning up from Noury v.d.Lande or Pisart. Lately I think this may also be taken into account as regards Sweden and Norway, although there are no direct signs of this as yet in these two countries.

Application patents are of interest if they are of primary importance, in order to prevent somebody else to monopolise a market. We are, however, not interested in minor application patents in the way you are, with a view of giving your salesmen a talking or selling point.

You will realise that we are trying to keep expenses down without hurting vital interests.

In this connection, I hope that you will be able to do the work direct with our patent agents in the same way as Ravnestad has been doing.

Previously, as you may know, the expenses for patents applied for by the Titanium Pigment Co. in our countries were extremely high because the Titanium Pigment Co.

used a special firm in New York, dealing with the European business, which to us seemed unnecessary.

I enclose copy of a letter of even date to Messrs. Bert et de Keravenant, concerning possible relations with you.

I have sent you yesterday copy of my letter of May 29th to Mr. Rockwell, giving certain addresses, for your information. (Part of paragraph stricken out in copy.)

What is going to happen with regard to the patent situation in Holland, I am unable to tell you. As to Belgium, I understand from Messrs. Bert et de Keravenant that they expect the Belgian Government to establish an administration outside of Belgium.

Generally speaking, as regards the countries at war, I think that, as far as losses of priority rights are concerned, due to difficulties re correspondence or otherwise, these priority rights will be recovered after the war.

With kindest regards,

Yours very truly,

G. JEBSEN

PS. Untill New York receive cable information that I have left for Hossegar, I suggest you send letters which are intended for me to Paris with a copy to the address in Hossegar.

Copy to Mr. Garesché.

Exhibit 776

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
October 12th, 1940.

HBE/HH *No. 113*

National Lead Company,
Patent Department,
111 Broadway,
New York City.

Attention: Mr. Kaegebehn.

Dear Sirs:—

Patent Annuity T-170.

We have received copies of your correspondence with Messrs. Carpmeels & Ransford (dated March 28th and April 18th, 1940), from which we note that the current annuity on patent No. 194.162 has been paid, and that the Official Receipt has been sent to you.

This patent stands in the name of the I.G. Farbenindustrie, and the maintenance of the patent was taken over by us at the beginning of this year.

The amount required in connection with the payment of the current fee, has already been remitted to the Patent Agents in the month of March 1940 by our Bookkeeping Department, and the matter is in so far quite clear.

I would suggest that you keep the Official Annuity Receipt in your files until further.

Yours very truly,

Exhibit 777

Stockholm, the 14th October 1940

Temporary Arrangement of Patent Work Europe

(during Mr. Andersen's stay in Stockholm)

We have agreed as follows:

Fredrikstad takes care of:

1. *Renewals* of Patent and Trade Marks excepted in the British Empire and France

2. *Other Routine Matters* such as Patent specification files (Card Index)

3. *Matters re Patent Expenses* (Sharing of Expenses. Information to Bookkeeping Department, excepted for British Empire, France (America Spain & Portugal taken care of by Mr. Kaegebehn)).

4. *Prosecution of Pending Patent Applications*, however with the arrangement that Mr. Andersen, upon notification from Fredrikstad for each particular case, takes over cases Mr. Ravnestad finds it desirable that he takes over.

Mr. Andersen takes care of:

1. *Intercompany* Patent Matters, and patent matters relating to cross license agreements Inc. D.—including correspondence with Dr. Jebsen regarding such matters.—

2. *BTP Patent Matters* to the possible extent.

Exhibit 777

3. Particular Office Actions re *Prosecution of Patent Applications* to the extent mentioned under (4) above.

Cooperation:

1. *Proceedings in Patent Matters* "Patent Protokoll".

Proposals for decision:

In new Patent Cases (T-Cases) as to in which countries patent applications should be filed.

In which countries licenses should be asked for in DK-Cases as to which patents should be abandoned or which licenses should be relinquished.

Re action against competitor's patents and patent applications (opposition).

Re trade mark matters and *other matters* calling for decision.

Mr. Andersen will prepare drafts for the memoranda which will be discussed in correspondence with Mr. Ravnestad and signed by both when agreed upon, signed copy of each memorandum will be sent Dr. Jebsen.

2. *Preparation and Filing of Patent Applications:*

Mr. Andersen will prepare drafts for the applications and send them to Mr. Ravnestad for consideration where necessary and the final form of the application will be agreed upon by correspondence.

In this connection is to be noted that the particular cases will already have been discussed between

Exhibit 777

Mr. Ravnestad and Mr. Andersen before the preparation of the draft—in connection with the proposal for decision ("Patent Protokoll") mentioned in the foregoing paragraph.

3. *List of Patents T-Cases and Report Patent Situation.* Preparation and checking in hand.

The question as to whom should take care of our and SIT's patent matters in France will be taken up when the situation as to France becomes clearer.

Stockholm, the 14th October 1940

Exhibit 778

TELEGRAM.

NLT 15/10.40 18

Jebsen Leadco Newyork

Patent work with exception of licence agreement and other intercompany matters Dupont and BeTePe matters can be handled from Titanco stop Andersen suggests he stays Stockholm till further on account above situation and presumes further by not returning to be freer in future for Titaninc and intercompany work stop Uncertain whether his expenses Stockholm can be paid this side but will endeavour obtain arrangement stop Andersens personal attitude strongly against returning stop Ravnestad Andersen agreed lines temporary arrangement patent work which will be submitted you by letter stop Andersen estimates arrangement will not involve substantial increase expenses Stockholm Ravnestad same his office stop Understand telephone you consider Andersen staying desireable please confirm

Anker

Exhibit 779

COPY

November 18th, 1940

Letter No. 29K

Mr. H. E. Eckhoff
c/o Titan Co. A/S
Fredrikstad, Norway

In Reply to your Letter No. 102

Re: German Pat. Application U. 13.875
Interchemical Corporation, N. Y.

Dear Mr. Eckhoff:—

Your letter informing us that Titangesellschaft had successfully opposed the German application of Interchemical Corporation, U 13.875, was of considerable interest.

Apparently there is a companion application of the same company, U 13.876, which T. G. also contemplated opposing. We received a letter from Leverkusen, asking us to cable any prior references known to us. We replied by cable, reading as follows:

"RE INQUIRY INTERCHEMICAL CORPORATION GERMAN APPLICATION NO PRIOR REFERENCES KNOWN STOP CORRESPONDING USA APPLICATION NOT ISSUED STOP BELIEVE IT REJECTED ON GROUND THAT ACTIVATED CARBON WELL KNOWN PURIFYING CLARIFYING AGENT FOR SOLUTIONS GENERALLY"

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL
c.c. Mr. C. F. Garesché

Exhibit 780

COPY

Mr. Sigurd Andersen
Stora Nygatan 31
Stockholm, Sweden

January 2nd, 1941

Re: Case T. 241—Ser. No. 298,400

Dear Mr. Andersen:—

Your letter of November 29th, 1940 was duly received and we will endeavor herewith to give you our comments.

The subject matter of Case T. 241 is, we understand, quite practical and is from time to time being used in our various plants. The application which we filed as Case T. 241 followed some nine months after the filing of the United States application in Case T. 235 by the American Zirconium Corporation. The purpose in our filing the application on our own behalf, aside from the desire to protect the subject matter, was to provoke an interference in the United States Patent Office between the United States application of ourselves and the American Zirconium Corporation, so that the question of first inventorship could be settled. Since we enjoy friendly relations with the American Zirconium Corporation, such procedure is regarded as quite ethical and justifiable. The American Zirconium Corporation were previously advised of our contemplated filing and since that time we have coöperated fully with the attorney for that corporation toward the settlement of the interference, which has just been declared by the Patent Office.

From the point of view of Titan Company, Inc. and its associates, it does not appear to us that it makes any difference at all in what manner the subject matter is pro-

tected, that is to say, the patents which have been applied for in Case T. 235 are perfectly adequate, in our opinion, to protect the situation within the territory of Titan Co., Inc. and its associates. Therefore, as far as we see it, there would be no reason to file corresponding applications in T. 241 unless, per chance, the validity of the foreign patents and applications would be affected in the event the outcome of the interference in the United States showed that Dr. Nelsen—our inventor,—really completed the invention before Dr. Allan—inventor for American Zirconium.

We trust these remarks will be of interest to you and have, as you suggest, sent a copy of this letter to Mr. Ravnestad.

Yours very truly,

NATIONAL LEAD COMPANY

C. F. Kaegebehn

CFK:JL

c.c. Mr. Andreas Ravnestad
Mr. C. F. Garesché

Exhibit 781

Letterhead of

TITAN CO. A/S

Copy by Air Mail.

Fredrikstad May 23rd, 1941.

HBE/HH. Nr. 220

National Lead Company,
Patent Department,
111 Broadway,
New York City.

Attention: Mr. Kaegebehn.

Dear Sirs:—

German Patent Application U 13.876—Interchemical Corporation.

We thank you for your letter of November 18th, 1940 (29K) informing us of the correspondence between you and Titangesellschaft regarding the German application No. U 13.876, Interchemical Corporation.

In September 1940 the I.G. Patent Department asked us to supply them with information as to prior literature on which an opposition against the above German application could be based.

We made a search, but were not able to find any prior literature in which the treatment of titanium solutions with activated carbon or cotton fibres is disclosed. We were, however, of the opinion that an opposition might be based upon the fact, that it is generally known to use the claimed substances as clarifying agents and informed I.G. accordingly.

Exhibit 781

A few days ago we were informed that Titangesellschaft has filed an opposition, and we enclose a copy of the opposition argument which we think might interest you.

We presume that you have already received from Tg a Copy of the German application U 13.876.

We shall be glad to keep you informed of the progess of this matter.

Yours very truly,

H. ECKHOFF

Exhibit 782

COPY

Titangesellschaft m.b.H.
I. G. Patentabteilung
I. G. Leverkusen Werk
Leverkusen bei Köln a/Rhein
Germany

May 21st, 1941

Your Reference: Gr. 2789 P. A.
Re: Case T. 231-B—Le. No. 2789 P. A.
U. S. Ser. No. 336.086

Gentlemen:

Pursuant to the request contained in your letter of February 20th, we beg to enclose herewith one certified copy of the United States application; one copy of the Prioritätaübertragungserklerung, executed by the inventors and legalized by the German Consul, as well as one copy of the Erfindernennung, also duly executed, in order to enable you to file a corresponding German application in the above identified case.

A duplicate copy of both German documents, duly legalized and executed, are being sent you with the Second Mail copy of this letter.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:IL
Encs. 3
c.c. Titan Co., Inc.
Fredrikstad
Mr. C. F. Garesché
Mr. S. Andersen

Exhibit 783

COPY

I. G. Farbenindustrie
Patentabteilung
I. G. Leverkusen Werk
Leverkusen bei Köln a/Rhein
Germany

June 4th, 1941

Re: Cases T. 254, T. 255, and T. 256
Le. Nos. 2930, 2753, 2754, Respectively
Filing Corres. U. S. Applications

Gentlemen:—

Your letter of March 25th, 1941, enclosing copy of German application No. 754,041 IV/41, Case T. 254, and your letter of March 27th, 1941, enclosing German applications in cases T. 255 and T. 256, were received. On May 27th, we cabled you as follows:

"DESIRE FILING UNITED STATES APPLICATION CASES T.255 AND T.256 PROMPTLY AND ALSO CORRESPONDING CANADIAN APPLICATIONS IF POSSIBLE"

On June 3rd, we cabled you as follows:

"DESIRE FILING UNITED STATES APPLICATION CASE T.254 AND CORRESPONDING CANADIAN APPLICATION IF POSSIBLE STOP SUGGEST AVOID EXPENSE AGENTS FEES UNITED STATES APPLICATION THIS CASE AND T.255 AND T.256 BY FILING THROUGH KAEGEBEHN REGISTER NUMBER 1461 AS ATTORNEY"

Exhibit 783

Inasmuch as we note from your letter of March 29th, 1941 to Titan Co., Inc.—Fredrikstad that your American Attorneys charge a filing fee of $75.00 per application, and since we are to assume all expenses connected with the prosecution of the United States applications in these cases, we made the suggestion, as stated in our cable of June 3rd, that the United States applications be filed through Mr. Kaegebehn as prosecuting attorney. In this way it will be possible to avoid the agent's filing fees as well as any fees which might arise in connection with the prosecution of the United States applications.

Yours very truly,

TITAN COMPANY, INC.,
C. F. KAEGEBEHN

CFK:JL

P. S.:—For purposes of granting a Power of Attorney, Mr. Kaegebehn's Patent Office Registration Number is 14,161.

c.c. Titan Co., Inc.
Fredrikstad
Dr. G. Jebsen
Mr. S. Andersen
Mr. C. F. Garesché

Exhibit 784

Letterhead of

TITAN COMPANY, INC.

Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 4th June 1941

By air-mail.

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U.S.A.

Dear Mr. Kaegebehn,

Notification to Associated Companies Re. T-Cases

Certain T-Cases are not, as you are aware, circulated in the normal manner during the present situation. This leaves open T-numbers in the records of those companies, which do not receive copies of all new applications. In order to avoid possible confusion or misunderstanding for this reason, I think it would be well if such companies could be informed in each case that the numbers in question have been assigned to patent cases, the normal circulation of which we have to postpone in the present situation. It would perhaps be preferable that the sending of such information be taken care of from your side.

I should be glad to have your comments to the above,—or if you would do the necessary in the case of your agreeing to my proposal.

Exhibit 784

According to my records the following of the present T-Cases have not been circulated in the normal manner: T.237, T.238A, T.238B, T.249, T.254, T.255, T.256 and T.257. I have as yet no definite information re. what has been done as to the circulation of Case T.250.

With kind regards,

Yours sincerely,

SIGURD ANDERSEN
Sigurd Andersen

Exhibit 785

June 30, 1941.

Mr. Sigurd Andersen
Stora Nygatan 31
Stockholm, Sweden

Dear Mr. Andersen:

Re: Notification to the Associated Companies re T. Cases

Your letters of June 4th and June 9th were received. We have given the matter considerable thought.

As the situation is developing here, we consider that we can most practically advise only Mr. Stopford and C. T. P. and have undertaken to do so.

We suggest that notification of the other associates be taken care of by yourself and/or Mr. Ravnestad.

With very kind regards,

Very truly yours,

NATIONAL LEAD COMPANY

CFK:JM

c.c. Messrs. Ravnestad
Garesché

Exhibit 786

RCA

RADIOGRAM

JULY 16th, 1941

LC

TITANGESELLSCHAFT
IG PATENTABTEILUNG
IG LEVERKUSEN WERK

LEVERKUSEN (Bei Köln a/Rhein) (Germany)

PLEASE ADVISE WHETHER WE SHOULD RENEW NEXT JANUARY ON YOUR BEHALF AND ACCOUNT GERMAN PATENT 618329 T175

KAEGEBEHN—NATIONAL LEAD

Exhibit 787

July 24th, 1941

I. G. Farbenindustrie
Leverkusen I. G. Werk
Leverkusen bei Köln a/Rhein
Germany

Attention: Director Dr. Kühne
Director Dr. Brüggeman
Director Dr. Raspe

Gentlemen:

Referring to a letter of April 3rd, 1941, from the Patent Department—Leverkusen, concerning United States Serial No. 364,986 (Case T. 195) and United States Serial No. 368,514 (Case T. 196), we regret under the present circumstances that it is not practicable to comply with requests of this nature and that we have until further to refrain from sending you information as regards future patent applications.

If, against expectation, we should find that we can apply for patents on our own account, we will do so, as this will be to our mutual interests after the war.

Yours very truly,

TITAN COMPANY, INC.
Fletcher W. Rockwell (signed)

Exhibit 788

Letterhead of

TITAN COMPANY, INC.

Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 8th August 1941

By air-mail.

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U.S.A.

Dear Dr. Kaegebehn,

Notification of the Associated Companies regarding T-Cases

I acknowledge with thanks receipt of your letter of the 30th of June.

I have communicated Mr. Ravnestad your suggestion that we notify the associated companies other than B.T.P. and C.T.P. of the matter in question. As the situation is, I believe, however, that it would be preferable if such communications to T.G. be made from your side. I will revert to the matter when I have Mr. Ravnestad's reply.

At this opportunity I would mention the question of circulating in the present situation T-Cases originating from Fredrikstad. We have two recent cases of this kind, namely, T.261 and T.262, of which I understand that you have received copies from Mr. Ravnestad.

Exhibit 788

In my understanding such cases should be considered as originating with Titan Company Inc. and so far, should be treated in the same manner as cases originating with the other American companies i.e. they should be circulated to all associated companies. There may, however, be arguments in favour of not circulating them to B.T.P. As to cases originating with B.T.P., we cannot in my understanding notify Fredrikstad of such cases.

No doubt, you have considered these questions and probably arrived at a conclusion, particularly as to the circulation of cases T.261 and T.262. I thought it, however, well to inform you of my consideration of the matter. For clearness sake I mention that B.T.P. has not been notified by me of cases T.261 and T.262.

As to S.I.T., the situation as to notifying them of cases originating with other companies seems to be similar to that of Fredrikstad. New cases originating with S.I.T. cannot probably be expected in the present situation. It should not, therefore, be necessary to consider now the question of their circulation.

If you can send me your comments to the above, this would be very much appreciated.

With kind regards,

Yours sincerely,

SIGURD ANDERSEN
Sigurd Andersen

Exhibit 789

Filing Corresponding German Cases in T. 259 and T. 260

August 19th, 1941

Dr. G. Jebsen

Mr. C. F. Kaegebehn — Patent Department

Dear Dr. Jebsen:—

Attached are two translations of letters recently received from the I. G. Farbenindustrie.

You will note that the Titangesellschaft desires applications to be filed in Germany corresponding to United States applications in Cases T. 259 and T. 260, copies of which were sent them before the imposition of export control regulations.

We cannot comply with I. G.'s wishes without obtaining permission from the United States Treasury and I would like to consider with you the nature of the reply we should make to these letters.

Yours very truly,

CFK:JL
Encs. 2

Exhibit 790

RCA RADIOGRAM

September 19th 1941

LC

DOITSU SENRYO GOMEI KAISHA
KOJIMACHI-KU
MARU-NO-UCHI 3 CHOME NO 6
TOKYO (JAPAN)

IN VIEW RECENT UNITED STATES LAW EFFECTIVE SEPTEMBER 20 PLEASE SUSPEND UNTIL FURTHER NOTICE FILING OF NEW APPLICATIONS AMENDING OR OTHER ACTS OF PROSECUTION PENDING APPLICATIONS IN DK CASES AND T CASES COVERING AMERICAN INVENTIONS WHERE TITLE RESIDES IN AMERICAN FIRMS

TITANCO-KAEGEBEHN

Exhibit 791

October 15, 1941

Letterhead of

DOITSU SENRYO GOMEI KAISHA

vdL/La

Messrs. Titan Company Inc.
Attention Mr. C. F. Kaegebehm,
111, Broadway,
New York / USA

Gentlemen,

we acknowledge receipt of your cable of September 19. All parties concerned have been duly informed and shall proceed according to your instructions.

As the U.S. law (effective Sep. 20th) referred to in your telegram is not available here, we would thank you for sending us a copy of it for our perusal.

Yours very truly,

DOITSU SENRYO GOMEI KAISHA

2789

Exhibit 792

RCA

RADIOGRAM

September 19th 1941

LC

IG FARBENINDUSTRIE
PATENTABTEILUNG
LEVERKUSEN IG WERK
LEVERKUSEN (Bei Köln am Rhein) (GERMANY)

IN VIEW RECENT UNITED STATES LAW EFFECTIVE SEPTEMBER 20 PLEASE SUSPEND UNTIL FURTHER NOTICE FILING OF NEW APPLICATIONS AMENDING OR OTHER ACTS OF PROSECUTION OF PENDING APPLICATIONS IN DK CASES AND T CASES COVERING AMERICAN INVENTIONS WHERE TITLE RESIDES IN AMERICAN FIRMS

TITANCO-KAEGEBEHN

Exhibit 793

September 26th, 1941

Mr. Sigurd Andersen
Stora Nygatan 31
Stockholm, Sweden

RE: Notification of the Associated Companies regarding T-Cases

Dear Mr. Andersen:—

Your letter of August 8th, 1941 has just been received.

We regret that due to the present situation we must repeat our position as expressed in our letter of June 30th, namely, that it is not practicable for us to endeavor to advise T. G.

With respect to Cases T. 261 and T. 262, we have asked the United States Government for permission to advise B. T. P. of these cases. It is now forbidden to export any technical data, which includes patent applications, either originating in the United States or elsewhere, without a special license from the Government. The situation as it is developing here is making it more and more difficult for us to be of assistance in connection with the distribution of copies of patent applications, no matter where originating, or the distribution of any technical information relative to patent applications.

With respect to Cases T. 255 and T. 256, you will note from my letter of September 25th that we did not undertake to inform B. T. P. of these cases.

With kind regards,

Yours very truly,

CFK:JL

Exhibit 794

Letterhead of

TITAN COMPANY, INC.

Sigurd Andersen
Köpmangatan 4
Stockholm.

Stockholm, the 6th December 1941

By air-mail.

C. F. Kaegebehn Esq.
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U.S.A.

Dear Mr. Kaegebehn,

Notification of the Associated Companies regarding T- and DK-Cases.

I beg to refer to your letter of the 26th of September regarding the above matter.

I appreciate your difficulties as to the distribution of new patent applications in the present situation and understand that I cannot expect to receive regularly copies of such patent applications originating on your side or distributed by you.

The exchange of patent applications on the conditions stipulated in our agreements with the associated companies have, as you are aware, already been suspended to some extent,—I refer to cases T.237, 238A&B, 249, 252, 254, 255, 256 and T. 257 which were not circulated in the normal manner. I take it that the situation referred to in your letter will involve suspension to a further extent of this exchange.

Exhibit 794

In this situation I should like to have an indication of what lines you propose to follow.—with a view to the right normally due to the associated companies,—in the handling of patent cases which are not circulated in the normal manner. Possibilities of obtaining valid patents in countries outside that of the basic application may, as you are aware, be kept open by delaying publication of the basic application. It is of course not possible to say at present, whether publication can be delayed until it again will be possible to circulate information in the normal manner and have filed applications which might be desired by the particular companies, but I believe that the question of delaying publication should be considered for applications of the mentioned kind.

In Norway and other European countries, with similar patent practice the publication of patent applications and resulting patents may be delayed for a considerable period and I understand that this is the case also with regard to issuance of patents on United States applications. I appreciate, however, that you may have reasons for not wishing to delay for a long period the publication of patents on your U.S. applications. I also appreciate that DK-case applications must be considered apart not being prosecuted by yourself.

To what extent we can count on particular regulations by the various governments, such as moratories as to Convention terms and decisions re. the effect of foreign publications, keeping open possibilities for obtaining valid patents in cases of the mentioned kind is of course impossible to foretell at present.

In connection with the situation as to the circulation of the T- and DK-cases there also arises to me the ques-

tion of how our registers of theses cases could be kept complete and up to date. This would particularly be of interest with a view to a later readjustment of the inter-company situation. I would be able to carry on the lists here if you could inform me of the application dates, serial numbers and preferably also titles of applications, originating with the American companies or B.T.P., of which you cannot send me copies. In the present situation I am able to send you copies of the applications of which I am informed, but should the situation become such that this would not be possible I hope to be able to inform you of the numbers and dates of such applications so that a complete list might be carried on also on your side.

As to cases T.261 and T.262, referred to in your letter of the 26th September I understand that you are awaiting the decision of the Government regarding export licenses and should be glad if you would inform me whether copies are sent B.T.P. when such decision has been made.

At this occasion I would mention that I have as yet no information regarding the case to which the reference number T.257 was given. Should it be possible for you to let me have any information regarding the case this would be much appreciated.

With kind regards,

Yours sincerely

SIGURD ANDERSEN
Sigurd Andersen

Exhibit 795

COPY

December 9th, 1941

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Re: Maintenance Titan Co., Inc.'
Foreign Patent Rights

Dear Mr. Andersen:—

We confirm the receipt of Mr. Ravnestad's cable of November 19th, 1941, reading as follows:

"WE MAKE NO COMMENTS ANDERSENS LETTER JULY FOURTH REGARDING MAINTENANCE PATENTRIGHTS STOP PLEASE CABLE"

To which we replied: (On December 8th, 1941)

"CONCUR ALL RECOMMENDATIONS ANDERSENS LETTER JULY 4 STOP DUPONT AGREES ABANDONMENT DK23 HOLLAND DK29 AND DK51 FRANCE STOP RELINQUISH T123 T124 FRANCE T131 HOLLAND STOP ABANDON T200 FRANCE ITALY AND T219 FRANCE STOP SUGGEST CONSIDERATION FOR ABANDONMENT CASES T79 ITALY T130 NORWAY HOLLAND BELGIUM ITALY DK26 DK42 DK56 AND DK61 FRANCE DK61

Exhibit 795

HOLLAND BUT DECISION LEFT YOU AND ANDERSEN LETTER FOLLOWS"

And on December 9th we followed this cable up, as given below:

"SUPPLEMENTING OUR CABLE DECEMBER 8 SUGGEST CONSIDERATION FOR ABANDONMENT CASE T104 FRANCE AND ITALY T119 HOLLAND T139 T159 FRANCE BUT DECISION LEFT YOU AND ANDERSEN"

Your letter of July 4th, 1941 was received in good time but we have been prevented from giving consideration to this matter due to the pressure of intervening work.

After careful consideration, the recommendations contained in that letter were concurred with by us. We further agreed to relinquish the exclusive licenses under French patents in cases T. 123 and T. 124 and the abandonment of the Dutch patent in case T. 131.

From the point of view of commercial value of the products covered by case T. 200 (DK 1) we further directed the abandonment of the French and Italian patents in this case and the French patent in case T. 219.

We have taken up with our American licensee and obtained their consent to the abandonment of the Dutch patent in case DK 23 and the French patents in cases DK 29 and DK 51. We are holding this and will transmit a copy subsequently. We are also proceding to obtain the consent of the same party to the abandonment of the French and Italian patents in case T. 200.

We gave further consideration to the maintenance of other foreign patents as set forth in the lists sent us with

Exhibit 795

Mr. Ravnestad's letter No. 239 and No. 240, dated June 16th and June 23rd, respectively, receipt of which is acknowledged herewith and suggest that you consider with Mr. Ravnestad the desirability of further maintenance of certain patents, as follows:

T. Case	*Country*	*Patent No.*
T. 79	Italy	295,579
T. 130	Norway	56,780
T. 130	Holland	44,997
T. 130	Belgium	410,745
T. 130	Italy	334,998
T. 104	France	763,013
T. 104	Italy	322,919
T. 119	Holland	42,944
T. 139	France	760,035
T. 159	France	819,086
DK 26	France	
DK 42	France	
DK 56	France	
DK 61	France	
DK 61	Holland	

According to our views over here, it would appear that these patents might be abandoned, or exclusive licenses relinquished, as the case may be, without materially weakening our patent position. We feel, however, that we should not take this decision here, since there may be other con-

siderations of which you and Mr. Ravnestad may be aware not known to us, which would justify their further maintenance. Therefore, the decision with respect to the further maintenance of these cases is left to you and Mr. Ravnestad.

Yours very truly,

NATIONAL LEAD COMPANY

C. F. KAEGEBEHN

CFK:JL

Exhibit 796

January 5, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose a copy of the following U. S. patents, which we believe will be of interest to you:

Patent No.	*No. of Copies*	*Inventors*
2,260,826	2	J. E. Booge
2,266,233	6	R. L. McCleary—DK 115
2,266,260	6	J. H. Peterson—DK 105

Very truly yours,

TITAN COMPANY, INC.

JM

Enclosures 14

Exhibit 796

January 16, 1942

Mr. Sigurd Andersen
Köpmangatan 4, Trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose a copy of each of the following U. S. patents, which we believe will be of interest to you:

Patent No.	*Date*	*Inventors*
2,264,224	Nov. 25, 1941	T. H. Swan
2,265,473	Dec. 9, 1941	J. W. D. Gannell (2 copies)
2,266,793	Dec. 23, 1941	C. F. Oppermann (6 copies)

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 9

2800

2786

Exhibit 796

January 28, 1942

Mr. Sigurd Andersen
Köpmangatan 4, Trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose six copies of U. S. Patent No. 2,269,139, dated January 6, 1942, issued to J. E. Booge. This patent issued in case DK-48.

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 6

Exhibit 796

February 6, 1942

Mr. Sigurd Andersen
Köpmangatan 4, Trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith two copies of U. S. Reissue Patent No. 22,011, dated January 20, 1942, issued to C. J. Kinzie et al., which we believe will be of interest to you.

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 2

Exhibit 796

February 17, 1942

Mr. Sigurd Andersen
Köpmangatan 4, Trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith two copies of U. S. Patent No. 2,270,872, dated January 27, 1942, and relating to a "Method of Making Ceramic Insulators".

We believe this patent will be of interest to you since it involves the use of titanium dioxide.

Very truly yours,

NATIONAL LEAD COMPANY

JBH:MD

Enclosures 2

Exhibit 796

February 26, 1942

Mr. Sigurd Andersen
Köpmangatan 4, Trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith a copy of each of the following U. S. Patents, which we believe will be of interest to you:

Patent No.	*Date*	*Inventor*
2,267,995	Dec. 30, 1941	L. Shuger
2,268,537	Dec. 30, 1941	L. Shuger
2,268,538	Dec. 30, 1941	L. Shuger

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 3

Exhibit 796

March 2, 1942

Mr. Sigurd Andersen
Köpmangatan 4, Trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith two copies of each of the following U. S. patents, which we believe will be of interest to you since they involve the use of titanium dioxide:

Patent No.	*Date*	*Inventors*
2,272,330	Feb. 10, 1942	P. Schupp
2,272,331	Feb. 10, 1942	P. Schupp
2,272,480	Feb. 10, 1942	F. H. Riddle

Very truly yours,

NATIONAL LEAD COMPANY

JBH:MD

Enclosures 6

Exhibit 796

March 17, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith copies of the following U. S. patents, which we believe will be of interest to you:

Patent No.	*No. of Copies*	*Inventors*
2,273,834	2	G. F. Comstock et al.
2,274,521	6	C. E. Berry — DK 95

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 8

Exhibit 796

March 30, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith six copies of U. S. Patent No. 2,275,856, relating to "White Pigment and the Process of Preparing the Same", which recently issued in Case T. 157.

Very truly yours,

NATIONAL LEAD COMPANY

JBH:MD

Enclosures 6

Exhibit 796

March 17, 1942

Mr. L. E. Barton
13 Kellogg Street
Windsor, Connecticut

Dear Mr. Barton:

We are pleased to enclose herewith a copy of U. S. Patent No. 2,273,834, dated February 24, 1942, issued to G. F. Comstock et al., which we believe will be of interest to you.

With kindest personal regards,

Very truly yours,

MD

Enclosure

2808

2794

Exhibit 796

April 20, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith a copy of U. S. Patent No. 2,275,239, dated March 3, 1942, issued to W. A. Waldie, which we believe will be of interest to you.

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosure.

Exhibit 796

April 24, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith six copies of U. S. Patent No. 2,273,431, dated February 17, 1942 issued to J. E. Booge. This patent issued in case DK-52.

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 6

Exhibit 796

May 18, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith two copies of each of the following U. S. patents, which we believe will be of interest to you:

Patent No.	*Date*	*Inventors*
2,273,338	Feb. 17, 1942	C. L. Thomas
2,273,973	Feb. 24, 1942	R. C. Medl, Jr.

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 4

Exhibit 796

May 18, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith six copies of our recently issued U. S. Patent No. 2,280,795, dated April 28, 1942 and relating to "Preparation of Pigments Comprising Rutile Titanium Dioxide". This patent issued in our case T. 205.

Very truly yours,

NATIONAL LEAD COMPANY

JBH:MD

Enclosures 6

2812

2798

Exhibit 796

May 19, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith six copies of each of the following U. S. patents, which we believe will be of interest to you:

Patent No.	*Date*	*Inventors*	
2,280,590	April 21, 1942	I. J. Krchma	DK-59
2,280,619	April 21, 1942	C. E. Berry	DK-62

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 12

Exhibit 796

May 20, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith two copies of each of the following U. S. patents, which we believe will be of interest to you:

Patent No.	*Date*	*Inventors*
2,278,878	April 7, 1942	G. P. Hoff
2,279,387	April 14, 1942	H. C. Cheetham et al.

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 4

Exhibit 796

May 20, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith six copies of recently issued U. S. Patent No. 2,280,223, dated April 21, 1942 and relating to "Coated Electrode and Welding Rod". This patent issued in case T. 236.

Very truly yours,

NATIONAL LEAD COMPANY

JBH:MD

Enclosures 6

2801

Exhibit 796

June 5, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith two copies of U. S. Patent No. 2,282,540, dated May 12, 1942, issued to A. J. Deyrup, which we believe will be of interest to you.

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 2

2816

2802

Exhibit 796

June 11, 1942

Mr. Sigurd Andersen
Köpmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith six copies of U. S. Patent No. 2,278,709, dated April 7, 1942 and relating to "Manufacture of Titanium Dioxide Pigments". This patent issued in case T. 247.

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 6

Exhibit 796

June 12, 1942

Mr. Sigurd Andersen
Kopmangatan 4, 4 trapper
Stockholm, Sweden

Dear Mr. Andersen:

We are pleased to enclose herewith two copies of each of the following U. S. patents, which we believe will be of interest to you:

Patent No.	*Date*	*Inventors*
2,278,540	April 7, 1942	G. H. Ellis et al.
2,278,872	April 7, 1942	C. G. Geary
2,278,970	April 7, 1942	F. C. Atwood

Very truly yours,

NATIONAL LEAD COMPANY

MD

Enclosures 6

2818

Exhibit 797

RCA

RADIOGRAM

LC March 18th, 1942

SIGURD ANDERSEN
KOPMANGATAN 4
STOCKHOLM (SWEDEN)

CONCUR RECOMMENDATIONS PATENT CASES T263 T243 STOP PRESENT SITUATION PREVENTS COMMENTING DECISION T249

CHARLES KAEGEBEHN

Exhibit 798

TO 3/31/42

DEAR DR. JEBSEN

. FOR YOUR APPROVAL. THE ORIGINAL HAS NOT YET BEEN SENT

C. F. KAEGEBEHN

AGREE

GJ

PLEASE RETURN COPY WHEN DATED. G. J.

SENT OUT APRIL 1st upon receiving telephoned approval of Dr. Jebsen

April 1st, 1942

Mr. Sigurd Andersen
4 Köpmangatan
Stockholm, Sweden

Re: Future Correspondence

Dear Mr. Andersen:—

Since the entry of the United States into the present war, the Trading with the Enemy Act of 1917 has been enforced with respect to transactions and communications with countries and nationals regarded as enemies. In this latter category are included, by definition, the countries presently occupied by the Axis nations and the citizens of such countries who are residing therein are defined as enemy nationals.

Under this act various Presidential Proclamations have been issued, either regulating transactions and communica-

tions with enemy nationals, or delegating authority to various agencies of the Government to control such matters. The last of these regulations affecting communications was issued March 18th, 1942 and made effective as of that date. The effect of these regulations, as regards communications, is to prohibit all communications intended for, or to be delivered directly or indirectly to an enemy national.

Correspondence from our side since the outbreak of the war has followed the laws and regulations. You will appreciate that it has been and will continue to be impossible for us to transmit to you any information regarding patents or other matters which would be intended or might be ordinarily transmitted by you, directly or indirectly, to any one else in an Axis or Axis dominated country. In the future, therefore, it will be only possible for us to communicate to you such information as is intended only for your own information and advice. We shall endeavor to keep you informed of any future developments.

With very kind regards to you and Mrs. Andersen from Mrs. Kaegebehn and me.

Yours very truly,

CFK:JL

Exhibit 799

Titan Company, Inc.'s Present Situation

April 18th, 1940.

Mr. C. F. Garesché.

Mr. C. F. Kaegebehn—Patent Department

Dear Mr. Garesché:—

A letter addressed by the firm of Carpmaels & Ransford, English patent agents, to Titan Co., Inc. in Wilmington has just been forwarded to me. It relates to the payment of annuities on British patent, No. 494,102, our Case T. 170, which was originally an invention of the I. G. Farbenindustrie.

This patent is evidently being maintained in England by Titan Co., Inc. on behalf of British Titan Products Co., Ltd. Apparently Titan Co., Inc. at Fredrikstad has authorized the payment of the annuity, which has amounted to £ 6. 0. 0., but for some reason or other, the remittance has been delayed. The British patent agents have now written to Titan Co., Inc. in America. I have replied, asking them for further particulars in the case.

This situation raises the following rather disturbing question: If Titan Co. Inc.'s records are now nearly all in Fredrikstad, with some in Paris, and if our Norwegian people are in the army, or not actively engaged in the business of Titan Co., Inc., and if they cannot carry on their international correspondence, who will take over the maintenance, prosecution and handling of the patent matters formerly conducted at Paris and then at Fredrikstad? There are so many patents being maintained by Titan Co., Inc. that there is considerable work looking after these. At this

time I have no suggestion to make, but simply to bring the matter to your attention against the possibility that Dr. Jebsen may ask us to do what we can and if so, you may have formulated some ideas along this line.

Yours very truly,

CFK:JL

Exhibit 800

April 29th, 1940

AIR MAIL

Mr. C. J. Stopford
British Titan Products Co., Ltd.
Burlington House, Yarn Road
Eaglescliffe,
Stockton-on-Tees, England

Dear Mr. Stopford:—

As a result of the recent Norwegian developments it is apparent that the English patent agents handling the affairs of Titan Co., Inc. have not been able to carry on their normal correspondence and have communicated directly with us in three cases. We cabled you today with respect to these cases, as follows:

> "RE MAINTENANCE BRITISH PATENT 493,871 T157 FIFTH ANNUITY PAYMENT DUE AMOUNT SIX POUNDS STOP IF YOU WISH MAINTENANCE AUTHORIZE CARPMAELS & RANSFORD 24 SOUTHHAMPTON BUILDINGS CHANCERY LANE LONDON WC2 TO MAKE PAYMENT STOP ADVISE US TITANCOS SHARE ALSO INVESTIGATE SITUATION REGARDING BRITISH PATENTS 494,102 T170 388,978 T85 SAME AGENTS"

It appears that Carpmaels and Ransford are London agents for the I. G. Farbenindustrie who have filed the patent applications and are maintaining them on behalf of Titan Co., Inc. It was my impression that Boult, Wade and

Tenant were the ordinary London agents for Titan Co., Inc. On April 17th we received from the firm of Carpmaels and Ransford a letter, copy of which is enclosed. On April 18th we replied by Air-Mail and are awaiting a response. On April 29th we received another communication from this firm with reference to Case T. 157, copy of which is enclosed, and on the same day a further notice concerning Case T. 85 was received, copy of which is also enclosed. Accordingly we cabled you as per the above quoted cable.

Apparently maintenance of patents by Titan Co., Inc. and the prosecution of applications in the various European countries which were formerly conducted by Titan Co., Inc. at Paris and later at Fredrikstad has now been interrupted. We are anxious that nothing detrimental to the patent situation in the various countries be allowed to transpire. We have written to Dr. Jebsen, asking for his suggestions as to how we can be of service in this situation.

With respect to patent applications being prosecuted in England and other countries within the licensed territory of British Titan Products, Co., Ltd., as well as patents already issued in that territory which were being maintained by Titan Co., Inc. on your behalf, what would be your suggestions? Possibly you could take over the maintenance of patents and the prosecution of the applications, paying such expenses as may accrue in connection therewith and informing us of Titan Co., Inc.'s share; or, on the other hand, you might prefer that we do this from America. In the latter instance it will be necessary for us to know the various cases being handled by different London agents and, as we do not have copy of the files related to the prosecution of any applications within the countries in your territory, we think it would be most expedient if these matters were

handled by you and we were informed of the cost connected therewith.

We shall welcome any suggestions and comments you have to make in this situation.

In the meantime, Mrs. Kaegebehn and I send to you and Mrs. Stopford and your family, and to all our friends in Billingham our very best regards and our most sincere wish that when this very disagreeable situation is over we will meet again under pleasant circumstances.

With my kindest regards,

Very truly yours,

CFK:JL

c c. Dr. G. Jebsen

Mr. C. F. Garesché

Exhibit 801

Letterhead of

BRITISH TITAN PRODUCTS COMPANY, LIMITED

CJS/SL/14585

C. F. Kaegebehn Esq., 6th May 1940
National Lead Company,
Patent Department,
111, Broadway,
New York, N.Y.

Dear Mr. Kaegebehn,

TITAN CO. INC. PATENTS IN AMERICA

Since events in Norway have made it impossible for Titan Co.Inc. patent organisation to operate fully on our behalf we have arranged with Dr. Jebsen, with whom we can communicate readily in Paris, and with Mr. Andersen, with whom we can communicate by cable only in Sweden, that we will look after the British patent position on behalf of Titan Co. Inc. and pay all fees etc., in so far as we are able.

A difficult position arises, however, in regard to patents in the names of Titangesellschaft and the I.G., as whilst we are entitled to rights under these patents through an agreement with Titan Co.Inc., actually licences have not been registered and, therefore, at the present time, we have no status on these matters in the eyes of the Patent Comptroller.

There are several complications which stand in the way of a British firm paying annuities on German-owned patents, so much so that we have asked Mr. Andersen to try and arrange for Titan Inc. to pay the fees on all I.G. and T.G. patents.

Exhibit 801

I enclose herewith a copy of a letter from Carpmael & Ransford, the I.G. patent agents.

I confirm my cable of to-day as follows:—

"YOUR CABLE 29th AFRAID BTR CANNOT PAY FEES ON GERMAN PATENTS HAVE ASKED ANDERSEN TO ARRANGE TITANINC DO SO STOP T.157 HAS BEEN ABANDONED T.170 DUE FOR RENEWAL APRIL 17th 1941 T.85 DUE FOR RENEWAL JUNE 15th 1940 WRITING"

which is, I think, self explanatory. Mr. Anderson has offered to take action in regard to these patents, but I do not know what type of action he is taking. I am assuming from your cable that he has been in communication with you.

I understand that one of the difficulties in the way of a British Company paying renewal fees on German-owned patents is that the Custodian of Enemy Property is not prepared to accept British currency in payment of these fees.

Yours sincerely,

C. J. STOPFORD

Encl.

Exhibit 802

COPY

May 20th, 1940

AIR-MAIL

Mr. C. J. Stopford
British Titan Products Co. Ltd.
Burlington House—Yarm Road
Eaglescliffe
Stockton-on-Tees, England

Re: Titan Co. Inc. Patents In U. S.

Dear Mr. Stopford:—

Your letter of May 6th, 1940 was received together with your letter of May 10th, 1940.

I take it that the letter of May 10th supersedes the letter of May 6th and that the complications described in the letter of May 6th were overcome at the time you wrote your letter of May 10th.

Regarding the attitude of the British Custodian Enemy Property in refusing to accept British currency in payment of fees, I think it might be possible for us to place at your disposal United States currency to make these payments. If there is anything we can do in this direction, please advise and we will at once take up the situation here to see what can be done.

Yours very truly,

CFK:JL

c.c. Titan Co., Inc.—Fredrikstad
Mr. C. F. Garesché

Exhibit 803

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

AIR MAIL

CJS/SL/14694

C.F.Kaegebehn Esq., 10th May 1940
National Lead Company,
Patent Department,
111, Broadway,
New York, N.Y.

Dear Mr Kaegebehn,

T. G. AND I.G. PATENTS

It has now been decided that we, as a British company, may maintain T.G. and I.G. patents in which we are interested. We are, therefore, paying the renewal fees on all such patents which come within our ordinary T. cases and will settle accounts with Titan Company Inc. at a later date. I enclose herewith copy of the cables sent to you and Andersen to-day to this effect. As we shall both be working through Carpmaels and Ransford in these cases, there should be no chance of any confusion, and I enclose herewith copy of my letter of to-day to Carpmaels & Ransford.

In regard to your letter of April 29th, the position in regard to Boult Wade & Tennant and Carpmaels & Ransford is that Boult Wade & Tennant are Titan Inc's and our patent agents, whereas T.G. and I.G. always worked through Carpmaels & Ransford. The position at the moment is that we shall use Boult Wade & Tennant as in the past on all our general patent matters, but that the main-

tenance and prosecution of T.G. and I.G. patents will be handled by Carpmaels & Ransford, who will look to us for instructions, in the absence of instructions from T.G. and I.G.

Now that the point in regard to the payment of renewal fees on T.G. and I.G. patents is cleared up, you may take it that we will take over full responsibility for the British Empire patent position until Titan Company Inc. patent organisation is in a position to function normally again. This, of course, is in line with the agreement reached with Dr. Jebsen and Mr Andersen immediately after the German invasion of Norway.

This, I think, should answer the question raised in the third paragraph on page 2 of your letter of April 29th and is, I think, the simplest method of dealing with this matter. It would be rather difficult for you to take this detail over to handle it from America, but if you have any other views on the matter, please do not hesitate to let me know.

The sorting out of expenses to determine what portion of them should be paid by us and what portion by Titan Company Inc. has not been settled yet, as we have not as yet a Patent Department in operation here, but the amounts involved are not considerable, so that we are quite happy to look after the whole thing for the time being and settle up expenses at a later date.

Mrs Stopford and I much appreciate the good wishes contained in the last paragraph of your letter, which we heartily reciprocate. Nobody is enjoying life very much over here at the present time, and I think we must take it that this morning's news of the invasion of Holland and Belgium means that a very active phase of the war has now started and my own impression is that this is the real

reason why we had to withdraw from Norway. I do hope that your people will take a hand in protecting the Dutch East Indies. I should hate to see these fall into the hands of one of the smash and grab merchants.

With kind regards,

Yours sincerely,

G. STOPFORD

Copy to Dr. Jebsen.

Exhibit 804

(COPY)

May 20th, 1940

AIR-MAIL

Mr. C. J. Stopford
British Titan Products Co., Ltd.
Burlington House-Yarm Road
Eaglescliffe
Stockton-on-Tees, England

Re: T. G. and I. G. Patents

Dear Mr. Stopford:—

Your letter of May 10th, 1940, regarding the handling of T. G. and I. G. patents, has been received.

As far as we here are concerned, we are sure that the arrangement whereby you will take over maintenance of the I. G. and T. G. patents in the British Empire will work most satisfactorily. We have no other views to offer at this time. If you can avail yourself of our services in any way in this emergency, please call on us at once.

We have had some correspondence from Dr. Jebsen, who indicates that he may call upon us to take over the handling of patent matters for some countries and we will try to do what we can in this situation.

With very kind regards,

Yours very truly,

C. F. KAEGEBEHN

CFK:JL

c.c. Titan Co., Inc.-Fredrikstad
Mr. C. F. Garesché

Exhibit 805

August 23rd, 1940

Mr. F. W. Rockwell
Mr. C. F. Garesché
Mr. C. Simon
Mr. C. F. Kaegebehn

Memo. Re. Expenses Connected with U. S. Patents Originating from Titan Co., Inc.'s Non-American Associates.

Gentlemen:—

The trend of developments is in the direction of assigning titanium patents to companies in whose territories these patents are taken out. There was a tendency in this direction before the war broke out, and the legal situation during the war has given impetus to it. Assignment of the patents has, as a consequence, that the assignee carry all the expenses.

With regard to patents in the United States originating from Titan Co., Inc. and its non-American associates, the ownership must be retained by Titan Co., Inc. in view of the arrangement with Du Pont by which licenses are exchanged with Du Pont. The provisions of the Agreement of 1920 were such that Titan Co., Inc. would have had automatically the benefit of exclusive licenses under any Du Pont patents outside the territory of North America and this independent of Titan Co., Inc.'s owning United States patents, or in which, under the existing arrangement, Titan Co., Inc. must maintain its ownership in order to give licenses to Du Pont.

Exhibit 805

Considering the history of the developments between Du Pont, on the one side, and Titan Co., Inc. and its non-American associates, on the other side, it seems fair that an adjustment be made in the relations between Titan Co., Inc. and National Lead Company by which National Lead Company pays all the expenses (instead of 50%), leaving ownership to Titan Co., Inc.

Yours very truly,

G. JEBSEN
G. Jebsen

Exhibit 806

COPY

Letterhead of

NATIONAL LEAD CO.

December 18, 1940

Dr. G. Jebsen, Vice President
Titan Company, Inc.
111 Broadway
New York City

Dear Dr. Jebsen:

With reference to your letter of August 23rd suggesting that the National Lead Company pay all of the expenses, instead of 50%, on United States patents, even though still in the name of Titan Company, Inc.:

I have discussed this matter with our various people. It is felt that your point is well taken and we therefore approve your suggestion.

Yours very truly,

(Signed) FLETCHER W. ROCKWELL
President

Copy to Mr. Garesché
Mr. Simon
Mr. Kaegebehn

Exhibit 807

MEMORANDUM RE TEMPORARY ARRANGEMENT FOR HANDLING PATENT MATTERS OF BRITISH TITAN PRODUCTS COMPANY LIMITED

During the present situation, Titan Company, Inc., New York (Mr. Kaegebehn's organization) will, upon request of British Titan Products, do everything possible to assist in the handling of patent matters of British Titan Products Company, Limited.

I With Respect to Inventions Coming From National Lead Company

With respect to inventions coming within this category for which British Titan Products wishes patent applications filed in countries within its territory, Titan Company Inc. can follow either of the following procedures:

a.) Upon receiving the wishes of British Titan Products regarding the countries in which it desires to have patent applications filed, Titan Company Inc., New York, can have prepared in the United States all necessary papers to permit the filing of the desired applications. If either National Lead Company or Titan Company Inc. have come to the decision to take out the patent in their name, necessary signatures on behalf of the respective company can be obtained and the applications filed by U. S. patent agents of Titan Company Inc. through the usual agents representing British Titan Products. If neither National Lead Company nor Titan Company Inc. desires to file the application in their name, then

it will be necessary to obtain signatures on behalf of British Titan Products. In which case, under this procedure, Titan Company Inc., New York, can prepare the papers for signature and forward them to British Titan Products, who in turn, will have the applications filed through their regular patent agents.

b.) When British Titan Products has come to the decision that it desires to have corresponding applications filed in countries within its territory, it will request its patent agent to prepare necessary documents to permit the filing of these applications and to forward them to Titan Company Inc., New York for execution, leaving blank the name of the company who will take title to the application. Titan Company Inc., New York, will have executed all necessary papers by the inventor and if the case is to be filed in the name of National Lead Company or Titan Company, Inc., papers on behalf of the respective company. These will be returned to British Titan Products's patent agent. If neither National Lead Company or Titan Company Inc. wish to file the application in their names, the petition document will be returned to the patent agent so that it may be executed on behalf of British Titan Products.

Regarding the prosecution of the patent applications, regardless of whether a.) or b.) is followed, the patent agent filing the case can communicate directly with Titan Company Inc., New York, regarding information and advice necessary to answer the Patent Office Action.

Exhibit 807

II With Respect to Inventions Coming From British Titan Products

In the past it has been the practice of British Titan Products to leave to Titan Company Inc. the question of filing corresponding applications in countries outside of the territory of British Titan Products. If this practice is continued as is expected, Titan Company Inc., New York, will take over the filing of patent applications as may be desired by Titan Company Inc. to the extent the present circumstances prevent Mr. Ravnestad or Mr. Andersen acting as formerly. Titan Company Inc., New York, can forward to British Titan Products all documents requiring execution by British Titan Products to permit the filing of patent applications in various countries in which it (Titan Company Inc.) desires to have such applications filed. If British Titan Products files a patent application during the present situation and is unable to follow the regular procedure of sending a copy to Mr. Ravnestad or Mr. Andersen, these may be sent to Titan Company Inc., New York.

III Inventions Coming From Other Sources

To the extent it may be possible under the present situation to inform British Titan Products of such inventions and in the event Mr. Ravnestad and Mr. Andersen are unable to do so, this information may come from Titan Company Inc., New York. Should British Titan Products desire to have corresponding applications filed in countries within its territory, provided it is possible to do so, either procedure a.) or b.) given above under Heading I can be followed for the duration of the present circumstances.

C. F. KAEGEBEHN
Sept 16 '40

Exhibit 808

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

In reply please quote CJS/SL/18547.

REGISTERED

30th December 1940

Titan Company Inc.,
111, Broadway,
New York, N. Y.

For the attention of Mr Kaegebehn

Dear Sirs,

New American Zirconium Applications

With reference to your letter of October 9th, with which you enclosed copies of the following U.S. Applications:—

U. S. Ser. No.	Date Filed	Company
350,124	August 2, 1940	Am. Zirconium
350,125	" "	"
350,126	" "	"

will you please note that we wish to have an application filed or alternatively to obtain an exclusive license in Great Britain in the following case:—

U.S.Ser.No.350,124—American Zirconium (T. 191)

and that we do not wish to have applications filed or to obtain exclusive licenses in the following cases:—

U.S.Ser.No.350,125—American Zirconium (T. 192)

U.S.Ser.No.350,126—American Zirconium (T. 193)

Your truly,

For BRITISH TITAN PRODUCTS CO. LTD.

C. J. STOPFORD

C. J. Stopford,
Director and General Manager.

Exhibit 809

(COPY)

Mr. C. J. Stopford March 13th, 1941
British Titan Products Co., Ltd.
Burlington House, Yarm Road
Eaglescliffe
Stockton-on-Tees, England

Re: Patent Expense — B. T. P. —
Titan Company, Inc.

Dear Mr. Stopford:—

Dr. Jebsen has asked me to reply to your letter of February 7th, 1941.

Regarding the item of £872.0.0, the only information we can give you at this time is that we were informed of it by Mr. Andersen but have not yet received particulars concerning it. As soon as these are received, we shall forward them to you at once.

Considering now the individual invoices dealt with in my letter to Dr. Jebsen of January 14th and discussed in your letter of February 7th, the present situation, in view of the information contained in your letter, appears to be as follows:

We are now accepting an additional amount of £21.14.9 made up of the item of £1.15.5 from Invoice No. 203 for Case T. 237, which was incorrectly designated on the original invoice, and the item of £19.19.4 from Invoice No. 207, details of which were requested by Mr. Andersen. You have agreed with us that a reduction of £9.5.9, made up of items in Invoices Nos. 201, 203 and 332 is in order. This leaves an amount still to be considered of £10.10.0 made up of items from invoices Nos. 205 and 208, each for renewals of I. G. patents within the Licensed Field, and

an item of £4.10.0 from Invoice No. 206, covering renewal of British patent in Case T. 109. (Please note that in my memo to Dr. Jebsen I incorrectly set down this adjustment for T. 109 as £3.10.0.)

Regarding the payment of 100 percent of the maintenance of I. G. patents, coming within the Licensed Field, i.e., items of £3.0.0 each for renewal of I. G. patents (Cases T. 186 and T. 156), the following remarks will be, we trust, of interest to you.

The patents which we get from the I. G. have been obtained through special arrangements under which the T. G. gets certain rights. They are really acquired from an outside firm. These I. G. patents have been provided for through the agreement between Titan Co., Inc. and I. G. leading to the formation of T. G. However, T. G. has no right to the ownership. A consequence of this is that T. G. cannot transfer ownership to Titan Co., Inc. and B. T. P. If, consequently, T. G. would have to pay 50 percent for so long as Titan Co., Inc.'s associates wished an exclusive license, this would cause, in our opinion, an undue hardship on T. G., particularly in view of the fact that they have no opportunity to transfer ownership. It has, therefore, been considered equitable that 100 percent should be paid by the company who has the benefit of the license. This has been accepted by National Lead Co. as far as the United States is concerned. We had the impression that this point was taken up during our conversations at La Zoute and accepted on behalf of B. T. P. If this is not the case, we beg you to consider this in the light of our comments and trust that you will come to the same conclusion.

When taking up this question, it is important to keep in mind that these patents are really not developments of Titan Co., Inc. and associated companies, but are a result of a favorable arrangement with I. G., bringing in inven-

tions from outside sources similar to the opportunities which have occasionally been given us by I. C. I. with the distinction that the I. G. is under a definite obligation to do so.

Perhaps it should have been specified in the agreements referred to above that the licensee under I. C. I. patents would have to carry the expense of obtaining and maintaining the patents, but we think you will agree that provisions of this kind would have led to an excessive multiplicity of details. The essence of the situation appears to us to be that, since it is not in the power of T. C. to deliver ownership by transfer of title to the patent, it would impose an unreasonable hardship to expect them to bear 50 percent of the cost.

If there are any specific questions, which you should like to put to us in connection with the situation, we will endeavor to discuss them for you.

The foregoing remarks with respect to the I. G. patents, are related to the disputed items of Invoices Nos. 205 and 208 of £ 3.0.0 each. We note that you are unable to verify that Titan Co., Inc. ever informed B. T. P. that it no longer was interested to maintain the British patent in Case T. 109. The expense involved in this item amounts to £ 4.10.0.

We are writing Mr. Andersen at this time, asking him to investigate how, and in what manner Titan Co., Inc. might have informed B. T. P. and as soon as this information is received by us, we shall advise you of it.

Yours very truly,

TITAN COMPANY, INC.
C. F. KAEGEBEHN

CFK:JL

c.c. Dr. G. Jebsen
Mr. C. F. Garesché
Mr. S. Andersen

Exhibit 810

Letterhead of
TITAN COMPANY, INC.

Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 8th May 1941

By air-mail.

C. F. Kaegebehn, Esq.
National Lead Company,
Patent Department,
111 Broadway
New York, U. S. A.

Dear Mr. Kaegebehn,

B.T.P. Invoices
Titan Company Inc.s share patent expenses in Great Britain

I thank you for your letter of the 13th of March in which you communicate me Mr. Stopfords comments to the questions raised by us with respect to B.T.P. invoices No.s 81, 200-209, 332 and 333.

I understand that the item of £ 1.15.5. on invoice No. 203 relates to documents required for the French application in case T.237, which was filed by the Titan Company Inc. As we reserve the Société Industrielle du Titane exclusive licenses under our French patents half of this amount should be carried by them and the other half by ourselves.

Of the item of £ 19.19.4. on invoice No. 207 for renewal of patents under cases T.176/T.178, the expenses to Dutch patent No. 44.815 should be carried by Titan Company

Exhibit 810

Ind., and the expenses to renewal of German patents Nos. 643.995 and 638.197 should be carried by the Titangesellschaft.

With reference to the penultimate paragraph of my letter of the 26th of November 1940, I have just received a communication from Titan Co. A/S in which they suggest that the expenses to maintanenance of patents in Titangesellschaft's territory in Cases T.175 to T.178 inclusive be settled with the Titangesellschaft from your side.

The understanding regarding payment by us with 100% of expenses on I. G. patents within the Licensed Field under which we or our associated companies have exclusive licenses was reached in a conference in Ludwigshafen the 19th of January 1939 between Dr. Jebsen, Dr Raspe Dr. Redies and myself. It was further agreed that expenses to such patents which in addition to Licensed Field-matter cover other matter of importance should be paid with 50% by the I. G. and with 50% by us/the exclusive licensee/. As far as I can recollect extracts of the minutes of this conference, /in which also other matters were discussed/ including the minute re. expenses on I. G. patents were sent B.T.P. and N.L.Co. and accepted by them. Unfortunately I have not in my files here information enabling me to verify the matter in details and refer to data re. correspondance, the above is chiefly based on memory. I note from the copy received of your letter of the 13th of March to Mr. Stopford that you have fully explained to him the situation regarding the I. G. patents, but am mentioning the above as it may perhaps be of help in the event of the question being discussed further.

As regards the sharing of expenses on the British patent in Case T.109, my record re. share of expenses on the

particular patents indicates that the expenses to this patent should be carried with 100% by the B.T.P. and this is in accordance with our "List of T. Cases", in which is indicated that B.T.P. is the owner of the patent. The patent issued in Titan Company Inc.'s name and a formal assignment to B.T.P. was probably not executed but as in several similar cases the matter was arranged by correspondence. As I have not here the complete records of Case T.109 I am not, unfortunately, able to check the matter further at the time being, but will have to wait until I can get acces to the papers in our main files. I have however asked Mr. Ravnestad to investigate whether there should be further data in the files in Fredrikstad and will write you again when I have his reply.

Yours sincerely,

SIGURD ANDERSEN
Sigurd Andersen

Exhibit 811

COPY

TO 7/16/41
recd 7/16/41

Dr. Jebsen

Suggest we cable T.G. asking if they wish renewal for their account.

Personally, I do not believe Titan Inc. has sufficient interest to maintain on its own behalf.

Please let me have your advise. Return to

Agree C. F. Kaegebehn
GJ

Exhibit 811

COPY

BRITISH TITAN PRODUCTS COMPANY
LIMITED
Billingham
Co. Durham

IN REPLY PLEASE QUOTE CJS/SL 1376 4th July 1941

C. F. Kaegebehn, Esq.,
Titan Company Inc.,
111, Broadway,
New York, N. Y.

Received
National Lead Co.
Jul 14 1941
Patent Dept.

Dear Mr. Kaegebehn,

We enclose herewith a copy of a letter received from the Patent Department of I.C.I. and should be glad to have your views in regard to renewal of the patent mentioned.

Yours very truly,

/s/ C. J. STOPFORD

C. J. STOPFORD,
Director and General Manager.

Encl.

Exhibit 811

COPY

IMPERIAL CHEMICAL INDUSTRIES LTD.
Millbank,
LONDON, S.W.1

Patent Section
NR/IS

2nd July 1941

British Titan Products Co. Ltd,
Eaglescliffe.

Dear Sirs,

CURRENT RENEWAL FEES No. 1

I have to inform you that the undermentioned patent falls due for renewal in January and I shall be glad to have your instructions as soon as possible to allow for the delay in foreign mails:—

Country	*Number*	*Title*	*Case No.*	*T. Case No.*
Germany	618329	Impts in delustered artificial silks (P. of A. No. 621648)	2455	T.175

Yours faithfully,

sgd. W. E. COLOMB.
For Solicitor

Exhibit 812

December 29th 1938.

Paris,

GJ/AK
Fletcher W. Rockwell Esq.
President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Rockwell,

Agreement re the extension of the exchange of patent licences between Titan Company Inc. and its associated titanium companies.

The "Licensed Fields" in Titan Company Inc.'s various license agreements with its associated companies vary somewhat, as you may remember.

Between the National Lead Company, Titanium Division, and Titan Company Inc. (agreement of 1920) the Licensed Field is the widest one and this field applies also to Société Industrielle du Titane.

Our agreements with Titangesellschaft and British Titan Products Company contain definitions of the Licensed Field, which are more narrow and the same for both.

Titangesellschaft has developed from time to time inventions leading to patents covering subject matters outside the Licensed Field of their agreement, which subject matters, however, were and are of interest to the associated companies within their activities, and they have I may say

generally been sent to Titan Company Inc. for exchange under the conditions of the agreement, without discussing the Licensed Field. In the same spirit Titan Company Inc. has given licenses to Titangesellschaft under patents with subject matters outside the Licensed Field of the respective agreement.

Through this a somewhat irregular situation has arisen, as it has not been formally defined whether or to what extent the licences obtained under these patents would permit the use of the invention outside the Licensed Field as defined in the respective agreement.

In order to bring this practice in a formally more satisfactory form, I have got from Titangesellschaft and British Titan Products Company the enclosed papers.

The wording was originally the same for both, and Dr. Brüggemann of Titangesellschaft saw no objection to this. After nearer consideration he has, however, changed the wording in German slightly. I am informed over the telephone that the intention is the same, but that he has had to make changes partly in view of legal regulations and partly because when calling it an agreement it would have to be submitted to I.G.'s Board, which he did not think necessary.

You will note that the agreement with B.T.P. foresees that the company, if they think it advisable, can make reservations as regards any specific future case. The changes made by Dr. Brüggemann do therefore not seem to be strictly necessary and, as regards past cases, we are, I think, covered, apart from possible legal regulations to which we will be subject in any case.

I will arrange for a similar agreement to the one of the B.T.P. to be approved by the Board of Societé Industrielle

Exhibit 812

du Titane at our next Board Meeting. As we have the majority there, I expect no difficulties.

The arrangements do not cover all subject matters which may come up, but it seems impossible to provide for a definition which covers all cases. They have the advantage of laying down more formally the broader spirit which has been practiced and exists between the companies, and will facilitate the work of the various patent departments. They will give Titan Company Inc. a more free hand as regards the exchange of licenses outside the Licensed Field. The firms have the right at any time to withdraw from this wider exchange of licenses with one or more of the associated companies, if they find that the spirit of reciprocity in that quarter has not been adhered to, but Titan Company Inc. can act until an expression of dissatisfaction has taken place, and will consequently in all probability be able to exercise its influence in time to maintain the good cooperation.

I hope the arrangements will meet with your approval and, if you are in agreement, I shall appreciate to have them submitted to the Board of Titan Company Inc. for its approval.

National Lead Company's agreement with the Canadian Titanium Pigments Ltd. is, with regard to the Licensed Field, compared with the German and British agreements, in certain directions wider and in other directions more narrow.

I suggest therefore that the Canadian Titanium Pigments Ltd. be informed about the above agreements and asked to join us by signing a corresponding agreement to be made between the National Lead Company and the Canadian Titanium Pigments Ltd.

Exhibit 812

The Licensed Field in the 1920 agreement between the National Lead Company and Titan Co A/S, resp. Titan Company Inc., is so wide that I do not see that the extension foreseen will go beyond this Licensed Field, but I should appreciate the National Lead Company's approval anyhow for the sake of conformity as far as possible in the handling of these matters, and particularly that the National Lead Company, Titanium Division, will handle these matters in their relations with their licensees in accordance with the lines of this new additional agreement.

With kindest regards,

Yours sincerely,

Sign. G. JEBSEN

Encl.

Copy of the agreement between:
Titan Co.Inc. and B.T.P.
Titan Co.Inc. and T.G. (with translation).

Copy to Mr. Garesché
" Kaegebehn

Exhibit 813

Translated from German.

Between the Titan Company Inc. and its associated Titanium companies the practice has developed to exchange licenses in patent cases covering subject matters which are beyond the licensing obligation determined by contracts between the companies, but which are of interest for the production, use and sale of products within the Licensed Field, as for instance:

Recovery of materials used in the titanium industry (e.g. sulphuric acid), utilization of by-products (e.g. copperas), production of extenders, apparatus and the use of titanium pigments and compounds as well as of by-products and extenders.

It is agreed between the contract firms that when a firm offers such a licence outside its contractual obligation, it means—unless reservations are made—that the inventor company (respectively the company granting the licence), as far as it is within its power and not contrary to legal regulations, is willing to give to the other companies, on current agreement conditions, the rights to the use of the invention for the purposes of the production, use and sale of products within the Licensed Field under any patents outside its territory.

It is forseen that in cases where the receiving company (licencee) is not interested in an exclusive licence for the purposes mentioned above, it will be reserved a non-exclusive licence for these purposes.

This provision shall apply both to offers of licences made in the past and to those to be made in the future.

Exhibit 813

This arrangement is only to be applied to associated companies which in general act or will act reciprocally.

The expression "associated companies" as used above is meant to cover any company which has or will acquire a licence of the character described in Article XIV, paragr. a) of the agreement of 1920, and further the firm E.I. Du Pont de Nemours & Co., Wilmington, Delaware, U.S.A.

TITANGESELLSCHAFT m.b.H.

(sign.) BRÜGGEMANN p.p. F.RASPE

TITAN COMPANY INC.
Vice President

Exhibit 814

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, January 23rd, 1939.

C. F. Kaegebehn Esq.
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Kaegebehn,

I acknowledge receipt of your cable of January 18th, as follows:

" RE YOUR LETTER ROCKWELL DECEMBER
" 29 PAGE THREE SUGGEST AGREEMENT
" TITAN NATIONAL LEAD FOR SAKE UNI-
" FORMITY AND TO GIVE EFFECT NATIONALS
" APPROVAL WHOLE ARRANGEMENT STOP
" PLEASE CABLE COMMENT ALSO DATE
" AGREEMENTS B.T.P. TITANGESELLSCHAFT
" SOCIETE INDUSTRIELLE IF CONCLUDED"

and have cabled you today :

" AGREEMENTS EXTENSION LICENSED FIELD
" APPROVED BY PROTITAN TITANGESELL-
" SCHAFT AND NOT YET SUBMITTED SOCI-
" TITANE STOP CONCLUSION OF AGREE-
" MENTS AWAITS APPROVAL TITANINGS
" BOARD BEFORE I SIGN FOR TITANIC STOP
" SUGGEST LEADCO EXPRESS BY LETTER
" AND POSSIBLY BOARD RESOLUTION ITS

Exhibit 814

" APPROVAL OF THESE AGREEMENTS AND
" UNDERTAKE TO HANDLE THESE MATTERS
" IN THE SAME SPIRIT, STOP LETTER FOL-
" LOWS".

The agreements concerning the extension of the exchange of patent licences can be divided up in two different questions.

The one is the exchange of licences between Titan Company Inc. and the associated company in question, concerning the patents owned by these two companies.

The other is the grant of sublicences. You will note that the first paragraph on page 2 says: "This agreement is only to be applied to associated companies which in general act or will act reciprocally".

The Licensed Field in the agreement of 1920 between Titan Company Inc. and National Lead Company is so wide that the extensions mentioned in the agreements now under consideration are, as far as I can see, not likely to go beyond the Licensed Field in the 1920 agreement. If, however, New York, is of a different opinion, then it would be advisable to make an agreement as regards this matter. If not, better leave it out, as it might seem incongruous.

The second matter involves an obligation for Titan Co. Inc. only to give sublicences—on subject matters outside the Licensed Field as defined in the agreement between Titan Company Inc. and its licensor—if the sublicencee in general acts or is willing to act reciprocally.

Between the National Lead Company and Titan Company Inc. there cannot be any question of this, if the Licenced Field, as I take it, covers the subject matters dealt with in the extension arrangements.

Exhibit 814

However, it is in the spirit of the extension agreements that this condition of reciprocity, as regards inventions which are outside the Licensed Field as defined in the respective agreements, applies also for sublicences to be given; for instance National Lead Company should only give the Canadian Titanium Pigments (or any other of its licencees) sublicences under any such patent under which it is licenced, provided the Canadian Titanium Pigments is willing to reciprocate.

Whether this second matter should be dealt with by a formal agreement or by a letter amounting to an agreement, I leave to New York to decide. It seems to me that a letter from National Lead Company to Titan Company Inc., in which National Lead Company takes note of the agreement for the extension of the exchange of patents, expresses its approval of the arrangements and declares that they will handle their licences in the same spirit, will be sufficient, particularly if this letter is based on a board resolution.

The next matter to attend to for the National Lead Company seems to me to be an agreement between National Lead Company and Canadian Titanium Pigments on the same lines as the extension agreements between Titan Company Inc. and the European associates, now under consideration.

You will note that on page 2, paragr.5 of my letter to Mr. Rockwell I have said :

" The firms have the right at any time to withdraw from
" this wider exchange of licences with one or more of the
" associated companies, if they find that the spirit of

Exhibit 814

"-reciprocity in that quarter has not been adhered to, but "Titan Co. Inc. can act until an expression of dissatisfac- "tion has taken place, and will consequently in all proba- "bility be able to exercise its influence in time to main- "tain the good cooperation."

You will appreciate that if Canadian Titanium Pigments or any other licencee, resp. sub-licencee, of National Lead Company does not reciprocate, this will in time provoke a reaction on the part of our associated companies and lead to a reservation from these as regards the grant of licences under patents with subject matters outside the Licensed Field of their agreements with us, i.e. outside their present obligations.

The whole arrangement is, as you will note, elastic, as it is voluntary whether such patent applications or patents (outside the respective Licensed Field) are offered or not, and also voluntary, by offering the same, whether reservations are to be made or not, but nevertheless the arrangement has its advantages, as it lays down more formally a broader spirit and a willingness to cooperate beyond the Licensed Field.

With kindest regards,

Yours very truly,

G. JEBSEN

Copy to Mr. Rockwell
" Garesché.

Exhibit 815

February 17th 1939.

SJH/AK

Société Industrielle du Titane
26, rue de la Pépinière
Paris

Dear Sirs,

Re the extension of the exchange of patent licences between Titan Company Inc. and its associated titanium companies.

Referring to conference, we beg to confirm the following:

It has been the practice to exchange licences in patent cases covering subject matters which are partly or wholly outside the Licenced Field as defined in the respective Licence Agreements, but which are of interest for the production, use and sale of products within the Licensed Field, as for instance: recovery of materials used in the titanium industry (e.g. sulphuric acid), utilization of by-products (e.g. copperas), production of extenders, apparatus and the use of titanium pigments and compounds as well as of by-products and extenders.

It is agreed that when such patent applications or patents are offered by one associated company to the other associated companies, it means—unless reservations are made—that the inventor company (respectively the company granting the licence) as far as it is within its power is willing to give, on current agreement conditions, to the other companies, rights to the use of the invention for the purposes of the production, use and sale of products within the Licenced Field under any patents outside its territory.

Exhibit 815

It is specifically understood that in cases where the receiving company (licencee) is not interested in an exclusive licence for the purposes mentioned above, it will be reserved a non-exclusive licence for these purposes.

This agreement is only to be applied to associated companies which in general act or will act reciprocally.

The expression "associated companies" as used above is meant to cover any company which has or will acquire a licence of the character described in Article XIV, paragr.a) of the agreement of 1926, and further the firm E.I. Du Pont de Nemours & Co., Wilmington, Delaware, U.S.A.

For the sake of order we should be obliged if you would kindly confirm your agreement to the above and remain

Yours very truly,

TITAN COMPANY INC.

(Sign.) G. JEBSEN
Vice President

Exhibit 816

CONVERSATIONS—LE ZOUTE—JUNE 28th 1939

DR. JEBSEN
DR. RASPE
MR. STOPFORD
MR. KÆGEBEHN

It was suggested that, when one of the associated companies open up a new field of development and apply for patents and circulate research reports covering their initial work within that new field, the other associated companies consult with the first company (for purpose of these notes hereinafter called "the original inventor company") before applying in their respective territories for patents on improvements made by them in the new field opened up by the original inventor company.

This suggestion was discussed in Le Zoute on June 28, 1939.

It was put forward, on behalf of the National Lead Company, (Tit. Div.) that, although this company wished always to respect the priority of a new development opened up by one of the associated companies and to afford proper credit to the individual inventors of those companies, certain special considerations applied in the United States particularly those arising from the Patent Laws and Patent Office Procedure which made it desirable to apply for patents in the United States rather promptly after completion of the invention and in the name of the individual American inventor, or inventors. For instance a technologist of National Lead Company (Tit. Div.) might make an inventive (i.e. patentable) improvement in a field open up by one of the

European associated companies. In such case two important considerations existed why the United States patent application should be applied for in the name of the American inventor and on behalf of the National Lead Company:

a) One of the bases of validity of a United States patent is that it must be filed in the name of the actual inventor or inventors. Hence, it would not be possible for National Lead Company to hand over the improvement invention to be patented in the United States in the name of Technologists of the "original inventor company".

b) Should National Lead Company hand over the improvements to be filed as a patent application by the original inventor company in its territory before applying for a patent in the United States, then if an interference developed in the United States the improvement application would have to stand on the date of the filing of the first Convention date and not upon the actual completion of the invention in the United States by National Lead Company which latter date would, in every case, be earlier than the former, i.e. Convention, date.

Furthermore, it was noted that two disadvantages might develop if such the foregoing suggestion was applied:

a) Fewer patents might be applied for because it was concievable that the original inventor company might not desire to have the improvement patent applied for, or did not regard it as patentable in their territory.

b) Differences of opinion, which might best be avoided, might arise as to whether or not a given subject matter developed by one of the associated companies was, in fact,

an improvement in some field open up by another of the associated companies.

It was submitted that the interests of all the associated companies was best promoted (1) by permitting the developments of each member to stimulate every other member to make new improvements in these developments and (2) by each company taking out in its own territory as many and as strong patents as could be secured.

It was, therefore, proposed that, in the future, each of the associated companies should be free to apply for patents, in its territory, on improvements made by its technologists in fields opened up by other associated companies but that the company applying for the improvement patent would not apply for patents in the territory of the original inventor company without first consulting the original, inventor company and should, for any reason, the original inventor company desire that the improvement be not applied for in its territory, the application would not be filed. It was further proposed that this principle be applied to fields of development suggested, i.e. opened up, by means of the research reports which are circulated throughout the associated companies as well as to the fields of development suggested by the patent applications of the associated companies which are applied for in their respective territories.

It was agreed that the principle described in the preceeding paragraph s... ild be approved by the associated companies and put into effect.

Mr. Stopford mentioned, on behalf on the British Titan Products Company, not, however, as proposal but merely to air the view, that it might be desirable that each of the associated companies take over entire control of the patent

Exhibit 816

situation within their respective territory, deciding which applications should be applied for, the preparation of the patent applications, the prosecution of the applications etc., and taking title to the patent. Dr. Jebsen pointed out the trend of the international cooperation between the associated companies was wholy in this direction and that such an arrangement might well develop in the not too distant future.

Sign. C. F. KAEGEBEHN

Paris, July 11, 1939

iab

Exhibit 817

RESOLUTION

RESOLVED, that this Corporation hereby approves of the principle of handling patent applications relating to improvement inventions made by any of the associated companies on the basis of original developments of a different associated company, as contained in the minutes of that certain conversation which took place at Le Zoute, Belgium on June 28th, 1939, attended by Messrs. Jebsen, Raspe, Stopford and Kaegebehn, the minutes of which conversation, signed by Mr. Kaegebehn, dated Paris, July 11, 1939, were read at this meeting.

TO WIT: In the future, each of the associated companies shall be free to apply for patents in its territory on improvements made by its technologists in fields opened up by other associated companies but that the company applying for the improvement patent will not apply for patents in the territory of the original inventor company without first consulting that original inventor company, and should, for any reason, the original inventor company desire that the improvement patent be not applied for in its territory, the application will not be filed; it being understood that this principle will apply to fields of development suggested, i.e. opened up, by means of the research reports which are circulated throughout the associated companies, as well as to the fields of development suggested by the patent applications of the associated companies which are applied for in their respective territories, copies of which are circulated throughout the associated companies.

August 30th, 1939

C. F. Kaegebehn

Exhibit 818

COPY

October 5th, 1939

Dr. G. Jebsen
c/o Titan Co. A/S
Fredrikstad, Norway

Re: Conversations in Le Zoute
June 26, 1939 — Patent Matters.

Dear Dr. Jebsen:—

Your letter of September 15th, 1939 was duly received, and I wish to thank you for your effort to clear up the difference in interpretation between Mr. Stopford and myself, regarding the disputed passage in my notes on the Le Zoute conversations.

Within the past few days, I have discussed with Mr. Cole the draft of resolution to make official the acceptance of the principle of the Le Zoute conversations by Board resolutions of both National Lead Company and Titan Company, Inc.

In the meantime, copy of Mr. Tasker's letter to you with respect to the effect of the British war regulation on the exchange of information between British Titan Products and even a neutral party, such as yourself, has been received. I may mention that Canadian regulations follow the British very closely, and there is being created here a situation which will, I am afraid, act to prevent exchange of information from the Canadians to ourselves. (This situation is more fully discussed in a separate letter).

Mr. Cole and I are of the opinion that since this war situation is apparently going to exert a very considerable effect upon the coöperation between the associated com-

panies, it might not be desirable at this time to pass resolutions between the Boards of National Lead Company and Titan Co., Inc. regarding the principle of the Le Zoute meeting. This principle deals with cooperation between a group consisting of several companies, some of which are neutrals and others belligerents, which principle, in view of the present situation, cannot be applied as between belligerents. It would further appear that the present restrictions in Great Britain and Canada will probably militate against even applying the principle as between certain belligerents and the neutral members of the group. In view of this we considered it better to withhold entering the approval in the minute books of the Boards of National Lead Company and Titan Co., Inc. at this time. Mr. Cole has placed notice of this matter, together with the draft resolution, in the minute book of Titan Co., Inc., and it will be held there until such time as we are able to advise him that in view of a changed situation the principle can formally be approved by the respective Boards of Titan Co., Inc. and National Lead Company.

If, contrary to our opinion, you think that the resolution should be put through at this time, I am sure the matter could be attended to promptly. Will you please let us have your comments.

With kind regards,

Yours very truly,

CFK:JL

c.c. Mr. M. D. Cole

Mr. C. F. Garesché

Exhibit 818

RESOLVED, that in consideration of the like agreement on the part of National Lead Company (as successor in interest to Titanium Pigment Company, Inc. under that certain Agreement dated July 30, 1920, between the last named company and Titan Co. A/S, (predecessor in interest of this corporation), and on the part of the various licensees and sublicensees of this corporation and of said National Lead Company within the "Licensed Field" as defined in said Agreement dated July 30, 1920, or as otherwise defined in any given case with the consent of the other party to said Agreement, (said parties to said Agreement and all such licensees and sublicensees being hereby referred to collectively as "associated companies"), this corporation agrees to adopt the following procedure with respect to the patenting of any invention conceived by it which is in the nature of an improvement on any new development within said Licenced Field suggested and communicated to it by any other of said associated companies, whether in the form of specific patent applications or of research reports circulated among said associated companies: that it will, and shall have the right to, apply in its own name for patent on any such improvement invention conceived by it, in any country within the territory of its exclusive patent rights within said Licensed Field which it may elect, but that it will not, without the prior approval and consent of the original inventor company which conceived such new development, apply for patent on such improvement invention in any country within the territory of the exclusive patent rights of said original inventor company.

Exhibit 819

COPY

Paris, March 22, 1933.

Dr. Bruggemann
I. G. Farbenindustrie Akt. Ges.
Leverkusen I. G., Werk

Dear Dr. Bruggemann:

At the last meeting on Friday the 17th I made a request that care would be taken also to bring formally into order the agreed extension of the territory of Titangesellschaft.

In connection with this I have to specify the countries which since the agreement was made have been included in the territory of Titangesellschaft:

Poland and Portugal—since 1930
Danzig — " 1931.

In addition to this we have given to Titangesellschaft the right to sell in the below mentioned South American countries.

As you know special agreements are prevailing agreeing to the contract of 1920 between the Titanium Pigment Company and the Titan Company concerning South America, concerning patent rights, etc., and both of these firms have the right to sell in South America. The transfer of our rights regarding the below mentioned South American countries remain subject to the conditions of this agreement (the agreement of 1920).

Exhibit 819

Argentina—since	July 25, 1932
Brazil	March 1930
Bolivia	
Columbia	
Ecuador	
Peru	beginning 1933.
Paraguay	
Uruguay	
Venezuela	
Chili	

I shall be much obliged if you will let me have your proposal as to an exchange of formal letters or a supplement to the agreement for the purpose of the formal regularization of our contracts.

With kindest regards,

Yours very truly,

JEBSEN

Exhibit 820

Titangesellschaft m.b.H. *Translated from German.*

Leverkusen, September 25, 1933.

Titan Co. Inc.
Att. Dir. Dr. Jebsen
Paris

Referring to our conference with Dr. Jebsen, held at Leverkusen, March 18th and 19th 1933, we beg to confirm herewith, for the sake of order, that the countries enumerated below are to be considered the territory of our Company:

Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Roumania, Jougoslavia, Bulgaria, Greece, Turkey, Japan, China, Spain, Portugal, Poland, Danzig, South America (excl. Guiana).

The rights resulting from the agreement of 1920 between the Titanium Pigment Company and the Titan Co. A/S, concerning South America, are not affected by our arrangement with your Company.

Kindly confirm your agreement to this arrangement in writing.

Yours very truly,

TITANGESELLSCHAFT m.b.H.
(sign.) Kühne (sign.) Brüggemann

Exhibit 821

COPY

Paris, October 10th 1933.

SJH/AK

Titangesellschaft m.b.H.
Leverkusen I.G. Werk.
bei Köln a/Rh.

Dear Sirs,

We beg to acknowledge receipt of your letter of September 25th and to confirm, that the countries enumerated and as below specified are to be considered the territory of your company, but that South-America (exclusive of Guiana) is included only to the extent that such inclusion is compatible with the provisions of the agreement of July 30th 1920 between the Titanium Pigment Company Inc. and this corporation, as successor in interest of Titan Co A/S.

Territory:

Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Jougoslavia, Bulgaria, Greece, Turkey, Japan, China, Spain, Portugal, Poland, Danzig, South-America (exclusive of Guiana).

Very truly yours,

TITAN COMPANY INC.

by G. JEBSEN (sign.)
Vice President

Exhibit 822

Letterhead of

TITAN COMPANY, INC.

Paris, October 17th 1933.

SJH/AK

M.D. Cole Esq.
Secretary
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Cole,

For your files, please find enclosed copy of Titangesellschaft's letter of September 25th, together with English translation, as well as copy of Dr. Jebsen's reply in the name of Titaninc of October 10th, fixing the present territory of Titangesellschaft, that is the previous territory to which has been added Portugal, Poland and Danzig, and, with certain reservations, South America, in accordance with the authorization given Dr. Jebsen by the Board of Titan Co.Inc.

Yours very truly,

S. J. HENRIKSSEN

Copy to Mr. Beschorman.

Exhibit 823

Letterhead of

TITAN COMPANY, INC.

Paris, February 23rd 1935.

/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Enclosed please find, translated from German, minutes No. 19 from Board Meeting in Titangesellschaft, held January 17 and 19, 1935.

Yours very truly,

S. J. HENRIKSSEN

Same letter sent Mr. Cornish.

Exhibit 823

Minutes No. 19. January 21, 1935.

MINUTES FROM CONFERENCES RE TITANIUM WHITE MATTERS IN BERLIN, 17.1.1935 AND IN LEVERKUSEN, 19.1.1935.

Present:	Dr. Kühne	(17 and 19.1)
	Dr. Jebsen	(17 and 19.1)
	Dr. Brüggemann	(19.1.)
	Weber-Andreae	(17.1.)
	Borgwardt	(17.1.)
	Iuell	(19.1.)
	Raspe	(17 and 19.1)
	Koziol	(
	Hanssen	((Part time 19.1.)
	Schwenk	(

1.) The British Titan Products Co. is authorized to supply the Unilever factories in the territory of Titangesellschaft, provided the business remains within the present frame and at the prices fixed by Titangesellschaft for the countries in question. The profit on this business is to be credited Titangesellschaft.

2.) Mr. Borgwardt's proposal for an agreement regarding Japan is approved. With regard to the pool-contract, Mr. Borgwardt will submit a new draft on account of certain changes.

3.) Krebs Coloured Pigment Patent Application (U. S. Appl. No. 714.685)

Dr. Jebsen reported about his negotiations with Mr. Rupprecht of Krebs Pigment and Color Corporation. He had asked Mr. Beschorman to inform Mr. Rupprecht that Titangesellschaft could not accept to rep-

resent the Krebs Pigment & Color Corporation with regard to the patent application. They would, however, be glad to discuss more fully the question of a license when a patent is granted.

It was agreed, in case of a patent application by Krebs, to be as considerate as possible. However, T.G. must reserve itself the right to formally raise opposition in order to protect its opposition rights. It is intended, however, to start with, to word the opposition so that it can be withdrawn at any moment without prejudice for the possible grant of a patent. It would then be a question of awaiting the developments of the negotiations with Krebs, started by Dr. Jebsen, regarding a general interchange of patents. It was agreed that in principle a free interchange of licenses was desirable. Dr. Jebsen requested that this matter be treated confidentially, also towards members of the Blumenfeld group.

Exhibit 824

Letterhead of

TITAN COMPANY. INC.

No. 134.
GJ/AK

Paris, April 26th 1935.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,
Re: HONG-KONG.

You may remember that B.T.P. claimed the right to sell in Hong-Kong, as the city belongs to the British Empire. T.G.m.b.H. has been selling there, considering it part of China. T.G.m.b.H. acknowledged that it does belong to the British Empire, but an unsatisfactory situation could arise, Hong-Kong being an important port to China and goods easily trespass the Chinese frontier.

After various discussions with the B.T.P. people, I was authorised to inform T.G.m.b.H. that B.T.P. was willing to give them the Hong-Kong market. Compensations on various lines were suggested, particularly a royalty payment or the right for B.T.P. to deliver to Pinchin Johnson's factories in China. I suggested that it should be left to the Germans to offer a compensation, as both Dr. Kühne and Mr. Weber-Andreae were reasonable people and sensitive to a gesture—and this was accepted.

Taking it up with Kühne, Brüggemann and Borgwardt, on these lines, I found that Borgwardt was not in favour

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of the mode of compensation which had been considered within the B.T.P. He was afraid that the deliveries to Pinchin Johnson's Chinese factories might develop into a request of deliveries also to the firm's factories in other parts of T.G.m.b.H.'s territory. Borgwardt suggested as compensation either

1). The profits on the sales to Hong-Kong to be paid to B.T.P., similar to the arrangement we have for deliveries by B.T.P. to Unilever's factories in T.G.m. b.H.'s territory; or

2). The profit on B.T.P.'s deliveries to Unilever's factories in T.G.m.b.H.'s territory.

B.T.P.'s board has accepted the first alternative, and the matter will now be settled on these lines.

The discussions which took place about this matter were all in a friendly spirit.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 827

No. 51.

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, February 2nd 1934.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Sales Development Committee B.T.P.

The sales are developing well in United Kingdom.

January sales in	*1933.*	*1934*
Standard T	98 tons	163 tons
Extra T	24 "	51 "
TiO2	36 "	70 "
	158	284

Oversea sales are small, chiefly due, I think, to the agencies not having been appointed. The committee considered these, and accepted I.C.I.'s offer to take Egypt, Palestine and Straits Settlements: for Straits Settlements it was considered advisable to make an arrangement with Arnold Meyer, our present representative,—giving him a preference price,—and prevent him from taking over Laporte's agency. Goodlass Wall people have reported favourably on Titan Co A/S' South-African agents; the firm is good,

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but I thought somebody could be found who was more familiar with the trade. Re Australia and New Zealand, further investigations are considered necessary. Greeff put forward their New Zealand connection but not the Australian.

Mr. Thompson and Mr. Stopford submitted a proposal to reduce all oversea prices as per enclosed copy—to be based on the present English prices before duty paid.

This will mean a considerable reduction of the profit, but, what is worse, the profit Greeffs thus calculates is based on B.T.P.'s cost price from Leverkusen (without interest on capital) and this is lower than B.T.P.'s will be for quite some time in Billingham.

The estimated cost of TiO2 pigment in Billinghan (1600 t.p.a.) is £46.0.0. Assuming same freight from Billingham as from Rotterdam to for instance South Africa (and it will be higher) the suggested price will only leave a gross profit of 38% of cost price.

With these prices established—the next thing will be—the English customers, when Billingham starts, to request a price giving B.T.P. the same price ex Billingham as for oversea deliveries.

The Australian prices for TiO2 are already so low, due to specific competition, and I pointed out that this was used against the Germans, by an English firm asking for quotation for a daughter-company in Brazil. Thus, the Germans find sales of their own product used as argument against the German prices.

All seemed to agree that this ought not to be so.

Last autumn Mr. Thompson asked permission to deliver to Lever Bros' factory in Switzerland, under their contract

based on English prices. The Germans agreed to this, provided the profit was turned over. I find now, that Thompson has calculated in the same way and not used a price equivalent to the English inland price, but a cif price, duty unpaid. Such low price was entirely unnecessary and I am surprised of Thompson's action and way of reasoning, which can have most unfortunate results. The Germans are probably not aware of this yet, but I do not look forward to their comments with pleasure, if they find it out.

It was agreed by the committee, and later by the Board (Tasker not being present in the committee), to retain prices and only lower them if competition made this necessary.

Thompson asked me somewhat suddenly and heated: "Do you mean, Dr. Jebsen, that B.T.P. is dependent on Titangesellschaft for the fixation of its prices"? I answered: "No, with the exception that we all live in the same world." Major Barley agreed and pointed out that there is quite some talk of a devaluation of the German Mark with 40%, in which case the Germans would be able to sell very cheap.

In my opinion, the Germans should be more tempted to reduce prices, with their low costs, the new extension and the British market dropping out. They had, though, not found that the possibilities of extensions with the present prices were exhausted, and, with out present developments, I did not see that we should start an unnecessary reduction of the prices.

Thompson pictured a future with large sales and lower prices. I told him that we had fixed that policy when we planned the factory, which provides for an extension to 3000 tons TiO2 with an extra investment of only 8 to

10.000 £. The price reduction should, though, be made gradually, as we exhausted the possibilities of the markets which can pay higher prices. I asked them also to have in mind that the new factory is not likely to produce at £46.0.0 per ton TiO2, immediately. We must be prepared for higher costs in the beginning and, with the considerable overhead and propaganda expenses—not included in the production costs—we will do well in not precipitating price reductions. I am inclined to think the low costs in Leverkusen have made things too easy.

I enclose two memos regarding the formation of international committees for cooperation on sales, and will suggest to have formed similar committees for manufacture and research—these last to work in line with the scheme for cooperation I understand is developing on your side and which I very much welcome.

These two suggestions were much welcomed by all, except Mr. Thompson, who asked if it was my intention that the parties should let open entirely their various sales methods and experience, etc. I thought it would be a matter of "give and take" and development of mutual confidence. Tasker meant that, with sales territories divided, there should be no objection to a full exchange. Mr. Stopford later informed me that Thompson afterwards has tried to enlist him for a policy of B.T.P. acting without regard to the continental firms, which he had opposed.— I do not see anything else in Thompson's attitude than agency firms usual disinclination to give information away re their business, and a desire to have the largest possible turnover,

and think Thompson will cooperate all right, once the situation is established.

I hope a cooperation can be established between the Titanium Pigment Co. and these international committees. They will have to develop their field of work and cooperation. My proposals for reports are only meant as suggestions for a start.

Exchange of technical sales service experience takes, as you know, already place—it was established when Mr. Hagar was over—and this forms a very good basis for further development.

Reports on the subjects 1, 2 and 3 (memo I) are given by me for the most parts in my annual reports.

Please consider if similar information from Titanium Pigment Co. could be sent us.

With kindest regards,

Yours very truly,

G. JEBSEN

P.S.—

February 6th

I enclose copy of my letter of even date to R. W. Greeff & Co.

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INTERNATIONAL SALES COMMITTEE.

MINUTES FROM MEETING HELD IN PARIS MARCH 1st and 2nd 1934

Present: Dr. Jebsen (chairman) Mr. Thompson
Dr. Kühne (partly) " Stopford
Dr. Raspe " Gilbert
Mr. Borgwardt " Anker
" Henriksen
" Ravner (secretary)

1. Election of Chairman and Secretary.

Following Mr. Thompson's proposal, Dr. Jebsen was unanimously elected Chairman of the Committee. Mr. Ravner was elected Secretary.

2. Sales and Price Statistics.

The following statistics were distributed:

a) Annual deliveries in the last 5 years in the most important markets.

b) Diagram of deliveries 1922-1933.

c) Lowest official prices of "KRONOS" pigments in various countries with corresponding net prices fob Leverkusen per January 1934, as well as prices of competitive products and the ratio of Standard T and TiO2 prices to the price of Lithopone.

d) Cost of mixtures of TiO2 with Blanc Fixe to give a product of the same tinting strength as Standard T and Extra T in various countries.

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e) Distribution of the deliveries of Titanium pigment over the various kinds of industries in the most important countries.

f) Data regarding the artificial silk industry

3. General Review of Market Conditions.

Mr. Thompson	representing	B.T.P.
" Borgwardt	" "	T.G.
" Gilbert	"	Sté Ind. du Titane
" Ravner	"	Titan Company Inc.

gave a general review of the conditions and their experience from the sale in the respective markets.

4. Price Policy.

Mr. Ravner outlined the experience in the various markets as to the price-value of "KRONOS" pigments compared with the other white pigments.

The indication is that at the same price per unit of tinting strength as in 30% Lithopone, resp. 60% Lithopone and Zinc Sulphide, a large market can be expected but a considerable development is still to be foreseen at higher prices.

In the Scandinavian countries which chiefly use Zinc Oxide and where pigments are chiefly consumed by the master-painters and the public, Standard A can expect a very extensive general use at a price equal to Zinc Oxide. At the higher prices hitherto applied and up to 30% above Zinc Oxide a smaller but not inconsiderable part of the market is held.

The business depression of the last years and the unstable exchange situation have led to very irregular prices

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for the competitive pigments in the various markets, which have in turn led to a discoordination also between the prices for the "KRONOS" pigments.

The situation was thoroughly reviewed, all members contributing to the discussion and generally approving Mr. Ravner's exposé.

Laporte's beginning competition at very low prices on the British Oversea markets, Holland and Belgium were particularly mentioned.

In Great Britain a price agreement between Laporte and B.T.P. Co. exists.

It was agreed that it was desirable to aim at a coordination of prices, but under the present unsettled international conditions and the different stages of development of the sales in the various countries, it was necessary for each company to have a considerable liberty in the fixation of prices.

However, it was by all considered advisable to avoid as far as possible price quotations which could have a disturbing effect on prices in other countries.

Dr. Jebsen put forward the following proposal which was approved by all members:

a) Prices for deliveries—duty unpaid—should be based on a price F.O.B. Leverkusen not below:

for TiO_2	Mk. 900.—
" Extra T	" 525.—
" Stand.T	" 335.—
" Stand.A	" 331.—

These prices to be calculated by deducting from the actual sales price 5% commission on sales price, freight and insurance.

b) Prices for deliveries with duty paid can be made correspondingly lower, if competition with other pigments makes it necessary.

c) The above minimum price to apply also for large contracts. Quotations below these, only to be made, when forced by competition from other Titanium manufacturers, or if the exchange situation brings price reductions, which can not at once be recovered. Such quotations and cases to be reported immediately to the Paris office for information to all members.

d) These basic prices to be rediscussed at the request of any member of the Committee.

5. *Future Exchange of Statistical Information.*

Mr. Borgwardt and Mr. Ravner had been asked to propose standard schedules for sales statistics.

It was agreed that Mr. Ravner should prepare and circulate among the members the proposals for such schedules which were discussed and agreed upon in principle, and which should contain the following information:

a) *Deliveries.*

The schedule should specify the deliveries of each quality, calculated as TiO2, separately for each country, in which deliveries exceed 20 t. (as TiO2), while the countries where deliveries amount to less should be grouped together. The schedule to contain a column of the preceding year.

b) *Prices.*

The schedule should give the lowest prices generally applied for "KRONOS" and competitive pigments. The

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prices to be stated in the currency of the country in question as well as in German Marks; with indication of rate of exchange.

c) *Quantities delivered to the different industries.*

The division of groups of industries was carefully considered and agreed upon.

The above-mentioned statistics should be established for the periods January 1st to June 30th and January 1st to December 31st of every year and sent to the Paris office for distribution among the members.

In addition the members will immediately advise the Paris office, for notification of all members, of any change in the prices amounting to more than 5%.

6. *Possible New Outlets.*

Possible new outlets were discussed and particularly were considered the following, mentioned by Mr. Borgwardt and Dr. Raspe:

a) *Electrical welding.*

In Germany there are two customers for Titanium Oxide for this purpose, using 1 to 2 tons a year. In Belgium Ilmenite Black has been sold for the same purpose.

b) *On roads.*

There is a demand for products to make the edges and division lines of automobile roads white, a product that could be incorporated in the road material. Titanium White has been tried and is partly used in road paints in various countries.

It is though probably still too expensive for these purposes.

c) *In the porcelain industry*, as insulating material, particularly for the radio industry. The high dielectric constant of titanium oxide looks promising.

According to Landolt-Boernstein (1912) the constants are for the following products:

Rutile	89 to 173, in powder 110
Brookit	78
Zirconium	12, 8
Quartz	4, 69

A German firm has ordered 10 tons for test purposes. The price will presumably have to be reduced considerably.

d) *In the glass industry.*

Tests in Germany have shown that glass containing up to 40% TiO2 has a specially high light refractive index, and forms together with lead compounds a good raw material for crystal glass and glass of high brilliancy.

Titanium oxide in the glass prevents ultra violet rays to pass through. It should therefore have possibilities in equatorial climate where the destruction of goods would be hindered if kept in containers made of such glass.

The possibilities of the calcium base pigments were also discussed, Dr. Jebsen and Dr. Raspe pointing to the results obtained in America, and the specific properties of these pigments. There is, however, no opportunity for manufacturing this pigment before towards the end of the year.

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7. *Propaganda.*

Messrs. Thompson, Borgwardt and Gilbert gave a short outline regarding the propaganda work in the respective countries.

Dr. Jebsen, in making a résume, stated that the propaganda had been made chiefly along two lines:

a) industrial consumers,

b) master-painters and the public.

As general experience it can be said, that personal propaganda, was the most important and gave the best results, whereas printed matters and publications were only useful as an aid to personal propaganda, unless a very wide and extensive advertising campaign was undertaken in newspapers, as done in Norway and Finland and partly in Sweden and Denmark. This form for propaganda would, however, presumably be too expensive in other countries.

8. *Future meetings*

It was left to the discretion of the chairman to arrange for subsequent meetings of the Committee as and when desirable.

In principle a meeting should be held at least once every year.

C. J. RAVNER

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INTERNATIONAL SALES COMMITTEE.

Minutes of the Second Meeting

Held in London, October 3rd & 4th, 1934.

Present: Dr. G. Jebsen (Chairman)
Mr. E. Anker,
Mr. H. Borgwardt,
Mr. P. Gilbert,
Dr. F. Raspe,
Mr. C. J. Stopford,
Mr. A. J. Thompson
Mr. O. Ravner (Secretary).

9. Co-operation With Titanium Pigment Co.

Dr. Jebsen informed the Committee that the Titanium Pigment Co., was willing to be represented at the annual meetings and the Committee welcomed this co-operation very much.

Dr. Jebsen put on record the resolutions passed by the Board of the Companies represented, according to which each Company has agreed to the formation of the Committee to the purpose of discussing sales questions of mutual interest and promoting co-operation and particularly to send in reports to the annual meetings concerning:

1. Sales results : Quantities and prices.
2. Statistics specifying the distribution to the various kinds of industries.
3. A general review of the market conditions, dealing with the price policy for our pigments in relation to competitive products

as well as the development of sales in specific important industries.

4. Possible new outlets.

5. Propaganda methods.

10. Review of the Market Conditions in Each Company's Sales Territory.

Dr. Jebsen asked the representatives from each Company to give their reports re market conditions.

Mr. A. J. Thompson : England.

The Sales figures which are before us in the statistics circulated previously to the members all indicate that the deliveries of Titanium show a steady increase.

In the *paint trade* it may be expected that the increase will continue but there is always the outstanding difficulty of chalking. We should be very much interested to hear whether any progress has been made in the direction of limiting this—to know of any special lines of research that are being followed. In parts of the American continent and in Australia we believe it is reduced to a minimum but under the conditions of climate of the United Kingdom it has so far prevented the general use of Titanium as an outside paint, and has limited it for the most part to undercoats or to admixture in limited quantities for top coats.

Linoleum. The situation in the linoleum industry is mainly a question of economics. They are fully alive to the merits and advantages of using Titanium pigments but find the cost prohibitive apart from a few special uses. Opinions differ in regard to the relative values of lithopone and

titanium oxide. In some directions we are advised that the price of Titanium Oxide must not be in excess of £60 per ton whereas we are told by others that the pigment affords distinct possibilities at a price of £70-£75 per ton.

Artificial Silk. The patent situation appears to have resolved itself and silk manufacturers in this country, with the exception of North British Rayon Co. Ltd. are using Titanium Oxide regularly. Courtaulds and Celanese are by far the largest individual users and of these Courtaulds are also using important quantities of Rayox. The consumption of other makers is so far less important but Titanium may be expected to have a steady development.

Paper. Considerable attention has been devoted to this industry during recent months. All the mills have been written to and most of the important mills have been called on personally. The progress made so far is not particularly encouraging although a number of mills have the product under test. There is only one firm in this country to our knowledge which is using Titanium on an important scale at the present time.

In the United States the paper industry has adopted Titanium much more extensively. One of our representatives who has recently returned from America suggests the following as an explanation. In this country the best writing and printing papers are made from cotton rag. This gives the paper good colour and opacity without the use of any loading. Esparto grass is also used for good quality papers and though inferior to rag, produces paper of good colour and opacity without the addition of opacifying agents. Mills that have been called on in the United Kingdom who make high-class papers of these types have given

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the assurance that they obtain all the whiteness and opacity required without loading. Wood pulp is mainly used in this country for papers of lower quality, the price of which is cut so fine as to preclude the use of expensive loading materials. Practical trials made in collaboration with mills handling such types of paper (e.g., typewriting, manifold and general correspondence paper) have indicated that the increase of efficiency obtained by the substitution of a small percentage of Titanium Oxide for the ordinary loading is not comparable with the increased cost (the average price of ordinary loadings being £3. per ton). The point made by our agent is that in America, rag and esparto are not used to any extent. Wood pulp is used almost exclusively, even for high class papers where cost is not such a vital consideration. There is therefore greater scope for the introduction of Titanium Oxide to mask the comparative transparency and ready discolouration of wood pulp so as to produce with this cheap fibre the high quality obtainable with the more expensive fibres used in this country.

Deliveries for 9 months January/September 1933 and 1934 were:

	TiO2	70%	Extra	Standard	Calculated as pure
1933	454.6	62.4	315.7	996.9	904.12
1934	753.6	60.1	492.15	1165.4	1333.19

showing an increase in terms of Pure of 47½%.

Mr. P. GILBERT: FRANCE

In spite of the rather accentuated crisis, which we are undergoing, the sales are progressing.

Compared with the first six months of 1933, the sales effected during the same period in 1934 have increased by

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14% calculated as TiO_2. The fact, that through the price agreement established with Thann et Mulhouse, we are both quoting the same prices for titanium oxide, the French make is to a certain degree favoured by many buyers.

The progress of sales is not due to any particularly important new uses, but rather to an increase in the consumption by certain buyers—as well as some new clients.

On the other hand we have noticed a reduced consumption by other clients (for instance, Valentine), who have reduced the percentage of titanium in their formulae in order to diminish the disadvantages through chalking.

It can be mentioned, that the use of Titanium in the leather industry is becoming more general. In this direction we have had the satisfaction to carry out tests in an important tannery and to establish a method for use, which has facilitated its introduction into other tanneries or leather dressers.

In the paper industry, in spite of the fact that titanium makes it possible to obtain an amelioration of the quality with regard to whiteness and opacity - the high prices of titanium pigments compared with other fillers generally used, limit the use of same to high class papers only.

The firm Priou has established its mark "Ideal" with a percentage of titanium, and it is easy to appreciate the difference by comparing the publicity brochures, which we have just published - one part of which has been printed on paper without titanium, and the other one on paper marked "Ideal" containing titanium.

However, the firm Priou informs us, that the mark "Ideal" containing titanium, is very little asked for, as only few buyers are willing to pay the price asked.

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Other tests made by the Papeteries Navarre on letter paper show a result, but with a percentage of 10% of Standard T. which is exorbitant and increases too much the price of the paper.

A development in this industry can only be arrived at through lower prices of Standard T. or TiO_2, and more accurate indications as to their use in the different qualities of paper.

With regard to the production of paper for electric insulation, a paper manufacturer seems to have obtained satisfaction, in as much as he has already passed three orders, totalling 2000 kgs.

The use of titanium in artificial silk is also becoming more general, and silk factories which hitherto had taken no interest in the production of flat silk are now making tests.

Cloth-printing is a new source for the use of Titanium in France. Some trials of little importance had been effected, but during the last months the interest for the use of titanium has increased, and we have supplied 4600 kgs. during the first six months of this year. We can thus expect a development from this side.

Titanium is to-day adopted for the production of paints and varnishes in quite an important number of formulae as a pigment basis, but principally in products of good quality and at rather high prices. In order to arrive at a more rapid increase in the consumption, the prices will have to be more in concordance with competitive products such as Lithopone and Zinc Oxide.

It must not be forgotten, that the use of 1000 kgs. of TiO_2 replaces about 4/5000 kgs. of zinc white as tinting strength.

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An industry which could utilize Titanium to a larger extent is vitreous enamel. Quite recently an engineer specialized in this industry, wrote us, that he is convinced about the possibility of using it in all categories of enamel, for which the heating temperature is below 850°C. Above this temperature there is nearly always a combination of Titanium with the other elements of the enamels. The engineer in question is investigating whether it is possible to render TiO_2 more stable in order to be able to use it in all current enamels, and he asks us if we have already some indication to give him, and if we have had good results in this direction.

We are now introduced to the Navy, to the State Railway Companies, to the East Railway Company, to the Paris-Lyon-Mediterranée, and we are on the point of being accepted by the Railway Company Paris-Orleans and Alsace-Lorraine. These administrations have accepted to attribute a higher purchase co-efficient for Titanium White than for that attributed for Zinc White owing to the more important hiding power of Titanium White.

Mr. E. ANKER : BELGIUM & HOLLAND.

The Sales during the first 9 months of the year, calculated as TiO_2 have been:

In Belgium

123 tons, increase 22% over same period in 1933

" Holland

196 " " 32.5% " " " " "

Total 319 " " 28% " " " " "

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In both countries the increase occurs in TiO_2, the sale of Extra and Standard being nearly the same as last year. The reason is that our prices for the composite pigments are too high compared to the very low price of Lithopone and zinc oxide in the countries to allow any increase in the consumption.

Thus, the price of Standard T. in Belgium is 257% over 30% Lithopone and in Holland 250% over 30% Lithopone, that is to say higher than in any other country.

On the other hand, the sale of TiO_2 has been able to develop nicely, this pigment not being in such direct competition with lithopone and zinc oxide.

In both countries the sales to the artificial silk manufacturers has increased, in Belgium these sales represent 33% of the total and in Holland 51%.

The most interesting sale as to possibilities in the future has been to the paper industry in Holland. In this country one big paper factory has worked regularly with Standard T. and wanted to place a contract for 20 tons—as we had already given our rock-bottom price, the Company did not give us this contract as they did not get any lower price. They have however, taken out 15 tons Standard T. this year, used chiefly in a ledger paper of high quality to improve whiteness and opacity.

The technical directors of this Company have asked us for a pigment containing china clay instead of blanc fixe, as the blanc fixe is heavy and has a rather low retention. A pigment containing 25% TiO_2 and 75% china clay has been prepared in Fredrikstad and 200 kg. have been sold to this firm for trials—the results are not yet known.

A pigment containing china clay ought to interest us for the following reasons:

1. better retention than a blanc fixe pigment
2. lower production price
3. possibility of selling a pigment to the paper industry at a low price without interfering with our price policy for the other pigments and to the other industries.

Two other paper mills in Holland are buying regularly small quantities of TiO_2, prefering to work with the pure pigment and do the mixing themselves.

A trial order for TiO_2 has been placed by an important cement factory wanting to use our pigment for white cement, in order to avoid the greenish shade which the white cement usually gets when submitted to high pressure, for example. when used for cement tiles.

Mr. H. BORGWARDT : GERMANY.

During 1934 we have increased our sales by 46% as compared with the same period in 1933. This increase refers not only to TiO_2 but also to all the other qualities even Standard A. although the increase in the latter amounts to about 30% only.

Business with the master painters still suffers from the influence of chalking and therefore it will grow rather slowly.

In the industrial sales we have made good progress in the linoleum industry, in which the Betburg people have taken Standard T. at a monthly average of 40 tons, at a price of M. 35.75. We have good prospects to extend our sales to the big trust too, the Chairman of which has told us that after finishing their present tests which are satisfactory

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in every respect up to now, they will take more quantities. The price offered by us of M.34 would suit them.

In the industry of artificial silk we have had a small increase but have not yet reached the figures of the beginning of last year. All the factories buy our product but they use it in a smaller percentage than they did formally.

In the paper industry, we have made no progress worth mentioning.

We have some clients who buy titanium oxide or Standard T. for waxed paper, Bible paper, paper serviettes, air mail paper, coated paper etc., but the quantities consumed are extremely small.

We have succeeded, some days ago in making a big contract with the porcelain factory for the production of insulators. They have contracted for 200 tons of TiO_2, out of which 100 tons will be delivered by the end of July next but they have told us that they expect to take much bigger quantities.

With regard to price we still maintain our policy of giving different prices to different customers and are not sticking to list prices. We have reduced the official basis price on the 1st October, and shall probably make another reduction on the 1st January next, when our lowest possible price will probably be

M. 100 per 100 kilo. of TiO_2
M. 65 " " " " Extra T.
M. 40 " " " " Standard T.

For Standard A. we have not made a reduction recently, and do not intend to make one in the near future. By reducing these prices the price difference will be more and more level now.

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As regards competition, we have met with some competition from Laporte in Spain, but we have held our business by reducing the respective prices. In Japan, they have made some imports from sources which we have not yet been able to trace. We suppose that they come from Laporte too.

MR. RAVNER : SCANDINAVIA.

From the table "Quantities delivered" see "Statistics circulated re Sales and Prices first six months 1934" will be seen, that the sales have increased by 28% calculated as TiO_2. Especially on account of the sales to the rubber factories, which prefer to use Titanium Oxide, the sales of this pigment have increased considerably. The rubber industry in Norway and Sweden has in the first 6 months of this year bought 43 tons TiO_2. The most important rubber factory in Norway has now decided to replace lithopone with TiO_2 together with chalk and other extenders.

Also the linoleum industry seems to be more interested to use titanium pigments. The reason for this is, that there is an increasing market for bright inlaid linoleum qualities (marmorated, jaspe, and so on) and it seems that such qualities when containing titanium pigments are more flexible and resist better the variation of temperature in these countries (from much below zero up to 30°C.) without showing any tendency to crack, which has been the case with bright qualities containing lithopone. Bright inlaid linoleum containing 30% lithopone seem to contain too much pigment in relation to linoleum cement and therefore the quality is not so flexible and durable as qualities containing titanium pigment where less pigment can be used.

The paper industry has bought ca. 7 tons as TiO_2. In order to develop the sales to the paper industry in a some-

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what faster way, we have to work out technical methods, *which will give better retention of titanium pigments in paper and thereby reduce the costs.* Due to the good retention of china clay in paper we have produced a mixed pigment for trial tests in Norway, which contains 25% TiO_2 and 75% china clay. Tests are running with this product in Holland and will also be tried in Scandinavia, as soon as we have results from these tests, they will be circulated to the members of the Committee.

Two porcelain factories are making tests with TiO_2 for insulating material, and we await their results which may take a little time because they have to make mechanical and electrical tests with the insulators.

The paint industry—and especially the sale of Standard A. to painters—is the chief market in these countries.

In Norway the sales to this industry have been 78% of total sales
" Sweden " " " " " " " 76% " " "
" Denmark " " " " " " " 87% " " "
" Finland " " " " " " " 97% " " "

PRICE SITUATION:

The prices ruling at the end of June will be found in the circulated "Statistics, Section B.".

On account of the very low prices of zinc oxide as well as the unstable exchange situation, our prices for Standard A. have been from 35 up to 48% above zinc oxide prices. English zinc oxide has found an increasing market in these countries on account of low quotations. In spite of the important difference in price, we have been able to increase our sales of Standard A. in Sweden, Denmark and Finland.

Exhibit 825

Messrs. Laporte started a more active sale in Sweden at the end of June this year. The company quoted the following prices:

A) Grade 223 (25% TiO_2) B) T.o8. (50% TiO_2) C) Grade T. 82% TiO_2

5 ton parcels			
30/6/34	£29/15/0 cif	£44/15/0	£63/15/0
	=Sw.Kr. 578.-	Kr. 868.-	Kr. 1236.-
Our lowest price	Sw.Kr. 575.-	Sw.Kr.1.000.-	

The price of Extra T. was reduced to the same price as that of Laporte in order to meet this competition. Laporte are thus selling these products far below the English inland prices. The prices in England for 5 ton lots, carriage paid, are:

St.T. £33/5/Od.. Extra T. £54/5/Od. TiO_2 £90/5/Od.

Dr. Jebsen thanked the representatives for the very interesting reports.

As regards the difficulties of chalking and the research to be pursued in this respect, we should bear the following in mind. We are all in agreement that the prices for the titanium pigments will gradually come down particularly in order to extend their application in a wider range of industries. The lower the prices are the greater will be the interest in the paint industry to make use of titanium pigments for outside paints. It is therefore to be expected

that the paint industry with increasing interest will join us in the research work on the problem of chalking.

This research work can be done on two different lines:

(a) By improvement of the chalking in the preparation of paints, choice of vehicles etc.

(b) By improvement of the pigment.

This last line of research will fall entirely upon ourselves, whereas in the first line we will have the paint makers joining us. In addition to this we should also have the manufacturers of the vehicles very interested in solving this problem.

On the basis of the reports submitted an extensive general exchange of views took place.

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11. Future Price Policy.

Referring to the minutes of the meeting in March, it was agreed that the prices to be fixed according to the resolution under 4 (a) should no more be on the basis "reduced back to f.o.b. Leverkusen", but should in the future be the prices applied in each country to the customer including duty. These prices are not binding on the Companies but are the minimum prices under which the Companies will not go without immediately thereafter sending information to the Paris office for distribution to the other associated companies.

It was generally agreed that it was considered advisable to go in for price reductions amounting to 10/15%, and the representatives of the various companies intimated that these price reductions would probably be carried out dur-

ing the autumn, the early winter and the beginning of the new year.

It was agreed that in cases where contracts were made or orders accepted at prices below

for TiO_2	950 M.
" Extra T.	540 M.
" Standard T.	340 M.
" Standard A.	340 M.

—Prices based on goods delivered to customer duty paid— the Paris office to be immediately informed for the purpose of informing the associated companies.

It was approved that exchange fluctuations which would bring the prices in the countries' currency below the agreed figure in RM. should be reported to the Paris office if they cause a reduction seriously below the agreed figures, such information to be reported to the members of the Committee.

It was agreed that the Paris office should be informed of all changes *in the prices generally applied*, and the Paris office to inform the associated companies if these changes should in their opinion, be of sufficient importance to interest the associated companies.

In the case of foreign shipments, the parties selling the goods shall assure themselves, by the best possible means, that the goods actually go to the destination to which they are forwarded.

———oOo———

Laporte's competition and position was discussed.

Laporte's competition in Great Britain has not been felt, but they are placing their material on the market and

are presumably selling it at a rate of about 60% of their capacity.

Mr. Thompson and Mr. Stopford informed the Committee shortly of a recent conversation with representatives of Laporte. They had the impression that the contemplated price reduction by B.T.P. was not welcomed by Laporte, who had said that they would follow a reduction of 10% and also of 15% if necessary, but this latter unwillingly.

Mr. Stopford touching on the question of a price arrangement also for the countries outside Great Britain, was met with reserve. Laporte has been conducting a price cutting competition in several countries outside Great Britain, particularly in Holland, Sweden and Spain and possibly in Switzerland. Also in Australia Laport has offered at considerably low prices.

From remarks during the conversation with Mr. Thompson and Mr. Stopford it seems that Laporte, as to these countries, intends to establish a nuisance value. A price and a quota arrangement with Laporte in these markets would strengthen the position of Laporte.

According to Mr. Thompson and Mr. Stopford, Laporte's demands as to a share of the business in Great Britain was very exaggerated, having mentioned a 50% share. It was generally agreed, that the situation was not ripe for any arrangement.

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12. Exchange of Views Re the Schedules of Statistics Distributed.

The form of the schedules was generally agreed upon by the Committee to be satisfactory, but it was suggested that as the prices given are the lowest prices generally applied at the 30th June and 31st December, a note should

be made on the schedule of any outstanding exception to the prices given.

13 PAPER EXPERT FOR MUTUAL WORK WITH PROBLEMS FOR INTRODUCTION OF TITANIUM PIGMENTS IN THE PAPER INDUSTRY.

After consideration of the proposal put forward by Mr. Borgwardt, Dr. Jebsen thanked Mr. Borgwardt for the offer, and remarked, that the Committee appreciated the attitude taken by the I.G. in this matter.

After prolonged discussion, the matter was adjourned for further consideration at the next meeting.

14. CALCIUM BASE PIGMENTS.

Dr. Jebsen read the report from the International Technical Sales Committee held in Leverkusen, July 17th and 18th of this year, and informed the members that the Titangesellschaft would, during this winter, produce C.50 as well as C.30 pigment in such quantities that the pigment would be available for general sale.

15. POSSIBLE NEW OUTLETS.

Mr. Rayner referred to the increasing quantities of TiO_2 sold to the textile industry for cloth printing and sized or dressed cloth (calico, silk, woollen and cotton goods). The titanium oxide is used to whiten portions of designs when colours have been removed by discharging and bleaching. The oxide has also been successfully used in inks for pigment-printed cloths, which seem to be fashionable at the present time.

In order to fix the pigment to the fibres we have sometimes recommended our "Tisotex", but it appears that this

product does not fix TiO_2 sufficiently to the cloth. The question therefore is to find a glue or binder, which can fix the TiO_2 better to the fibres. This will also be the case if TiO_2 finds an outlet to brighten up linen, duck and so on.

On account of the use of TiO_2 in the textile industry, this industry has taken an increasing interest in the use of *Titanium Salts*. We know that small quantities of titanium chloride and sulphate have been tried in the textile colouring industry—particularly as a stripping or discharging agent in the treatment of dyed and printed goods of cotton, silk woollen and shoddy. (The titanous sulphate serves as a reducing agent and becomes oxidized to titanic compound). Titanium sulphate and fluorides can also serve as mordanating materials for certain qualities of dyes.

Titanium potassium oxalate, fluoride and tartrates have been tried for dyeing and staining of leathers. By direct action on vegetable-tanned leathers the compounds give a fast yellow-brownish shade without addition of dyestuff.

Titanium-gluconate and lactate seem to be of interest for tanning of white luxury leathers.

As far as I understand, we do not know what quantities can be sold of such salts, and I believe it would be advisable to try and ascertain in the various countries if there will be a real demand for such salts - and what quantities would be required.

Dr. Jebsen remarked that although the sale of titanium salts seem to be small, it was of interest that the Committee's attention was drawn to these questions and it was desirable that the associated companies ascertain what the consumption of these salts might be for the information of the technical organisations in view of a possible production.

Exhibit 825

16. PROPAGANDA METHODS.

Mr A.J. Thompson remarked that in his opinion, personal contact was the best method.

Mr Stopford partly agreed with this remark, but added that in the case of British Titan Products it was necessary to have pamphlets for propaganda abroad and that they were having such pamphlets prepared. The first would be with special reference to the paint trade and others would follow.

Mr Borgwardt told the Committee of their special propaganda in the paint trade, in which five or six master-painters had been engaged to visit the master-painters and discuss their individual problems and suggest methods of over-coming them.

Mr. Gilbert distributed a new pamphlet which had been prepared. A few of these had been printed on coated paper containing Titanium. Mr. Gilbert was congratulated on the pamphlet by the other members of the Committee.

17. DATE & PLACE OF NEXT MEETING.

Dr. Jebsen remarked that during his forthcoming visit to America the question of a representative of the Titanium Pigment Co.'s presence at the next meeting would probably be considered and it was agreed that the date be left for him to fix at his discretion.

Mr. Borgwardt extended a cordial invitation to the Committee to hold its next meeting at Frankfurt.

At the close of the meeting, Dr. Jebsen thanked British Titan Products Co. for their hospitality, and asked Mr Stopford to convey the Committee's appreciation and thanks for the facilities extended to them by Imperial Chemical Industries Ltd.

P. B.

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Exhibit 828

Letterhead of

TITAN COMPANY INC.

Paris, February 21st 1936.

/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Enclosed please find, translated from German, minutes No. 22 and 23 from Board meetings in Titangesellschaft, held at Leverkusen.

Yours very truly,

S. J. HENRIKSSEN

Same letter sent Mr. Cornish.

Exhibit 828

Translated from German
December 27th 1935.

Minutes Nr.23.

Minutes from conference re titanium white matters at Leverkusen December 3rd, 1935.

Present: Dr. Kühne
Dr. Jebsen
Dr. Brüggemann
Borgwardt
Splittgerber
Dr. Raspe.

1.) The visit of the Japanese engineer in Leverkusen shall not take place before the signature of the agreements with Blumenfeld. The agreements with Blumenfeld and with Japan shall be completed as soon as possible. If these agreements are available in Japan in the middle of January, Mr. Splittgerber is of the opinion that they will be signed by the Japanese within 3 or 4 days. The visit of the Japanese engineer can then take place.

2.) At the meeting of the International Sales Committee, July 3rd and 4th 1935 in Frankfurt, it was agreed not to go below the following minimum prices without informing Dr. Jebsen's office in Paris, who will advise the associated companies accordingly:

RM. 775.—per 1.000 kg. TiO_2
" 450.— " " " Extra T
" 285.— " " " Standard T.

For Standard A is to be taken as a basis the Standard T price plus the market price for Zinc Oxide. All the prices apply to goods delivered freight and duty paid.

Exhibit 828

3.) Titangesellschaft will try again, with the aid of Leverkusen, to obtain the permission for Titan Company Inc. to pay in Sperrmarks 100% of its share in the costs of the paper expert.

4.) The change in prices for Standard A and the other pigments shall be again discussed in January 1936, in connection with the new pigment for inside use.

5.) The British Titan Products Company has agreed not to exercise its sales right in Hongkong and accepts the proposal that, as a compensation, the profit on sales to Hongkong be transferred to the B.T.P.

6.) Dr. Jebsen reported about the conclusion of a 3 years delivery contract between the B.T.P. and Pinchin Johnson & Co., London, for the requirements of the latter firm's branches in the British Empire, with the usual clause against export and possible cancellation of the contract in case of transgressing this stipulation. He further stated the reasons that brought about this contract.

From statements made by Pinchin Johnson, export outside of the British Empire, to the branches of Pinchin Johnson, is to be feared. As a cancellation of the contract in such case could have far reaching consequences due to circumstances which have been explained, it was suggested, if necessary, to permit such an export to the territory of Titangesellschaft on the condition that B.T.P. buy the corresponding quantities from Titangesellschaft at the same prices as those obtained from Pinchin Johnson for these deliveries.

The Titangesellschaft declared itself willing to accept this proposal as a solution in case of need. It was, how-

Exhibit 828

ever, emphasized that Titangesellschaft was anxious to be in direct contact with the overseas consumers and to supply them with its own goods.

Dr. Jebsen agreed to discuss the question in the above sense with the B.T.P. and mentioned at the same time that this would be in the interest of B.T.P., even after the above proposal is accepted, as the goods which the latter company has to take over are to be disposed of somewhere in the British Empire and would therefore imply extra duty expenses.

(sign.) Kühne (sign.) G. Jebsen

" Brüggemann " Raspe.

Exhibit 829

INTERNATIONAL SALES COMMITTEE.

Meeting Brighton June 28-30, 1937.

REVIEW

COMPETITION.

The activity of Laport has in certain cases led to price cutting. Their Swedish agent in technical pigments was very well introduced in the Rubber Industry with chemicals, and in this industry the competition was very keen. A blended mix : 90% "KRONOS" TiO2 + 10% C.30, succeeded in one case to be introduced to one of Laporte's most fidele customers. The effect of this pigment in rubber was considered to be similar to the effect of TiO2. Laporte has also offered a quality similar to "KRONOS" St. A, but no important sale was observed.

According to arrangement with Laporte they withdrew from Titan Co. A/S' market in May 1937.

With regard to the sales development of competing white pigments, the increase in the consumption of Lithopone in Norway and Sweden is remarkable. Lithopone is finding an extensive use in Paint, Rubber, Linoleum, Wall Paper and Plastics—industries to which we hope by and by to increase our sales by intorducing TiO2-Dolomite pigments.

It has been observed that Timonox has, particularly in Sweden, come into a general use in Varnish and Cellulosic Lacquers—in most cases together with TiO2 in the proportions from 2:3 to 3:2—for the purpose of reducing chalking. The manufacturers desirous to limit the number of raw materials are examining with interest "KRONOS" Aluminium-covered TiO2, hoping by this product to be able to reduce the chalking without using Timonos.

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SOCIETE BELGE DU TITANE S.A.

MARKET REPORT.

International Sales Committee.

Fifth Meeting, June 1937.

BELGIUM — HOLLAND.

In Belgium we do not meet with the competition of other manufacturers outside Tr/Thann, to whom we have been obliged, as pointed out previously, to transfer a certain number of our customers.

In Holland the position is the same as regards Tr/Thann.

The recent arrangement with the National Titanium Pigments (Laporte) has eliminated the competition of that firm. There remains Noury van der Lande; but their work is scarcely to be felt. They seem to encounter great difficulties in obtaining a high quality make.

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Exhibit 831

INTERNATIONAL SALES COMMITTEE.

Minutes

of V. Meeting held at Brighton, 29. and 30. June 1937.

——oOo——

PRESENT:

Members:	Dr. G. Jebsen (Chairman)	
	Mr. H. Borgwardt	T.G.
	Mr. P. Gilbert	Sté Ind. du Titane
	Mr. S. J. Henrikssen	Titan Company Inc.
	Dr. F. Raspe	T.G.
	Mr. C. J. Stopford	B.T.P.
	Mr. A. J. Thompson	"
	Mr. J. de Vleeschouwer	Sté Belge du Titane
	Mr. B. W. Bommen (Secretary)	Titan Company Inc.

In Attendance:

Mr. E. R. Barber	B.T.P.
Mr. D. W. Edgerly	Titanium Pigment Corp.
Mr. B. Gilbert	Sté Ind. du Titane
Mr. B. T. Minter	B.T.P.

Exhibit 831

33. DISCUSSIONS ON MARKET REPORTS.

Referring to the report on the Belgian Market, *Dr. Jebsen* mentioned that probably Noury van der Lande is seriously working on developments in the Titanium field, and it is likely to prove very difficult to stop him from manufacturing in Holland, as our group has only a few patents there, and the Blumenfeld group has none. *Dr. Raspe* had recently been informed by their agent for Copperas, that he would have 1000 tons of Copperas to sell in the future from a factory in Holland, and it might be that this factory is Noury van der Lande. *Mr. Bommen* reported that in a Dutch paper recently Noury van der Lande had invited inquiries for Titanium.

Referring to Sté Belge's report, where an offer was mentioned of TiO2 at £60 in Holland, *Mr. Stopford* suggested that this TiO2 was of Montecatini make and was offered by the same people who earlier in the year had imported the Montecatini brand into England at a still lower price.

Mr. Edgerly added to his report that the sales as TiO2 for the first 5 months of 1937 were about 12,000 short tons, and the total sales from the producers in U.S.A. for the same period was approximately 26.000 short tons. The sales of N.L.Co. and Dupont will average say about 60.000 short tons.

34. COMPETITION.

Dr. Jebsen introduced the discussion, remarking that in view of the agreements with the Blumenfeld Group—and the fact that prices of white pigments other than Titanium are going up—there is nothing outstanding to report as re-

gards the continent with the exception of the situation which may arise from yesterday's devaluation of the Franc. He invited the representatives of the different companies to put forward their views regarding competition.

In regard to England *Mr. Stopford* reported, that Laporte have brought out a water dispersent type of TiO2 pigment; which has had a good reception and has been accepted as a rather better pigment than the B.T.P. Co.'s. "E-grade" in the Paper industry and Leather Finishes. It is thought that Laporte's pigment is more apt for universal use—apart from bad yellowing in synthetic resins. It is a very good product on tinting strength.

Mr. Edgerly stated that in America they give the Paper Makers a dry milled product because of the saving in cost.

Mr: Stopford proposed that as regards actual sales, every country should furnish statistics on imports and exports, which could be sent to the Paris Office for distribution to the companies concerned.

It was stated that the Paris Office from time to time has collected information regarding imports and exports from France, Belgium, Holland, Scandinavia and Germany, these figures having on several occasions proved very useful. It was pointed out, however, that in some countries it might be very difficult to obtain separate figures for the import and export of Titanium pigments, these often being included in the statistics giving white colours. The case is the same in regard to Ilmenite, which is included in the official statistics giving export and import of iron ores, and it was thought that a check on ilmenite exports and imports might prove useful.

Mr. Stopford emphasized the difficulties in checking the quantities sold by Laporte. Although Laporte's home

market has been thoroughly investigated by R.W.Greeff & Co., there seems to have been delivered from Laporte quite important lots which, so far, they have been unable to trace. *Mr. Edgerly* added in this connection that the tracing of deliveries of their competitors proved almost impossible in America. Incidentally, when they had learned the correct figure of the sales of Titanated Lithopone, these proved to be about three times as big as was expected by Titanium Pigment Corporation. *Mr. Thompson* stated, that in his belief the whole market was known by them, and that all the customers of Laporte and an estimate of their consumption was made. It was not impossible that there could be one or more consumers untraced, but it was highly improbable that if the figure about by-product and milling did indicate a much larger production than we had supposed, he was confident that the goods were not sold within the United Kingdom.

35. PRICE POLICY.

Dr. Jebsen said it is puzzling that the development of the consumption of Titanium in those industries where it is competitive with Lithopone, does not in the various countries seem to co-ordinate with the price ratios, the outstanding case being Linoleum in Holland. The policy had always been followed by reducing prices as consumptions increased and new outlets were found. As on the Continent, the sales exceed the production capacity, and as the prices of other white pigments are increasing, there is no call for a price reduction at present. On the other hand, by reducing the price possibly quite a number of applications would show a considerable increase, particularly the Paper industry and possibly the Linoleum industry.

Exhibit 837

Mr. Stopford stated that in England they had recently considered the price policy for the immediate future and had decided that any reduction of 5% or less would have a negligible effect on the rate of sales, so they had decided to make no reduction for the present. They were also influenced by the fact that the prices of other white pigments had gone up; and although some have since come down, they are still higher than they were at the beginning of the year. They have decided to increase the allowance on pigments in bags from 10/-d per ton less than the list price in barrels to 20/-d per ton as from July 1st.

According to *Mr. Borgwardt* they have in Germany different prices for the home trade and for the export trade. As the White Lead and Zinc Oxide production is limited, they are not likely to take away any business from Titanium. With regard to the Lithopone producers, there is no likelihood of an increase in their capacity, although they are sold out, so this condition will help the development of Titanium. In view of this, it was not found necessary to reduce prices at the present time. The uncertainty of currency and the possible development of the price of raw materials of other white pigments are factors against price reduction. With regard to export prices there is no urgent need for a price reduction except occasionally in countries such as China, where they have to compete with the very cheap Japanese pigments. The export prices of T.G. are practically in line with those in England.

Mr. Gilbert outlined the position in France, stating that Sté Ind. du Titane's price agreement with Thann prevented them to a certain degree from following strictly the general price policy of our Group. Thann's price policy is dependent upon the gouvernemental regulations and restric-

tions concerning price raising; this firm thus not being able to follow freely a price policy according to their own desires.

In October 1936 after the devaluation of the Franc they increased their prices ab. 10% (in French currency), and in March 1937 a new increase was effected—ab. 5-10% according to quality—in order to partly compensate for the devaluation at that time. The price ratio to Zinc Oxide and Lithopone was very unfavourable to the Titanium pigment, but as prices of Zinc and Lithopone have increased now, the position of Titanium pigments is more favourable.

Owing to the fact that the increase in the production cost in the different industries is very much felt, the customers are now more than ever particularly desirous to benefit from any rebates, and consequently their demand for deliveries in bags (Frs.7.50 reduction) has increased considerably during 1937.

Supra P is so far not offered by Sté Ind. because of their agreement with Thann, this firm not being desirous to make a special grade for the Paper industry, but rather offer TiO2 to the Paper industry at a lower price than generally applied. However, no important result has so far been observed in this industry.

Mr. De Vleeschouwer was of the opinion that a price reduction in Belgium and/or Holland was not necessary now since Laporte has been forced to withdraw from these markets. The question of Noury van der Lande was discussed, but no definite and reliable information as to their plant has been received.

With regard to the Paper industry he emphasized the desirability of reducing the price of Supra P. *Mr. Borgwardt* said in this connection that in one particular case they had, in order to facilitate the introduction of Supra P,

given a Cigarette Paper manufacturer 20% of the tonnage sold free, the rest being sold at RM. 75.-. This was temporary for introduction purpose.

With a view to the English market *Mr. Thompson* said, that many buyers had expressed their opinion that in adopting Titanium in their formulae, they might place themselves in the hands of a monopoly, which would be in the position to put prices up against them. This fear is not removed by the existence of Laporte, because they know that we are working together. We have always given the assurance that we would never be parties to such an action. Another point we have stressed in selling has been the non-speculative character of the trade in Ti-pigments in contrast to Lead, Zinc and Sb-products, which fluctuate wildly with the movement of metals. Buyers have therefore felt assured that there will be no advances in prices except on very good reason shown. We have gone further, and we have told buyers, that it is the policy of B.T.P.Co. that they should share in the advantages of reduced costs on increased production. Mr. Thompson therefore considered that the price structure should be stable, that small reductions would be valueless to us, and he thought that consideration of important price changes is likely to arise naturally either from new competitors—should it come—or when there is a definite demand for a new large output contingent on reduced prices.

Referring to an earlier decision (Minute 20. Francfort Meeting), *Dr. Ichsen* recalled that minimum prices were established under which no company should go without informing the Paris Office. These prices are :

RM. 775.- per 1000 kgs. for TiO_2,
" 450.- " " " " Extra T,
" 285.- " " " " Standard T,

and for Standard A a price based on the Standard T price plus the market price of Zinc Oxide. These prices apply to goods delivered customer, duty paid.

All the members were of the opinion that these minimum prices covered the immediate position and should continue to be applied.

The question was raised about a special price for the aluminum treated TiO2. B.T.P.Co. have not put any premium on their wet milled TiO2, nor on the chromium treated pigment, and in U.S.A. the prices were not changed, even in view of the additional cost of manufacture when they changed over from dry milling to wet milling.

Dr. Raspe thought that there was no need of a special price for special pigments in Germany as long as the prices of Titanium remain as high as they are at present.

The following discussion proved that the general opinion was that it be desirable not to apply a special price on a special grade of TiO2 now, but this should be considered when price reductions were contemplated, at which time we would have learned more about how the various materials are appreciated by the consumers.

Dr. Raspe proposed that a new name for S.1129 should be found. *Dr. Jebsen* thought that a number would not be liable to stick in people's mind, and that a proprietary real name would possibly prove to be a considerable advantage later on, although a difficulty in such a name was the fact that it would not be referred to in specifications. *Mr. Barber* mentioned that many customers only mention "KRONOS" and not Titanium. As no appropriate name could be found at the moment it was decided that each firm should send in proposals to Paris and exchange opinions.

Exhibit 831

39. Policy Re Titanated Lithopone in Europe.

Mr. Stopford raised the question of our interest in the manufacturing of Titanated Lithopone in Europe. *Dr. Jebsen* said that this question had come up from time to time. In his opinion the Ti-interests as a whole are better served by a non-development of Titanated Lithopone on the European markets. The manufacture of this product will naturally be in the hands of the Lithopone maker, and we will be interested in effectuating the deliveries of TiO2. The Lithopone makers do not have between themselves marketing arrangements covering the world to such an extent as we, and there exists fairly strong outsiders. We would not be able to influence the Lithopone makers' sales policy as regards Titanated Lithopone, and as this product is in a more direct competition to the Ti-pigments than the pure Lithopone, the sales of the Titanated Lithopone may cause a considerable disturbance as regards the boundaries of the Ti-markets. A development of the Titanated Lithopone would no doubt increase our sales in Belgium and Holland in view of the very important Lithopone industry in these countries, from which a very important export takes place. If these manufacturers take up the manufacture of Titanated Lithopone, we cannot prevent them from doing so, and will rather be interested to make the deliveries, as these manufacturers would try to get the material from other sources. If we tried to put on restrictions as to the marketing, this will lead to the same result. We are therefore not encouraging this development, but are keeping in touch with the manufacturers. We know that Dutch/Belgian manufacturers are experimenting with the matter. *Mr. Hendriksson* said that Blumenfeld had some Titanated

Exhibit 831

Lithopone made for him by Pisart in France, but it did only amount to small quantities. *Mr. Stopford* asked if it would not be possible to have the Lithopone manufacturers make marketing arrangements concerning Titanated Lithopone. *Mr. Borgwardt* replied, that he considered this hopeless.

It was generally considered that it was desirable to follow the policy outlined by Dr. Jebsen.

Exhibit 832

Letterhead of

TITAN COMPANY, INC.

No. 45.

Paris, December 22nd 1937.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

We had a very successful meeting here in Paris on December 14th. I enclose copy of a memorandum concerning the results of the discussions which took place.

There was quite some discrepancy in the standpoints at the beginning of the meeting, as Tasker and Barley particularly emphasized the desirability of putting *Rutiox* on the market at a price equal to that of the present Kronos Titanium Dioxide, whereas the Germans were inclined to a higher price corresponding to the higher value. Mr. Tasker, supported by the other gentlemen of the B.T.P., laid, though stress upon the obligation they felt to be under, that Titangesellschaft having developed the new pigment ought to have the first say in the matter.

Great satisfaction was expressed from all sides as regards the cordial tone of the meeting and the good cooperation.

Personally I expected the results to be on the lines achieved, which I think are wise for the time being.

Exhibit 832

The situation of the various companies is shortly the following:

The Germans are rather reluctant in reducing prices, as they have considerations to take in various directions:

1) Government control may force prices down and make great difficulties in allowing an increase in prices.

2) A too sharp reduction of prices may create a panic within the Lithopone circles with the risk of unwise actions on their part.

They contend that their official prices do not interfere with the development of the consumption in fields where lower prices are necessary, because there they make special prices, which is also the case in the Lithopone industry. This is no doubt partly true, but it is of course very difficult to see whether it is done to a full extent.

Anyhow Titangesellschaft have had a very nice increase in their sales in Germany this year, about 30% above last year, calculated as TiO_2, and our stock in Leverkusen is very small, so that the situation does not call for any price reduction at present.

When we have got a Rutiox production of 500 Kg. to 1 ton a day, starting in January or February, and distribute this among a limited number of customers, we will be able to know considerably more as to production costs and particularly as to the qualities of the pigment, and during the summer the price policy can then be reconsidered on a much better basis. At that time our capacity in Leverkusen will also be considerably increased, as we expect then to be able to make between 45 and 50 tons TiO_2 per day.

In England the situation is quite different.

The sales for the first 10 months in the British Empire, excluding Canada, show an increase of 13%, and in the whole market it is less.

Exhibit 832

Further there is a desire of Tasker and Barley to bring Laporte to our heels with a view to our quota arrangement, and the relation of prices between our Titanium products and Lithopone is not by far so favourable as in Germany where Lithopone is very much higher in price.

You may remember that W. S. Robinson last year was somewhat disagreeably touched by Thompson repeatedly arguing for lower prices. The question of a price reduction in relation to Robinson's interests would of course be much easier to deal with by putting the new product on the market at the same price as the old one or with an increase equal to the higher production costs. However, it seems to me that, as the increase in production costs at present is more or less of a guess as we do not know what the wear and tear expenses will represent, the best line to be taken is a more conservative one.

Both Leverkusen and Billingham expect to start their pilot plant production at the end of January or beginning of February, and to be able to produce Rutiox in the main plant some time in June or July, in Leverkusen probably at at a rate of about 10 tons a day and in Billingham at a rate of 15-20 tons a day. These figures are of course somewhat of a guess, as we do not have the experience from the pilot plant yet.

I have just received your letter of December 9th, mentioning Mr. Turner's tests of the samples of the pigment we sent over. This was from a production of 2-300 Kg. under rather difficult circumstances, particularly regarding calcination, so better results should be expected from the pilot plant, respectively the main plant. Billingham has confirmed the results of the tests concerning hiding power and tinting strength, and you will note from my letter to

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Mr. Turner of December 15th, that his test figures are not far behind.

As regards the price policy for the countries outside of Germany, with the exception of France and the Scandinavian countries, this will have to more or less follow the English prices. This is particularly the case with Holland and Belgium. In these countries Noury v.d.Lande has renewed its activities lately, offering pigments at prices about 12% below ours, and we have had to reduce our prices in certain cases but not quite so low. Noury v.d.Lande is also trying to sell in Scandinavia. The sample we have had shows a colour not quite as good as ours and a tinting strength nearly the same as ours, so that the quality is quite good for a product from a starting plant. Apparently, however, the plant they have is very small, unless they have erected one in a different place. One customer, who ordered 1000 Kg. has returned these as not being up to the sample he had received and, as the goods were requested to be returned to Deventer, indications are that this is still the place where they have their factory.

As regards France, the devaluation has forced down our prices considerably as the Government does not allow Thann & Mulhouse to increase their prices more than a fraction of the devaluation. We expect that we can put the new pigment on the market at a relatively higher price than in the other countries and in this way partly recover the lost ground.

I take the opportunity to send Mrs. Beschorman and yourself, as well as all my friends in the National Lead Company, my best wishes for the coming year.

With kindest regards,

Yours very truly

G. JEBSEN

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P.S. I returned last Saturday from a Board Meeting in London.

You may have noted in the minutes from the previous Board Meeting, that it was decided to distribute the antimony oxide containing pigment to a limited number of customers, without notification of the content. As the draft of the minutes was sent me, I called up Mr. Stopford and told him that it had slipped my attention that it should be done "without notification" a policy which I considered rather dangerous. If anything happens as regards its use and the pigment is blamed, our position will be considerably weakened if a change to a content of 1% antimony oxide has not been mentioned.

As nothing had been done, Stopford postponed the distribution and in the last meeting it was decided to notify the customers.

I did not have in mind the poisonous quality of the antimony, as timonox has been freely used for years without any complaints of that kind, and the antimony contained in the Titanium Dioxide pigment is less soluble, but my standpoint was on general grounds.

Sales in England have, as you will note, been low in November—below last year's sales,—and everybody feels rather puzzled. There has of course been a set-back in the general consumption in England, but still this does not seems to explain the matter fully.

P.P.S.—I have just received a letter from Mr. Tasker informing me that we have got a contract for next year with Lever Bros, a customer we had lost to Laporte. Tasker pointed out that this is particularly due to efforts on the part of I.C.I. — Barley.

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INTERNATIONAL SALES COMMITTEE.

Minutes

of VI. Meeting held in Francfort a/M
March 2nd and 3rd 1939

PRESENT:

Members: Dr. G. Jebsen, Chairman
Mr. Erik Anker, Titan Co. A/S
Mr. H. Borgwardt, T.G.
Mr. S. J. Henrikssen, Sté Ind. du T.
Dr. F. Raspe, T.G.
Mr. C. J. Stopford, B.T.P.
Mr. A. J. Thompson, "
Mr. J. De Vleeschouwer, Sté Belge du T.
Mr. B. W. Bommen, Secretary, Titan, Inc.

In attendance: Mr. E. R. Barber, B.T.P.
Mr. B. T. Minter, "

43. *Dr. Jebsen* informed the represenatives about the access of Canadian Titanium Pigments Ltd. to the international collaboration and proposed the company's membership in I.S.C. This was welcomed.

47. COMPETITION.

Mr. De Vleeschouwer outlined the competition in Holland of *Noury & v. d. Lande*, who have tried to get in by price cutting. So far Sté Belge du Titane has met them by lowering its prices where necessary and has generally taken the business at higher prices

than those asked by Noury & v. d. Lande, N. & v. d. L. have only been able to dispose of small quantities—in 1938 ab. 15 t. *in Holland* delivered mainly to customers, whom *we had transferred* to Thann & Mulhouse. This will necessitate a change in the manner of co-operation with Thann. *In Belgium* N. & v. d. L.'s activity and sales have been practically none. The firm has recently charged their agent, Mr. Camerlinck, Brussels, to deal with Titanium pigments.

49. PRICE POLICY.

Dr. Ivbsen outlined the present price situation which has been stable during the last year in Germany, England, Scandinavia and Belgium, while in Holland Noury & v. d. Lande's competition has influenced our prices, and in France the situation has been disturbed frequently by the fluctuations of the exchange.

50. MINIMUN *Prices.*

According to Minutes No. 20 and 27. the Paris Office should be informed when any company quote below the following prices:

TiO2	RM.	775.—per tonne,
Extra "T"	"	450.— " "
Standard "T"	"	285.— " "

and for Standard "A" a price based on the St. "T" price and the market price for zinc oxide.

These prices apply to goods delivered to customers duty paid.

The lowest prices generally applied in England, France and Holland are now below these. It was agreed

to establish a new minimum price schedule as regards the information to be sent to Paris, as follows:

TiO_2	RM.	700.—per tonne
Extra "T" and C.50	"	430.— " "
Standard "T" and C.30	"	285.— " "

and for Standard "A" a price based on the Standard "T" price and the market price for zinc oxide.

These prices apply to goods delivered customers, duty paid.

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TRANSLATION

TITANGESELLSCHAFT, m.b.H.

Leverkusen I.G.Werk
October 4, 1941

To: Titan Co. Inc., 111 Broadway, New York
From: I.G. Farbenindustrie Aktiengesellschaft, Leverkusen
We herewith invite you to a Partnermeeting to be held on October 15, 1941 at 10 o'clock in the Administration Building of I. G. Farbenindustrie A/G Leverkusen with the following agenda:

1) Resolutions concerning an increase of the capital - with RM 2,500,000 - from RM 3,000,000 to RM 5,500,000 in accordance with the regulation for distribution of dividends of June 12, 1941 and the alterations of the statutes connected therewith.

2) The election of an examiner (Auditor ?) in accordance with the rules of Paragraph 25 of the first regulation for the distribution of dividends of August 18, 1941.

TITANGESELLSCHAFT m.b.H.

Signed: Brüggemann/Rappe

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Exhibit 835

Letterhead of

TITAN COMPANY INC.

p.t. Fredrikstad, August 16, 1934.

GJ/KL.

G. W. Thompson, Esq.
National Lead Company
111, Broadway,
New York.

Dear Mr. Thompson,

I refer to your letter of July 5th regarding a license from the Krebs Pigment and Color Corporation. We have now received a preliminary opinion from the Titangesellschaft and the British Titan Products Company, Ltd., These companies share our opinion that the patent does not seem to be of very great value, and the German company believes that no patent can be obtained in Germany. Both companies, though, agree with us that we all should try to secure a patent and have a licens. The Germans suggest an exclusive license, alternatively a non-exclusive, whereas the B.T.P.C. does not specify any particular request in this respect.

The T. G. m.b.H does not find it possible at present to express an opinion as to what payment could be made, whereas B.T.P.C. offers to pay the application and maintenance fees and if Krebs desire some payment in addition they would like to know on what conditions Krebs are prepared to grant a license.

These licenses concern as regards B.T.P. C. only England and regarding Titangesellschaft only Germany.

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I presume, with you, that what Mr. Rupprecht has written regarding our German and British associates, also applies to the residual territories of Titan Company Inc., and suggest that your negotiations include a license for France to Ste. Industrielle du Titane and for Norway to Titan Company Inc.

The situation is the following:

We all over here are anxious to co-operate to the fullest possible extent in connection with the patent applications of the Krebs Pigment and Color Corporation. We do not consider this patent particularly interesting, but would like to use this opportunity to establish a practice of co-operation.

You mention in your letter only the acquisition of non-exclusive rights, as does Mr. Rupprecht. You are, no doubt, aware that in the correspondence with Mr. Beschorman last summer, Mr. Rupprecht very definitely expressed that the mentioning of non-exclusive licenses in the agreement does not in any way prevent exclusive licenses being granted and assured Mr. Beschorman, that in case of exclusive licenses being found desirable, also such can be negotiated to the satisfaction of the Titanium Pigment Company's foreign associates.

Please consider if this occasion is suitable for discussion also of exclusive rights. Such would give us a clearer or more definite view as to the practice of Dupont in such cases.

You will probably know from Mr. Beschorman that our negotiations with Mr. Blumenfeld have come to the point of an agreement on two contracts, one concerning France,

Belgium and Holland and another concerning all countries outside of the British Empire and North America, both are subject to the last contract being accepted by Montecatini and Titangesellschaft. The agreements concern only a commercial co-operation, a technical co-operation with Mr. Blumenfeld not being considered advisable.

Mr. Blumenfeld has during these negotiations expressed the hope and intention to establish a regular technical co-operation with Dupont, by exchange of patents and experience. Understanding to be in accordance with Mr. Ruprecht's wishes, I have not informed Mr. Blumenfeld of our relations with Krebs. I take it for granted that Blumenfeld's possible proposal to Krebs will not be accepted. It will, though, be of interest to know if Krebs, in case we take only non-exclusive licenses from them, they have in mind or may give Blumenfeld also a non-exclusive license.

In these matters of technical co-operation, we have, as you know, laid down and established very definite rules between our various associated companies. The basis for co-operation with Dupont is somewhat different and by far not so defined. I trust that it will work out very well, but it would be a great help if we on this side knew more as to the views and practice of Dupont in these patent matters. I shall appreciate to hear from you as to your further negotiations with Krebs.

With my best regards,

Yours very truly,

G. JEBSEN

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P.S. I hope that my visit to New York in the latter of October will give us an opportunity to develop the above matter more definitely.

Mr. Ravnestad informs me that it would be desirable within the middle of November to have reached a decision to the extent it is necessary for him to take actions towards the various patent offices as regards

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December 4, 1934.

Mr. W. C. Beschorman, Executive Vice President,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Beschorman:

Upon thinking over the question of the Krebs Company contract and their possible infringement of Titan Company patents, it occurs to me that this phase of the thing presented itself to me when I was studying the cross-licensing agreement: I had in mind then that what we would have to do would be to buy from the Titan Company, or get the Titan Company to assign to us, their United States patents. No effort was made to bring about this assignment although the matter, I know, was talked over with some of us. You might consider the advisability of bringing about such an assignment, presumably for a consideration. This would mean that the Titanium Pigment Company would have to pay the Titan Company some sum of money and, as Dr. Jebson would benefit by such a transaction, he would naturally want to make the consideration large. That might be obviated, however, by tactful presentation to him. It might be that the Krebs Company would be willing to pay part of the consideration, say an amount equal to what would normally go to Dr. Jebsen.

This same problem will come up in our negotiations with Joyce and it may be desirable to get this phase of the subject cleared up.

All this I am offering to you for your consideration.

Yours very truly,

GWT.EA

Exhibit 837

December 12, 1934

Mr. W. C. Beschorman, Executive Vice-Pres.
National Lead Company
111 Broadway
New York, N. Y.

Dear Mr. Beschorman:

Re: License Agreements Involving the Titanium Pigment Company, Titan Company A/S, Titan Company, Inc., and the Krebs Pigment & Color Corp

Supplementing our conversation of December 10, last, with respect to the above Agreements, I beg to submit, herewith, an analysis of the situation as it appears to me at the present time.

Article XIV of the 1920 Agreement defines specifically our rights with regard to future licenses under our own patents or sub-licenses under patents owned by the Titan Company A/S under which exclusive license has been granted to us. Under this Agreement, our right to license under our own patents is identical with our right to sub-license under patents owned by the Titan Company A/S, and both rights are subject to the explicity-stated limitation that the license or sub-license can be granted only under conditions identical with those under which the Titan Company A/S licenses us, or we license them. In other words, neither we, nor the Titan Company A/S can grant licenses or sub-licenses to any company without making that company virtually a party to the 1920 Agreement, with the same obligations and duties as the two contracting parties.

The substance of Article XIV is incorporated into the Agreement between the Titan Company, Inc., on the one hand, and the Imperial Chemical Industries, Imperial Smelting Corporation, and the Goodlass Wall and Lead Industries, on the other hand, as a result of which the British Titan Products Company came into being, and also into the Agreement between the Titan Company A/S and the I.G., which created the Titangesellschaft G.m.b.H.

The Agreement between the Titanium Pigment Company and the Krebs Pigment and Color Corporation, on the contrary, omits this Article. At the time this Agreement was negotiated, the attorneys for the Krebs Corporation were familiar with the limitations imposed upon us by our Agreement with the Titan Company A/S and, therefore, the Krebs Corporation should be conversant with the situation to the extent of possible infringement by them of the Titan Company's patents enumerated in a letter submitted to you by Mr. Kaegebehn and me under the date of November 15, 1934.

In order to correct the situation with regard to this condition, agreement supplementary to that of July 30, 1920 was proposed. The purpose of this supplementary Agreement was to give us the right to license and sub-license Krebs without imposing upon them the obligations contained in Article XIV, particularly with reference to licensing our foreign associates under the Krebs' foreign patents. This supplementary Agreement was virtually a nullification of Article XIV. Our files fail to reveal that this supplementary Agreement was ever executed and, according to information received from Dr. Jebsen, was never agree to. According to Dr. Jebsen, Article XIV has never been altered in any respect whatever.

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This supplementary Agreement was transmitted to Dr. Jebsen, together with a letter dated February 2, 1933, approximately one month after the date of execution, January 1, 1933, of the Krebs' Agreement. In other words, it appears that the Agreement with the Krebs Pigments and Color Corporation was executed in direct violation of our contractual obligation as set forth in our Agreement with the Titan Company A/S.

It is true that the Krebs Agreement provides that they shall offer to our foreign associates, before offering to anyone else, the opportunity to acquire, *on mutually satisfactory terms and conditions*, a non-exclusive license under any patent which may be owned by, or be otherwise at the disposal of, Krebs.

This may appear to satisfy the conditions of Article XIV to a certain degree, if "mutually satisfactory terms and conditions" cover a payment of one dollar in hand to satisfy legal requirements. However, in the first case arising from this provision (Krebs Ti-Tint Patent), I understand that they have asked for what amounts to a substantial royalty.

Speaking generally, the feeling created in our foreign associates will be to the effect that through our exchange of technical information with them, on the one hand, and with Krebs, on the other, important technical data originating with our foreign associates will be disclosed to Krebs. The information so obtained may readily lead to further investigation by the Krebs Laboratories of a process or method so suggested, and result in a patent, which, if granted, will exclude our foreign associates from any rights in the invention without paying a substantial royalty.

A case of a slightly different nature, which is now developing, will also inevitably affect our relations with our

European associates. The Krebs Corporation has applied for a patent on the Manufacture of Composite Pigments by Blending. The patent application is drafted in such a way that I believe there will be no great opposition to having it granted in this country. Undoubtedly, the Krebs Corporation will attempt to secure foreign patents as well, and probably will succeed. It so happens that the British Titan Products Company is beginning to manufacture Titanox-B by blending instead of co-precipitation. As yet I have no means of knowing whether their product will fall within the scope of Krebs' invention, but if it is of satisfactory tinting strength and hiding power I assume it will comply with the specifications of Krebs' patent. Under the present arrangement, the British Titan Products Company will be given an opportunity to acquire this process under the Krebs' patent upon payment of satisfactory license fee. No doubt they will refuse to pay such license fee and they will be fully within their rights to oppose the grant of a British patent. Whether they will do so successfully will depend on the special provisions of the British patent law with regard to such opposition. Their opposition to the patent grant will unquestionably have repercussions in our relations with Krebs and also in our relations with the British Titan Products Company.

Another unpleasant situation may be contemplated in that Krebs, in case they succeed in obtaining the above patent, and assuming that the British Titan Products Company declines its purchase, will then be free to offer it to anyone else in Great Britain.

To sum up, the situation with respect to all these license Agreements could be stated somewhat as follows. While the Titan Company in its Agreements with parties consti-

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tuting the British Titan Products Company and the Titangesellschaft G.m.b.H., have safeguarded the interests of the Titanium Pigment Company, we have not safeguarded the interests of the Titan Company or our European affiliated companies in executing the present Agreement with Krebs.

The proposed purchase by us of the Titan Company's patents or the assignment of these patents to us, in my opinion, will not remedy the situation, because, under the provisions of Article XIV; our acquisition of these patents would not alter matters one iota. Under the Agreement of 1920, ownership of patents by either party is of no consequence with respect to that party's rights to license or sub-license.

Purchase of the Titan Company's patents might possibly furnish a legal way out of the present difficulty, provided the purchase Agreement specifically stated that the patents involved in the purchase were removed from the structure envisioned by the 1920 Agreement. On this point, competent legal advice might be desirable. Such a course, however, would appear to be, if not actually a legal violation of the 1920 Agreement, directly contrary to the spirit of that agreement.

Furthermore, the purchase of the patents owned by the Titan Company A/S would not remove future possibilities of conflict and misunderstanding. By purchase of these patents, we would still have no right to license Krebs under such subsequent patents, an exclusive license to which we either have obtained or will obtain in the future from the British Titan Products Company and the Titangesellschaft G.m.b.H.

It would appear that the solution of this difficulty should lie in the direction of bringing Krebs more closely within

the structure of the 1920 Agreement, to the extent as would be feasible and compatible with the Krebs obligations to the Du Pont Company. It may be possible to reach some definite understanding in writing, whereby whatever claims the Titan Company may have against Krebs for possible infringement of patents owned by them, would be relinquished in return for the granting of licenses by Krebs under their present and future European patents to the Titan Company and its European affiliates. In other words, the thought here is to bring Krebs within the scope of Article XIV. Such an arrangement would probably be just as beneficial and advantageous to the Krebs Corporation as to the Titan Company and, at the same time, would remove the present difficult situation and create among all the affiliated companies, including Krebs, greater confidence and more wholehearted cooperation.

In this connection, the considerations stated above with respect to our powers to license and sub-license other companies applies to whatever negotiations may now be in progress with companies who are desirous of entering the titanium pigment field and securing from us a license to operate under patents owned by us or our licensors.

Very truly yours,

J. L. TURNER

Exhibit 838

Letterhead of
TITAN COMPANY, INC.

No. 100
GJ/AK Paris, January 4th 1935.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re Krebs U. S. patent application on coloured pigments - ser. No. 714,685 of March 2, 1934 and license under possible European patents.

Many thanks for your letter of November 15th with enclosed letter from Mr. Rupprecht. My answer is somewhat delayed because of my trip to Norway and the necessity of conferring with our associates.

During our conversations with Mr. Rupprecht I expressed the European Titan companies' view that the application was not of outstanding interest, for the following reasons :

1) Very doubtful if a patent giving a satisfactory protection could be obtained in view of previous publications and patents.

2) The manufacture of coloured pigments as described would be of the nature of a retail business and the possible consumption in the European companies' markets of such products was not large.

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We (Titan Co. Inc. and our European associates) were, however, interested in licenses in order to establish in practice a cooperation with Krebs as foreseen in the agreement between them and the Titanium Pigment Co. We therefore proposed that we take licenses against payment of the expenses in obtaining and maintaining the patents, and if Krebs wished anything more they would let us know.

When the consent from Titan Co.Inc. and its European associates to the Krebs agreement was requested by the Titanium Pigment Co, you expressed the view based on your negotiations with Mr. Rupprecht, that Krebs would only expect a nominal payment for these licenses except in cases of outstanding development. (I have understood that this was also the practice between Du Pont and I.C.I.)

Mr. Rupprecht, however, requested a royalty of $5.- per ton corresponding to about 2.5% of the sales value of the pigments. He paid us the compliment of suggesting that we take care of the patent applications in the European countries for the Krebs Corporation. He considered the inventions of value for two reasons :

1) They expected a 2 to 3 cents higher price per lb. than for TiO2.

2) An infringement could relatively easily be proved by the product as compared with process patents, where often an infringement could not be detected in the product.

$5.-per ton is not a nominal payment and evidently Mr. Rupprecht has different ideas as to cases of *outstanding development* than we have.

In view of our desire to develop friendly relations and a good understanding, I did not take up any discussion of this, but, as you will remember, suggested a broadening of

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the co-operation with Krebs to lines similar to those between the companies of our group.

I shall deal with this matter in another letter.

I informed him in a second meeting, that we and our associates might be willing to pay the royalty for pigments manufactured according to specific described manufacturing methods, which Krebs had worked out in detail, but not on any pigments which may be developed by ourselves.

I pointed out that the patent application contains some very broad principal claims, which I doubted very much will be granted, and, even if we succeeded in having them granted, I did not see any justification for paying a royalty on pigments which should come under such claims when these pigments had been developed by us. The idea of making tinted TiO_2 pigments with the aid of colouring oxides was old with us and it was only the practical development of specific pigments of this kind which justified a compensation.

Mr. Rupprecht's answer was that if the claims were granted the patent protection was of value.

It was in my mind but I do not know whether Mr. Rupprecht saw the peculiar position we would come in, if we accepted his suggestion of applying for the patent for Krebs. We would then refrain from opposition and have to use our ability and influence to obtain the widest possible protection for which—once obtained—we should pay a royalty.

Mr. Rupprecht anyhow overlooked the fact that the value of a patent claim is not definitely established before it has been tried in the courts. In England patents are easily obtained and represent chiefly a basis for a trial in the courts; in Germany there is a considerable previous critical

examination and claims granted there are more representative of their possible protective value. When we take a license, however, I assume we have to acknowledge the validity of the patent.

I was not prepared for a discussion in detail of the value of the Krebs application and, as Mr. Rupprecht maintained his demand on a royalty and asked me to put this up to our associates, it was of little use to continue the discussion.

We will now have to substantiate more closely our views. I enclose to this purpose:

1) A note from Mr. Ravnestad of December 27th.

2) Translation of a letter from I.G. Farbenindustrie of December 28th with annexed

   a.—copy of a rejected German application D 53024 Deutsche Gasglühlicht-Auer Gesellschaft;

   b.—extract from opposition case in German application D 53024 re the final decision of the German Court of Appeal.

3) A printed specification of the I.G. Brit.Patent No. 384.473.

I particularly draw your attention to the latter, which is of an earlier date than the Krebs application. It is applied for in U.S.A. and the Titanium Pigment Co. has the right to an exclusive license as far as Titanium is concerned. The U.S. application has been sent Titanium Pigment Co. in these days.

Krebs can be informed that an application has been filed in U.S.A. but this can not be shown to the Krebs people without permission from I.G. Farbenindustrie. How-

ever, the English patent will show them the nature of the invention and should be sufficient.

I presume the above material will alter Mr. Ruppreht's views.

I have discussed the matter with B.T.P.'s board and enclose copy of an informal letter from Mr. Stopford of December 4th, which relates the position we took there.

I have not met Dr. Kühne but assume that T.G.m.b.H. will take the same attitude.

Accordingly I shall appreciate if you will inform Mr. Rupprecht of the enclosed data on the patent side of the question and that, in view of these, we do not feel we should take the position of assisting in the filing of the applications in Europe and this particularly in view of the very broad claims of the U.S. application. We will, though, be glad to consider the question of a license under any patents Krebs may obtain and would suggest this question to be postponed until further.

In the meantime I hope negotiations re the question of a general exchange will develop.

You will note that B.T.P. has in mind to withhold any opposition proceedings against a Krebs application until they see how such negotiations are proceeding. I will suggest to Dr. Kühne that the same attitude be taken by the Titangesellschaft.

I will have to refer again to Mr. Stopford's letter when I write re the question of a general exchange.

With kindest regards,

Yours very truly,

G. JEBSEN

P.S.—I informed Mr. Rupprecht that he could not expect my answer before middle of January. However, as Krebs must have filed their applications in Europe within 2nd March (according to the international convention), I suggest he is informed as early as possible.

P.P.S.—I.G. Farbenindustrie has just informed me that they wish the American application, Ser. Nr.590.724, *not* to be shown Krebs, as it may be unfortunate for the further development of the case. This application should have been sent us earlier, but as the application has been made from their factory in Höchst and deals with Titanium Oxide as only one of the white oxides to be used, this has been overlooked. However, nothing is lost to us, as a patent has been applied for in the important countries and we will have a license if we wish one.

P.P.P.S.—If the I.G. application is granted in U.S.A. Krebs may wish a license under this.

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Letterhead of

TITAN COMPANY, INC.

No. 101

Paris, January 4th 1935.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I much appreciate your request in your letter of November 14 asking me to write in full details my ideas as to broadening the agreement with Krebs.

It is of course very difficult in a letter to deal in detail with a matter of such a broad nature and particularly where the position of Krebs is only partly known to me.

What I think we should aim at is to establish a basis on which a full open and confident co-operation can take place.

To this purpose friction caused by competition should as far as possible be avoided.

Competition can be commercial and technical.

The commercial competition is prevented in our agreement by dividing the markets. In order to secure this division our agreements include in the licenses exclusivity also as regards selling and further nominate each company the sales agent for the others (directly or indirectly).

The protection is then threefold:

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1) Protection through the company's own patents.

2) Protection through the exclusive licenses received,

3) The companies' right to compensation for damages caused by break of the agency agreement.

The technical competition is prevented by each company's right to exclusive licenses under any patents issued to the others, and further by each company's right to have patents applied for in the countries of its territory by any inventor company which is applying for a patent in its own or any other country.

The whole cooperation is of course limited to the "Licensed Field" which I assume in an agreement with Krebs would be that defined in T.P. Co.'s agreement with them.

The agreement should preferably be for a long period of years. It should be kept in mind that exchange of experience incites new technical developments and there will naturally be reluctance in such exchange if any one can break out on relatively short notice when, thanks to some new invention based chiefly on the group's experience, a new and very important patent can be taken out and at the sole disposal of one of the companies.

It should be remembered that sometimes experience is gathered slowly and at great expense and then suddenly by some little discovery this experience becomes of great practical value—a little discovery which often is made within few months on several places. The development can represent a great temptation to leave the cooperation.

You can of course argue that with the market position of the companies here in question anybody will be reluctant to do so, but the point is there and I think most of our associates will consider a long period should be fixed.

I think further it is of importance that the agreement

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with Krebs is made either as a sublicence from T.P. Co. as foreseen in art. XIV of the 1920 agreement, or perhaps better between Titan Co., Inc. and Krebs with T.P. Co.'s consent. Direct agreements between Krebs and our European associates should be avoided, if possible, because it will leave it open to Krebs to treat them differently in practice and the handling gets out of our control, which may lead to a disintegration of our whole construction.

By such agreement tedious negotiations for each license will be avoided, everybody will know that technical developments benefiting one will also benefit the other.

The present arrangement with Krebs has already created divided interests. For instance: if B.T.P. makes an invention patented in U.S.A., re which Krebs wants a license, the profit of this license goes to B.T.P. Consequently B.T.P. is not quite so disinterested in imparting knowledge to Titenigesellschaft as they were, and vice versa.

I have thought that this situation would only appear in cases of outstanding development (that is very important cases.) but Rupprecht's view on the coloured pigment patent tends to discussion and putting value on even rather small developments.

At present we have a better opportunity than at any other time to bring Krebs to our views, because of their infringement of Titan Co.'s patents, later it will be more difficult because on the one side Titan Co.'s opportunities of making new inventions are lessened and our German and English associates with larger staffs in close contact with actual production are increasing.

Our aim should be to get the relations with Krebs as far as possible in line with the ideas and conditions laid down in article XIV of the license agreement of 1920 be-

Exhibit 839

tween the Titanium Pigment Co. and Titan Co A/S (resp. Titan Co.Inc.) Some of these are of little or no importance in connection with Krebs, others seem unnecessarily detailed and could presumably be changed.

I shall take each point and comment upon it.

Ad 1.—This is not necessary, as Krebs pay no royalty, but it would of course be of interest to exchange data in this respect.

Ad 2.—This is one of the main points. It means that we, Titan Co.Inc. and associates, should have the same rights under the Krebs patents for our territories as we have under the Titanium Pigment Co. Which modifications have to be made here in view of Krebs' policy I do not know. The following objections have been raised by Rupprecht:

The American laws (the antitrust law) do not permit such arrangement.

I doubt this to be right, because, if so, both your and our lawyers would then have been wrong in 1920, in forming Art XIV and at that time the antitrust law conditions were particularly considered in connection with this agreement.

Further, if no such agreement can be made between two American companies, the Titan Co.Inc. can not replace Titan Co A/S in that agreement which has been made with your lawyers' advice.

If, however, the agreement between Titanium Pigment Co. and Titan Co., Inc. is lawful, then an agreement direct between Titan Co. Inc. and Krebs should be possible.

Exhibit 839

We have, however, still the alternative of letting Titan Co A/S replace Titan Co.Inc. and as a last possibility to let Krebs make the agreements direct with each of our European companies. This is, though, the very last we should consider as it can lead to a loosening of the mutual relationship between our companies, leaving Krebs dealing separately with each of our companies.

The basis for the exchange would be that Titan Co.Inc. should have the right to work under Krebs' patents in its territories, with right to sublicense its associated companies, and Krebs should have the right to work under all patents controlled by Titan Co.Inc. for the U.S.A., which includes the patent rights of its associated companies, this last right to be given with the consent of Titanium Pigment Co.

When I say: the right to work under all patents—these rights must be nearer specified.

You will note that art. II and III specify exclusive licenses for the territories mentioned there, and art. IV non exclusive licenses for South-America, and that art. V foresees a system of changing the exclusive licenses into an ownership or a non exclusive license if circumstances develop making this advisable.

In the case of Krebs, Mr. Rupprecht mentioned that a "Dupont rule" stipulates that no Dupont Co. shall give up its right to manufacture in any country, and therefore only non exclusive licenses could be given.

Exhibit 839

I doubt that this rule is always applied and it may be worth while to find this out. It may only be Mr. Rupprecht who hesitates to bring the question before Dupont's financial committee.

Mr. Rupprecht in his letter to you of June 28th 1933 says: "It may well be that such negotiations will result in exclusive licenses to your foreign associates".

You will note from Mr. Stopford's report on our discussion in B. T.P., that our English associates are not afraid of Dupont reserving this right. This is to be understood in view of Dupont's relation in England with I.C.I. I.G. Farbenindustrie may have a different view. I will take it up with Dr. Kühne at the next opportunity.

Personally I am inclined, as far as Europe is concerned, to agree with Mr. Rupprecht that there is no possibility of the reservation becoming of practical importance, but why then make it? It seems high-handed.

As regards China and Japan, some remarks from Mr. Rupprecht made me anxious as to whether he really was aware of what he wrote you in his letter of June 28, 1933.

Mr. Rupprecht further reserved a non exclusive license to I.C.I. for the British Empire (may be Canada excluded). This will not be an obstacle. Our cooperation with I.C.I. will provide for this being of no harm.

Exhibit 839

Ad 3.—This deals only with the matter of procedure for the exchange of the patents. It has certain practical and certain legal aspect but is a detail for consideration when the principal matters have been agreed upon.

Ad 4.—Needs no comment.

Ad 5.—This condition has been made with the idea of exclusive licenses and the purpose I suppose needs no explanation. If something in that line can be agreed upon it will serve as an extra safeguard for a good cooperation.

Ad 6.—The question of technical cooperation beyond an exchange of licenses must be developed with a view to the cooperation existing between Krebs and T.P. Co.

If the agreement provides satisfactorily for no competition between the parties, I think our companies will be inclined to a cooperation as full and open as possible in the same lines as we have between our companies.

Ad 7.—Needs no comment.

Ad 8.—Needs no comment.

I have given you above my thoughts, but must make the reservation that a letter like this can not completely cover the subject. This is so involved that it is only as negotiations proceed that it can be fully developed. Such negotiations need a considerable amount of careful thought and familiarity with the various conditions.

If you find Mr. Rupprecht receptive to the ideas in general and you should wish my presence, I shall be glad to

come over in the spring, as the matter is of a considerable importance for the good cooperation of all taking a long view.

With kindest regards,

Yours very truly,

G. JEBSEN

P.S.—I leave to-morrow night for a much needed rest—going to the mountains for one week skiing.

P.P.S.—I suppose it is unnecessary to go into details as to the advantages to Krebs of obtaining a wholehearted co operation with our group, particularly in view of the obligation of I.G. Farbenindustrie, Imperial Smelting Co. and Goodlass Wall and Lead Ind. to turn over any patent in the Licensed Field to us (Licensed Field as defined in the 1920 agreement), and Imperial Chemical Industries' obligation to turn over any patent to us in a field practically corresponding to the one you have in the Krebs agreement.

A demonstration of this advantage has already arisen with the I.G. patent for coloured pigments, which, considering Mr. Rupprecht's view on this matter, should be of some importance to him.

Exhibit 840

No. 106.

Letterhead of

TITAN COMPANY, INC.

GJ/AK Paris, January 22nd 1935.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re general exchange of licenses with Krebs.

Referring to my other letter of to-day and my letter of January 4th, I beg to inform you of my conference with Dr. Kühne, Mr. Weber-Andreae, Dr. Raspe and Mr. Borgwardt, last Thursday in Berlin.

T.G.m.b.H. will welcome an arrangement by which Krebs "enter into the family by wholehearted cooperation." —We did not discuss the matter in detail, as Dr. Kühne and Mr. Weber-Andreae are familiar with the principles and aim of our agreements.

Re the question mentioned in paragraph 7 page 4 in my letter of January 4th, Dr. Kühne and Mr. Weber-Andreae felt that Dupont's reservation is not satisfactory.

Dr. Kühne mentioned amongst others: As a consequence of such cooperation, T.G. would, generally speaking, refrain from opposition against Krebs' application and Krebs' patent position could therefore become much

Exhibit 840

stronger than otherwise, giving Dupont advantages which do not seem justified.

Mr. Weber-Andreae, who knows well Mr. Crane of the Dupont board, offered to write him personally and explain the I.G.'s view. I thanked him for his offer and suggested that I return to it later, if developments made such a step desirable, saying that, in case we should avail ourselves of this, it must be done in the right moment.

Please let me know what you think of this.

I am looking forward with much interest to news from you in this matter and also the result of the investigation concerning the Baltimore plant's infringement of Titan Co. Inc.'s patents. Has a description of the process used in Baltimore been sent Mr. Cole of Dorsey and Cole and has he reported on the question?

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 841

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

January 7, 1935.

CONFIDENTIAL

W. C. Beschorman, Exec. Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

This will confirm conversation in your office on December 21, 1934, concerning negotiations with your German and British associates relative to licenses on any patents we may obtain in those countries corresponding to our United States Patent Office Application Serial No. 714,685, covering "Colored Titanium Oxide Pigments in Paints".

During the last conversation with Dr. Jebsen in your office, I mentioned that du Pont paint or lacquer affiliates in Europe might automatically be required to have licenses under the coating composition claims in the application. Meanwhile, as explained to you, I am informed by our parent company in Wilmington that agreements with du Pont foreign associates, listed below, entitled them to exclusive rights for their respective countries on any developments in the Duco or paid field relating to such products, or compositions competitive therewith:

Duco A. G.—Germany
Nobel Chemical Finishes, Ltd.—British Empire, excluding Canada and Newfoundland

Exhibit 841

Societe Francaise Duco—France and Colonies
Societa Italiana Duco—Italy and Colonies

In this class would fall developments as covered by Claims 26 to 36 inclusive of our U. S. Application Serial No. 714,685, all of which claims cover coating compositions comprising pigment and vehicle.

Inasmuch as the patent application is principally one covering a pigment process and product, we have in mind approaching the du Pont associates abroad to obtain their consent to non-exclusive licenses under the coating composition claims above enumerated.

In Germany and England, where the filing of patent application corresponding with our United States Patent Application Serial No. 714,685 is definitely under consideration, it would be our idea that your German and British associates have exclusive rights, except for Krebs, I.C.I., du Pont, and any company in which du Pont holds 51% of the voting stock; and that non-exclusive licenses be granted to the du Pont Duco associates, as named above, in Germany, and in England for the British Empire, exclusive of Canada and Newfoundland, to operate under the coating composition claims.

In France and Italy you will recall it is not our intention to file similar applications. However, in order to protect our Duco associates in those countries, and to permit your foreign associates to sell in those countries, it is suggested that du Pont take out patents in France and Italy covering only coating composition claims, which will entitle their associates in such countries to operate thereunder, and to grant your foreign associates rights under the patents, which will enable them to sell to other consumers of tinted titanium dioxide.

Exhibit 841

I believe the above sets forth our position as clearly and briefly as possible, but if anything is not entirely understood, please call upon me. I regret that I was not familiar with the du Pont arrangements with their paint and lacquer manufacturing associates on the other side, so I could have presented it all very clearly to Dr. Jebsen while he was here. It does not in any way alter the pigment process claims in this application, and is merely a matter of protecting our associates who manufacture finishes.

I hope your foreign associates will understand this situation, and we feel confident we will be successful in getting our associates to accept non-exclusive rights on the use claims.

Very truly yours,

C. H. RUPPRECHT
PRESIDENT.

CHR:s

Exhibit 842

Letterhead of
TITAN COMPANY, INC.

No. 107.

Paris, January 22nd 1935.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re General Exchange of Licenses with Krebs,

Referring to Mr. Rupprecht's letter of January 7th and the claims covering coating compositions, I will only mention that in the case of *a general agreement* I think it will be satisfactory, re patents or claims concerning the application of pigments (or other articles in the Licensed Field), if Titan Co. Inc. and its associated companies obtain an exclusive license with the exceptions mentioned by Mr. Rupprecht and with the right to give sublicenses.

You may remember that I mentioned to Mr. Rupprecht that it is not in our general policy to deny our *customers* to work under our patents. I take it to be unnecessary to explain our reasons for this.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 843

March 11, 1935.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26, Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

I have delayed answering your letters No. 105, 106 and 107 which all treated on both the Krebs application on colored pigments and the possibility of a general exchange of licenses or agreement with the Krebs Company as discussed when you were here.

There is nothing new to say for the application on the colored pigments except that Krebs is revamping their claims and as soon as we receive copies of the new application will forward you copy.

Regarding the question of general exchange of license with the Krebs Company, Mr. Rupprecht was in the office on Friday and advised me that he had been discussing this matter with their other people, which requires him to go through the Grasselli Chemical Company as well as the duPont organization, and they are all in general agreement that it is very desirable to make such a contract but they do not feel it advisable to do so at the present time or until they are completely shut of Blumenfeld.

Blumenfeld is still attempting (although they have not heard from him for about a year) to claim that in buying out the old Commercial Pigments Company they also assumed the agreement which Commercial Pigments had with him for exchange of information. The entire basis of his

claim is that for approximately six montns after the purchase of the Commercial Pigments by the Krebs Company, (when Messrs. Ticknor and Chase were still in the saddle) that they did exchange information—mainly the information came from Blumenfeld and was largely in sending a man over here to show them how to work to the best advantage the patents which they already owned.

You can appreciate from the above why the general license agreement between ourselves may have to be delayed some little time.

With kindest regards,

Very truly yours,

Executive Vice President.

Exhibit 843(b)

COPY

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES

67, Rue de Prony, Paris

Mr. C. H. Rupprecht, July 27, 1932.
Krebs Pigment & Color Corporation
256 Vanderpool Street
Newark, New Jersey

New York

Dear Mr. Rupprecht,

Your letter of May 23rd was received on time. My great delay in replying is due to the fact that since my return from the far East I have had to go from one place to another almost constantly.

I shall not deny that your letter surprised me greatly. When I had the pleasure of meeting you in New York, we attempted to see how we could most effectively bring about technical collaboration between the European group working in the field of titanium pigments and your company.

Unfortunately, my too short stay in New York did not allow us to lay a definite plan; however, we did decide that, in order to safeguard our respective interests, we would limit the exchange of all technical information to 3 European plants, namely, Fabriques de Produits Chimiques de Thann & de Mulhouse, Verein fur Chemische und Metallurgische Produktion at Aussig (Czecho-Slovakia) and the Societe Titanium at Milan.

Exhibit 843b

Returning from my trip, I ordered the department concerned in our organization to send you an outline which would serve as a basis for discussing rational means for effecting this collaboration, and in reply to this outline, I received your letter.

In the meantime, as you know, we have sent you a complete series of laboratory experiments which have been used to establish certain patents.

We also continued to send you all information as in the past, not only because of the conversations which I had the pleasure of having with you in New York, but also because of the formal agreement with the Commercial Pigments Corporation.

Krebs Pigment and Color Corporation having succeeded the latter company, it is rather difficult for me to understand how such an important part of the contract could be purely and simply cancelled (or, literally, "suppressed"—Translator) as you seem to do in your letter, and this, as I have just said, after a conference which was to be considered a beginning, not of a suppression of the principle of exchange, but on the contrary, of a search for the most efficient means (of effecting said exchange).

I shall be extremely grateful to you for a reconsideration of the entire question.

In awaiting your early reply, my dear Mr. Rupprecht, kindly accept my most sincere wishes.

(Signed) J. BLUMENFELD.

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Exhibit 843(a)

COPY

May 23, 1932

Societe de Produits Chimiques des Terres Rares
67 Rye de Prony, Paris XVII^e, France

Gentlemen: Attention: Dr. Joseph Blumenfeld
and
Dr. Charles de Rohden

Your letter of February 24th, signed by Dr. de Rohden, and addressed to Dr. J. E. Booge, has been referred to me for attention, but due to the pressure of many matters I have been unable to reply before this time.

We received the suggestions for exchange of information which accompanied your letter, however, this is a matter which we have not as yet been able to give final consideration.

At the time we had the pleasure of a visit from Dr. Blumenfeld in September of last year, this matter was discussed in a tentative way, and it was understood that it would have further discussion upon his return to this country enroute to France, around the first of this year. At the time of Dr. de Rohden's departure we were still expecting that we would have the pleasure of another visit from Dr. Blumenfeld. However, this has not occurred and we would merely like to state that this question of exchange of information will have to be held in abeyance pending further consideration and possible discussion, and that until such time, it will not be possible for this company to enter into any agreement with your company.

Exhibit 843a

Relative to the information which you and your associates are forwarding, it is entirely in your hands whether or not to continue this procedure, with the definite understanding, however, that it does not obligate the Krebs Pigment & Color Corporation in any way. We would ask that you kindly inform your associates accordingly.

We will endeavor to arrange for final disposition of this suggested exchange of information at as early a date as possible.

Dr. Booge's activities have kept him so busy that any plans for a trip to Europe are still quite vague. However, he joins me in sending kindest regards.

Yours very truly,

C. H. RUPPRECHT

President

CHR:s

2959

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Exhibit 844

Letterhead of
TITAN COMPANY, INC.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Paris, May 21st 1935.

Dear Mr. Beschorman,

Many thanks for your letter of March 11th, which I have read with much interest. Please excuse my late answer due to overcrowded work and the matter not being urgent.

I am glad to note that Dupont and Graselli are in agreement that it is desirable to make such a contract but I regret that they find a postponement necessary in view of their relations to Blumenfeld. This is of course a question for them to judge. Their standpoint raises, however, the following question:

Does Rupprecht expect during the period he requires for clearing up his relations with Blumenfeld, to receive compensations for any licences under patents or possible patent rights of Krebs in Titan Co. Inc. and associated companies' territories, or not?

If he does—what about the U.S.A. patent rights of Titan Co. Inc. and associated companies?

During my last stay in New York, you asked Mr. Kaegebehn to write you a report on Krebs' infringements of our patents, and I understood you agreed to my suggestion to ask Mr. Frank Cole of Dorsey & Cole to make a report.

Exhibit 844

I should much appreciate to hear what the results are.

Mr. Carter and you told me that Duponts are very patent-conscious. When so, Mr. Rupprecht should rather feel that he can not have it both ways in his favour.

If the question of a compensation for a U.S.A. license under Titan Company Inc.'s patents is postponed until the patents have run out, our position is much weaker with regard to this question, if it can be taken up at all.

There is also another point to consider:

The arrangement with Krebs, which you proposed to our associates for their approval, provides for a first call on the Krebs patents in the respective territories. Each has to pay for the licences from Krebs and from the attitude of Rupprecht last year, the payment they expect is not a nominal one.

In recompense, Titan Co. Inc. and our associates should have a compensation from Krebs for any of their U.S.A. patents which Krebs should make use of.

It was expressly pointed out that the National Lead Company would look after our interests in this respect.

Up to now, as far as I know, there is only the question of an infringement of Titan Co. Inc.'s patents—a company controlled by the National Lead Co. We will therefore at present have little difficulty or no difficulty in obtaining our associates' agreement to an arrangement with Krebs as I suggested "to waive payments from both sides". Both B.T.P. and T.G.in.b.H.'s boards have verbally expressed their agreement in principle.

However, if any of our associates should make a patentable development of outstanding interest, their attitude may change. This particular "inventor" company will then have the sole right to the compensation from Krebs for a license under the U.S.A. patent and as they are not interested in

Exhibit 844

Titan Co. Inc. and our other associates' territories, there may be less inclination or a direct objection to any agreement with Krebs for the exchange of patent rights without compensation, as it may be considered giving a present to Titan Co. Inc. and our other associates.

The working out of an agreement with Dupont-Krebs will certainly take time and the earlier it starts the better.

Is Rupprecht willing to do this now, so that it is ready for signature the day he is prepared to sign it?

Doing this, we will all better know where we have Krebs and it will be easier also to have our associates' approval.

I acknowledge receipt of your letter of May 10th regarding Mr. Rupprecht's information that only the "use of the pigment claims" will be filed in England, Germany, France and Italy.

It will be of interest to know what the intentions are with regard to such patents if granted. Will we have a first call on a license under these, with the right to give sublicenses to our customers?

I ask the question of two reasons:

a) with regard to our attitude as to opposing the Krebs applications;

b) to know better how Mr. Rupprecht's mind is running in these matters.

Personally I doubt very much that a satisfactory patent can be obtained and still more that such a patent can be enforced.

I therefore do not see the purpose.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 845

October 29, 1935

Dr. G. Jebsen, Vice President
Titan Company, Incorporated
26, Rue de la Pepiniere
Paris 8e, France

Dear Dr. Jebsen:

I had a very extended interview with Rupprecht of the Krebs Company yesterday, and they are very seriously considering the question of full license agreement between us on the lines of the 1920 agreement. In the meantime they have decided to take out no European patents whatever on the colored titanium pigments and their information is at your disposal to take out patents if you desire for the countries in which you are interested.

They are also working to get a change on their licenses with the Duco subsidiaries in Europe with the intention of changing the feature which gives them exclusive use of DuPont patent developments. It is to get around this feature that they have decided to take out no patents in Europe on the tinted titanium pigments.

I sincerely hope by the time you get over next spring, we may be able to work out something on this line.

With kindest regards,

Yours very truly,

Executive Vice President

Exhibit 846

Letterhead of
TITAN COMPANY, INC.

GJ/AK. Paris, November 15th 1935.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I am very glad to receive the news in your letter of October 29th, regarding your conversation with Mr. Rupprecht, and look forward with interest to your news regarding further developments.

I will inform the Titangesellschaft and British Titan Products Co. of the Krebs Co's offer to put at our disposal their information as regards their colored titanium pigments, to enable us to take out patents if desired, which gesture certainly will be much appreciated.

You will remember that our people were much in doubt if any valid patent could be obtained. A further study of the matter has naturally been postponed on this side. I have asked Mr. Raynestad to go into the matter once more to see what feature, if any, may be considered of interest, but I understand that the application, if any, is likely to be of a very limited scope.

With kindest regards,

Yours very truly,

G. JEBSEN

Encl. copy of letter to T.G., Nov. 15
" " " " B.T.P. " "

Exhibit 847

GJ/AK

Paris, November 15th, 1935.

Titangesellschaft m.b.H.
Leverkusen I.G. Werk

STRICTLY CONFIDENTIAL

Dear Sirs,

Referring to my conservation with Dr. Raspe last week, I beg to confirm that I received information from Mr. Beschorman to the effect that the Krebs Company has decided to take out no European patents whatever on the colored titanium pigments dealt with in the U.S. Application Ser. No. 714,685, and that their information is at our disposal to take out patents if we so desire for the countries in which we are interested.

Please let me know if you wish to avail yourselves of the Krebs Company's offer the spirit of which you certainly will appreciate.

Mr. Ravnestad informs me that he considers a decision in this matter desirable earliest possible in view of possible publications.

I am glad to be able to add that the Krebs Company is trying to remove obstacles to the purpose of broadening their agreement with the Titanium Pigment Co. with a view to a closer technical cooperation with the associated European companies.

Yours very truly,

Exhibit 847

Take up with Mr. Beschorman ask him to see Mr. R. and ascertain whether Krebs will permit Titan to file in Titan's name or in Krebs?

NOTE: Above paragraph is attached to following exhibit, namely Exhibit 848.

Exhibit 848

Letterhead of
TITAN COMPANY, INC.

SA/LA

Paris, 9 December 1935.

Titanium Pigment Co. Inc.
P.O. Box 58
SOUTH AMBOY
N.J.

Att. Mr. C. F. Kagebehn

Dear Sirs,

U.S.Pat. Appl. Ser. No. 714.685—McKinnay Assignment to Krebs Pigment & Color Corporation "Colored titanium oxide pigments & paints"

As you will be aware our European associates and ourselves are studying the question whether patent applications in the above case should be filed in our territory.

In this connection, it would be of interest to have some information regarding the prosecution of the above U.S. application and we should be much obliged to you if you would ask the Krebs Pigment & Color Corporation (if you think this could be done) whether they would be willing to place at our disposal copies of the Office Actions and responses hereto which have appeared up to now. If so, we should be glad if you would see to it that copies of these papers are sent to us.

Thanking you in advance,

We are.

Yours very truly,

Per TITAN COMPANY INC.

ANDREAS RAVNESTAD

Exhibit 849

January 23, 1936.

Dr. G. Jebsen,
For Mr. Andreas Ravnestad,
c/o Titan Company, Inc.
26, rue de la Pepiniere,
Paris—8e, France.

U. S. Serial No. 714,685
McKinney Application.

Gentlemen:

Your letter of December 9, 1935 was received and we have endeavored to obtain copies of Patent Office action and response thereto which have been entered in this case up to now.

Although we have been unable to secure the copies you ask for, we have gone into the matter with the Krebs Corp. We were informed that up to the present time, all claims have been rejected. The case now contains only process claims directed to the manufacture of the colored pigments and product claims covering the resulting products. The broadest of these process claims and product claims have also been rejected. The Krebs Corp. also informs us that they have filed another application in the name of Messrs. McKinney and Smith. This second application is similar to U. S. Ser. No. 714,685 to McKinney. They expect to abandon the McKinney application and prosecure the McKinney and Smith application because of confusion as to whether the invention was a sole invention or a joint one. We expect to receive a copy of this new application.

We have been informed of Mr. Beschorman's letter to Dr. Jebsen dated October 29, 1935 advising you that you

Exhibit 849

were free to file corresponding applications in your territory. Accordingly, we will have copies made of the McKinney and Smith application and send them to you so that you may determine whether the applications you expect to file should correspond to the McKinney application or to the application of McKinney and Smith.

We trust this information will be useful to you.

Yours very truly,

TITANIUM PIGMENT COMPANY, INC.,

C. F. Kaegebehn
Secretary,
Patent Committee.

CFK:PS

Exhibit 850

Destroy after reading—do not file

1.

Dr. Booge is not coming to see you on Friday unless you hear from him to the contrary.

2.

You asked Dr. Booge to mail you Office Actions and amendments on Ti-Tint applications to facilitate filing applications on these pigments abroad by Dr. Jebsen:

In conversation between Messrs. Rupprecht and Beschorman it was tentatively agreed that in view of the fact that Krebs do not intend to file any foreign applications, Dr. Jebsen is free to file abroad in any countries he may desire.

There is, however, a point which has not been decided as yet; No claims for paints made from Ti-Tints have been included in the United States applications; there is the possibility that Dr. Jebsen may want to include such claims in his applications, and this possibility is worrying Mr. Rupprecht. He fears that such claims, if granted, would exclude the Dupont foreign associates from manufacturing paints containing Ti-Tints, which would create a very undesirable situation. Therefore Mr. Rupprecht very strongly stipulates that if Dr. Jebsen does file, his applications should not include any paint claims.

Nevertheless, you are not free as yet to notify Dr. Jebsen that he is at liberty to proceed with such applications; Mr. Rupprecht desires to discuss the question still further with Mr. Beschorman.

Mr. Rupprecht is away on a trip and will not return for a week or so. Whether or not he will take up this question

Exhibit 850

with Mr. Beschorman soon after his return is not clear to me from conversation with Dr. Booge. You will have therefore to get in touch with Mr. Beschorman and ask him to arrange for an early conference with Mr. Rupprecht so as to clear up the matter and enable you in turn to write to Dr. Jebsen.

It will be only after this clarification that copies of Office Actions and amendments will be mailed to you.

2/5/36

Exhibit 851

Letterhead of

TITAN COMPANY, INC.

SA/LA

Paris, 11. February 1936

Titanium Pigment Co. Inc.
P.O. Box 58
SOUTH AMBOY
N. J.

Att. Mr. C. F. Kaegebehn

Dear Sirs,

U. S. Ser. No. 714,685—McKinney assignor to Krebs Pigment & Color Corporation

We acknowledge with thanks the receipt of your letter of the 23. ult.

We note that the Krebs Corp. intends to withdraw the above application and to file an other application in the name of McKinney and Smith, and we are looking forward with interest to receiving a copy of this application.

Please note that we have assigned the reference No *T. 143* to U. S. Ser. No. 714,685.

Yours very truly,

Per TITANIUM COMPANY INC.

Sigurd Andersen.

Exhibit 852

Letterhead of
TITANIUM PIGMENT CO., INC.

February 27, 1936

Mr. W. C. Beschorman
Executive Vice President
National Lead Company
111 Broadway
New York, New York

Subject: Patent situation—Ti-Tints

Dear Mr. Beschorman:

I beg to report herewith on the patent situation regarding the so-called Ti-Tint pigments.

A copy of the McKinney application was sent to Dr. Jebsen with Mr. Rupprecht's permission. My understanding is that in subsequent conversations between Dr. Jebsen and Mr. Rupprecht when the former was in this country during the fall of 1934, no agreement was reached as to royalties.

On October 29, 1935 you wrote to Dr. Jebsen informing him that the Krebs Company did not intend to file any European applications and that therefore the Titan Company was free to go ahead and file applications on their own behalf.

Evidently the Titan Company inferred that they were free to apply for applications corresponding to the U. S. application of McKinney because they wrote me on December 9, 1935 asking me to obtain if possible copies of patent office actions and responses thereto in the McKinney application.

Exhibit 852

After taking this matter up with you and the Krebs people I replied on January 23 giving them the status of the case at the present time in the United States Patent Office, and informing them of the existence of a second application, the McKinney and Smith applications relating to the same subjects. I later received instructions from you to advise the Titan Company that they were not to make claims to the use of Ti-Tints in surface coating compositions in view of the license arrangements between duPont and their foreign associates on Duco Lacquers.

My surmise that the Titan Company were going ahead on the presumption that they could file applications corresponding to the McKinney U. S. application was further confirmed in the letter I received from Titan Company dated September 11, in which they refer to the Ti-Tint application as Case T. 143. Titan Co. always sets up a T Case number for all inventions where they have right to apply for patents in their territory correspondent to applications filed in this country. A situation has thus arisen which is somewhat embarrassing.

Titan Company will send us certain documents which will require the Signature of the inventors or Krebs' officials. These documents are necessary to permit them to file European applications corresponding to the U. S. Ti-Tint applications of McKinney and McKinney and Smith. The Krebs Company are not permitted by the duPont executive committee to dispose of any patent rights (which are regarded as capital assets) without proper consideration. The Krebs Company is somewhat at a loss to understand why Titan Company desires to file these applications after Dr. Jebsen rejected the original proposal.

In an endeavor to reach some understanding on this matter Mr. Turner had a conversation with Dr. Booge. Dr.

Exhibit 852

Booge lacked the authority to reach any definite agreement but stated that he would take the matter up with Mr. Rupprecht.

I would like respectfully suggest that an attempt be made to clarify this situation on the following basis:

Since Krebs decided not to apply for patents in foreign countries they have in effect relinquished or renounced their rights abroad. Consequently there should not be any great obstacle in the way of Titan Company applying in Krebs' name and obtaining a non-exclusive license in any patents that might issue abroad in consideration of having undertaken the expense incurred in filing and prosecuting the foreign applications. It will be understood of course that the foreign applications will not contain claims directed to surface coating compositions containing Ti-Tints.

Yours very truly,

CHARLES F. KAEGEBEHN

CFK.BR

Exhibit 853

111 BROADWAY

NEW YORK

May 25, 1937.

Mr. W. C. Berschorman, Executive Vice President
National Lead Company
111 Broadway, New York, N. Y.

Dear Mr. Beschorman:

I learned from Mr. Kaegebehn that the DuPont deNemours Company have a series of patent applications pending in the United States Patent Office, of which Titan Company, Inc. and its European associates have not been informed. According to the Agreement between National Lead Company and DuPont de Nemours of January 1st, 1933, Titan Company, Inc. and its European associates have first call on licenses under any European patents in the "Licensed Field", owned by DuPont de Nemours. They have though no contractual right to information of DuPont de Nemours' inventions before European patents have been granted, and also have no claim to request of DuPont to endeavor to obtain European patents under the inventions.

You will appreciate that in case of an outstanding development regarding which DuPont has neglected to obtain a patent protection in the European countries, the invention may fall into public property in the European countries; a situation which may be undesirable. As regards patent protection in the United States on inventions of Titan Company, Inc. and its European associates re which patents are applied for in Europe, the National Lead

Company has the right and opportunity to see this provided for to the extent that it is possible, and if DuPont de Nemours wish a license, they have an opportunity to benefit by the same protection.

I am certain you will appreciate that this situation is not an equitable one. As possible unfortunate instances I might point out two cases: 1) the DuPont de Nemours Company make an outstanding development *based upon their own experience* regarding which protection would have been desired; 2) DuPont de Nemours make an outstanding development *on the basis of experience first acquired in Europe* and conveyed to DuPont through National Lead Company. Particularly in the latter case resentment may arise if the European companies find themselves left in the open.

I raise the question whether it should not be provided for that Titan Company, Inc. and its European associates are furnished with the same information regarding patent applications of DuPont as received by the National Lead Company, and will appreciate if you will give this consideration.

With kindest regards,

Very truly yours,

G. JEBSEN

Exhibit 854

June 3, 1937

C. H. Rupprecht, Esq.
Nemours Building

Re: Blended Pigments
Titan Agreement

Attached find copy of proposed license agreement with Titan, Inc., involving the foreign patents and applications on Booge Blended Pigment case 575-K.

The agreement embodies all of the terms suggested by you in our discussion Tuesday afternoon. A sub-licensing clause to a third party is included, limiting the right to sub-license by and with the consent of du Pont. I believe some restriction should at least be placed on the sub-licensing feature in order to avoid the possibility of granting royalty-free sub-licenses, if this is desired.

After you have considered the proposed agreement, please call me so that we may incorporate desired changes prior to sumitting the same to Mr. Biesterfeld for approval.

John P. Hancock

JPH:H
Enc.

Exhibit 855

C
O
P
Y

Letterhead of
E. I. DU PONT DE NEMOURS & COMPANY

Copy to: London Office

June 25, 1937

FOREIGN RELATIONS DEPARTMENT
MISS H. M. KIMBLE
LEGAL DEPARTMENT

We are in receipt of your letter of June 21st, attaching a memorandum on proposed agreement between du Pont and Itan, Inc., a subsidiary of National Lead, which agreement is in line with the agreement between du Pont and Titanium Pigments Company (a subsidiary of National Lead Company), dated January, 1933. You are correct in your understanding that titanium pigments are outside the I.C.I./du Pont Agreement. I think your suggestion that I.C.I. be informed of the proposed agreement as a matter of courtesy and because of their minority interest in British Titan Products Company is a good one.

We see nothing in the agreement that is in any way objectionable from the Foreign Relations viewpoint.

FOREIGN RELATIONS DEPARTMENT

J. K. JENNEY, ASST. DIRECTOR

J. K. Jenney (s)

JKJ.r

Exhibit 856

(COPY)

Dr. G. Jebsen—Vice-President
Titan Company, Incorporated
26, Rue de la Pepiniere
Paris—8e—France

July 8, 1937

Dear Dr. Jebsen:—

Mr. Rupprecht has submitted to Mr. Beschorman a draft of a proposed license agreement between E. I. DuPont and Titan Co., Inc., respecting DuPont's European patents and applications relating to blended titanium dioxide pigments. A copy of this proposed agreement is enclosed herewith.

The intention of this proposed agreement is to grant to Titan Company, Inc., an exclusive, royalty-free license under all Euorpean patents and applications owned by DuPont covering blended titanium dioxide pigments; such license carrying with it the privilege of granting sub-licenses to the European associates of Titan Co., Inc.

Concerning the agreement itself, we have the following comments to offer:

Page 1, paragraph 1: We presume the principal place of business of Titan Co., Inc. should be set forth as "the City of Paris, in the Republic of France."

Page 1, paragraph 2: The patents and applications listed correspond to the information given you in the writer's memorandum to you of June 4th.

Pages 2 & 3, Article 1: The word "Germany has been omitted below the word "France." (Typographical omission).

Exhibit 856

As to the license granted to Titan Company, you will note that this article reads:

> "to practice throughout the United Kingdom of Great Britain, Ireland and the Isle of Man, France, Italy, Germany and Czechoslovakia only, any process disclosed or claimed in said letters patent or applications therefor, and to make, use and/or sell throughout each of the aforementioned countries any products described and/or claimed in said letters patents and/or applications."

This language could be interpreted to mean that Titan Company is restricted from selling outside the countries enumerated.

Mr. Beschorman called Mr. Rupprecht's attention to the fact that the associates of Titan Company sell their products in many countries outside those mentioned in Article 1, and, consequently, they ought not to be restricted by this Article to sell blended titanium pigments only in the countries enumerated. Mr. Rupprecht stated that this was not intended, but that this Article was drafted in its present form in view of the following consideration:

DuPont has been advised by its legal department that it has no right to grant any rights or licenses for any country in which they do not have a patent or an application. Thus, the territorial scope of the license granted in Article 1 can only include those countries wherein the patents and applications have a legal force and effect. Consequently, Mr. Rupprecht advised Mr. Beschorman that DuPont does not consider this Article as restricting the field of sale of Titan Company and its associates, but only as fixing the limits of what DuPont is able to give. Therefore, since

Exhibit 856

DuPont has no foreign patents in countries other than those enumerated which might interfere with Titan Company's right to manufacture and sell, Titan Company and its associates are free both to manufacture and to sell in any countries not protected by patents or applications.

Page 3, Article 2: As to the associates to whom Titan Company may grant sub-licenses, only those associates of Titan Company which reside in countries where DuPont has a patent or application have been mentioned. (cf. comments to Article 1).

Article 3: No comments.

Article 4: We questioned whether this Article imposed on Titan Company the obligation to maintain the patents even though it may not regard them as of sufficient value to justify the expense. We were assured that this Article is to be interpreted as granting Titan Company discretionary powers as to maintaining the patents and only obliges Titan Company to advise DuPont when it intends to abandon a patent.

Article 5: No comments.

Article 6: No comments.

Article 7: No comments.

Article 8: No comments.

Article 9: No comments.

Article 10: No comments.

In connection with this agreement, you will note that the license granted Titan Company is an exclusive one and no exception has been made as to DuPont's reserving a non-

Exhibit 856

"Wrong License retains rights in DuPont. J. P. H."

exclusive license for itself and its allied companies. Mr. Rupprecht further stated that if Titan Company could obtain valid patents in countries other than those now covered by DuPont's patents, he would be glad to co-operate with Titan Company in obtaining such patents. Although the writer is not familiar with the requirements for obtaining patents in countries outside of the United States, it would appear that the publication of the United States and French and, possibly, the British patents, preclude the possibility of obtaining valid patents in additional countries.

This proposed license agreement is still to be approved by the Finance Committee of E. I. DuPont, but Mr. Rupprecht feels confident of obtaining the Committee's approval.

This proposed agreement appears adequately to cover the purpose for which it is intended. It is most certainly a step in the right direction toward establishing a direct connection between Titan Company and E. I. DuPont.

We hope this agreement, viewed in the light of the interpretation of Articles 1, 2 and 4, as contained in this letter, will meet with your approval.

Yours very truly,

CFK:lo

encl.

c.c. Mr. W. C. Beschorman

Exhibit 857

GJ/KL

July 24, 1937

W. C. Beschorman, Esq.
Vice President
National Lead Company,
New York,

Dear Mr. Beschorman:—

Many thanks for your letter with information as to your visit to Europe, to which I am looking forward; and also my thanks for your cable of July 22nd, as per copy enclosed, which was forwarded to me at Hankö, where I am staying on holidays.

I had a few days before received from Paris Mr. Kaegebehn's letter of July 8th with enclosed draft of the license agreement.

I confirm my cable of yesterday as per enclosed copy. From my knowledge of the British Titan Products Company's attitude, and particularly Major Barley's intimate knowledge of the manner in which Dupont acts, I assume that the British Titan Products Company will be pleased by the arrangement.

As regards Titangesellschaft, the people of the I.G. have less understanding of the Dupont situation, and I know that they find the reservation for the Dupont companies to operate unpleasant. This view I consider partly due to the above-mentioned less knowledge of Dupont and partly due to the German mentality, which has a strong inclination for strictly clear-cut lines. As, however, Dr. Kühne and Dr. Brüggemann, as well as Dr. Raspe are fully in accordance with our aim as regards co-operation with Dupont, I believe they will join my view as expressed in the cable.

Exhibit 857

I telephoned to Leverkusen and found Dr. Raspe, who was leaving on holiday today, and he joined my view.

Dr. Kühne is absent on holidays and will be back August 12th. A definite and formal approval by Titangesellschaft will therefore have to be postponed until his return, and as Dr. Raspe returns August 16th, I am trying to arrange for a meeting in the latter half of August, together with you, at which time we also will have to take up the formal approval of the other agreements dealt with during my stay in New York—Canadian Industries Limited and the arrangement by which the National Lead Co. takes charge of the payments to Dupont and receives payments from Dupont for licenses to be granted between Dupont on the one side and Titan Company Inc. and associated companies on the other side. I have given Dr. Raspe information of this and an exemplar of the Canadian Industries agreement. I took up these two last mentioned matters with the British Titan Products Co. Ltd. during my stay in London and had them approved.

As regards my cable of yesterday, this speaks for itself. I trust my comments to Par. 4 that we shall we-shall "effect all necessary workings to maintain said letters patent etc." will cause no difficulty. The stipulation is, I may say, old fashioned and can give cause for much dispute. The legal requirements in the various countries as regards "necessary workings" are not well defined, and in certain countries, as for instance Italy and Czecho-Slovakia, it may prove impossible from a practical point of view to fulfill such an obligation. I presume though that this matter can be satisfactorily arranged.

I also confirm my cable of today as per copy enclosed.

Exhibit 857

This letter will not reach you in New York, so I am sending a copy to Park Lane Hotel, London, and I presume I will have been able within your arrival to fix definite dates as regards meetings in London and your visit on the Continent.

Hoping you will have a good passage, I am, with kindest regards,

Yours sincerely,

G. JEBSEN

Enclosure.

Copy to Park Lane Hotel,
London.

Exhibit 857

Dr. G. Jebsen,

p.t.

22/7.37. - from Paris

Paris received today stop

Referring Kaegebehns letter eighth transmitting draft proposed Titan Dupont agreement now have completed agreement unchanged excepting addition of clause inadvertently omitted reading "It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in Titan shall be subject to the right of Dupont or any of its controlled subsidiaries to freely use and employ said inventions comprised within said letters patent and or applications throughout the countries mentioned as well as the right of Imperial Chemical Industries Ltd. of London England to use and employ said inventions throughout the United Kingdom of Great Britain Ireland and the Island of Man" This you understand must be in every license agreement they grant but is innocuous and advantage will never be taken.

Is it satisfactory you and associated that this be executed

Beschorman.

Exhibit 857

W. G. Beschorman, Esq.,

New York

23/7.37.

Beschorman, Leadco, Newyork

Consider personally license agreement du Pont satisfactory with Kaegebehns adjustments and interpretations letter July 8 except Titanines principal place of business should not be Paris due to tax matters but New York where books are kept and taxes paid and provided stipulations re formal working is limited to endeavour to effect such or a similar reservation be taken stop we do not manufacture in Czecho-Slovakia and Italy but only sell and legal requirements re formal working are subject to varying interpretation as no definite practice yet developed this reservation can presumably be dealt with in a letter stop consider British Titan Titangesellschaft Socititane will approve agreement on this basis. Congratulations with result Kühne Raspe absent holidays (until August 14.)

Jebsen.

Exhibit 858

COPY

NATIONAL LEAD COMPANY
111 Broadway

New York July 26, 1937

W.C.Beschorman
Executive Vice President

CONFIDENTIAL

Mr. C. H. Rupprecht, General Manager
Krebs Pigments Department
E. I. duPont de Nemours & Company, Inc.
Wilmington, Delaware.

Dear Mr. Rupprecht:

I am returning herewith both the original and duplicate copies of the proposed license agreement with Titan Co. Inc. covering patents issued and applications pending in the European countries mentioned on your blended titanium dioxide pigments.

You will note that I have signed these for the Titan Co. Inc., and would call your attention to one change that I have made on the first page where I have blotted out on the ninth and tenth lines "and Paris, France" and initialled this change.

Dr. Jebsen called our attention the fact that if the contract was on file in Paris with these words in it, it would add very materially to their taxes.

While we have signed the contract as written, Dr. Jebsen calls our attention to the stipulation in Article 5 of

Exhibit 858

the proposed agreement with Titan Co. Inc. that they will pay all necessary maintenance fees and/or taxes and will "execute all necessary workings to maintain said letters patent". He desires that this be interpreted to mean "will endeavor to execute all necessary workings", explaining that this is necessary in view of the patent laws in the various countries where, for example, Titan Company and its associates sell but do not manufacture—for instance, Czechoslovakia and Italy.

This interpretation should not be objectionable as this clause later on obligates Titan Co. Inc. to inform du Pont if any patent is to be abandoned.

Kindly advise if this interpretation is satisfactory.

Very truly yours,

(s) W. C. BESCHORMAN
Executive Vice President.

Exhibit 859

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Blind copies to:

Messrs. J. P. Hancock—Legal Dept.
C. H. Lyman —Office

July 27, 1937.

Dear Mr. Beschorman:

We have your letter of July 26th, enclosing signed copies of the license agreement with the Titan Co., Inc., covering patents issued and applications pending in specified European countries on our blended titanium dioxide pigments. These have now been formally executed by us, and I am returning signed copy for your files.

Note the elimination of the words: "and Paris, France." on the first page, which you have initialed and I have also done the same.

With respect to the workings in certain of the countries where Titan Co., Inc. and its associates do not manufacture, it will be understood that Titan Co., Inc. will endeavor to execute all necessary workings. As you say, in the event that such workings are not possible, which would therefore indicate the advisability of abandonment of the patents, we would be so notified and could take whatever action was necessary.

You can, therefore, inform Dr. Jebsen that we thoroughly understand the situation and its interpretation, and

Exhibit 859

hope he will be able to successfully maintain workings of these patents, and if not, we can be advised.

Yours very truly,

C. H. RUPPRECHT
GENERAL MANAGER.

CHR:S
Encl.

Exhibit 860

Letterhead of
TITAN COMPANY, INC.

No. 17.

CJ/AK

Paris, September 16th 1937.

William C. Beschorman Esq.
Vice President
National Lead Company,
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

You handed me in Hamburg, on August 16th, the Licenise Agreement between E.I. Du Pont de Nemours & Co. and Titan Company Inc., of July 27th, together with a letter from Mr. C. H. Rupprecht of Du Pont de Nemours, of the same date.

Previously I had received from Mr. Kaegebehn a letter of July 8th with interpretations of various of the stipulations of the agreement, developed during conversations with Mr. Rupprecht.

I also refer to my letter to you of July 24th, confirming cable communications of July 22nd, 23rd and 24th.

For the sake of formality and for practical reasons, I herewith confirm that the matter has been submitted to:

1) The British Titan Products Co. Ltd. whose Board on August 24th approved the arrangement.

2) The Titangesellschaft m.b.H. whose Board in the meetings of 18th and 19th of August gave their approval, subject to investigations of the Patent Department, and on September 11th finally approved it.

3007

Exhibit 860

We have still to submit it to Sté Industrielle du Titane which, I take it, will approve the arrangement, and I shall inform you in due course.

I am sending copy of this letter to Mr. Kaegebehn and Mr. Cole for their information, so that they can arrange for a resolution in the Board of Titan Company Inc. giving its approval, as soon as they are also informed of the decision of Sté Industrielle du Titane.

With kind regards,

Yours very truly,

G. JEBSEN

P.S.—May I, for the sake of clearness, comment on Mr. Rupprecht's letter of July 27th, third paragraph, regarding workings.

Mr. Rupprecht seems to think that we will know beforehand whether workings are possible or not, and be able to notify him accordingly with a view of the advisability of abandonment of the patents.

However, in many countries the stipulations regarding workings are of such unclear nature that this is not possible.

It is also so that a practice which has been considered as satisfying the conditions regarding workings sometimes later is found by the authorities to be unsatisfactory.

It is clear to me that as long as we do our best in this matter, Du Pont will be satisfied, but I mention it as it may be of interest to Mr. Rupprecht to be informed of the exact situation.

Copy to Mr. Kaegebehn
" " Cole.

Exhibit 861

No. 23.

GJ/AK

Paris, October 1st 1937.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re License Agreement E.I. Du Pont de Nemours—Titan Company Inc., of July 27th.

Referring to my letter No.17 of September 16th, I beg to inform you that the matter has been formally submitted to the Board of Sté Industrielle du Titane, which has given its approval.

Yours very truly,

sign. G. JEBSEN

Copy to Mr. Cole
" " " Kaegebehn

Exhibit 862

GJ/AK Paris, November 12th 1937.

J.L.Turner Esq.
Titanium Pigment Corporation
P.O. Box 58
South Amboy, N.J.

Dear Mr. Turner,

You have received a kilogram or two of the new pigment produced on semi-industrial scale in Leverkusen.

We attach on this side a very great importance to this development. Mr. Ravnestad has also taken with him a sample of the pigment.

This pigment consists of 100% Rutile, and preliminary experiments have indicated that the material, as regards resistance against fading, is practically equal to the Aluminium Oxide coated pigment. As regards chalking resistance, indications are that it is nearly as good as the Aluminium Oxide coated pigment and considerably better than the other pigments. This, however, has only been indicated by weatherometer tests which are not conclusive.

I should much appreciate to hear from you what you think of this pigment.

We had recently the visit of Dr. Booge and Mr. McBerty of DuPont de Nemours & Co., who seemed to find their visit very profitable, and from several sides comments have been made that we have not had similar exhaustive visits from representatives of the Titanium Division of the National Lead Co.

Nothing was mentioned on this side to the DuPont people of the new Pigment. It appeared from our conversations

with them that they are studying the possibilities of making a pigment from a Titanium Tetrachloride solution. Mr. Booge said, though, that he would not look upon such a development with favour, because of the amount of Chlorine required, and he expected it would take several years before anything would develop in a patent direction as regards this process.

We are, though, here of the opinion that as soon as the new pigment is brought to the knowledge of our competitors they will put every effort into the production of the same.

I believe that with this new pigment the National Lead Company will have an opportunity to regain a considerable part of the position which now has been lost to Du Pont, provided full advantage is taken of these developments.

We are going ahead on this side with as much speed as possible and hope in the course of a few months to be able to produce between 500 kg. and 1 ton a day, in order to collect more experience as to the industrial manufacture.

We have decided in the British Titan Products Company and will probably very soon do the same in Leverkusen (I have asked Dr. Raspe to submit proposals) to sanction the necessary money for such installations which ought to be made in order to save time and enable us to change over to a full production of the new pigment with the shortest possible delay—provided the installations are of such nature that they can come in useful in any case. There are not many as regards Billingham: it is a matter of an extension of the buildings, ordering some steel tanks for the precipitation (lining to be decided upon later) and a rubber covered rotary filter—the latter in order to get rid of the Sulphuric Acid solutions containing some Hydrochloric Acid as soon as possible, because of the corrosive action of the same.

Exhibit 862

We are studying the question of which quantity of Titanium Tetrachloride Nuclei will be necessary. It seems that 5—may be 10% of the TiO_2 content of the solution to be precipitated must be in the form of Titanium Tetrachloride Nuclei, depending upon the concentration of the solutions. Good results have been obtained from both, but there seems to be some difference as to the tinting strength of the pigment obtained, and both Billingham and Leverkusen are working further on the matter. With the Reynold method the tinting strengths are the same in both cases, but with the Leverkusen method the pigment made with 10% Nuclei gives a somewhat better result. The question is then, which of these methods corresponds more closely to the practical results as regards the use of the pigment in various industries and particularly rubber, linoleum and paints.

Looking forward to hear from you, I am, with kind regards,

Yours very truly,

Sign. G. JEBSEN

Copy to Mr. Beschorman
" Garasché
" Hagar
" Robertson
" Ravnestad

Exhibit 863

Titan license file.

Mr. C. H. Rupprecht.

CONFERENCE WITH DR. JEBSEN—BLENDED PIGMENT PATENTS.

During our Paris conference with Dr. Jebsen he brought up the question concerning the foreign blended pigment patents and applications. He stated that the patents have issued in Great Britain, France and Italy: the applications are still pending in Germany and Czecho-Slovakia.

He then asked whether we wished him to pay the maintenance cost direct or merely reimburse Du Pont for their payment of these costs. He referred to Section No. 5 of the draft of the agreement. His point was that the draft does not state definitely whether Titan Co. Inc. shall pay the cost direct.

Another question concerning the agreement is the statement that Titan will advise Du Pont *in advance* if the patents are being abandoned in any country. He pointed out that the rules for "working" of patents are not well established in certain countries and whether this working can be accomplished successfully by advertising is open to question, consequently he cannot undertake to advise Du Pont in advance under these conditions.

Finally he made the point that in Italy the only Titanium pigment producer is Montecatini and he would not wish to "work the patent" by licensing them. He would endeavour to obtain the working by an advertisement, but doubts if this would be sufficient.

I naturally stated my ignorance of the official interpretation of the agreement along the above points and promised

Exhibit 863

to take it up with you upon my return, and stated that you would probably write Dr. Jebsen.

Obviously the most satisfactory proposal from Dr. Jebsen's viewpoint would be to ask him to pay the maintenance cost direct and then treat the patents in the same way as he would patents owned by Titan Co. Inc., leaving it to his judgment and good faith as to how the working should be accomplished.

JEB

Exhibit 864

Letterhead of
E. I. DU PONT DE NEMOURS & COMPANY

Blind Copy: C. H. Rupprecht, Esq.
Nemours Bldg.

November 23, 1937

Titan Company, Inc.
111 Broadway,
New York, New York

Attn: Mr. Chas. F. Kaegebehn

Gentlemen:

Re: Foreign Patents and Applications Based on Booge U. S. Patent 2,046,054—Blended Titanium Pigments.

Pursuant to our recent conference and telephonic communications concerning the above foreign patents and applications, I have consulted with Mr. Rupprecht, and can now formally advise you with respect to the questions you raised, as follows:

(1) With respect to the issued patents in Great Britain, France and Italy, it is agreeable to du Pont that your own patent agents handle these cases and pay all necessary workings and maintenance fees, directly communicating with and charging you for any fees so incurred.

(2) With respect to the Italian patent, and in view of the peculiar situation surrounding working and maintenance of patents in that country, it is agreeable to Mr. Rupprecht and du Pont that you handle the working and maintenance of the patent in the same manner as you handle

working and maintenance of your own patents in that country, that is, every effort will be made to avoid any possible holding of abandonment through failure to work or maintain.

(3) With respect to the pending Czechoslovakian and German applications, as agreed, du Pont will prosecute these applications to allowance through their present patent agents, billing to Titan the cost involved in such prosecution, when and as received during the course of prosecution from such agents. Upon patents being granted in these countries, you will be promptly notified in behalf of Titan.

(4) As I understand it, new powers of attorney must be filed in Great Britain, France and Italy appointing the patent agents designated in the memo accompanying your letter of November 10th, and also revoking the powers heretofore given our own attorneys. You informed you would communicate with British Titan and procure the necessary powers of attorney to effect this change. Upon receipt of such powers, they shall be executed and returned to you. Concurrently therewith we will inform our own agents of the new appointments and revocation of their powers.

(5) Particular data in respect to the issued patents is as follows:

(a) *Great Britain.* Patent 464,836. *Duration* 16 years. Convention date U.S. Oct. 30, 1934. Application date (Great Britain) Oct. 26, 1935. Accepted April 26, 1937. As I understand it, annual renewal fees do not begin until Oct. 30, 1939, i. e., the beginning of the fifth year from the Convention date of filing in the United States. Working of the

patent begins on April 26, 1940, i.e., 3 years from the sealing or granting date of the patent.

(b) *French* Patent 796,587. Delivery date January 27, 1936. Duration 15 years. Annual renewal fees have been paid on this French patent from the date of application, i.e., Oct. 22, 1935, the last and third annuity payment having been made on August 24, 1937, through patent agents, Brandon, Simmonot & Rinuy, of Paris, France. The next annuity payment, as I understand it, will be due Oct. 22, 1938. Working of the patent is required before January 27, 1939.

(c) *Italian* Patent 336,407. Dated Oct. 29, 1935. Duration 15 years. Taxes due Oct. 29 yearly. Date of working commences Feb. 15, 1939. Third annuity fee was paid through patent agents Brandon, Simmonot & Rinuy of Paris, France on August 24, 1937.

Since as yet no workings are due under any of the foreign patents mentioned, du Pont has not attempted to undertake any workings.

The above information as to dates for maintenance, renewals, workings, etc. has been gleaned from information passed to me from our own patent agents. I assume it is correct and can be relied upon. However, it might be well to have your own agents check the information, when appointed, and on the basis of their own and present familiarity with the patent laws of the countries involved.

Very truly yours,

E. I. Du Pont de Nemours & Co.,

By .....

JPH:H John P. Hancock

Exhibit 865

c.c. Dr. G. W. Thompson
Mr. J. L. Turner

Re: Dr. Jebsen's Proposal for Exchange of Licenses : DuPont and Titan Co., Inc.

May 27th, 1937

Mr. W. C. Beschorman—Executive-Vice-President

Mr. C. F. Kaegebehn—Patent Department

Dear Mr. Beschorman:—

In connection with the proposal of Dr. Jebsen which we have discussed and which is embodied in the proposed letter from you to Dr. Jebsen, I beg leave to present to you the following comments:

The arrangement should go a long way toward relieving the possibility of inter-company friction within our group. It is a step in the direction of settling the discrepancies between our agreement with Krebs and our agreement with Titan Company, Inc. The effect should be, if this proposal is agreed to, that the European companies will not concern themselves over the financial or economic aspects of taking licences under Krebs' European patents or granting licenses to Krebs under their United States patents.

According to the proposal, National Lead Company undertakes to pay the charges which DuPont may agree to accept in granting licenses to our European associates, and will receive whatever royalties DuPont is willing to pay for obtaining licenses under United States patents of Titan Company, Inc. and its European associates. As to whether or not National Lead Company stands to break even finan-

cially in such an agreement, I cannot hazard a guess. This aspect of the proposal is in the nature of a gamble on our foreign associates developing things desired by Krebs to the same extent and value as the things which may be developed by Krebs are desired by our foreign associates. It is possible that if our foreign associates desire many licenses under patents of secondary importance for purposes of protection rather than to protect a manufacturing step adopted by them on the basis of a development by DuPont, the National Lead Company may take on considerable expense. On the other hand, to request many licenses under patents of secondary importance would involve considerable trouble and expense for our European associates, inasmuch as we could claim that they pay the cost of filing and maintenance under the Agreement of 1920, and this fact should militate against our having to pay license fees under patents of only lesser interest.

I should also like to point out that the proposal does not give the National Lead Company the right, per se, to grant licenses to Krebs under the United States patents of Titan Company, Inc. and its European associates, but only to retain the compensation for such licenses which Krebs may be willing or induced to pay. Thus, the European companies retain the right to certain other compensations, not of monetary value, as for example, insisting in return for grant of license to Krebs that Krebs come in completely, or at least further than it now is, within the structure of the 1920 Agreement. This proviso may well be to the advantage of National Lead Company since, if DuPont became aware that we had the right to grant licenses under the United States patents of Titan Company, Inc. and its European associates, they could assume that they would auto-

matically acquire, without payment of any royalty, licenses in these patents under their agreement with us, which provides for the exchange of licenses for inventions as to which the parties are "free to grant such rights."

This proposal also has a bearing on my memo to you of May 27th, which discusses the situation with respect to informing our foreign associates of pending United States applications of DuPont, raised by Dr. Jebsen in his memo to you of May 25th. Possibly, DuPont may be willing to permit our European associates, in cases of secondary importance where they themselves would not or did not expect to file foreign applications and did not expect royalties, to file applications in their own, i.e. our associates', names and at their expense both for filing and maintenance, to, as an alternative, to permit our associates, at their expense for both filing and maintenance, to file such applications of secondary importance in the name of DuPont and grant to our European associates exclusive licenses under any patents issued therefrom.

Yours very truly,

CFK:lo

cc. Dr. G. Jebsen

Exhibit 866

Copy for Mr. Kaegebehn

May 28, 1937

Dr. G. Jebsen, Vice President
Titan Co. Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

Referring to our conversation regarding the License Agreement between ourselves and the other American manufacturers and the mutual grant of licenses between them and our associated companies, we suggest the following arrangement.

National Lead Company undertakes to carry the charges of all compensation, monetary or in kind, for licenses granted to Titan Co. Inc. and its associated companies outside of the United States and Canada.

We will endeavor, when requested to do so by Titan Co. Inc., and/or its associates, to obtain exclusive licenses in place of non-exclusive licenses within the "Licensed Field" now provided for in certain agreements.

On the other hand, National Lead Company shall retain for itself any compensation, monetary or in kind, for licenses which its licensees are granted under United States patents owned by Titan Co. Inc. and by its licensees or sublicensees other than the National Lead Company. The terms and condition other than compensation, monetary or in kind, for the licenses granted to its United States associates, or given by them, will continue to be subject to approval of the parties interested.

Exhibit -866

We shall appreciate if you will submit the above to our European associates and inform us of their views.

With kind regards,

Very truly yours,

(Signed) W. C. Beschorman
Executive Vice President.

Exhibit 867

No. 19.

Paris, September 30th 1937.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Referring to your letter of May 28th, regarding th mutual grant of licenses between the American Titanium manufacturers under license from the National Lead Company, and Titan Company Inc. and its associated companies I take pleasure in informing you that the arrangement a suggested in your letter has found the approval of Titan Company Inc.'s associated companies on this side, so that nothing stands in the way of a definite agreement and confirmation by National Lead Company and Titan Company Inc.

I should much appreciate to have information of this being carried out.

I am sending copies of this letter to the Secretaries, Mr. Cole and Mr. Kaegebehn.

With kindest regards.

Yours very truly,

Sign. G. Jebsen

Copy to Mr. Cole
" " " Kaegebehn.

31023

Exhibit 869

MEMORANDUM

This memorandum is prepared for consideration by the members of the Board of Directors of Titan Company, Inc. at their meeting of October 27th, 1937.

Under the Agreement of 1920, National Lead Company is under obligation to obtain for Titan Company, Inc. licenses under foreign patents of American manufacturers to whom National Lead Company may grant a license under its United States patents.

The Agreement between National Lead Company and E. I. Du Pont De Nemours and Company (previously the Agreement between Titanium Pigment Company, Inc. and Krebs Pigments and Color Company), did not provide for any such grant of licenses. Thus, at the present time, Du Pont is not entitled to licenses in the United States patents of Titan Company, Inc. and its foreign associates, including British Titan Products, Ltd. and Titangesellschaft, m. b. H., etc., and, conversely, Titan Company, Inc. and its foreign associates are not entitled to rights in foreign patents of Du Pont.

Pending an ultimate and final solution of this situation, an arrangement has been suggested to provide a basis for the exchange of licenses as between Titan Company, Inc. and E. I. Du Pont. This arrangement is contained in a letter from Mr. Beschorman to Dr. Jebsen, dated May 28th, 1937; copy attached hereto. The features of this agreement are as follows:

1—In the event Du Pont desires a license under the United States patents owned by Titan Company, Inc. or one of its foreign associates and, as a result of mutual negotiations, agrees to pay compensation for such license,

Exhibit 869

National Lead Company will retain all compensations paid by Du Pont.

2—On the other hand, should Titan Company, Inc. and/or its foreign associates desire a license in foreign patents of Du Pont and, as a result of mutual negotiations, agree to pay compensation, then National Lead Company will pay this compensation to Du Pont.

3—National Lead Company will endeavor, when requested to do so by Titan Company, Inc., to obtain for Titan Company, Inc. and its foreign associates, an exclusive license in place of a non-exclusive license in the foreign patents of Du Pont.

4—The arrangement does not provide that National Lead Company has the right, per se, to grant licenses to Du Pont; that is, Titan Company, Inc. and its foreign associates retain the right to make the final decision with respect to whether or not a license shall be granted to Du Pont.

Dr. Jebsen has informed us that the arrangement has met with the approval of the foreign associates of Titan Company, Inc. Copy of Dr. Jebsen's letter is attached.

C. F. Kaegebehn
Ass't. Secretary

Exhibit 868

TITAN COMPANY INC.

Minutes of a monthly meeting of the Board of Directors, held October 27th, 1937.

RESOLVED, that this corporation generally approves the conclusion of an arrangement with National Lead Company (as successor in interest of Titanium Pigment Company, Inc. under the Agreement of July 30th, 1920 between that Company and Titan Co. A/S., predecessor in interest of this corporation), whereby (1) the said National Lead Company shall assume the payment of all compensation, monetary or in kind, for any and all licenses relating to the manufacture and sale of titanium and titanium compounds which may be granted by any of its presently-existing United States licensees to this corporation or to any of its associated companies outside of the United States and Canada under any foreign Letters Patent owned or controlled by any of the said presently-existing United States licensees of the said National Lead Company, and (2) said National Lead Company shall in turn be entitled to receive and retain for its own benefit the compensation, monetary or in kind, which may be payable to this corporation or to any of its said foreign associates for any license granted by it to any of the said presently-existing United States licensees of the said National Lead Company under any United States Letters Patent owned or controlled by this corporation or by any of its said foreign associates; upon the understanding, however, that said National Lead Company shall use its best endeavors to provide so far as possible that any such license granted by any of its said United States licensees to this corporation or to any of its said foreign associates shall be exclusive rather than non-

exclusive, and that the grant of any such license by this corporation or any of its foreign associates as aforesaid and the terms and conditions thereof other than compensation shall always be subject to its or their approval, and upon the further understanding that nothing in this proposed arrangement shall alter or modify, directly or indirectly, the Agreement of July 30th, 1920 between the said National Lead Company and this corporation.

Exhibit 870

November 9th
1937

CONFIDENTIAL

Dr. G. Jebsen
c/o Titan Company, Inc.
26, Rue de la Pépiniere
Paris — 8e — France

Dear Dr. Jebsen:—

I beg now to refer to my letters of October 19th and October 20th with reference to the various resolutions to be presented to the Board of this company on October 27th.

There is enclosed herewith a copy of draft minutes of that meeting, wherein the Board approved: 1) The agreement between Titan Company, Inc. and E. I. du Pont de Nemours and Company, dated July 27th, 1937; 2) The agreements between National Lead Company and Canadian Industries, Ltd. and National Lead Company and Titanium Pigments, Ltd.; 3) The arrangement as suggested in Mr. Beschorman's letter of May 28th.

With reference to the last-mentioned resolution, you will note that in my letter of October 20th I stated that Mr. Cole had instructed me to draft an agreement to embody the principles of this arrangement. Mr. Cole and I have given consideration to this matter, and it appears to us that it will be very difficult, if not impossible, to express the various points involved in the arrangement in a formal agreement, without bringing into question the names of National Lead Company's American associates, which would be contrary to their wishes. It was our opinion that the resolution contained in the draft minutes is quite suf-

Exhibit 870

ficient to recognize the conclusion of the arrangement. is binding upon National Lead Company in view of Beschorman's letter. The enclosed draft minutes have been entered in the minute book, but will so be entered up the receipt of your approval.

I would appreciate, also, your comments with respect avoiding the conclusion of a formal license agreeme covering the arrangement set forth in Mr. Beschorma letter.

Yours very truly,

CFK:lo

encls.

c.c. Mr. W. C. Beschorman
Mr. M. D. Cole

Exhibit 871

GJ/AK Paris, February 2nd 1938.

Charles F. Kaegebehn Esq.
National Lead Company
Patent Department
111 Broadway
New York City, U.S.A.

Dear Mr. Kaegebehn,

Many thanks for your letter of January 13th with enclosed draft of a resolution to be passed by the Board of Titan Company Inc.

Some changes are called for in my opinion and I enclose two copies of your draft with the suggested alterations. For your convenience I have underlined the parts which differ from yours and will mention that I have left out part of the last four lines of your draft.

I assume the changes will partly speak for themselves and may only add the following :

As to the underlined part on page 2, you may consider that it is anyhow up to the Titan Company Inc. and its European associates to accept or reject the conditions of the licenses to be granted by the National Lead Company's United States licensees, but I think it is appropriate to have the resolution mentioning that the terms and conditions are subject to approval, which, you will note, was provided for in Mr. Beschorman's letter to me of May 28th. This means, in my opinion, that Titan Company Inc. and its European associates have the right to be a party to the negotiations concerning the mentioned terms and conditions.

I have further changed the word "or" to "and" in order to make it clear that it is not a matter of choice, but that it will be necessary to have both Titan Company Inc., as well

as the associated company interested, to approve the agreement.

I am not quite certain whether I understand your considerations in the third and fourth paragraphs of your letter, as well as the last four lines of your draft.

The situation is the following:

The existing agreement between National Lead Company and Du Pont is a deviation from the 1920 agreement and, as you say, inconsistent with the principles laid down in this. Thus, the 1920 agreement has been modified as far as the relations with Du Pont are concerned. The agreement which is to be dealt with in the Board resolution is caused by this Du Pont agreement.

The Du Pont agreement permits Du Pont, as well as Titan Company Inc. and its European associates, to demand and accept conditions for their mutual grant of licenses, which are outside the provisions and principles of the 1920 agreement.

One is the monetary payment, the others it will be too long to deal with in this letter.

This was done on the request of National Lead Company and was only reluctantly accepted by I.G.

(Ref. the following letters, of which copies are enclosed:

Extract of Dr. Jebsen's letter to Mr. Beschorman of 23.6.1933, enclosing I.G.'s letter to Dr. Jebsen of 20.6.1933.

Dr. Jebsen's letters of 21.7.1933 to Mr. Weber-Andreas and to I.G. Farbenindustrie, enclosing Mr. Beschorman's letter to I.G. of 12.7.1933, enclosing Mr. Rupprecht's letter to Mr. Beschorman of 28.6.1933.

Exhibit 871

Extract of Dr. Jebsen's letter to Mr. Beschorman of 9.8.1933, enclosing I.G.'s letter to Dr. Jebsen of 7.8.1933.)

You write: "Thus, I have regarded this arrangement as a temporary expedient designed to promote a larger measure of equity for Titan Company Inc. vis a vis Du Pont . . . . . ".

It goes considerably further than that. By accepting the arrangement of Mr. Beschorman's letter of May 28th 1937, the European companies have refrained from asking monetary payments for licenses to Du Pont under their patents and we have thus eliminated one and probably the most important point, which could cause friction and tend to develop competition as regards patents and be harmful to good cooperation.

It helps to bring about a structure of the cooperation between all the companies of the group as intended by the 1920 agreement, which should be our aim, as you say further down in the same paragraph as above cited.

Whether a new arrangement with Du Pont as mentioned by you will supersede the existing arrangements depends upon what kind this will be.

The last four lines of your draft of the Board resolution seem to me to have a bearing on this situation and to raise questions, which it would be inopportune to bring up. They may be considered as an obligation upon Titan Company (and consequently need the approval of its non American associates) when granting licenses to Du Pont not to demand any conditions outside of the 1920 agreement. You will appreciate that this raises the question also of which conditions (other than monetary) Du Pont will demand in their licenses to Titan Company Inc. and its non American associates, and can therefore not be accepted.

Exhibit 871

When presenting the letter of May 28, 1937 to the Boards of our European associates, I verbally mentioned that I took it for granted that these companies will not ask for conditions beyond the 1920 agreement, and this was agreed to by our friends.

You will, however, from the above appreciate that this can not be carried further as it is based on reciprocity and presume that Du Pont is doing the same.

It seems to me that it would be well to have the agreement laid down in the letter of May 28, 1937, formally confirmed as soon as possible;—it has been accepted by the European companies—and the earlier this can be done the better.

I note that you are in agreement that the Board of Directors of National Lead Company should pass a corresponding resolution and formal letters should be exchanged between the National Lead Company and Titan Company Inc., confirming the arrangement, and I trust that this will be done at the same time as the resolution is passed in Titan Company Inc.'s Board.

With kindest regards,

Yours very truly,

sign. G. JENSEN.

Copy to Mr. Beschorman
" Cole

Exhibit 872

January 24th
1938

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company, Inc.
26, Rue de la Pépiniere
Paris—8e—France

Re: Pending United States Applications of E. I. Du Pont De Nemours & Co.

Gentlemen:—

With further reference to our letter of December 16th, which was a reply to your letter of November 23rd, we have now gone into the question concerning the filing of foreign applications as requested in your letter.

We beg to advise you that U. S. Serial No. 51,247, for which you requested the filing in Great Britain of a corresponding application, has now matured into a U. S. patent —No. 2,098,054.

We have come into an arrangement with Du Pont regarding the three remaining applications, whereby you will be permitted to file applications as requested, at your own expense, in the name of Du Pont, and to obtain a contract from Du Pont similar in every way to the contract of July 27th, 1937, relative to Blended Pigments. In other words, we have followed the precedents established in the Blended Pigments Case, and the terms and conditions for the filing of the new foreign applications will be identical with those respecting the Blended Pigments Patents.

With respect to U. S. Application Serial No. 33,264, the filing of which you requested in Germany, this case is under final rejection in the United States. Furthermore,

there is a possibility that Du Pont may not want the subject-matter of the application published in a foreign patent, if no U. S. patent issues. This situation will be gone into further by Mr. Rupprecht, who will advise us later on. Please, therefore, send us, as soon as possible, documents for the filing of an application corresponding to U. S. Serial No. 33.264 in Germany and those for the filing of an application corresponding to U. S. Serial No. 69.888 in Great Britain, as well as documents for the filing in France, Holland and Belgium of applications corresponding to U. S. Serial No. 134.577. In the event that Du Pont do not wish the German application corresponding to U. S. Serial No. 33.264 to be filed, the papers in this case will not be executed.

We can advise you that Du Pont have no intentions of filing applications in these or any other foreign countries in the above or any other cases.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:lo

30335

Exhibit 873

Letterhead of

TITAN COMPANY, INC.

Mar 7—1938

SA/LA

Paris, 21. February 1938

National Lead Company
Patent Department
111 Broadway
New York N.Y.

Att. Mr. C. F. Kaegebehn

Dear Sirs,

Pending U. S. Applications of E.I.Du Pont de Nemours & Co.

We thank you for your letter of 24. January this year in the above and are pleased to note that you have come into an arrangement with Du Pont permitting us to file applications corresponding to U.S. Ser.Nos. 33.264, 69.888 and 134.577, and to obtain a contract from Du Pont similar to the contract of 27. July 1937 relative to the blended pigments patents (Case T.200). We have also noted that Du Pont has made the reservation as to U.S.Ser.33 264 that there is a possibility of their not wishing to publish the subject matter of the application if no U.S. patent issues.

We note that the application should be filed in the name of Du Pont. It is not however quite clear to us whether the application should be prosecuted by us or by Du Pont. We proceed on the assumption that we are to handle the applications from here, and that the documents you are asking for in this connection are the powers and assignments re-

quired for the filing of the applications, and we enclose such papers as follows:

U.S.Ser.No.33.264.

Germany—Power of Attorney
Inventor's declaration

U.S.Ser.No.134.577

France —Power of Attorney
Declaration d'Ayant-droit
Holland —Power of Attorney
Assignment of Priority Rights
Belgium —Power of Attorney
Authorization

As to the application to be filed in Great Britain corresponding to U.S.Ser.No. 69,888, we have asked our British patent agents Boult, Wade & Tennant to send you a completed application form, and we trust that you will receive same in due course. This application must, according to British practice be made jointly in the names of Du Pont and the inventor. If Du Pont wish the patent to issue in their name only, an assignment before issue should be executed. In this event we shall be pleased if you will advise us of the relation of Mr. McKinney to the Company and the circumstances under which the Assignment is made so that we can prepare the Assignment document.

As you are aware, the declaration d'Ayant-droit for France has to be legalized by a French consul. For cases Ser. No. 33,264 and 69,888 the Convention term has expired but as U. S. Ser.No.134,577 was filed on the 2nd April 1937 it will still be possible to claim priority under the International Convention for the applications to be filed

Exhibit 873

in this case. We should therefore appreciate it if you could arrange to have the powers and the authorization for Belgium returned to us so that they reach us some days before the 2nd. April 1948. The declaration d'Ayant-droit for France need not reach us before the filing date, but the Consular legalization should, as you are aware, bear a date previous to the application in France. As such date, can be noted 1st. April 1938.

We presume that an assignment transferring to Du Pont the U. S. Application and possibly also the right to apply for patents in foreign countries has been executed by the inventor. We think however that in any case it is advisable—in order to ensure Du Pont's rights—that the inventor executes the enclosed assignments of priority rights in the case in which applications should be filed under Convention.

We have completed the papers as far as this is possible on the information at hand, and we hope that Du Pont will have no objection to signing them in this form.

In connection with your statement that we will obtain from Du Pont a contract similar to that of the 27th. July 1937, we would refer to our comments on formal working in our letter of the 31st. January 1938 re Case T. 200 and we would appreciate it very much if you would, also for the above cases, try to come to an arrangement with Du Pont freeing us from obligations as to formal working.

Looking forward to your communication,

We are,

Yours very truly,

for TITAN COMPANY INC.
Sigurd Andersen

Exhibit 874

Copy to: Mr. C. H. Rupprecht
Mr. John P. Hancock
Mr. J. D. Shiels

DR. ROSE M. DAVIS
PATENT CONTRACTS DIVISION
LEGAL DEPARTMENT

March 1, 1938.

Du Pont/Titan Company Agreement

We have reviewed memorandum on a proposed agreement between du Pont and Titan Company, attached to your letter of Febrtiary 25th.

In general, we see no objection to entering agreements with Titan granting them exclusive licenses to Titanium Pigments developments for European countries, provided, however, they are free of our obligations in the field of finishes to our foreign associates. It would appear that German application of Patterson case "Pigments for use particularly in outside paints" might be considered as coming within the scope of the Duco A. G. agreement. I have suggested to Mr. Hancock that he discuss this subject directly with Mr. Shiels. If it is decided that the case does come within the scope of the agreement, it would be satisfactory to adopt either of the following alternatives:

(a) The claims could be so amended as to omit reference to oil paint compositions. This is the suggestion made by Mr. Hancock.

(b) The matter could be referred to Duco A. G. with a request that they waive their rights in view of the fact that the development is one that occurred within the Krebs Pigments Department and one which is of no

practical importance to them in any event as they will be able to secure the material from Titangesellschaft m.b.H., a subsidiary of I.G., of which latter company they are already large and satisfied customers.

We note that licenses granted to Titan are subject to a non-exclusive license reserved for du Pont and for I.C.I. This latter reservation is, of course, not necessary under the terms of the I.C.I./du Pont Agreement but in view of the fact that Titan is willing to accept it, it seems desirable to include it.

In accordance with your suggestion we propose to inform I.C.I. of this agreement when and if it is concluded.

FOREIGN RELATIONS DEPARTMENT

J. K. JENNEY, ASST. DIRECTOR.

JKJ.r

Exhibit 875

Blind CC: C.H.Rupprecht,Esq.
Krebs—Nemours Bldg.

Charles F. Kaegebehn, Esq. May 9, 1938
c/o National Lead Company
111 Broadway
New York City Patent Dept.

Re: Proposed du Pont—Titan Agreement
under K Cases 701, 743 and 867

Dear Mr. Kaegebehn:

This will acknowledge and reply to your letter of April 26th on the above, communicating the comments of Dr. Jebsen with respect to certain provisions of the proposed draft.

The changes which Dr. Jebsen proposes (more particularly set out at Page 2 of your letter of April 26th) are acceptable to du Pont. Accordingly, Pages 2, 3 and 4 of the submitted draft on which these changes appear have been rewritten to incorporate them. The rewritten pages are enclosed and it would be appreciated if you would appropriately substitute them in the duplicate originals and file copy in your possession, prior to Titan's execution.

The comments which Dr. Jebsen makes in regard to my letter to you of March 18th and that portion which has been quoted in your letter of April 26th are also noted. These have been considered with Mr. Rupprecht. In reply, we advise that as to countries in which du Pont applications and/or patents on the involved titanium dioxide inventions "are not now, or may not subsequently be existent", du

Exhibit 875

Pont should it file applications for patents on the involved TiO_2 inventions in such countries, will grant Titan a free right to operate thereunder.

Relative to your inquiry on the proposed general agreement. As yet, nothing definite is available for report to you on this matter, but it is hoped that something of a tangible nature will be available in the near future. Of course, as soon as we do have something definite, we shall promptly communicate with you.

I trust that the foregoing places the instant license agreement in acceptable form for execution by the Titan Company.

Very truly yours,

E. I. Du Pont de Nemours and Company,

By .....
John P. Hancock

JPH:H
Enc.

3042

Exhibit 876

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Copy to: London Office.

Foreign Relation Department May 24, 1938.

MISS ROSE M. DAVIS
LEGAL DEPARTMENT

DU PONT/TITAN COMPANY AGREEMENT

This will acknowledge and thank you for your letter of May 20th attaching memorandum on the proposed agreement between du Pont and Titan Company, Incorporated.

The agreement grants Titan exclusive rights to various du Pont patents in the titanium pigments field for France, England, Holland, Germany and Japan subject to non-exclusive licenses reserved for du Pont and I.C.I. In return we receive non-exclusive licenses to certain U.S.A. patents owned by Titan Company, Inc.

We understand that the patents cover inventions in the field of titanium pigments and therefore do not come within the scope of the I.C.I./du Pont agreement. We understand that non-exclusive licenses are being reserved for I.C.I. as a matter of courtesy and feel that it will be satisfactory to merely report this to them after the agreement has been executed. Will you kindly forward two copies of the final agreement to this office, one of which we will transmit to our London Office with the request that they notify I.C.I. of the rights that have been reserved for them?

We also understand that the patents in question do not include any claims in the field of finishes, in which field we have obligations to associated companies in France and Germany.

FOREIGN RELATIONS DEPARTMENT

JKJ.r J. K. JENNEY, ASST. DIRECTOR.

30433

Exhibit 877

July 15, 1938

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

PROPOSED LICENSE TO TITAN COMPANY, INC. UNDER FOREIGN PATENT APPLICATIONS LISTED BELOW

Herewith is submitted proposed license agreement to Titan Company,Inc. under our foreign patent applications on titanium pigments in countries mentioned hereafter, corresponding to pending United States applications listed:

For Great Britain, corresponding to U.S.Serial 69,888, filed March 20, 1936, covering cooling calciner discharge rapidly to produce blue tint.

For Germany, corresponding to U.S.Serial 38,264, filed July 26, 1935, covering use of flake extenders with titanium dioxide to improve durability.

For France, Holland, and Belgium, corresponding to U.S. Serial 134,577, filed April 2, 1937, covering a treatment of titanium dioxide to decrease consistency in paints.

Titan Company,Inc. is owned 87% by National Lead Company, and handles all patent matters in foreign countries for National Lead Company and its foreign associates, also acting as Sales Agent for the latter. Foreign associates involved in this license are Titangesellschaft m.b.H. of Leverkusen, Germany, owned 50% by National Lead Company and 50% by I.G; British Titan Products Company, Billingham, England, in which National Lead Com-

pany has a 49% interest and I.C.I. 17%; and Societe Industrielle du Titane, Paris, France, in which Titan Company, Inc. has a 57% interest.

Under this agreement Titan Company, Inc. is granted a royalty-free license, in each case restricted to the countries specified, which is exclusive except for du Pont or any Company controlled by du Pont, and for I.C.I. in Great Britain. Titan Company, Inc. is permitted to sub-license its associates, as defined in the agreement, on a royalty-free basis. Other sub-licenses may be granted subject to du Pont approval and the payment of 50% of any royalties obtained. Titan Company, Inc. is to assume all costs incidental to the filing and prosecution of our applications under this license, and to pay all necessary maintenance fees during their life.

This agreement has been approved by the Legal Department.

Since the patents covered by this agreement offer very little possibility of return, the agreement enables the Company to maintain the patents without expense to us, and also retain all rights of manufacture and sale for the Company in the countries mentioned.

It is, therefore, recommended that the Management be authorized to execute license as herewith submitted.

C. H. RUPPRECHT

C. H. RUPPRECHT
General Manager

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Exhibit 878

EXTRACT FROM MINUTES OF EXECUTIVE COMMITTEE MEETING #1441

JULY TWENTIETH, 1938

E. I. DU PONT DE NEMOURS & COMPANY

PROPOSED LICENSE TO TITAN COMPANY, INC. UNDER FOREIGN PATENT APPLICATIONS ON TITANIUM DIOXIDE:

Letter was presented from C. H. Rupprecht, General Manager, Krebs Pigments Department, dated July 15, 1938 (#8937), enclosing copy of proposed license agreement with Titan Company, Inc., as above, said agreement having been approved by the Legal Department, and already executed by the Titan Company.

After discussion, it was moved and unanimously carried that the letter and enclosure be received and ordered filed, and that the following resolution be adopted:—

RESOLVED, that C. H. Rupprecht, General Manager, or Z. Phelps, Assistant General Manager, Krebs Pigments Department, or the President or any Vice-President of this Company together with the Secretary or an Assistant Secretary, be and they are hereby authorized to execute an agreement, in form substantially as per copy attached to letter to this Committee from Mr. Rupprecht, dated July 15, 1938, under which this Company grants to Titan Company, Inc. a royalty-free license under our patent applications on titanium dioxide in certain foreign countries, corresponding to pending United States applications, as follows:—

For Great Britain, corresponding to U. S. Serial #69,888, filed March 20, 1936; covering cooling calciner discharge rapidly to produce blue tint;

Exhibit 878

For Germany, corresponding to U. S. Serial #33,264, filed July 26, 1935, covering use of flake extenders with titanium dioxide to improve durability;

For France, Holland, and Belgium, corresponding to U. S. Serial #134,577, filed April 2, 1937, covering a treatment of titanium dioxide to decrease consistency in paints.

Exhibit 879

April 20, 1938

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company, Inc.
26, Rue de la Pépiniere
Paris—8e—France

Re: Pending U. S. applications
Titaninc and Associates
Proposed Agreement Titanine-
E. I. Du Pont De Nemours

Gentlemen:—

We refer to your letter of March 9th and our cable to you of April 13th, which read as follows:

> "DuPont inquires concerning pending United States applications Titan and associates stop Disclosed Cases T. 112, 115, 115-B, 115-C, 120, 125-C, 126-B, 136, 142, 155, 157, 165, 170 as in Licensed Field National Lead DuPont Agreement stop Du Pont willing grant Titan royalty-free license as requested your letter March ninth on same principles Titan DuPont Agreement July 27, 1937 in exchange for non-exclusive licenses United States under mentioned T. Case applications if you agree DuPont willing you file applications as per your letter March ninth in name DuPont your expense before execution formal agreement stop Send papers stop Letter follows."

Prior to the receipt of your letter of March 9th, Mr. Rupprecht asked the writer to acquaint DuPont with such pending United States applications filed by Titan Company Inc. and its European associates which could be con-

sidered as coming within the scope of the Licensed Field of the National Lead-DuPont Agreement. The writer informed DuPont concerning U. S. patents and patent applications in those cases listed in the cable of April 13th, 1938, viz., Cases T. 112, 115, 115-B, 115-C, 120, 125-C, 126-B, 136, 142, 155, 157, 165, and 170.

On April 13th the writer had a conference with Mr. Rupprecht and Mr. Hancock, the latter of the Legal Department, Patent Division of E. I. DuPont. Mr. Rupprecht could see no reason why rights could not be granted to Titan Company, Inc. and its European associates in applications in those foreign countries set forth in your letter of March 9th corresponding to the applications therein enumerated. Mr. Rupprecht felt that a reciprocal exchange of licenses, whereby DuPont received a non-exclusive license under now pending United States applications, or—as in the case of T. 112—United States patents issued from the applications disclosed by the writer to DuPont, would facilitate approval by the Executive Committee of DuPont to the arrangement for giving Titan Company, Inc. the rights it desired. In this connection, we have to inform you that there may be a question raised concerning the filing of applications in Japan. We are not able at this time to give you reasons why it may not be possible for DuPont to permit you to file applications in Japan, but it is Mr. Rupprecht's opinion that, in all probability, the filing in Japan will be permitted without serious objection. We merely bring this to your attention in the event DuPont is not able to give you rights for Japan.

If the arrangement for granting DuPont a non-exclusive license in the Titan Company cases enumerated above is acceptable to you and your European associates,

the question of title becomes one of paramount importance. We have looked into this question and have consulted Messrs. Hutz and Joslin. Neither Messrs. Hutz and Joslin nor we believe that we have been fully informed by I. G. and/or Titangesellschaft concerning their wishes with respect to the title in certain cases. Below we give you the best information we have at this time:

Case No.	*Serial No.*	*Inventor*	*Our Knowledge*
T. 120	33.383	Petersen	Stands in name I. G.
T. 125–C	136.502	Raspe	" " " T. G.
T. 126–B	107.021	Drucker	" " " I. G.
T. 142	85.439	Raspe	" " " I. G.
T. 155	119.625	Petersen	" " " T. G.
T. 157	137.494	Lederle	" " " T. G.
T. 170	137.044	Meder	" " " I. G.

In order that the proposed arrangement with DuPont be reciprocal as between the parties, i.e. DuPont and Titaninc, it will be necessary that the mentioned patent and patent applications stand in the name of Titaninc or, alternatively, that Titaninc is in possession of documents, e.g. exclusive license documents, clearly establishing Titaninc's right to grant to DuPont non-exclusive license. As regards Cases T. 112, T. 115, T. 115-B, and T. 115-C, no difficulty persents itself; we shall assign these cases to Titan Company, Inc. and record the assignments in the United States Patent Office. However, with respect to the remaining cases, you will appreciate that it now becomes important for you definitely to settle with the I. G. the question of what rights they wish to retain in these cases.

It could be considered practically inevitable that some day DuPont would request United States rights from Titan

Company, Inc. in return for granting to Titan Company, Inc. foreign rights in their cases. This matter has been touched upon in conversations with Dr. Jebsen and Mr. Ravenstad. The writer believes that the reluctance on the part of T. G. and I. G. promptly to inform Titan Company, Inc. as to their decision with respect to United States cases and to execute proper assignment documents where these companies have no interest in maintaining the cases in their own behalf has placed Titan Company, Inc. somewhat at a disadvantage with respect to negotiating with DuPont. The situation, as the writer sees it, is this:

Titan Company is asking DuPont for rights under certain foreign patent applications to be filed corresponding to certain United States cases and DuPont has requested as one of the terms for granting such rights to Titan Company that Titan Company grant them a non-exclusive license under certain United States applications for which Titaninc is the exclusive licensee and National Lead the exclusive sublicensee. You will readily appreciate that it will be impossible for you to enter into a license contract wherein you allege the right to grant licenses to DuPont, unless you clearly have title to the cases or you have documentary evidence that Titaninc is the exclusive licensee.

There appear to be two ways to handle the present situation: First and most simple, would be to have I. G. or T. G., respectively, execute assignment documents vesting title in cases T. 120, T. 126-B, T 142, T. 170 (I. G. Cases) and T. 125-C, T. 155, T. 157 (T. G. Cases) in Titan Company, Inc. The second, and somewhat more involved may, would be for these companies to execute formal license agreements between Titan Company A/S. and I. G. and I. G. and Titangesellschaft, granting Titan Company, Inc.

Exhibit 879

exclusive license in the respective cases for the United States, subject to the exclusive license of National Lead Company and permitting Titan Company, Inc. to grant sublicenses, with the consent of National Lead previously obtained. We recommend the first procedure.

There remain only two cases, Case T. 136 and T. 165, title to which must be considered. Case T. 136 has been assigned to National Lead Company and will be reassigned to Titan Company, Inc. In Case T. 165, we are in possession of an assignment vesting title to this case in British Titan Products Company. You will have to take up with British Titan Products Company whether or not the case will be assigned to Titan Company, Inc. or whether Titaninc shall obtain only an exclusive license.

We think you will agree that DuPont has made a reasonable request in this case and their coöperative attitude is shown by the fact that they are agreeable, pending the settlement of the question of title, that you should file the applications requested. Therefore, as stated in my cable, please send the necessary papers to enable you to file the desired applications in the name of DuPont.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:lo

cc. Mr. D. C. Beschorman

Exhibit 880

Letterhead of

TITAN COMPANY INC.

SA/LA

Paris, 10. May 1938

National Lead Company
Patent Department
111 Broadway
NEW YORK N. Y.

Att. Mr. C. F. Kaegebehn

Dear Sirs,

Pending U. S. Applications of E. I. Du Pont de Nemours & Co. Our Ref. Cases DK 15-30

We acknowledge the receipt of your cable of 10. April and your letter of 20. April relating to the Du Pont cases referred to in our letter of 9. March this year.

We are not at present in a position to inform you whether an exchange of licenses as suggested by Du Pont can be arranged or not. Dr. Jebsen will take up this question during his stay in U.S.A.

You will be aware that also other questions relating to the Du Pont cases will have to be settled, particularly the form of the proposed license agreement in connection with the cases dealt with in your letter of 25. March this year and Dr. Jebsen's reply hereto of 12. April.

As you are aware, Du Pont has executed documents enabling us to file applications in the countries in which we are interested in obtaining licenses in these latter cases. (DK 2-13) and these applications have been filed.

Exhibit 880

We are forwarding you herewith as per enclosed list documents required in connection with applications for the cases and in the countries in which we wish licenses, according to our letter of 9. March re cases DK 15-30. If Du Pont are willing to sign these documents now,—without awaiting the result of the negotiations,—this would enable the claiming of priority under the International Convention for most of the applications contemplated, and we would ask you to try to obtain their signature to the documents. We wish to point out that Du Pont's executing the documents in the present situation should not, in any way, be prejudicial to the further negotiations with that company. Please make this clear to Du Pont if you consider it necessary. You will appreciate that, as the applications are filed in the name of Du Pont, no patent rights are given away by them so far.

The applications in France cannot be withdrawn and will automatically result in the publication of a patent specification about 7 months after filing date. In the other countries where we are interested in licenses in cases DK 15-30 (Germany, Great Britain, Holland and Japan), the application may be withdrawn before acceptance and in this event, no publication will take place.

In cases DK 22, 23 and 24, we have had lodged specification and claims at the Patent Offices in Germany and Japan, and also in Holland, in DK 23 before the expiration of the Convention term (23. and 28. April 1938,) and the papers are held there pending receipt of powers of attorney for the agents.

The powers and inventors' assignments in these cases should preferably be dated prior to the 23. April 1938.

In cases DK 25, 26 and 27, it would be well if the documents be dated prior to the 25. May.

In the remaining 3 cases (DK 28, 29 and 30, you will note that the Convention terms expire on 2., 5., and 10. June next, and the documents should be dated before these dates.

We are aware that the time at disposal is not very long, and we hope that we do not cause you too much trouble in having the matter arranged in the manner suggested above.

We should be obliged to you if you also would order and forward us as soon as possible *one certified copy* of each of the basic U. S. applications as follows:

U. S. Pat. Appl. Ser. 138.583 (DK 22)
139.497 (DK 24)
144.759 (DK 25)
145.044 (DK 26)
145.051 (DK 27)
145.930 (DK 28)
147.485 (DK 30)

and *two certified copies* of U. S. Ser. 138.584 (DK 23)

Looking forward to your communication,

We are,

Yours very truly,

For TITAN COMPANY INC.

A. RAVNESTAD

P.S. In addition to the documents enclosed, there is needed application and authorisation forms for the British applications in cases DK 26 and 27. We have asked our British patent agents to forward direct to you the necessary forms with indications as to their signature.

Exhibit 880

As to the documents for Japan, we should be greatly obliged to you, if you would forward these direct to our Japanese patent-agent

Nagashima Law & Patent Office
6 Tsukiji 3-chome, Kiobashi-ku
Tokio (Japan)

and return us the attached copies in completed state.

30056

Exhibit 881

NOTES RE DU PONT SITUATION

May 15, 1938

I. *Licensed Field:*

It has been indicated that it may be possible to broaden the Licensed Field to include titanium compounds which may be developed by the General Chemicals and Organic Chemicals Division of E. I. Du Pont. This means that three divisions will be brought into the structure, viz. Krebs Division, General Chemicals Division and Organic Chemicals Division, leaving other divisions outside the field. Any arrangement for an exchange within a Licensed Field to apply to the whole Du Pont organization can only be dictated by the officials of Du Pont.

II. *License from Du Pont to Titaninc:*

It has been indicated that the Legal Department of Du Pont may hesitate to provide in a written agreement for grant of exclusive licenses by Du Pont to Titaninc. The reason given for this attitude is that the grant of exclusive licenses raises questions which are connected with the Anti-Trust Laws. It has been indicated, however, that if the arrangement provides only for non-exclusive licenses under future patents, these licenses could easily be made exclusive upon the request of Titaninc. The attitude with respect to this point is that Du Pont Legal Department hesitates to approve an arrangement providing for grant of exclusive licenses under patents not yet in being and included within a general agreement, whereas they have no particular objection to grant exclusive licenses under specific patents or patent applications actually in being.

30557

Exhibit 881

III. *Grant of License by Titaninc to Du Pont:*

Du Pont will expect no more than a non-exclusive license under United States patents of Titaninc and its associates.

IV. *Territorial Limitations:*

It has been indicated that Du Pont Legal Department will approve a written agreement only where the license granted or provided to be granted is under patents and only for the countries wherein those patents have force and effect. They will not make commitments with respect to unpatented territories. The reason given being the Anti-Trust Laws.

V. *Royalties:*

The licenses will be royalty-free on both sides.

VI. *Exchange of Experience:*

Du Pont is willing to exchange information within the Licensed Field as agreed upon.

VII. *Term of Agreement:*

It has been indicated that Du Pont will wish the term of the agreement to be similar to that of the Du Pont-National Lead Agreement, viz. terminatable upon three years' notice rather than the termination as provided in the Agreement of 1920.

VIII. *Title to Patents:*

Du Pont will want to keep title to patents under which license is granted to Titaninc and if the license is an exclu-

sive one, will reserve for itself a non-exclusive license. In Great Britain a similar right must be reserved for I. C. I. The latter reservation for I. C. I. is necessary under the Tri-Party Agreement of Du Pont, I. C. I. and C. I. L. It should have little effect on B. T. P. in view of the I. C. I. obligations to B. T. P. The former requirement as to preservation of title is based upon an inflexible Du Pont company policy.

IX. *Finished Articles:*

Du Pont cannot undertake any commitments with respect to exportation of finished articles by its customers as for example is provided in the Agreement of 1920. The reason for this attitude is the Anti-Trust Laws, specifically the Clayton Act. Recently, there have been a number of decisions handed down by the United States Supreme Court, reaffirming the principle of law that a patentee cannot use patents to restrict the use or sale or application of unpatented articles of commerce. For so long as our patent position covers the product itself we may possibly be in a position to sell to customers with the restriction that they cannot export the finished articles, but it is very doubtful today that our patent position is such as to permit us to put this restriction on our customers.

Exhibit 882

OUTLINE OF PROCEDURES FOR GRANTING LICENSES TO DU PONT UNDER PATENTS OWNED BY TITAN COMPANY, INC. OR TITAN COMPANY'S ASSOCIATES

June 1, 1938

I. License by Titan to Du Pont under Patents owned by Titan—Consent of National is the only condition. This consent may be obtained:

a) A simple statement appended to the license agreement wherein National affirms and consents to the granting of the license in the form of:

"Consent is hereby given to the grant of the above license.

NATIONAL LEAD COMPANY

by_____"

(Probably Du Pont will not want this)

b) National Lead Company, by a resolution of its Board, could give Titan Company, Inc. a blanket consent to grant Du Pont licenses as agreed upon, this to be confirmed by a letter to Titan citing the resolution.

c) National Lead Company, by letter to Titan Company, Inc. in each individual case, could consent to grant of license to Du Pont.

II. Sublicense by Titan to Du Pont under Patents of its Associates—Consent of National required—also affirmation by associated patent owner that Titan has right to grant sublicense and that the associate consents thereto. If right is derived from I. G., I. C. I., Goddlass Wall, etc., affirmation and consent of T. G.

or B. T. P. is required, in addition. To obtain same either of the three following alternatives may be followed, making two affirmations and consents for each license document, or if National's consent is obtained in the same way, three consents.

A.—Consent of National

(cf. a), b), and c), Section I)

B.—Affirmation and Consent of Associate

a) Simple statement appended to the license agreement:

"It is hereby affirmed that Titan Company, Inc. possesses the right to grant the license specified in these premises and consent is hereby given to the grant thereof.

(for example) TITANGESELLSCHAFT, m. b. H.

by_____"

b) Resolutions by the Boards of the respective associates owning the patents giving Titan blanket consent to grant Du Pont licenses as agreed upon.

c) Letters from the respective associates owning the patent in each individual case consenting to Titan's giving Du Pont the license.

C. F. Kaegebehn—Manager
Patent Department
National Lead Company
June 2nd, 1938

Exhibit 883

Memorandum of the principles to govern the relations between Du Pont De Nemours and Company and Titan Company, Inc. as regards the operations (manufacture and sale) of the two companies in the titanium industry.

Titan Company, Inc. will operate directly or through associated licensed companies in which it or its owners, directly or indirectly, have substantial shareholding interests (not necessarily a majority interest), in all countries outside North America.

Du Pont will operate in the United States, Central and South America only and will endeavor to prevent that their products in the Licensed Field are exported except as constituents of bona fide manufactured articles.

Licensed Field: To be determined—Krebs-National Lead Agreement or Agreement of 1920).

Licenses: Du Pont will give licenses to manufacture, use and sell under any patentable inventions to Titan Company, Inc. on Titan's request for the territories in which Titan Company, Inc. operates as above mentioned with the right to use and sell in Central and South America and with the further right to Titan Company, Inc. to give sub-licenses of the same scope to its associated licensed companies wherever Du Pont takes out patents in these territories, and will on request of Titan Company, Inc. endeavor to obtain such patents unless Du Pont for definitely stated reasons considers it undesirable to apply for patents, in which case Du Pont will not object to Titan Company, Inc. or its associated licensed companies filing applications for such patents.

The licenses are to be exclusive with the exception of Du Pont itself and its controlled subsidiaries. The licenses will be given without monetary compensation except a reimbursement of the cost of applying for, obtaining and maintaining the patents.

Titan Company will either itself give or will endeavor to procure for Du Pont on Du Pont's request a non-exclusive license to manufacture, use and sell under any United States patent which it owns or in which it has a right to an exclusive license, with the right to use and sell in Central and South America.

If any of the parties do not wish to maintain a patent they shall first give the other party the opportunity to acquire the ownership of the patent. The licenses will be given without monetary compensation except a reimbursement of 50 percent of the cost of applying for, obtaining and maintaining the patents in cases where Du Pont expressly wishes the patents to be applied for, obtained and maintained.

Exchange of Information: Du Pont and Titan Company, Inc. are willing to exchange information within the Licensed Field and will treat such information as confidential.

Term of Agreement: The coöperation, the principles of which are set forth in this memorandum may be terminated on three years' notice but the licenses granted prior to termination are irrevocable.

Exhibit 884

Memorandum of conference between Mr. Rupprecht, Mr. Rockwell and Dr. Jebsen—Friday, June 3, 1938 regarding licenses to and from the du Pont Company

As regards the question of territorial limitations, this was not discussed, having been dealt with previously.

Mr. Rupprecht outlined his company's position and Dr. Jebsen outlined the position of Titan Company Inc. to its various associated companies.

The following specific points were dealt with:

It was agreed that non-exclusive licenses from Titan Company Inc. to duPont in the United States were equitable compensation* for duPont giving exclusive licenses to Titan Company Inc. and associates (with the exception of duPont—I. C. I. as regards the British Empire) for the territories of Titan Company Inc. If Titan Company Inc. wish patents to be applied for, duPont will do so for any country within the territory of Titan Company Inc., with the exception of China and Japan, for which countries it might be done but might also be restricted to special cases.

If Titan Company Inc. do not wish to maintain a patent, but du Pont will maintain it, Titan Company Inc. shall have a non-exclusive license.

Titan Company Inc. has the right to give sub-licenses. These sub-licenses are specified in the license agreements as regards the firms to which they can be given, but on Titan Company Inc.'s request, can be extended to other firms named by Titan Company Inc.

The rights, reserving for duPont to operate under the patents, are to be considered only of a nominal interest to duPont and are made for governmental reasons. On my question if I could state to our friends in Europe that this

*Expenses for obtaining, maintaining, etc. patents not considered.

reservation was made solely to satisfy the government, Rupprecht answered that it has been duPont's policy for their own reasons to make this reservation, but he considered that if an agreement could be made today, he would get approval to omit this reservation for duPont.

It was agreed that we should try to develop standard license agreements to be used in the various cases.

As regards exchange of experience and development work, this was not discussed having also been dealt with earlier.

Rupprecht wanted to make it clearly understood that exchange of licenses was limited to the Licensed Field in the duPont/National Lead Company agreement; that is, manufacture, use and sale of titanium compounds which can be used as pigments, and that it referred only to the Krebs Division of the duPont Company (Pigment Division of the Company). This division is the only one which deals with pigments in the duPont Company.

"Used-patents" in other departments of duPont, for instance, the paint department, were not included.

"Used-patents" developed by the Krebs Division would be licensed to us but with the reservation that benefit under these patents would have to be made for the duPont companies abroad and would have a practical importance.

Dr. Jebsen wished to make it clear that the Licensed Field for the exchange between Titan Company, Inc. and Titangesellschaft—I. G. Farbenindustrie as well as British Titan Products Company Limited and Societe Industrielle du Titane—did not include used patents or application patents, but these firms were under obligation when giving licenses to obligate the licensee to use our pigments, especially the pigments from our various factories in the various territories.

G. JEBSEN

Exhibit 885

License Agreement: Titanine — Du Pont — Reciprocal Exchange
June 6th 1938
Dr. G. Jebsen
Mr. C. F. Kaegebehn — Patent Department

Dear Dr. Jebsen:—

As an alternative to a single cross-licensing agreement providing, on the one hand, for grant of license to Titan under Du Pont's cases and, on the other hand, for grant of license to Du Pont under Titan's, I. G.'s, T. G.'s, and B. T. P.'s cases, the following may be considered:

A. First Alternative—A single cross-license agreement, 3 separate licenses from Titan to Du Pont.

1.) Cross-license—Du Pont grants Titan licenses under all its cases; National Lead will reassign Cases T. 112, T. 115, T. 115-B, T. 115-C and T. 136 to Titan and Titan will give a license to Du Pont under these patents with consent of National.

2.) Titan will give a separate license under I. G.'s patents —Cases T. 120, T. 126-B, T. 142, T. 170 with consent of I. G., T. G. and National.

3.) Titan will give a separate license under I. G.'s patents —Cases T. 125-C, T. 155, T. 157 with consent of National and I. G.

4.) Titan will give a separate license under B. T. P.'s patent Case T. 165 with consent of B. T. P. and National.

B. Second Alternative—A single cross-license agreement; one additional license from Titan to Du Pont.

1.) Cross-license—Du Pont grants Titan licenses under all its cases; National will reassign Case T. 112, T. 115, T. 115-B, T. 115-C and T. 136 to Titan and Titan will give a license under these cases and under I. G.'s Cases T. 125-C, T. 155, T. 157 and under B. T. P.'s Case T. 165 with I. G.'s consent as to T. 125-C, T. 155 and T. 157; B. T. P.'s consent as to T. 165, and Nationals consent as to all.

2.) Titan will give a license under I. G.'s cases T. 120, T. 126-B, T. 142, T. 170 with I. G.'s, T. G.'s and National's consent.

Since both of the above suggestions involve the giving of a license to Du Pont with no showing of reciprocal grant to Titan, the following might be considered:

C. Third Alternative—Two cross-license agreements.

1.) One cross license involving all Du Pont cases except those for Germany and all Titan cases except those originating with I. G. and T. G.—consent of B. T. P. and National required.

2.) A second cross-license involving Du Pont cases for Germany and Titan's cases originating with I. G. and T. G.—consent of I. G., T. G. and National required.

The third alternative (C.) is recommended. It involves only two agreements. The first can be shown to the British, if necessary, since it involves only one of their applications in the United States and two Du Pont appli-

cations in Great Britain. The remaining rights exchanged in this agreement involve Du Pont cases in France, Holland and Japan and Titan cases in the United States. The second agreement can be shown to the Germans, if necessary, since it will involve only Du Pont applications in Germany and T. G.'s and I. G.'s United States applications. (7 U. S. applications—4 I. G. and 3 T. G., as against 7 Du Pont German applications.) Above all, it provides the quid pro quod desired by Du Pont. If desired, the Japanese rights might be included in the second agreement rather than the first.

The consent of National Lead, B. T. P., T. G., and I. G. may be obtained as suggested in my separate memo. on the subject and as desired by Du Pont.

Yours very truly,

CFK:JL

Exhibit 886

Memo Concerning Development of License Agreement between Du Pont De Nemours and Company and Titan Company, Inc.

Margin Note in Handw states: "June 7 Fr Dr. J

These license agreements can either be for: 1) licenses from Titan Company, Inc. to Du Pont (one or more licenses included in each agreement) and, 2) licenses from Du Pont to Titan Company, Inc. with a right to give sublicenses either without restriction or specifically mentioned limitations, if necessary. (These license agreements can also include one or more licenses, partly as under 1) and partly in the form of cross-licensing agreements).

As Titan Company, Inc. will have to procure the consent of the patent owner and any intermediate licensee between Du Pont and Titan Company, Inc., cross-license agreements should, as far as possible, be restricted to the patents belonging to Titan Company, Inc. If, for various reasons, the cross-license agreements have also to be extended to licenses under patents owned by other companies than Titan Company, Inc., as, for example, I. G., T. G., B. T. P., Société Industrielle du Titane, the cross-license agreements should concern only licenses under patents owned or controlled by one of Titan Company Inc.'s associates and as exchange, licenses from Du Pont under patents in these companies' territory. (It should be remembered that Titan Kogyo is a sublicensee of Titangesellschaft and Japan, to this extent, is within the territory of Titangesellschaft, having been given by Titangesellschaft to Titan Kogyo).

If it is found desirable, these cross-license agreements in which other companies than Titan Company, Inc. are affected, as for instance, I. G., B. T. P., T. G., etc., can,

if desirable, also include licenses from Titan Company, Inc. to Du Pont under patents owned by Titan Company, Inc.

It is understood that Du Pont—as regards licenses from Titan Company, Inc. under patents owned by any of the other companies and under which Titan Company, Inc. has exclusive licenses for the United States—will be satisfied with this*

A resolution of the Board of Directors of the National Lead Company, giving their consent to Titan Company, Inc.'s grant of licenses as above is required.

---

*this and trust that Titan Co. Inc. has covered itself. However, in developing these license agreements it should be remember that Titan Co. Inc. for its own protection must have the approval the patent owner and any licensee between Titan Co. Inc. and the Patent owner for the simplification of this it is advisable not to have to ask too many approval for the same document.

Exhibit 887

MEMO RE UNDERSTANDING BETWEEN D.-T. CO., INC. AND N. L. CO.

T. Co.'s operations as regards manufacture and sale will be made directly or through its associated licensed companies in all countries outside North America. T. Co., Inc. and its associated licensed companies outside North America will not export to North America except with the permission of N. L. Co.

D.'s operations as regards manufacture and sale will be in the United States, Central and South America only and they will endeavor to prevent that products within the Licensed Field are exported except as constituents of bona fide manufactured articles.

Licensed Field:

Note: See annexed.

Licenses:

D.'s Pigment Division will give licenses to manufacture, use and sell to T. Co., Inc. at T. Co., Inc.'s request for the territories in which T. Co., Inc. operates with the exception of Central and South America and licenses to use and sell in Central and South America, and with the further right to T. Co., Inc. to give sublicenses to its specifically mentioned associated licensed companies (Titangesellschaft, British Titan Products Company, Société Industrielle du Titane, Titan Kogyo and Titan Company A/S.) wherever D. takes out patents for those territories, and will, on request of T. Co., Inc. endeavor to obtain such patents. The sublicenses will also be permitted to be given on T. Co., Inc.'s request to any company licensed by T. Co., Inc. in the future

and not specifically mentioned yet: Mr. R. declared that D.'s Pigment Division dealt with all pigment matters of D.

It was not specifically mentioned, but it appears from some remarks of Mr. R. that there may from time to time be difficulties as regards taking out patents and giving licenses for Japan and China.

The licenses are to be exclusive with the exception of D. itself and its controlled subsidiaries and I. C. I. as regards the United Kingdom of Great Britain, Ireland and the Isle of Man.

T. Co., Inc. will give D. on D.'s request, a non-exclusive license to manufacture, use and sell under any United States patents which it owns or under which it has the right to an exclusive license, with the right to use and sell in Central and South America.

If any of the parties do not wish to maintain a patent, they shall first give the other party the opportunity to acquire ownership of the patent.

The licenses will be given without monetary compensation except that T. Co., Inc. will pay a remuneration for the cost of applying for, obtaining and maintaining the patents under which T. Co., Inc. has licenses as above mentioned. If T. Co., Inc., wish to refrain from carrying the expenses of maintaining such patents and if D. will continue the maintenance, T. Co., Inc. shall have a non-exclusive license but with no exclusivenesses as above mentioned.

The question of D. sharing expenses of applying for, obtaining and maintaining the patents under which D. obtains a license was not discussed as this is a matter to be dealt with between D. and N. L. Co.

Exhibit 887

Any licenses granted prior to termination of this understanding are irrevocable.

Mr. R. expressed the view that the reservation pertaining to D.'s patent rights in the territories of T. Co., Inc. was of a formal nature and will have no particular importance. If D. felt itself able to make a written general agreement, it could be considered that this reservation would be omitted. He mentioned that D. had a general rule that the company could not part with any property with respect to a patent right without approval of the Financial Committee of D. and this would have to be obtained in case such a written general agreement should be contemplated.

The practical handling of the grant of licenses is dealt with in a separate memo., as attached.

Exchange of Information:

D. and T. Co., Inc. are willing to exchange information within the Licensed Field and permit representatives to visit their plants (provided there are no governmental objections).

Mode of exchange of information was not discussed in detail with Mr. R. and will have to be in coordination with the exchange between D. and N. L. Co. (See attached memo.).

Termination of Agreement:

The cooperation, the principles of which are set forth in this memo., may be terminated upon three years' notice.

The above principles of understanding have been reached between Mr. R. and Dr. Jebsen, with a reservation

Exhibit 887

by Dr. Jebsen that they are subject to approval by our associated licensed companies, British Titan Products Company, Titangesellschaft and Société Industrielle du Titane.

In connection with the above should be considered the agreement between N. L. Co. and Krebs, dated January 1st, 1933 and the following correspondence:

Cablegram—from Dr. Jebsen to Mr. Beschorman, Lead Co. —of June 22, 1933

Letter —from Dr. Jebson to Mr. Beschorman—of June 23, 1933 (1st page and 1st paragraph of 2nd page and P.P.S.)

Letter —from I. G. Farbenindustrie to Dr. Jebsen—of June 20, 1933

Letter —from Mr. Beschorman to I. G. Farbenindustrie—of July 12, 1933

with

Letter —from Mr. C. H. Rupprecht to Mr. Beschorman—of June 28, 1933

Letters —from Dr. Jebsen to I. G. Farbenindustrie and Mr. Weber Andrea—of July 21, 1933

Letter —from I. G. Farbenindustrie to Dr. Jebsen—of August 7, 1933

Letter —from I. G. Farbenindustrie (Juristische Abteilung) to Dr. Jebsen—of August 7, 1933

Letter —from Dr. Jebsen to Mr. Beschorman—of August 9, 1933 (1st page)

[Note: Following starts a new memorandum.]

MEMO RE HANDLING OF LICENSES BETWEEN D. AND T. CO., INC.

The handling of the grant of licenses between D. and T. Co., Inc. will be worked out on the basis of cross-license agreements.

Exhibit 887

When T. Co., Inc. or any of its associated companies file a patent application in the United States, a copy of this application will be sent to D. through Mr. K. Conversely, when D. files a patent application in the United States, Mr. K. will send copy or copies to T. Co., Inc. for itself and its associated companies. Thereafter, T. Co., Inc. will inform Mr. K. of its request concerning the filing of corresponding applications in countries throughout its territory or the respective territories of its associated companies. Mr. K. will then inform D. of the desires of T. Co., Inc. If, when T. Co., Inc. makes known its decision to D. through Mr. K., there is pending in the United States Patent Office one or more patent applications filed by T. Co., Inc. or its associated companies, then a formal cross-license agreement will be executed covering rights to T. Co., Inc. as they desire and a non-exclusive license to D. If D. does not have any patent applications pending in the United States at the time applications of T. Co., Inc. are brought to the attention of D., then D. will not request license agreement executed from T. Co., Inc. until they are in a position to exchange rights with T. Co., Inc., so that the formal license agreement may be of the character of a cross-licensing arrangement. Conversely, a similar procedure will have to be followed, with possible exceptions, in the reverse case.

Mr. K. will undertake all details connected with obtaining the necessary papers to permit T. Co., Inc. to file at the expense of T. Co., Inc. and all details connected with the conclusion of the formal cross-license agreement.

The cross-license agreement will follow the form worked out during Dr. Jebsen's visit and agreed to by D. This form is exemplified in the cross-license agreement involving certain applications of D. and certain United States applica-

tions of T. Co., Inc. and B. T. P. and also in the cross-license agreement involving certain applications of D. for Germany and Japan and certain United States applications of I. G. and T. G., both of which are awaiting final approval by T. Co., Inc.'s associates.

[Note: Following starts a new memorandum.]

ANNEX CONCERNING EXCHANGE OF TECHNICAL INFORMATION

Representatives of the companies can visit the various plants and obtain any and all information they wish as regards plant operations and plant equipment, with the following exceptions:

1.—No exchange of information on new pigments and new grades of present pigments until released for sale. (One week's notice)

2.—Authorization of $5,000.00 or more for equipment to produce a new product.

Patent applications are exchanged after filing without delay (also in cases on new pigments or new grades of present pigments). The information regarding the introduction on the market of a new grade (or a new pigment): the one week's notice is given without request.

Research reports are not exchanged. The exchange of information takes place chiefly by visits to the plants of the representatives, but this may be carried further at the discretion of the representatives of the parties.

The exchange between D. and T. Co., Inc. (and its associated licensed companies) is considered should take place on the same lines as above. In view of the geographical dis-

tance, personal meetings will be less frequent and personal correspondence between representatives of the companies can take place, with copies to Mr. Garesché and Dr. Jebsen.

Samples can be exchanged directly, with samples sent at the same time to N. L. Co. or with copy of accompanying letter to D. sent to N. L. Co. if samples have already been sent (with reference to these samples).

[Note: Following starts a new memorandum.]

ANNEX CONCERNING LICENSED FIELD

The exchange of rights between T. Co., Inc. and D. will be within a field embracing all methods, processes and apparatus in the field of manufacture and use of all titanium compounds containing two percent (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures thereof which can be used as pigments, whether or not adapted for other uses, as well as all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses. This means that the rights given by D. will include process and product patents as well as all patents relating to the use of titanium pigments developed by D.'s Pigment Division, with this exception: Where the use relates to the preparation of a surface coating composition, such as synthetic resin coatings of the class of "Dulux", rights will have to be given to European licensees of D. who have previous arrangements with D. These previous commitments extend to France, Germany, Italy and England. Consequently, any rights which T. Co., Inc. may desire in such use patents developed by the Pigment Department of D. would have to be negotiated. With respect to patents and patent applications relating to the use of titanium dioxide pigments discovered or developed by other departments of

D., no rights are to be exchanged. Should T. Co., Inc. desire rights in such use patents, these rights will have to be negotiated.

It is to be mentioned that the coöperation between D. and N. L. Co. has gone beyond the Licensed Field as above defined and at the present time includes all the inventions and developments of the Pigment Department of D., regardless of whether or not they fall strictly within the Licensed Field. For example, D. and N. L. Co. exchange patent rights relating to the manufacture of extender pigments themselves, which patents may not directly cover the manufacture of titanium pigments. The same coöperation will extend to the relations between T. Co., Inc. and D. In this connection it is to be noted that among the United States applications of D. which have up to the present been brought to the attention of T. Co., Inc. are several patent applications which relate specifically to the manufacture of calcium sulfate.

[Note: Following starts a new memorandum.]

MEMORANDUM

Re Arrangement with Du Pont.

The following is a résumé of the remarks of Mr. C. H. Rupprecht made at a conference in his office with Dr. G. Jebsen on June 8th, 1938 at which Mr. J. P. Hancock and Mr. C. F. Kaegebehn were present:

According to the understanding regarding the coöperation between Du Pont and Titan Company and Titan Company's foreign associates, there will be included by Du Pont all patents and patent applications relating to the manufacture of titanium dioxide—containing pigments themselves, both process and product patents. There will also be in-

cluded any patents relating to the use of titanium pigments when such patents have been developed by the Krebs Pigment Division of Du Pont, with the exception of such use patents which relate to the preparation of surface coating such as synthetic resin coatings known as "DULUX".

With respect to surface coating compositions, Du Pont has previous commitments to grant exclusive licenses to firms in Germany, France, Italy and England. Therefore, any rights, which Titan Co. and/or its foreign associates might desire in such use patents developed by Krebs, would have to be negotiated. Mr. Rupprecht stated that because of this arrangement the Krebs Pigment Division are avoiding making any patent applications or claims specific to coatings.

With respect to any patents or patent applications relating to the use of titanium dioxide pigments discovered or developed by Du Pont departments other than the Krebs Pigment Division, no rights are to be exchanged. Should Titan Co. or its foreign associates desire rights in such use patents, these rights will have to be negotiated.

With respect to use patents developed by departments of Du Pont other than Krebs and use patents developed by Krebs respecting coating compositions, Mr. Rupprecht assured Dr. Jebsen that he will use his best endeavors to obtain rights, should Titan Co. desire such rights.

Mr. Rupprecht also assured Dr. Jebsen that Du Pont had committed itself to National Lead Co. that all pigment work by Du Pont is to be carried out by the Krebs Pigment Division.

C. F. K.

6. 9, 38

Exhibit 888 3079

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Blind cc: C. H. Rupprecht, Esq.
Krebs—Nemours Bldg.

C. F. Kaegebehn, Esq.
c/o Titan Co., Inc.
111 Broadway
New York City

June 13, 1938

Dear Mr. Kaegebehn:

Re: du Pont-Titan, Inc.
Agreements

Enclosed find duplicate originals and extra copy of the above contracts, these having been rewritten in accordance with the understandings reached at Wilmington last week. You will note that the two agreements submitted comprise a split-up of the original single agreement, this also conforming to Dr. Jebsen's suggestion.

In lieu of the warranty that Titan is the owner of the entire right, title and interest of the involved Titan, Inc. patents and applications, the agreements as now submitted merely specify that Titan, Inc. warrants that it has the right to grant the licenses set out in the contract under the specified patents and applications.

Since the agreements embody all of the changes and suggestions made at the recent conference, it is suggested that after their execution by the proper Titan, Inc. official, they be returned here for final approvals and action.

Very truly yours,

E. I. DU PONT DE NEMOURS AND COMPANY,

By JOHN P. HANCOCK
John P. Hancock

JPH:H
Enc.

Exhibit 889

Letterhead of

NATIONAL LEAD COMPANY

June 23rd
1938

Mr. M. D. Cole—Ass't to the President
National Lead Company
Building

Dear Mr. Cole:—

This will confirm Dr. Jebsen's approval of the Resolution as modified by you which authorizes Titan Company, Inc. to grant non-exclusive licenses to E. I. Du Pont De Nemours.

It is most desirable that this Resolution be passed by the Board of National Lead Company at its next meeting because Dr. Jebsen has in his possession contracts for which he will endeavor to obtain the approval of Titan Company, Inc.'s foreign associates, which contracts embody the principles of this Resolution.

Yours very truly,

C. F. KAEGEBEHN

CFK:lo
c.c. Mr. H. O. Bates, Secretary

Exhibit 889

COPY

Resolution for National Lead Company
Board action June 28, 1938.

RESOLVED, that as successor in interest to Titanium Pigment Company Inc. under that certain Agreement between that Company and Titan Co. A/S dated July 30, 1920, this Company hereby consents to and authorizes the grant by Titan Company Inc., as successor in interest to Titan Co. A/S under the aforesaid Agreement, directly to E. I. du Pont de Nemours and Company and upon such terms and conditions as may be mutually agreed upon between them, of a non-exclusive license to manufacture, use and sell titanium compounds which can be used as pigments produced under and in accordance with any United States patent or patent application owned or controlled by said Titan Company Inc. or by any of its foreign licensees or sublicensees relating to the manufacture and/or use of such titanium compounds; hereby waiving for that purpose and to that extent only the right to an exclusive license under all of said United States patents and patent applications to which this Company is entitled under the provisions of said Agreement of July 30, 1920

Exhibit 889

COPY

Resolution for National Lead Company Board action June 28, 1938.

RESOLVED, that that certain arrangement between this Company and Titan Company Inc., proposed in letter of W. C. Beschorman as Executive Vice President of this Company to Dr. Gustav Jebsen as Vice President of said Titan Company Inc., dated May 28, 1937, submitted and read at this meeting, relating to the handling of any licenses that may from time to time be granted to any then existing United States licensee of this Company under any patent owned or controlled by said Titan Company Inc. or by any of its licensees or sublicensees other than this Company, and also of any licenses that may from time to time be granted to said Titan Company Inc. or to any of its said licensees or sublicensees other than this Company under any patent owned or controlled by any of said then existing United States licensees of this Company, which said arrangement has been formally approved and accepted by said Titan Company Inc. by resolution of its Board of Directors adopted October 27, 1937, be and it hereby is in all respects approved, ratified and confirmed on behalf of this Company.

Exhibit 890

GJ/HS

Paris, 30th July 1938.

C. F. Garesché Esq.,
President,
Titanium Pigment Corp.,
111 Broadway,
New York, N.Y., U.S.A.

Dear Mr. Garesché:

Enclosed I send you copies of letters of even date to Mr. Stopford and Dr. Raspe.

You may remember I told you of my telephone conversation with Dr. Booge after my visit in Wilmington, during which I promised to send Dr. Booge samples of the Rutiox production when available from the pilot plant.

On Turner's request, T.G. and B.T.P.Co. are sending him samples, and you will realize that a delicate situation will arise in case Dupont should happen to know of these samples before having received any from us.

As at the same time you are in the best position to judge when samples should be handed over to Dupont, and we wish to coordinate the cooperation with Dupont with the N.L.Co.'s cooperation, it seems to me best that you hand the samples over to Dupont, when you consider it should be done.

Looking forward to your visit on this side, I am, with kindest regards,

Yours very truly

sign. G. JEBSEN

Encl.
Copy:
Mr. Rockwell.

Exhibit 891

Letterhead of

TITAN COMPANY, INC.

Paris, September 20th, 1938.

To:
I. D. Hagar Esq.
Titanium Pigment Corporation
111 Broadway
New York City, U. S. A.

Dear Mr. Hagar:

Many thanks for your letter of September 12th.

I am sorry to hear of the action taken by the Krebs Company and it does not seem well founded.

It has not been stated at which periods the Krebs Company and we should exchange our experience, with the exception of patents and patent applications, and it has not occurred to me that this would be of primary importance, as Krebs and we are not competing in our markets with the exception of South America.

For this reason it seems to me rather far fetched for Krebs to use as an excuse the assumed marketing of a Rutiox type in Europe for them to break their agreement with you as regards mutual information. I say "assumed" because no distribution, neither as sale nor for test purposes, has taken place of a Rutiox type pigment on this or your side. I hope this was sufficiently clear from my letter of September 9th, although I did not know at that time for what purpose you wanted the information. I have, though, in any case, sent you a cable today as per enclosed copy.

Exhibit 891

I expect in the very near future to be able to send Mr. Kaegebehn the cross-licensing agreements with Krebs, as I have got the verbal consent of all parties interested and am awaiting formal acknowledgment from the various parties.

With this done, we can of course take up with Krebs the questions of fixing rules for the exchange of experience on similar lines as yours, or, I hope, better ones. The last remark in view of the information in your letter.

Such rules should be of reciprocal nature.

I do not for the moment see the importance of a mutual announcement of the intention of putting a new quality on the market a short time before this is done, when these qualities are only put on the markets in which the other party is not actively selling, but I have an entirely open mind as regards this matter.

With kind rega ls.

Yours very truly,

(signed) G. JEBSEN

(Note in Dr. Jebsen's handwriting).

P. S. Please show this letter to Mr. Kaegebehn.

Copy to Mr. Rockwell

" Garesché

Exhibit 892

September 30th, 1938

NOTES

It was my recollection of the conversations between Mr. Rupprecht and Dr. Jebsen at which I was present. (Mr. Rockwell's office, New York City, June 3rd, 1938 and Mr. Rupprecht's office, Wilmington, June 8th, 1938) that an understanding had been reached—details were not worked out—that technical information and experience would be exchanged between Du Pont and Titan Co., Inc.

I further recollect, that on June 9th, 1938, in the course of a review by Dr. Jebsen and myself of the results of our visit to Wilmington on June 8th, and upon being informed by me that a copy of the U. S. Rutox patent application had been forwarded by me to Dr. Booge, Dr. Jebsen called Dr. Booge on the telephone and told him that additional technical information and experience concerning the Rutiox process would be available to Du Pont.

In reviewing the results with Dr. Jebsen, the results of the conversation with Rupprecht, I recollect that we formulated the view that the method of exchange of information had not been considered in detail with Mr. Rupprecht and that it would have to be coordinated with the exchange between Du Pont and National Lead Co. In considering the mode of exchange between National Lead Co. and Du Pont we noted that representatives of the respective companies enjoyed the privilege of visiting the other's plants and obtaining any and all information we wished as regards plant operation and plant equipment with the following exceptions:

1. That no information was to be exchanged on new pigments and new grades of present pigments until these were released for sale, 1 weeks notice being

given to the other party prior to such release for sale;

2. in cases where authorization of $5000.00 or more for equipment to produce a new pigment has been made, no research reports are exchanged, the exchange being confined chiefly to visits by representatives of the respective companies to the plants of the other.

It is my recollection that it was considered that the exchange between Du Pont and Titan Co., Inc. should take place on the same lines. However, in view of geographical distance, personal meetings would be naturally less frequent and personal correspondence between representatives of the companies could take place, with copies being sent to Mr. Garesché and Dr. Jebsen. It is my recollection that it was understood that samples of new products could be exchanged directly between Du Pont and Titan Co., Inc.

Mr. Rupprecht in his telephone conversation to me on September 16th, 1938 stated in unequivocal terms that there had been no understanding reached between himself and Dr. Jebsen with respect to exchange of technical information and experience, particularly as regards new developments. In fact, on the contrary, he said it was the desire of Du Pont not to enter into such an exchange; that he had committed himself only to exchange patent applications with a view to negotiating a mutual exchange of non-exclusive licenses under patents and patent applications and that he could not extend the understanding beyond this. However, he stated that any representatives of Titan Co. Inc. or its European associates who may be in the United States would be most welcome to call upon him and go through the Krebs Division plant and while so doing, to obtain full and complete information concerning plant operations, but that they would not place before such visitors any information concerning research matters.

Exhibit 893

November 22nd, 1938.

Dr. G. Jebsen
c/o Titan Co., Inc.
26, Rue de la Pépinière
Paris—VIIIe—France

Dear Dr. Jebsen:—

The attached letter was dictated and written on October 3rd, 1938.

Transmission to you was delayed pending return of Mr. Garesché so that he might consider its contents.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

Exhibit 893

Dr. G. Jebsen
c/o Titan Company, Inc.
26, Rue de la Pépiniere
Paris—VIIIe—France

November 22nd, 1938

Dear Dr. Jebsen:—

You have been advised through letters of Mr. Turner and Mr. Hagar of the situation which has developed here with respect to the exchange of research information with Du Pont, particularly research information concerning the "RUTIOX" process. There are two additional phases of this matter of which I believe you should be informed.

On September 15th, Mr. Turner had a conversation with Dr. Booge at which I was present. Mr. Turner pointed out to Dr. Booge that Du Pont in receiving technical information such as that pertaining to the "RUTIOX" process was being placed in a preferred position over National Lead Co., because Du Pont was not exchanging information of the same nature with us. Mr. Turner particularly referred to the Du Pont development of the so-called "Ti-Pure-O Pigment". Dr. Booge, appreciating the merit of Mr. Turner's contention offered to return unopened any letters he might receive from you or the European associates of Titan Co., Inc. Mr. Turner appreciating that the arrangement with Du Pont was between Titan Co., Inc. and Du Pont directly did not feel in a position to accept this offer from Dr. Booge. I stated that my recollection of the understanding reached between you and Mr. Rupprecht was that technical information would be exchanged, although no details of the manner of the exchange had been worked out. It was my recollection that this exchange would be

coordinated with the exchange between National Lead Co. and Du Pont.

On the 16th of September, the following day, I received a telephone call from Dr. Booge who told me that Mr. Rupprecht had informed him that no exchange of technical information was provided for in the understanding reached between you and Mr. Rupprecht. I asked Dr. Booge to further clarify this with Mr. Rupprecht because I had the distinct recollection that you took back to Europe with you the impression that some exchange of technical information was provided for. Within an hour I received a telephone call from Mr. Rupprecht, who seemed somewhat aroused over the situation. He stated to me in most emphatic and unequivocal terms that there had been no understanding reached between himself and you with respect to the exchange of technical information and experience, particularly as regards new developments. In fact, on the contrary, he said that it was the desire of Du Pont not to enter into such an agreement with any foreign interests; that he had commited himself to you only to exchange patent applications with a view to negotiating a mutual exchange of non-exclusive licenses under patents and patent applications, and that he could not extend the understanding beyond this. However, he stated that any representatives of Titan Co., Inc. or its European associates who may be in the United States would be most welcome to call upon him and go through the Krebs Division plants, and while so doing, to obtain full and complete information concerning plant operations, but that they would not place before such visitors any information concerning research and new development matters.

Exhibit 893

I pointed out to Mr. Rupprecht that the present situation had not arisen through any request for technical information emanating from Titan Co., Inc. or its associates but, on the other hand, it developed out of a request from his technical director, Dr. Booge. Mr. Rupprecht acknowledged this to be so and stated that he had informed Dr. Booge that he should not have made this request and that he was instructing Dr. Booge to turn over to Mr. Turner all letters received from you or the European associates of Titan Co., Inc. unopened. I assured Mr. Rupprecht that as far as any misunderstanding regarding the arrangement reached with him was concerned, I wished him to attribute this to my faulty recollection of the impression you took back with you to Europe. At the conclusion of the conversation I felt that Mr. Rupprecht was considerably reassured. Dr. Booge has already turned over to Mr. Turner one letter received from you which was opened by Mr. Turner and which is enclosed herewith.

I do not believe this situation will have any serious, adverse effect on the cooperation between Du Pont and Titan Co., Inc. to which we are all working. It is fortunate that it arose out of a request from Du Pont rather than from our side. However, I have a feeling that Du Pont will not place at the disposal of Titan Co., Inc. information regarding its new developments or research matters, and I feel that the future direct correspondence between Du Pont and Titan Co., Inc. will be very circumspect from Du Pont's side, leaving for transmission through us of more detailed technical information. I would not recommend writing to Mr. Rupprecht at this time in this matter, since so to do might further arouse him. After speaking with him on the telephone, I have the feeling that he is prepared

to let the matter rest at its present status and to permit the future to work out the relationship between the companies with respect to the exchange of technical information.

The second phase of this situation which I should like to bring to your attention is the following:

It is apparently the practice of Du Pont when they receive patent applications for inventions originating with us or with the European associates of Titan Co., Inc. to scrutinize carefully their old research work and, if it appears that they have performed similar experiments, to file patent applications along the same lines as our applications. Already we have had one such experience, namely in Case T. 174. In so doing, a conflict arises as to which company is the first inventor. It is relatively easy for us to settle this question when the conflict is between ourselves and Du Pont, because our research notes can be compared. On the other hand, when the conflict is between an application of one of Titan Co., Inc.'s associates, it is not so easy because under the United States Law the earliest date which the foreign application can secure is the date of filing in the country in which the first application was filed under the International Convention.

Upon receipt of copies of Titangesellschaft's Rutiox patent application (Case T. 187), we were informed by Dr. Booge that it covered certain phases of their research work and that they contemplated filing a similar patent application. Mr. Turner and I made a special trip to Wilmington to look into this situation. We found that there was no possibility of dissuading Du Pont from filing an application which might conflict with our application in Case T. 187 because, we were informed, all divisions of Du Pont are under specific orders from the Executive Committee to

file patent applications on everything which might possibly contain patentable subject matter. In the course of this conversation, Dr. Booge admitted that they had previously regarded their work as unpatentable. The implication is inescapable that the possibility of patenting was suggested to Du Pont by the knowledge of our application in Case T. 187.

Their experimental procedure, however, differs from the application in case T. 187 in that they first neutralize titanium tetrachloride with alkali and redissolve the precipitated orthotitanic acid in hydrochloric acid. This feature was specifically left out of our application in case T. 187 at my request because it is in my judgment too closely related to the Kubelka procedure. Dr. Booge assured me that before they file the patent application they would consult with me in order to be sure that their case would be as free as possible from interference with Case T. 187, and I told Dr. Booge that at this consultation Mr. Hutz should be present as a representative of Titangesellschaft. I discussed this situation fully with Mr. Hutz and we made a recommendation that a second application should be filed by Titangesellschaft covering specifically the alkali addition treatment of titanium tetrachloride which is disclosed in the second "susats" application in the German case under T. 187. In making this recommendation we had in mind that we might be able to limit any possible interference with Du Pont to this alkali addition step and completely clear our original case T. 187. In making the recommendation to Titangesellschaft Mr. Hutz refrained from advising the I. G. Patent Department that we were aware of a possible interference with Du Pont, because neither he nor I wished to arouse the I. G. Patent Department by informing them

that Du Pont had access to the United States application in case T. 187. The situation respecting cases T. 157, T. 204, T. 205, T. 206, and the Rooge application, Ser. No. 215,220 described to you in Mr. Turner's letter of September 19th, is another instance illustrating Du Pont's practice with respect to patent applications.

You will appreciate that in the exchange of patent applications of Titan Co., Inc.'s associates both Titan Co., Inc. and ourselves are at a disadvantage. First, Titan Co., Inc. is at a disadvantage because they cannot prove a date earlier than the convention date, and Du Pont, having the United States application in their possession has advanced information concerning this date and is in a position to go in back of the convention dates of the applications of Titan Co., Inc.'s associates. We are at a disadvantage insofar as we are the chief beneficiaries under patents of Titan Co., Inc.'s associates and if Du Pont is permitted to obtain patents on the same subject matter after first scrutinizing Titan Co., Inc.'s applications in the United States before filing their own, our patent position is increasingly weakened in the United States.

I do not have any suggestions to offer as to how this situation can be corrected. With respect to Du Pont we again face that attitude which expresses itself by a statement that the Executive Committee of Du Pont has given certain orders which must be carried out. We can, of course, on our part resort to the same procedure of investigating our old research notes upon the receipt of a Du Pont application and then filing a patent application, but we hesitate to do so because we regard this procedure as not strictly the most ethical.

Exhibit 893

In writing this letter it is not my purpose to suggest, and it would be contrary to my intention if you assumed that the cooperation with Du Pont was in jeopardy as a result of this situation. I regard it as an incident in developing the modus operandi of the cooperation which with tact and the passage of time will be smoothly worked out.

With very kind regards,

Yours very truly,

CFK:JL

Exhibit 894

Paris, December 22nd, 1938.

GJ/AK

C. F. Garesché Esq.
National Lead Company
Titanium Division
111 Broadway
New York City. U. S. A.

Dear Mr. Garesché,

I return to your letter of November 21st, regarding the problem of patent interference.

I have no particular suggestion to make, except that it seems to me advisable to postpone sending in the patent applications on inventions originating in Europe as late as possible under the International Conventions, which secures the priority right of the European application date for a period of 12 months.

I trust that the mutual conferences you have agreed upon will lead to satisfactory solutions in the individual cases as there should, generally speaking, be a common interest in these matters and I think the goodwill exists on all sides.

I have only had the opportunity to talk over the matter with Mr. Stopford, who is in agreement with the above, and I will take it up with Dr. Raspe next time I see him.

With kindest regards,

Yours sincerely,

sign. G. JEBSEN

Copy:
Mr. Kaegebehn.

3097

Exhibit 895

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, January 9th, 1939.

C. F. Kaegebehn Esq.
National Lead Company
Patent Department
111 Broadway
New York City, U. S. A.

Dear Mr. Kaegebehn,

Many thanks for your letter of November 22nd, which I have read with much interest.

You are presumably acquainted with the conversations I had with Mr. Garesché.

I received also a letter from Mr. Garesché of November 21st, to which I have replied on December 6th and 22nd and from which you will know that the questions mentioned by you have been dealt with satisfactorily.

In fact, the standpoint Mr. Rupprecht has taken is quite agreeable to me and simplifies the whole matter quite considerably.

On page 3 you say: "Dr. Booge has already turned over to Mr. Turner one letter received from you, which was opened by Mr. Turner and which is enclosed herewith". This was not enclosed, but I do not think that matters anything.

I enclose copy of my letter of December 6th, of which I note that by inadvertence you have got no copy.

With kindest regards,

Yours very truly,

G. JEBSEN

Copy to Mr. Garesché.

Exhibit 896

Blind cc: C. H. Rupprecht, Esq.
Krebs—Nemours Bldg.

Charles F. Kaegebehn, Esq.
c/o Titan Company, Inc.
111 Broadway
New York City

March 3, 1939

Re: du Pont—Titan, Inc.
Agreement

Dear Mr. Kaegebehn:

Attached hereto find duplicate originals and extra copy of the consolidated agreement between du Pont and Titan, Inc., effecting license exchanges between certain specific applications and patents of the parties. You will note du Pont Legal Department approvals and endorsements appear on said duplicate originals.

Pursuant to our understanding, in lieu of the two agreements previously proposed, a single form of contract is now presented. Other changes effected in the redraft presented include:

(a) In respect to our applications 466-K, 768-K and Titan, Inc. Cases 112 and 136, the rights of the licensee thereto are restricted to the employment of such inventions in the manufacture of titanium compounds useful as pigments.

(b) Titan, Inc. case T. 142, included in the former agreements, has been eliminated from the present, due to the fact that the same had been inadvertently included under the former proposed exchange.

Exhibit 896

(c) Reciprocal provisions exist in the instant draft, under which purchasers of pigments and other coloring materials from either du Pont or Titan, Inc., manufactured in accordance with the licensed inventions, become free to use such products and in accordance with such licensed inventions.

(d) Paragraph 6, as amended, sets forth that du Pont shall be free of any obligation or expense incidental to Titan, Inc.'s filing and prosecution of licensed U. S. applications.

(e) Paragraph 10, involving infringements and rights to sue, has been modified to restrict the right of du Pont or Titan, Inc. as licensees to bring suit and only when consent in writing has been first obtained from the involved licensor.

If the agreement meets with your approval, will you please have the originals executed by Titan, Inc. and returned here for final action?

JOHN P. HANCOCK

JPH:H
Enc.

Exhibit 897

(COPY)

Notes—Conference Leverkusen—June 12th, 1939
July 26th, 1939
Mr. F. W. Rockwell—President
Mr. C. F. Kaegebehn—Patent Department

Dear Mr. Rockwell:—

I present herewith minutes of the conference at Leverkusen, relative to patent matters as discussed between Dr. Raspe, Dr. Redies, Dr. Fischer, Mr. Andersen and myself.

The notes were written by Dr. Redies and revised by Mr. Andersen and me. They have not been finally approved by Dr. Redies and Dr. Raspe, so I would appreciate it if you would regard them for the time being as in the nature of tentative minutes.

Yours very truly,

C. F. KAEGEBEHN

CFK:JL
Enc: 1

c/c. Mr. C. F. Garesché
Dr. W. W. Plechner

Exhibit 897

RE: TITANIUM FIELD

NOTE

RE: CONFERENCE LEVERKUSEN
12th June 1939

Present:

Mr. Kaegebehn, National Lead Co., New York;
Mr. Andersen, Titan Company, Paris;
Dr. Raspe, Director Titan-GmbH, Leverkusen;
Dr. Redies, " I.G. Patent Dept., Leverkusen;
Dr. Fischer, of " " " "

The purpose of the conference is to ascertain whether the correspondence regarding the handling of patent questions may be further simplified or expenses in this connection may be saved. The following is noted:

1.) It is considered advisable to benefit as far as possible from the professional knowledge of the experts of the National Lead Company, when drafting new patent applications in the titanium field for U.S.A. and also during the prosecution of the patent applications. As the patent experts of the National Lead Co. are at the disposition of these applications, the use of other patent attorneys can be avoided. Mr. Kaegebehn refers, however, to his good relationship to Messrs. Hutz and Joslin and it is considered advisable to leave to Mr. Kaegebehn whether and in which cases he wishes collaboration with Messrs. Hutz and Joslin.

For the inventions of the Titangesellschaft for which patent applications are to be filed in U.S.A. the following is agreed:

Exhibit 897

The Patent Dept. in Leverkusen will send a copy of every new patent application of the Titangesellschaft to Titan Co., Paris, as soon as possible after the filing of the application in Germany. At the same time the Titangesellschaft will send the corresponding research report to the Titan Co., Paris. Titan Co., Paris, will forward the patent application together with the research report as soon as possible to the National Lead Company. Furthermore, in so far as the National Lead Company wishes the filing of the application in U.S.A., the draft for the U.S. application will be prepared by Mr. Kaegebehn on the basis of the information sent him. This draft will be returned by Mr. Kaegebehn to the Titan Co., Paris, and from there to the Patent Department in Leverkusen which will consider the draft in collaboration with the inventor and make any alterations which might be necessary. If there is sufficient time at disposal the Patent Dept., Leverkusen, will again ask for the comments of Mr. Kaegebehn in the event that important alterations have been made. If this is not the case, the papers for the filing of the U.S. application will be prepared directly by the Patent Dept., Leverkusen.

Mr. Kaegebehn will when sending the draft communicate whether the U. S. application should be filed by him or by Messrs. Hutz and Joslin.

The U.S. patents should normally issue in the name of the Titan Co. Inc., Wilmington, Delaware, U.S.A.

2.) The above suggestions relate primarily to the inventions of the Titangesellschaft. With respect to inventions which originate with I.G. and which are entirely or partly within the titanium field, the situation is not the same, from an agreement point of view, as with respect to the inventions of the Titangesellschaft. There was an

understanding between those present that I.G. wishes to make its decision from case to case. On the other hand, there is, in the opinion of Dr. Redies, no objection to a recognition in principle of the application of the above considerations to inventions of the I.G., which come within the titanium field. In the case where the National Lead Company gets an exclusive licence for U.S.A. on an invention originating with I.G. and pays the expenses involved in the obtaining of the patent protection it is also, in the case of titanium inventions of the I.G., desirable to obtain the collaboration of the National Lead Company to the extent this is possible.

3.) As the territory of the National Lead Co. includes Canada as well as the United States and the same considerations apply to the situation in Canada as in the U.S.A., Mr. Kaegebehn wishes that the principle described in the foregoing paragraphs should apply also to Canada.

Mr. Kaegebehn communicates that he collaborates in Canada with the Patent attorney firm Fetherstonhaugh & Co. in Montreal.

4.) With respect to the filing and prosecution of patent applications in Germany, the procedure should be analogous with that described under (1) i.e. the professional knowledge of the patent department in Leverkusen should be taken advantage of in this connection in order to obtain the best possible form of patent applications in Germany on inventions originating with the National Lead Company and also in order to avoid the expense of using the assistance of other patent attorneys. Mr. Kaegebehn will send copy of new U.S. patent applications of National Lead Co. to Titan Co. Inc., Paris, as soon as possible after the filing in U.S.A. and Paris will forward copy to the Patent

Dept. in Leverkusen. The patent department in Leverkusen will prepare a draft for the German application in the event of the Titangesellschaft wishing an application in Germany and thereupon file the German application without assistance of patent attorneys outside its organization.

The German patent should—as far as this is in accordance with the situation in the case, from an agreement point of view—issue in the name of the Titangesellschaft.

5.) The situation in the DK. Cases was discussed thoroughly.

The situation is as follows:

There exists no general licence agreement between Inc. and D. but both parties have expressed the willingness to exchange licences on future patent applications and patents in individual agreements. The licences to date have always included the permission to Inc. to give sub-licences to its associated companies outside America and it is confidentially expected that this will also be done in the future.

The general mode of operating is that copies of the D.'s applications in question are sent Inc. through the National Lead Co. and Inc. forwards copies to its associates. When Inc. has considered the cases and has been informed of the wishes of its associated companies for their territory they inform Mr. Kaegebehn who then together with Du Pont prepares a proposal for a cross licence agreement.

Inc. has been permitted by D. to file in D.'s name and prosecute the patent applications in the countries where licences have been asked for.

D. has up to now executed the documents for the filing of the applications and permitted the applications to be filed without awaiting the execution of the licence agree-

ments in question—and it is expected that D. will also do this in the future.

The expenses to the filing and prosecution of the applications and to the maintenance of the patents have been paid by Inc. who is re-imbursed by the associated companies for expenses to applications and patents within their respective territories.

Later remarks by Dr. Redies.

It is doubtful to me whether it is correct from the point of view of German monitary laws that the Titangesellschaft pays expenses incurred on DK. Cases before a licence agreement giving T.G. licences in the cases in question have been executed.

Signed: Dr. Redies.

Whenever possible the question regarding licences under new DK. Cases should be cleared up so early that the Titangesellschaft is in possession of a licence when the German application is filed.

Mr. Kaegebehn explains thoroughly the considerations of the firm Du Pont.—He considers it possible to draft a licence agreement which can be used generally and to submit accordingly drafted agreements to Du Pont in due time and in each particular case. This will only tend to help the situation but it is not believed will completely solve the situation. Mr. Kaegebehn will take up these questions upon his return to U.S.A. if Dr. Jebsen has declared himself in agreement with the above considerations.

6.) The expenses to the filing and prosecution of the German applications in DK. Cases are at present very high for the reason that the cases are prosecuted with the assistance of German patent attorneys. If the average cost of

about RM. 500 per German application is calculated with, the cost of the 35 DK. Cases applications filed in Germany in 1938 would amount to about RM. 17.500 which finally will have to be paid by the Titangesellschaft. In view of this high cost great care should be taken in deciding the filing of the applications in Germany.

Dr. Redies raises the question whether the filing and prosecution of the applications in DK. Cases in Germany could be taken over by T.G. (I.G. patent department)

Mr. Kaegebehn considers that D. would not object to such arrangement.

Mr. Kaegebehn and Mr. Andersen will consider this question and if they find that an arrangement as mentioned can be accepted by Inc. will submit it to Dr. Jebsen, and in case he agrees, Mr. Kaegebehn will take it up with D.

With an arrangement as outlined T.G. would not have to place so much importance on the question of costs of DK. Cases as they do at present when deciding in which cases they should ask for licences. It is, however, agreed that the DK. Cases should be examined very carefully with regard to their value before decision with regard to licence is taken—in order to avoid that we ask for licences in cases of small value—This may give D. a false impression of the opinion on this side regarding such cases.

7.) Some particular cases are discussed.

C. F. K.—COMMENTS DR. REDIES' NOTES—LEVERKUSEN CONVERSATION

The notes prepared by Dr. Redies correctly present with alterations suggested the subject discussed and the conclusions reached in the Leverkusen conversations of June 13th, 1939 The following may be also noted:

Exhibit 897

1) Agreement as to the principles for handling T. G. and I. G. patent applications in U. S. A. and the handling of National Lead Company applications in Germany, (Item 1-3, of Dr. Redies' notes) must include also the consent of Titan Co. Inc. This results from the fact that patent rights exchanged between National Lead Co. and Titangesellschaft do not pass directly from one to the other but flow through Titan Co. Inc. Therefore it may be foreseen, that occasionally Titan Co. Inc. may deem it necessary or desirable, to exercise some control over the preparation and prosecution of the United States applications covering T. G. and I. G. inventions on the one hand, and over the preparation and prosecution of German applications covering National Lead Company's inventions, on the other hand.

National Lead Company, however, accepts with the recognition of the position of Titan Co. Inc. as expressed above, the principles for handling patent applications described in Dr. Redies' notes—Items 1, 2 and 3.

6) Insofar as the territory of National Lead Company includes Canada as well as the United States and the same considerations apply to the situation in Canada as in the United States, it is deemed that the principles described in Dr. Redies' notes—Items 1-3—should apply also to Canada recognizing also the position of the Titan Co. Inc., as above described.

Paris, July 13th, 1939.

Exhibit 898

Letterhead of

TITAN COMPANY, INC.

SA/GK

Paris, 7th. June 1938

National Lead Company
Patent Dépt.
111 Broadway
New York

att Mr. C. F. Kaegebehn

Dear Sir,

Case DK.31—U.S. Appl. Ser. No. 150.966
" DK.32— " " " " 155.231

We beg to acknowledge the receipt of your cable of the 3rd.inst. reading as follows:

"DOES DECISION BRITISH TITAN CASE DK 31 APPLY ALSO DK 32"

to which we replied:

"BRITISH TITAN DESIRE NO LICENCES DK THIRTYTWO PROVIDED PUBLICATION OF SUBJECT MATTER BE ACHIEVED WE SUGGEST APPLICATION FRANCE FOR THIS PURPOSE STOP REFER OUR TWO LETTERS 27 MAY RE DK 31 AND DK 32"

We wrote you on the 27th. May regarding both cases DK 31 and 32 informing you that British Titan were not interested in obtaining licences in any of the cases but that they would like to have the subject matter published of

Exhibit 898

Case DK.32. This in order to ensure that they be free to use the process covered by this case.

In view of your telegram we are wondering whether you have received our letter regarding DK.32 and enclose herewith a copy of same.

Yours very truly,

for TITAN COMPANY INC.

SIGURD ANDERSEN.

Exhibit 898

COPY

SA/GK

Paris 27th May 1938

National Lead Company
Patent Dept.
111 Broadway
New York

Att. Mr. C. F. Kaegebehn

Dear Sirs

Case DK 32—U.S. Appl. Ser. No. 155.231

In our letter of the 4th. inst. we informed you that we were not interested in obtaining licences in the above case and that we would communicate you the British Titan Products' decision later on.

Our English friends have just informed us that they are not interested in obtaining licences in this case but that they consider it advisable that the subject matter of the application be published.

Such publication could be achieved by filing a patent application in France and we consider it desirable that such application be filed.

We should be obliged if you would submit this matter to Dr. Jebsen asking him whether he approves that the matter be taken up with Du Pont with a view to obtaining a publication patent.

We think Du Pont's attention should be drawn to the fact that we do not wish to maintain this patent and that in the event of their wishing to maintain it we should be

Exhibit 898.

secured a non-exclusive licence with the right to hand on this licence to Société Industrielle du Titane.

Yours very truly,

for TITAN COMPANY INC.

(sgd.) A.J. Ravnestad

P.S. We enclose herewith in duplicate the form for a Power of Attorney in France; this is the only paper which we need in connection with the application to be filed. In view of the fact that only a publication patent is aimed at, it is not of any importance to file under Convention and an Assignment need not be executed.

Copy to Dr. Jebsen

3112

3098

Exhibit 899

June 20th, 1938

Mr. Andreas Ravnestad
c/o Titan Company, Inc.
26, Rue de la Pépiniere
Paris - 8e - France

Re: Case DK 32 - U. S. Serial No. 155,231

Dear Mr. Ravnestad:—

Upon the receipt of your letter of June 7th, 1938, we took up the question of filing the corresponding application in France with Du Pont.

Du Pont suggests that your case be included in a cross-licensing agreement, wherein Du Pont will receive an exclusive license in certain U. S. applications of Titan Co., Inc., and British Titan Products, Ltd., while in return giving rights for France, Holland and Great Britain, if desired by Titan Co., Inc., Du Pont further suggests that when the French patent has been obtained, you proceed as provided for under the agreements to inform Du Pont of your intention to abandon the French application.

For reasons which have been explained to Dr. Jebsen, we recommend that in the future when it is desired to file an application in France corresponding to a Du Pont U. S. application, but only for purposes of publication, you inform us that you desire to apply in France "only for purposes of record". We will understand the meaning of this expression and will proceed in accordance with your wishes to consider the matter with Du Pont.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

Exhibit 900

Letterhead of

TITAN COMPANY, INC.

Paris, 5. July 1938

National Lead Company
Patent Department
111 Broadway
New York, N. Y.

Att. Mr. C. F. Kaegebehn

Dear Sirs,

DK 32 U. S. Ser. 155.231.

We thank you for your letter of 20. ult.

The power of attorney required for the application in France in the above case was received in duly executed state with your letter of 24. June, together with other papers required in connection with the applications we are filing in these cases.

We note your recommendation in connection with our communicating you our desire to file applications in France corresponding to Du Pont applications for purpose of publication and we will have this in mind at future occasions.

Yours very truly,

For TITAN COMPANY INC.

Sigurd Andersen

Exhibit 901

June 24th, 1938.

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company, Inc.
26, Due de la Pépiniere
Paris—8e—France

Re: Pending Applications of DK Cases 15-30

Gentlemen:

Please refer to your letter of May 10th, 1938. We enclose herewith the following documents:

POUVOIR,
(For France) Cases DK 15, 26, 27, 29, and 32.

VOLLMACHT
(For Germany) Cases DK 16, 22, 23, 24, 25, 28, and 30.

ERFINDERNENNUNG
(For Germany) Cases DK 16, 22, 23, 24, 25, 28, and 30. Assignment of priority rights (for Holland) and Vollmacht DK Case 23.

These documents were sent by you in duplicate and we forwarded both copies to Du Pont. They have, however, failed to return the duplicate copy, and since they have already been put to considerable trouble, we have hesitated to bother them further. Can you not have these documents photostated and will not the photostatic copy serve your purposes? They have been dated according to your wishes. We regret this inconvenience, but as yet Du Pont is not sufficiently familiar with the procedure required, so that an instance of this kind will not occur.

Exhibit 901

As requested in your letter, we have forwarded to your Japanese agent, Nagashima Law and Patent Office, powers of attorney and assignment documents in cases DK 16, 22; 23, 24, 25, 28, and 30. Since no duplicates were returned to us, we had the originals photostated and enclose herewith photostatic copies of these documents.

With respect to the documents for Germany and France, which must be legalized, Du Pont have had considerable difficulty with the German consular service, and in their behalf we have had to appeal to New York to straighten out the difficulty. We have found that it is necessary to have the German documents, which were signed in Wilmington, legalized by the German consul in Baltimore, and the French documents legalized by the French consul in Philadelphia. This has resulted in a delay of several days, but we expect to be able to mail these to you within a day or two.

Perhaps it would be a good idea, in order to insure against failure of Du Pont to return duplicate copies, for you to send three copies of each document. Thereby Du Pont could retain one copy and return two to us.

The certified copies requested in your letter have been ordered from the U. S. Patent Office, and when these arrive, they will be handled in accordance with the wishes expressed in your letter of May 10th, 1938.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL
Encs.

P. S.—While typing the above, we received the French and German Patent Declarations, duly legalized, and we are enclosing the same herewith.

Exhibit 902

July 22, 1938

Dr. G. Jebsen
c/o Titan Company, Inc.
26 rue de la Pepiniere
Paris — 8e — France

Dear Dr. Jebsen:—

This will advise you that assignment documents as listed below have been prepared and executed and are ready for recording in the United States Patent Office:

Case T. 112 : U. S. Patent No. 2,111,460, Assignment National Lead Company to Titan Company, Inc.

Case T. 115 : Serial No. 11,164, Assignment National Lead Company to Titan Company, Inc.

Case T. 115B: Serial No. 142,918, Assignment National Lead Company to Titan Company, Inc.

Case T. 115C: Serial No. 142,928, Assignment National Lead Company to Titan Company, Inc.

Case T. 136 : Serial No. 88,851, Assignment National Lead Company to Titan Company, Inc.

Case T. 165 : Serial No. 155,040, Assignment by Inventors—R. W. Ancrum and A. G. Stopegaard to British Titan Products Company, Ltd.

As soon as I have word from you that the arrangement with Du Pont has been approved by British Titan Products Co., Ltd., and the Titangeselleschaft, and more particularly approval of B. T. P. to the cross-license agreement under which Du Pont is given rights in the above listed cases, the assignment documents will be recorded in the U. S. Patent Office. In this connection, I may point out that the final fee in case T. 136, Serial 88,851, is due by August 26th next. If it would be possible to record the assignment for this application before that date or shortly thereafter—say about a week—the patent can issue showing on its face that Titan Company is the assignor.

Yours very truly,

CFK/rd

Exhibit 903

COPY

CONFIDENTIAL August 3, 1938

Dr. G. Jebsen
c/o Titan Company, Inc.
26 ru de la Pepiniere
Paris — 8e — France

Dear Dr. Jebsen:

This morning I received a telephone call from Mr. J. P. Hancock, Mr. Rupprecht's patent attorney. Mr. Hancock told me he had been in conference with Mr. Rupprecht concerning the grant of rights to Titan Co., Inc. and its European associates under foreign applications corresponding to U. S. applications serials No. 166.564 (Case DK 33), No. 166.943 (Case DK 34) and No. 172.378 (Case DK 35). Upon conclusion of this conversation, I cabled you as follows:

"RE YOUR LETTER JULY FIFTH DK CASES 33 — 34 — 35 DUPONT SUGGESTS CROSS LICENSE AGREEMENT INCLUDING OUR CASES T 187 AND 169 BUT PREFER TO DELAY EXECUTION FOREIGN APPLICATION PAPERS PENDING RECEIPT OF WORD OF APPROVAL BY TITAN INC'S ASSOCIATES OF CROSS LICENSE AGREEMENTS NOW IN POSSESSION DR. JEBSEN LETTER TO DR. JEBSEN FOLLOWS"

In Mr. Anderson's letter to me of July 5, 1938, Titan Company, Inc. requested rights for Japan in Case DK 33 in Great Britain and Japan under DK 34 and in Great Britain, France, Germany, Holland and Japan in DK 35. Mr. Anderson sent me papers for execution by Du Pont

to facilitate the filing of these applications. I transmitted these papers to Du Pont on July 19th, 1938.

Mr. Hancok informed me that Mr. Rupprecht's attitude was the following: Mr. Rupprecht is quite willing that Titan Company, Inc. should have rights according to their request and is willing to have the applications filed in the respective countries. He desires that these rights be made part of a cross-license arrangement in which Du Pont will receive rights under the pending U. S. applications in Cases T. 169 and T. 187. (Case T. 169 is an I. G. case; T. 187 is the "RUTIOX" process patent—a Titangesellchaft case). Before going ahead with this proposed cross-licensing arrangement Mr. Rupprecht desires to await word from you concerning the attitude of Titan Company, Inc.'s associates with respect to the two cross-licensing agreements you took back to Europe with you. If these are approved by Titan Company, Inc.'s European associates, then Mr. Rupprecht feels he will be in a position to go ahead with the cross-licensing arrangement covering cases DK 33, 34, and 35 and cases T.169 and T. 187.

Mr. Hancock informed me that the Krebs people regard these cases as important patent applications.

The convention year for DK 33 expires September 30th, 1938; for case DK 34, October 2nd, 1938 and for case DK 35, November 2nd, 1938. In order that the papers in case DK 33 reach Japan before the convention term expires they should be mailed from my office on September 2nd. This letter should reach Paris by August 12th and I am confident that if a reply is received by August 29th, assuming that no reply has been received to my cable, I shall be able to start the papers on their way to Japan on September 2nd.

Yours very truly,

CFK:JL

Exhibit 904

Letterhead of

TITAN COMPANY, INC.

SA/LA

Paris, 24. August 1938

Mr. C. F. Kaegebehn
National Lead Company
Patent Department
111 Broadway
NEW YORK, N. Y.

Dear Mr. Kaegebehn,

Pending U. S. Applications of E. I. Du Pont de Nemours & Co.

I thank you for your letters of 22nd July and 3rd and 5th August addressed to Dr. Jebsen.

From your letter of 22nd July I note that if the assignment to Titan Company Inc. in case T. 136 U. S. Ser. 88.851 is recorded by the 26th inst, or about a week later, the patent can issue showing on its face that Titan Company Inc. is the assignee. I think this assignment might well be recorded without delay, and would ask you kindly to do so, if you are in agreement. I cabled you today as follows:

"YOUR LETTERS 22 JULY 3 AND 5 AUGUST SUGGEST YOU RECORD ASSIGNMENT T 136 ENABLING TITANINC APPEAR AS ASSIGNEE ON PATENTSPECIFICATION"

With regard to the other "T" cases referred to in your letter of 22nd July, I understand that there is no urgency in recording the assignments.

Exhibit 904

As particularly regards case T. 165 U. S. Ser. 155.040, Titan Company Inc. is, as mentioned in our letter of 8. July 1937, the owner of this application, and we can have it formally transferred from British Titan Produets Co. Ltd. to Titan Company Inc., whenever we so wish. It seems to me that it would be an advantage to have such formal transfer effected so that Titan Company Inc. appear as the owner on the patent specification which may issue—particularly in view of the case forming part of a cross-licensing agreement between Titan Company Inc. and Du Pont.

Please let me have your opinion on this question. If you agree that it is advisable to record an assignment to Titan Company Inc., I should be greatly obliged to you if you would send me form for such document.

Your above mentioned letters arrived after Dr. Jebsen's departure, and they will be brought to his attention when he returns here in the beginning of September.

Yours truly,

SIGURD ANDERSEN

Exhibit 905

August 31, 1938

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company, Inc.
26 rue de la Pépiniere
Paris—VIIIe—France

Gentlemen:

Further to our letter of July 22nd, we wish to inform you that the assignment documents as listed below have been duly recorded in the United States Patent Office:

Case	*U. S. Patent No.*	*U. S. Patent Assignment*
T. 112	No. 2.111.460	National Lead Co. to Titan Co., Inc.
T. 115	No. 11,164	National Lead Co. to Titan Co., Inc.
T. 115-B	No. 142,918	National Lead Co. to Titan Co., Inc.
T. 115-C	No. 142,928	National Lead Co. to Titan Co., Inc.
T. 136	No. 88.851	National Lead Co. to Titan Co., Inc.
T. 168	No. 155,040	R. W. Ancrum et al to British Titan Prod. Co., Ltd.

We are enclosing herewith for your files conformed copies of these assignments. We also wish to acknowledge receipt of your cable of August 24th, reading as follows:

Exhibit 905

"YOUR LETTERS 22 JULY 3 AND 5 AUGUST SUGGEST YOU RECORD ASSIGNMENT T 136 ENABLING TITANINC APPEAR AS ASSIGNEE ON PATENTSPECIFICATION"

In accordance with the instructions of this cable we wish to inform you that the assignment in case T. 136 has been recorded in time to enable the patent to issue with Titan Company, Inc. as the assignee.

Yours very truly,

NATIONAL LEAD COMPANY

JBH:JL
Encs.

Exhibit 906

Dr. G. Jebsen
c/o Titan Company, Inc.
26 rue de la Pépiniere
Paris—8e—France

September 7, 1938

Attention: Mr. S. Andersen

Re: Pending U.S. Applications of
E. I. Du Pont de Nemours & Co.

Gentlemen:—

Your letter of August 24th in the above matter has been received.

As you were advised in our letter of August 29th, cases T. 112, T. 115, T. 115-B, T. 115-C and T. 136 have already been assigned to Titan Company, and the respective assignments have been recorded in the United States Patent office.

With respect to the transfer of case T. 165 to Titan Company we may comment as follows: In the cross-licensing agreement under which Du Pont receives from Titan Company a non-exclusive license in this case Titan Company represents itself as possessing the right to grant such licenses. Du Pont accepts the word of Titan Company that Titan Company, in fact, has this right. Therefore, from point of view of Du Pont's position there is no necessity for transferring the case to Titan Company. From the point of view of the legality of the instrument itself, we believe that its provisions would be regarded by the United States courts as perfectly legal and sustainable. There is, as far as we can see, only one reason which militates in favor of transferring the case to Titan Company: Should, as a result of a Government investigation, or for some other rea-

son, this license agreement come to scrutiny, the question may arise as to how Titan Company derived its right from Titan Inc. to grant Du Pont a non-exclusive license? The answer to this question would of necessity have to be a revelation of the arrangement between British Titan Products and Titan Company Inc. If the case was assigined to Titan Company this question may be avoided. However, the record of the United States Patent Office would show the transfer of title from the inventors to British Titan Products and from that company to Titan Company Inc. We, therefore, doubt the advisability of transferring this particular case to Titan Company.

We have recommended that a continuation case under P. 165 be filed in the United States, and it may be advisable, if this recommendation be followed, to assign the new case directly from the inventors to Titan Company, Inc. As a matter of general policy it probably would be advisable to assign cases originating both with Titangesellschaft and British Titan Products directly to Titan Company, Inc. if this could be arranged.

Yours very truly,

NATIONAL LEAD COMPANY

CFK/rd

Exhibit 907

CONFERENCE OF MAY 9th, 1939 WITH MR. RUPPRECHT AND MR. HANCOCK (E. I. Du Pont De Nemours and Co.)

Mr. Rupprecht is pleased with the development of the present coöperation, and only hopes that the execution of license agreements can be expedited.

Regarding the attached lists, Mr. Rupprecht suggests license agreements including Group I of Du Pont and Group I of Titan Co., Inc., and to hold Group II—Titan Co., Inc. for future exchange—inquire whether I. G. Farbenindustrie will grant licenses to Du Pont under these issued patents.

Mr. Rupprecht desires me to describe interference practices in the United States and to point out that the possibility for interference between Du Pont applications and those of our group exist and are normal occurrences.

C. F. Kaegebehn
Patent Department
May 10th, 1939

Exhibit 907

PROPOSED LICENSE EXCHANGE

McKinney Case 884-K,	to be filed in Great Britain, France, Germany, Holland and Japan, Aluminate Dispersed TiO_2 Pigments.
Whitten Case 876-K,	to be filed in Great Britain and Japan, TiO_2 of Improved Color. (Covers processing of TiO_2-digested precipitated TiO_2 in the presence of sulfuric acid at particular concentrations to remove color-imparting impurities.)
Sullivan Case 882-K,	to be filed in Japan, Process of Slaking Lime. Calcium sulfate process.
Sullivan Case 873-K,	to be filed in France, Italy, Holland, Belgium and Japan. (Production of anhydrite by preparing a primary seed suspension through addition of hydrated lime to sulfuric acid of particular strength.)
Hager Case 893-K	to be filed in France, Germany and Japan, Treatment of Calcined TiO_2 Pigment with Trivalent Titanium Compounds.
McCleary Case 738-K,	to be filed in France, Purification and Use of Waste Sulfuric Acid.
Schwartz Case K-885-A,	to be filed in France, Germany and Japan, Treatment of Pigments with Glycolates.

Exhibit 907

Sullivan Case 885-K,	to be filed in France and Germany, Process of Inhibiting Hydration of Calcium Sulfate.
Hanahan & Prince Case 894-K,	to be filed in France, Double Milling TiO_2 Pigment.
McKinney Case 898-K,	to be filed in Great Britain, France, Germany and Japan, Aluminum Sulfate Coagulation of Titanium Pigments.
Eckels Case 899-K,	to be filed in Japan, CO_2 Coagulation of TiO_2 Suspensions.
Booge Case 905-K,	to be filed in Japan, Preparation of Titanium Concentrates.
Sullivan Case 892-K,	to be filed in Germany and Japan, Treatment of White Pigments with Naphthenic Acids and Naphthenates.

Exhibit 907

TITAN, INC. APPLICATIONS

(1) T. C. 187, Ser. No. 204,838, filed April 28, 1938, relates to the production of "Rutiox", i.e., a rutile seeding process in which chloride seeds are added to titanium sulfate.

(2) T. C. 227, Ser. No. 238,358, filed November 2, 1938, Tillman, Raspe and Heinen, related to above "Rutiox" case.

(3) T. C. 169, Ser. No. 136,806, filed April 14, 1938, involves production of mixed crystals of rutile and tin oxide, the tin oxide being in substantial amounts, up to 15%.

(4) T. C. 208, Ser. No. 228,326, filed September 3, 1938, involves a method for dispersing titanium oxide pigments.

(5) T. C. 232, Ser. No. 247,843, filed December 27, 1938, Chromium Naphthenate Treatment of TiO_2.

TITAN CO. PATENTS

No.	*Issued*	*Subject*
1,539,996	6- 2-25	TiO_2 & $(NH_4)_2SO_4$ from TiN by autoclaving with H_2SO_4.
1,919,425	7-25-33	Dilution during sulphate attack of ilmenite.
2,055,221	9-22-36	Initiation of hydrolysis of Ti sulfate solutions.

Exhibit 907

I. G. Patents

No.	*Issued*	*Subject*
1,850,153	3-15-32	Production of concentrated titanium sulfate solutions.
1,850,154	3-15-32	Production of solid titanic sulfate.
1,850,286	3-22-32	TiO_2 from $TiCl_4$ by passage through a gas flame.
1,891,911	12-27-32	Fe removal by autoclaving ore & 20% H_2SO_4 containing Ti ***.
1,941,285	12-26-33	Double sulfate of Ti and an alkali metal.
1,995,580	3-26-35	Conversion of anatase to rutile in presence of SnO_2 or MnO_2.
2,091,799	8-31-37	Hydrolysis of Ti solutions in presence of slowly soluble salts.
2,122,180	6-28-38	Synthetic Spinels containing from 0.9% to 2.0 ZnO:1 TiO_2.

Exhibit 908

CFK/AB

Paris, June 7th, 1939.

Dr. G. Jebsen
For Mr. S. Andersen
c/o Titan Co., Inc.
26, Rue de la Pépinière
Paris—VIIIe—France

Re: Future Du Pont Licence Agreement.

Gentlemen:

This will confirm that during the course of our conversations concerning future Licence Agreements with Du Pont, I handed you a list setting forth Du Pont cases which licences have been requested and applications are being filed through Titan Company and which are not covered by any licence. The list further set forth U. S. applications now pending for which, as yet no formal licences have been given Du Pont. In addition, three Titan case patents under which Du Pont has received no formal licence, are enumerated together with a list of some I. G. Patents under which Du Pont is not licensed.

It is Mr. Rupprecht's suggestion that the next Licence Agreement embody an exchange of rights in Du Pont applications set forth in the list with those Titan applications and patents.

He further suggests that the eight I. G. patents be held in reserve for the Licence Agreement which will come after the next one.

Yours very truly,

Exhibit 909

Letterhead of

E. I. du Pont de Nemours & Company

Legal Department
Patent Division

September 6, 1939

Mr. John P. Hancock—

Re: *Proposed Titan Agreement*

I am noting below a few points for your consideration. Several of these points were previously noted in my letter of May 25, 1938, but so much time has elapsed, it seems advisable to repeat them here.

Article 1, page 8, second paragraph. Is it the intention that purchasers from Titan may export to the United States?

Article 2. Is it intended that purchasers from du Pont may export for use in countries where Titan is exclusively licensed?

In connection with the above two points, it may be noted that Article 8 does not clearly give the answer, since it applies to all applications and patents identified in the agreement.

Article 3, line 4. I suggest that the word "controlled" be eliminated as implying an intention to distinguish from the subsidiaries referred to in the preceding paragraph.

Article 5. Would it not be an improvement to state positively that Titan may not grant royalty-free licenses except as prescribed in Article 4? Would it not be to our advantage to specify a minimum royalty rate, since otherwise they will be in a position to grant licenses at a nominal

Exhibit 909

royalty and thus defeat the apparent intent of Article 4? Are not reports to be required?

Article 6. Is not the provision that Titan will not permit abandonment, if read literally, contrary to the intention of the parties as expressed in subsequent provisions?

Should we not provide for release from past infringement since we agree not to contest the issued patents of Titan?

Who is to determine what du Pont applications will be filed and where? Who is to file and prosecute? Are we impliedly obligated to file and prosecute all the foreign applications referred to?

LEE R. GRABILL, JR.

LRG:S

Exhibit 910

Letterhead of

TITAN COMPANY, INC.

SA/EC Fredrikstad, Sept. 18th 1939.

National Lead Co.,
Patent Dept.,
111 Broadway,
New York, N. Y.

Att.: Mr. C. F. Kaegebehn

Dear Sirs,

Future Du Pont Cross License Agreement

We beg to refer to your letter of the 7th of June with enclosed proposal for our next cross license agreement with Du Pont.

As to the cases included on our side, we would call your attention to the fact that U. S. application Ser. No. 136,806 (Case T 169) according to our records has been abandoned. If we are correct in this, and you find that it should be replaced by another case, please inform us of which case you propose to include of T 169 before preparing the draft agreement. We believe, however, that the simplest would be not to replace T 169 by an further T case if this is acceptable to Du Pont.—

With regard to case T 227, we do not as yet know whether the Titangesellschaft wishes to retain ownership to the case and give us an exclusive license or whether they are willing to assign the case to us, but we expect to receive information regarding their decision in the nearest future. This would not, as far as we can see, effect the form of cross license agreement, but we think that the agreement

Exhibit 910

should not be executed before we have a confirmation from Titangesellschaft re our rights to the case.

As to the other cases included, we have no remarks to make and are in agreement with the proposal.

As to the form of the cross license agreement, we take it that the alterations agreed upon with Du Pont, according to Mr. Kaegebehn's letter to Mr. Andersen of 9th August 1939, will be embodied in it.

We should be obliged if you would let us have 2 copies of the draft cross license agreement—in addition to the copies intended for execution.

Looking forward to your communication, we are,

Yours very truly,

SIGURD ANDERSEN

Exhibit 911

August 9th, 1939

Mr. S. Andersen
c/o Titan Co., Inc.
26, Rue de la Pépiniere
Paris—VIIIe—France

Dear Mr. Andersen:—

On August 4th I had a discussion with the Du Pont people concerning the various points which we considered in Paris. The following information will be of interest to you:

1.) Du Pont has no interest in controlling the filing or prosecution of the foreign applications originating from their inventions. They are perfectly willing that Titan Co., Inc. should file and prosecute the foreign applications in any way Titan Co., Inc. sees fit. Therefore, should you desire, you are at liberty to permit Titangesellschaft to file and to prosecute the Du Pont applications through Dr. Redies' department.

2.) Du Pont will be glad to furnish any technical information, as well as their evaluation as to the importance of the case upon a specific request relative to a specific case. Therefore, in the future when any questions arise in your mind, or in the minds of Titan Co., Inc.'s associates with respect to any Du Pont case, if you will communicate these questions to me, I shall be able to obtain answers to these questions for you.

3.) In the future, the charges incurred by Du Pont for legalizations, notarial acknowledgments, etc. will be billed

you in such manner that the cost per case will be shown for each country.

4.) Du Pont agrees to the insertion, Article 6, third line from the bottom, after "such" of the expression: *applications for Letters Patent or.*

5.) The meaning of "controlled subsidiaries", as I explained to you, is to denote companies in which Du Pont controls over 50 percent of the voting shares. There is a standard phrase which Du Pont uses in its contracts and which defines "controlled subsidiaries", and this phrase will be embodied in the next draft of contract to be sent you.

6.) Du Pont has no objection to Titan Co., Inc.'s revising the specifications in order to better meet the requirements for filing in individual foreign countries. Thus, they have no objections to cutting out unnecessary descriptive matter which serves only to teach the skill of the art to your competitors. However, they do not feel it possible to alter their manner of drafting United States specifications, since this manner is based upon what their attorney advises is the best method of presenting the case to the United States Patent Office.

7.) Without officially requesting Du Pont to do so, I canvassed the opinion of their legal people concerning whether or not it would be possible to revise Article 10 to give Titan Co., Inc., per se, the right to sue infringers while limiting Du Pont's right to sue upon obtaining Titan Co., Inc.'s consent. The opinion is that Du Pont could not consent to this. It was explained that Du Pont has many subsidiaries, associates and friends in foreign countries,

and they should not like to give Titan Co., Inc. a right to sue which could be exercised by Titan Co., Inc. perhaps against one of their friends without being in a position to act as mediators. By making Titan Co., Inc.'s right to sue dependent upon obtaining Du Pont's consent, Du Pont feels itself protecting its associates, subsidiaries and friends. It was explained to me that a similar situation exists in the United States where, for instance, one department of Du Pont will have friendly relations with a certain American company, whereas another department will not. Consequently, no department is permitted to enter contracts or bring about suits, etc. without the consent of all departments.

8.) I told Du Pont that Titan Co., Inc. did not fore-see any objection to Mr. Rupprecht's suggestion as to cross-licensing in accordance with the list I handed you with my letter of June 7th, although as yet official confirmation of this has not been received by me. Accordingly, in order to save time, I am consulting with Mr. Hancock to prepare a draft of a cross-licensing agreement which, when completed, will be forwarded to you for consideration.

Yours very truly,

CFK:JL

Exhibit 912

Copy to: Mr. C. H. Rupprecht
Krebs—Nemours Building

October 25, 1939.

Charles F. Kaegebehn, Esq.,
Titan Company, Inc.,
111 Broadway,
New York City.

Dear Mr. Kaegebehn:

Re Proposed DuPont-Titan
Agreement

I am forwarding herewith duplicate originals together with extra copy of the above license agreement. Please note that although the proposed agreement has been approved as to form by our Legal Department, we have yet to procure the approval of the Company's Executive Committee before due execution on our part can be had. We have deferred obtaining this latter approval, pending formal approval or execution of the agreement by Titan.

As I already informed you, certain changes have been made in the present agreement which effect a slight variance from the former contract. However, all of these changes appear to be minor in character, are completely reciprocal, and I believe, in strict accordance with the intent of the parties. These changes, in particular, are:

1) The granting clauses (Articles 1 and 2) have been modified to specify that the rights of use granted purchasers from either DuPont or Titan shall be restricted to "within the licensed territory" involved in such grant.

2) Certain of the involved DuPont applications, i.e. those set out at the top of page 8 of the agreement, make disclosure that their titanium oxide pigments and/or extenders may be used in the manufacture of particular coating compositions or are useful in ceramic production. Since any grant on the part of Krebs outside the field of titanium compounds useful as pigments presents possible conflict with contractual obligations of other departments of the Company, it has been necessary to restrict the rights which are granted Titan under these applications to the use of the involved inventions in the manufacture and sale of titanium compounds which can be used as pigments. This change appears to be in complete accord with the prior agreement in so far as said agreement affected extender inventions. You indicated that this, as well as the preceding change, was acceptable to you.

3) In Article 3, the word "controlled" preceding "subsidiaries" has been deleted. Its elimination in nowise affects the agreement, since Article 12 (added at your own request) sets forth that a subsidiary of either party, as that term is used in the agreement, is defined as a company which owns more than 50% of the subsidiary's stock entitled to vote for directors.

4) To avoid possible confusion between the language of Articles 4 and 5, Article 5 has been modified to provide that Titan shall have the right "provided DuPont consents" to grant sub-licenses for a stated royalty, etc.

5) Article 6 of the accompanying agreement (corresponding to Article 6 of the preceding April 21, 1939 agreement) has been modified to provide that in the event Titan shall desire to abandon *any applications* or letters patent, it will first notify DuPont. This at your request.

Exhibit 912

6) Article 7 of the instant agreement corresponds to Article 7 of the prior agreement, except that in lieu of Titan and DuPont acknowledging validity of issued letters patent as well as those subsequently arising pursuant to pending applications, the companies merely acknowledge the validity of patents which have already issued. In view of the fact that an implied acknowledgment of validity arises by reason of the license, this change appears to be of minor character. In addition, the Article differs from the like article of the previous agreement in that a provision is now present that each party releases the other from liability for past infringements of such letters patent. You indicated that this latter change was acceptable to you.

In all other respects the proposed agreement conforms to the former instrument. I trust that the agreement is in a form acceptable to Titan Inc.

Very truly yours;

E. I. Du Pont de Nemours & Co.

By John P. Hancock
John P. Hancock

JPH:SJB

Exhibit 913

Blind cc: C. H. Rupprecht, Esq.
Krebs—Nemours Bldg.

January 24, 1940

Charles F. Kaegebehn, Esq.
c/o Titan Company, Inc.
111 Broadway
New York City

PATENT DEPT.

Dear Mr. Kaegebehn:

Re: Proposed du Pont-Titan Agreement

Attached hereto find duplicate originals, with one extra copy, of license agreement, involving seven du Pont applications for letters patent, three Titan, Inc. applications, and one patent. Although the agreement has been approved as to form by our Legal Department, procurance of Executive Committee approval is yet to be had by us before we can execute. We have deferred obtaining final approval pending submission for approval or execution by Titan.

The provisions of the instant agreement are the same as those of the pending non-executed agreement submitted you with my letter of October 25, 1939. Two relatively minor changes have been effected, both of which are more or less informal in character. These are as follows:

(1) The granting clause, page 3, now sets out that the exclusive right granted Titan is "in the following countries and under the following foreign applications for letters patent."

Exhibit 913

(2) Clause 6, deemed somewhat indefinite by our Legal Department, has been modified, whereby it now provides that Titan will not permit abandonment of an application or patent without first promptly notifying du Pont of its intention to so abandon, and within ample time to permit us to take over prosecution or maintenance, should we so desire.

Your attention is also directed to the proviso of Clause 2 that in respect to the applications of Heckert 689-K, Booge 888-K, Geddes 912-K and Schaumann 915-K, the rights granted to Titan are restricted to the use of the inventions involved in such applications, in the manufacture and sale of titanium compounds which can be used as pigments. The disclosures of these cases were broad enough to include various uses of the titanium oxide pigment or were directed to an extender per se. In order to avoid any possible conflict with prior commitments, it has been necessary to introduce the proviso mentioned. Since this procedure has been adopted in prior instances where cases of this character have arisen, we assume that the proviso is entirely acceptable to you.

Trusting that the agreement is acceptable to your people, I am

Very truly yours,

E. I. du Pont de Nemours & Co.

By _____

John P. Mancock

JPM:H

Enc

Exhibit 914

COPY

Letterhead of

TITAN COMPANY, INC.

SA/LRA

Fredrikstad, February 13th 1940.

National Lead Company,
Patent Department,
111 Broadway,
New York

Attention: *Mr. C. R. Kaegebehn*

Dear Sirs,

Re: PROPOSED DU PONT TITAN COMPANY INC. CROSS LICENCE AGREEMENT

With our letter of the 12th inst. we have sent you cross licence agreement, signed by Dr. Jebsen, and have called your attention to the points on which this agreement differs from the draft sent us with your letter of the 31st October 1939. In the following are some comiments replying to the comments by Mr. Hancock and yourselves in your letter of the 31st October 1939—as far as they have not been handled in our letter of the 12th inst.

/1/ See comments last part of our letter of February 12th.

/2/ See comments page 2 under "article 1" in our letter of the 12th inst.

/3/ We agree that the alteration /cancellation of the word "controlled" before "subsidiaries"/ appears to be

acceptable in view of the inclusion of the new section 12 in the agreement.

The reservation regarding I.C.I.'s rights in section 3 refers to "The United Kingdom of Great Britain, Ireland and The Isle of Man"

We are wondering whether this is meant to cover Eire /the Irish Free State/ or not. If not, the commonly used definition of the United Kingdom is "The United Kingdom of Great Britain, Northern Ireland and the Isle of Man". In this connection you are certainly aware that a British patent covers The United Kingdom as above defined, i.e. it does not cover Eire, which has its own Patent Office.

We have not made any alteration regarding this in the present agreement, but we think that the point should be cleared up and necessary correction made in future agreements.

4/ We are in agreement with this alteration.

5/ The desirability of an inclusion of a reference to applications in this section was discussed with Mr. Kaegebehn this summer and we are pleased to note that Du Pont has accepted such inclusion.

6/ Section 7., as it now reads, frees the parties from obligation put on them in previous cross license agreements not to contest the validity of the patents which may be granted upon the applications involved. It will thus be open to the parties to contest the validity of patents resulting from the applications at any time during their lives /excepting the implication involved by the license in force—as mentioned in your letter/.

p.t.o.

There might be a posibility of this alteration in section 7 becoming of practical interest in connection with patents resulting from applications included in the agreement and under which licenses have been given for only a part of their scope according to the penultimate paragraphs in article I and II. It seems to us that the acknowledgement of validity implied by the license, as mentioned by you, cannot exist for such subject matter of a patent under which no license is given, and that accordingly it should be free to the licensee to contest the validity of the patent as far as such subject matter is concerned. It may be that the possibility of this point becoming of importance is rather remote, and we can foresee complications for inst. in the event of an attack on the not licensed subject matter of the patent involving the probability of the entire patent being revoked. This alteration in Section 7. might also be of interest if an interference, provoked by one of the parties against patents resulting from applications included in the agreement, is considered as a contest of validity. We understand, however, from a recent incident /interference between U.S. Patent No.2.161.755—Case T-165 and Du Pont's Application Ser.No. 262.695/ that Du Pont is not of the opinion that an interference is a "contest of validity" and that the question is not clear.—

We will not propose any amendment to the present agreement on account of the above, but would not have omitted to call these possibilities to your attention in view of your remark.

As to the reciprocal release from liability for past infringement, we have no objection to inserting this clause,

Exhibit 914

in the present agreement. For the sake of order we would—in view of the 3rd line on page 3 of your letter—mention that the clause relates only to patents and does not include applications, as mentioned by you. It seems to us that the clause will consequently not cover patents resulting from applications specified in the agreement.

We would be glad to receive any comments you might with to make to the above.

Yours very truly,

Sign.: Sigurd Andersen

Exhibit 915

COPY

Letterhead of

TITAN COMPANY, INC.

Address for Correspondence:
111 Broadway, New York

December 12, 1940

Mr. C. J. Stopford
British Titan Products Company Limited
Burlington House, Yarm Road
Eaglescliffe
Stockton-on-Tees
England

Dear Mr. Stopford:

Re: DK 42—British Patent 525,472

Many thanks for your letter of November 15, 1940.

The proposal for an arrangement with N.T.P. as suggested in their internal memo. of November 11th, seems a good solution. (We assume that the expression "Exchange Patent" does mean a mutual cross-licensing under the two patents in question.) We will take up the matter with duPont and do not expect any difficulty from them.

As to the carrying out of this solution, you will note that the license to N.T.P. will have to be given by Titan Company, Inc. according to the agreements with duPont and Titan Company, Inc. will need the formal permission from B.T.P., since B.T.P. now has the exclusive license with certain specified limitations.

There is, however, one point which has to be considered and may stand in the way of carrying out the suggestion.

Exhibit 915

namely, the conditions of Article 14 of our license agreement, which are conditions of a reciprocal nature embodied in all the agreements with our associated companies, with the exception of the Japanese who can not grant a sublicense except with the permission of their licensors. One of the main reasons for these conditions is as you know to prevent aid in the skill of the art to competitors.

The DK case must not only be looked upon from the point of view of dispersion and coagulation but also with regard to the production of pigments containing aluminum oxide which, as you know, are of special importance. The suggestion to develop pigments of this type was, as you remember, brought forward by one of the associated companies, which has always shown a special interest in this type of pigment.

Under normal circumstances we would seek and, I think, obtain the approval of all the associated companies to the above proposal. We have hesitated to bring the matter before our associates and do not under the present conditions consider ourselves entitled to do so without your approval. In this connection we may mention that we have in view of another license question regarding which we cabled you, discussed here in principle the question of whether, under the present circumstances, we should in principle take actions which in form are contrary to the agreements,—provided we consider that they in reality serve the interests of all,—without asking the approval of our associates even where they can be reached by correspondence. We have come to the conclusion not to do so and not act only on our own judgment for several reasons:

1) Consideration for our associates,

2) Reluctance to deviate from principles laid down,

3) Creation of a precedence of this kind may lead to our associates considering themselves entitled to act in the same way and you will easily realize that we then may have started to slide downhill as regards cooperation.

Please note that we are here considering situations where the associates *can be contacted.* If situations should arise where associates can not be contacted and it is a question of arrangements in the interest of all and in the spirit, although contrary to the letter of the agreements, our considerations may have taken a different course.

We should much regret if the complications as mentioned above should prevent an understanding to be reached in this matter, and this particularly in view of the very interesting information contained in your letter of November 16th regarding the development of the relations between N.T.P. (Laporte) and B.T.P.

Considering the above we suggest one of the following alternatives:

1) Granting of a license under the patent Case DK 42 provided Laporte will undertake an obligation not to export beyond B.T.P.'s territory any product manufactured under the license

2) Reach an understanding on the basis that you and we will not object to N.T.P. working according to Case DK 42 during the war period, and if after the war we could not get our associates' approval to so license N.T.P. (Laporte), we would undertake to let the patent drop. We assume then that duPont when the time comes would not maintain it for their

Exhibit 915

own account, which in view of their practice hitherto is not likely.

The last alternative may look "extraordinary" at the face of it from a direct practical point of view but there is a considerable reality in it.

Hoping you will be able to follow one of these lines, I am, with kindest regards,

Yours sincerely,

(Signed) G. JEBSEN
G. Jebsen

VIA AIL MAIL

Exhibit 916

Letterhead of

TITAN COMPANY, INC.

SA/LA

Paris, 9 November 1938

National Lead Company
Patent Department
111 Broadway
NEW YORK N.Y. *Att.Mr.C.F.Kaegebehn*

Dear Sirs,

Pending U.S.Applications of E.I. Du Pont de Nemours & Co. Cases DK 36 to DK 41

We beg to refer to your letters of the 15th December 1937 and the 15th February 1938 by which you sent us copies of the following pending U.S.applications of E.I. Du Pont de Nemours & Co.:

U.S.Ser.No.	*Inventor*	*Our Ref.*
177.739	Roy W. Sullivan	DK 36
181.990	Hagar	DK 37
183.127	McCleary	DK 38
183.311	Schwartz	DK 39
183.322	Sullivan	DK 40
187.431	Schauman	DK 41

We have considered these patent applications and have also obtained the opinion of our associates companies over here, and find that it would be of interest to have licenses in cases and countries as follows:

Exhibit 916

		England
DK 36	U.S.Ser.177.739	France
		Holland
		Belgium
		Italy
		Japan
DK 37	U.S.Ser.181.990	Germany
		France
DK 38	" "	183.127—France
DK 39	" "	183.311—Germany
		France
DK 40	" "	183.322—Germany
		France

I should be obliged to you if you would take up this matter with Du Pont.

For your information we would mention that the licenses in France in cases DK 37, 38, 39 and 40 are found desirable in order to obtain the filing of patent applications for purposes of record.

We would appreciate it greatly if Du Pont, as in the former cases, would execute the necessary documents for filing applications in cases and countries listed above, without awaiting the execution of corresponding License Agreement (s), as this would enable us to file the applications under the Provisions of the International Convention.

We enclose herewith blank forms as follows:

Exhibit 916

Germany for Cases DK 37—39—40

3 Powers of attorney
3 Inventors' declaration
3 Assignments

France for Cases DK 36—37—38—39—40

5 Powers of attorney
5 Assignments

Holland for Case DK 36

1 Power of attorney
1 Assignment

Belgium for Case DK 36

1 Power of attorney
1 Assignment

Italy for case DK 36

1 Power of attorney
1 Assignment

Japan for case DK 36

1 Power of attorney with declaration of nationality
1 Assignment

We also enclose 2 copies of each of the forms.

You will be aware that the assignments for Germany, France and Italy have to be legalised by the consuls of the respective countries and further that the declaration of nationality in the power of attorney for Japan should be executed before a notary public.

The papers required for the application in England in DK 36 will be sent to you direct by our English agents,

Exhibit 916

Messrs. Boult, Wade & Tennant, 112 Hatton Garden, LONDON E.C.I. with indication as to their execution.

Kindly also order 4 certified copies of U.S.Ser.177.739 DK 36. We should appreciate it very much if you would forward the papers for Japan, including one of the certified copies in case DK 36, direct to our Japanese agents, under the following address: Nagashima Law & Patent Office, 6 Tsukiji 3 chome, Kiobashi-ku TOKIO. Please forward the remaining papers and certified copies to us.

Thanking you in anticipation,

We are,

Yours very truly,

FOR TITAN COMPANY INC.
SIGURD ANDERSEN

Exhibit 917

January 20th, 1939

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Company
26 rue de la Pepiniere
Paris—8e—France

RE: Foreign Applications corresponding to Pending U. S. applications of Du Pont—DK Cases 36-41

Gentlemen:

In reply to your letter of November 9th and further to our letter of December 15th we are pleased to enclose herewith three certified copies of U. S. Serial No. 177,739 (DK 36). We have also sent as per the enclosed letter a certified copy of this application as well as U. S. Serial No. 181.990. (DK 37) and U. S. Serial No. 183,311 (DK 39) directly to your Japanese agent.

Yours very truly,

NATIONAL LEAD COMPANY

JBH:RC
encs.
cc: Mr. C. F. Garesché

Exhibit 918

Letterhead of
TITAN COMPANY, INC.

DK 37
DK 39

HE/MS.

Paris, 30 November 1938.

National Lead Company
Patent Department
111, Broadway
New York, N.Y., U.S.A.

Att. Mr. C. F. Kaegebehn.

Dear Sirs,

DK Cases—37 & 39—Pending U.S.Appl. of E.I.Du Pont de Nemours.

Further to our letter of the 9th November 1938 we beg to inform you that we are also interested in having licences for Japan in the following cases:

DK 37—U.S.Serial No.181.990

DK 39—U.S.Serial No.183.311.

We enclose herewith blank forms as follows:

DK 37—Power of attorney with declaration of nationality.
—Assignment.

DK 39—Power of attorney with declaration of nationality.
—Assignment.

We also enclose two copies of each of the forms.

Exhibit 918

We should be obliged to you if you would forward the original documents, including one certified copy of each of the U.S.Applications in the above cases, directly to our Japanese agents, under the following address:

Nagashima Law & Patent Office
6, Tsukiji 3 chome
Kiobashi-ku
Tokio

Please return one copy of each of the executed papers to us.

As the Convention terms in the above cases expire on the 27. December 1938 and the 4. January 1939 we would ask you to give this matter your prompt attention.

Yours very truly

TITAN COMPANY INC.

SIGURD ANDERSEN

Exhibit 919

December 13, 1938

Mr. J. P. Hancock, Esq.
Patent Department
1094 Du Pont Bldg.
E. I. DuPont de Nemours & Co.
N.W. Corner 10th & Market Sts.
Wilmington, Delaware

Re: Foreign Applications in Japan corresponding to U. S. Ser. No. 181,990—your case 893 K, our case DK 37 and U.S. Ser. No. 183,311, your case K 885A, our case DK 39

Dear Mr. Hancock:—

We are enclosing for execution the following documents to permit the filing of applications in Japan corresponding to the above identified U.S. applications:

For your case 893 K—our case DK 37 Power of attorney with declaration of nationality and assignment

For your case K 885A—our case DK 39 Power of attorney with declaration of nationality and assignment.

In each case the certificates of nationality are to be notarized.

We are enclosing also two copies of each of the above forms, one to be retained by you for your files and the other to be executed and returned to us.

Exhibit 919

Inasmuch as the convention terms in the above cases expire on the 27th of December 1938 and 4th of January 1939, we would appreciate it if you would give this matter your prompt attention.

Yours very truly,

NATIONAL LEAD COMPANY

JPH/rd

Exhibit 920

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

December 21, 1938

J. B. Henrich, Jr., Esq.
c/o Titan Company, Inc.
111 Broadway
New York City

PATENT DEPT.

Dear Mr. Henrich:

In accordance with the request contained in your letter of December 13th, there are enclosed properly executed and notarized formal papers for filing the following applications in Japan:

893-K—your case DK 37—
Power of attorney with declaration of nationality and assignment

K 885-A—your case DK 39—
Power of attorney with declaration of nationality and assignment

Very truly yours,

E. I. DU PONT DE NEMOURS & CO.

By_____
JOHN P. HANCOCK

JPH:H
Enc.

Exhibit 921

December 22, 1938

Nagashima Law and Patent Office
6 Tsukiji—e—chome
Kiabashi-ku—Tokio
Japan

Re: DK Cases 37 & 39—Japanese appls. corresponding to U.S. applications of Du Pont

Gentlemen:

As requested by Titan Company in their letter to us of November 30th we are enclosing herewith duly executed documents for cases DK 37 and 39 in Japan as follows:—

Case DK 37—U.S. Serial No. 181,990

Power of attorney with declaration of nationality
Assignment

Case DK 39—U.S. Serial No. 183,311

Power of attorney with declaration of nationality
Assignment

We have ordered certified copies of each of the above U.S. applications and shall forward them to you as soon as we receive them from the Patent Office.

Yours very truly,

National Lead Company

JBH:RC
encs.
cc: Titan Co. Inc.

Exhibit 922

December 20th, 1939

Dr. G. Jebsen
For Mr. S. Andersen
c/o Titan Co. A/S
Fredrikstad, Norway

Re: DK-37—French Pat. Appln.
No. 439,614—Du Pont

Gentlemen:—

We acknowledge receipt of your letter of December 4th, and note the issuance of the French patent in the above identified case which is numbered 847,987, standing in the name of Du Pont for the term of 20 years from December 24th, 1938.

We shall be pleased to receive copies of this patent when they are available.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

cc. Mr. C. F. Garesché

Exhibit 923

Letterhead of

TITAN COMPANY, INC.

DK 42-48
HE/MS.

Paris, 2. February 1939.

National Lead Company
Patent Department
111, Broadway
New York, N.Y., U.S.A.

Attention Mr. C. F. Kaegebehn.

Dear Sirs,

Pending U.S. Applications of E.I.Du Pont de Nemours and Company Cases DK 42-48.

Further to our letter of the 29.December 1938 we beg to inform you that we have now received the opinion of Titan Kogyo re licences in Japan according to which they wish licences in Japan for the cases DK 42, DK 44 and DK 46. We have as yet not been informed of their wishes for the cases DK 47 & DK 48 as well as the Titangesellschaft's opinion re case DK 47, and we shall revert to this question as soon as we have the opinion of these companies.

We enclose herewith blank forms in triplicate for the Powers of Attorney and the Assignments for Japan in cases DK 42, 44 & 46.

We should be obliged to you if you would take up this matter with Du Pont in the manner suggested in our letter of the 29.December 1938 and have the documents executed as soon as possible enabling us to have the applications filed under the Provision of the International Convention.

3151

Exhibit 923

We would ask you to kindly forward one copy of the executed papers together with a certified copy of each of the U.S.Applications in cases DK 42, 44, and 46 to:

Nagashima Law & Patent Office
6 Tsukiji 3-Chome
Kiobashi-ku
TOKIO

and return one copy of the documents to us. You will be aware that the Powers of Attorney for Japan should be executed before a Notary Public.

Thanking you in anticipation,

Yours very truly

SIGURD ANDERSEN

Exhibit 924

February 14, 1939

Mr. J. P. Hancock
E. I. du Pont de Nemours & Co.
Wilmington, Delaware

RE: *Japanese Applications—DK Cases 42, 44 & 46—Your Cases 898-K; 899-K and 905-K*

Dear Mr. Hancock:

We are enclosing herewith for execution the following documents:—

Japan—DK 42—Your Case 898-K
Power of Attorney
Assignment

Japan—DK 44—Your Case 899-K
Power of Attorney
Assignment

Japan—DK 46—Your Case 905-K
Power of Attorney
Assignment

No legalization of these documents is required. However, the Powers of Attorney, as you know, should be notarized. Inasmuch as we should like to file within the convention year we would appreciate it if you could have these documents executed before the expiration of the respective convention years. These documents are being sent to you in triplicate. Will you please return the original

Exhibit 924

and one copy to us and retain the remaining copy for your files.

We would also be obliged to you if you could give us Powers to Inspect and obtain copies for your cases 899-K, U. S. Ser. No. 198,899 and 905-K, U. S. Ser. No. 200,748

Yours very truly,

NATIONAL LEAD COMPANY

JBH:RC

Exhibit 925

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

March 1, 1939

J. B. Henrich, Jr., Esq.
c/o Titan Company, Inc.
111 Broadway
New York City

Patent Dept.

Dear Mr. Henrich:

Re: Japanese Applications—Our Cases 898-K, 899-K and 905-K—Your Cases DK 42, 44 and 46

In accordance with your letter of February 14th, there are enclosed duly executed Powers of Attorney and Assignments in the above cases for filing in Japan.

As requested, there are also enclosed Powers to Inspect and Obtain Copies in cases 899-K and 905-K.

Very truly yours,

E. I. Du Pont de Nemours & Co.

By John P. Hancock
John P. Hancock

JPH:H
Enc.

Exhibit 926

March 6, 1939

J. P. Hancock, Esq.
Patent Department
E. I. DuPont de Nemours & Co.
1094 DuPont Building
Wilmington, Delaware

Re: Foreign Applications—DK cases 47-49—Your cases 834K and 892K

Dear Mr. Hancock:—

We are enclosing herewith for execution the following documents:

Germany—DK 49—Your case 892K
Power of Attorney
Inventor's Declaration
Assignment

Japan—DK 47—Your case 834K
Power of Attorney with Declaration of Nationality
Assignment

Japan—DK 49—Your case 892K
Power of Attorney with Declaration of Nationality
Assignment

As you know, it will be necessary to have the German assignment notarized, attested to by a County Clerk's Certificate and legalized. If you will be good enough to attend

to the first two requirements, we shall attend to the legalization. With regard to the documents for Japan, we would appreciate it if you would have the Power of Attorney notarized as indicated.

The above documents are being sent you in triplicate. Will you please return the executed original and one copy to us and retain the remaining copy for your files.

We would also appreciate it if you would give us powers to inspect and obtain copies for these two cases, namely 834K and 892K.

Inasmuch as we should like to file within the convention year, we would appreciate it if you could have these documents executed as soon as conveniently possible.

Yours very truly,

NATIONAL LEAD COMPANY

JBH/rd

Encs.

Exhibit 927

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

J. B. Henrich, Jr., Esq.
c/o Titan Company, Inc.
111 Broadway
New York City

March 15, 1939.

Dear Mr. Henrich:

Re: Foreign Applications—
Our Cases K-834-C and 892-K—
DK Cases 47-49

In accordance with the request contained in your letter of March 6th, there are enclosed various formal papers which you have submitted, all duly executed.

A County Clerk's certificate has been obtained in Case DK-49. Previously, a County Clerk's certificate was obtained in your case DK-36 (our case 873-K). The latter was forwarded to you a few days ago. In procuring these certificates, I personally advanced $1.00.

Also enclosed are the Powers to Inspect in Cases K-834-C and 892-K.

In the instance of your case DK-47, it was necessary to rewrite the assignment document for execution, because one inventor is presently located in Philadelphia. The papers originally submitted for execution, as well as the rewritten and executed assignment document, are enclosed.

Very truly yours,

E. I. Du Pont de Nemours & Co.
By John P. Hancock
John P. Hancock

JPH:H
Enc.

Exhibit 928

March 17th, 1939

Mr. J. P. Hancock
E. I. du Pont de Nemours & Co.
Wilmington, Delaware

Dear Mr. Hancock:

We wish to acknowledge with thanks receipt of your letter of March 15th with which you enclosed duly executed documents for filing foreign applications for cases K834-C (our Case DK47) in Japan and 892-K (our case DK49) in Germany and Japan.

We also wish to thank you for sending us Powers to Inspect in cases K-834-C and 892-K.

We are enclosing herewith check in the amount of $1.00 for your disbursements in obtaining County Clerk certificates.

Yours very truly,

TITAN CO. INC.

JBH:RC
enc.

Exhibit 929

I. G. FARBENINDUSTRIE A.G.

Patent Department

May 9, 1940

Titan Company, Inc.
c/o Mr. Kaegebehn
111 Broadway
New York

Re: DK. 37 (Le No. 2265 P.A.) U.S. Ser. No. 181,990 of Dec. 27, 1937—Germany No. P. 78 425

Gentlemen:

Titan Kogyo has informed us that they are no longer interested in a license in the above identified case. We would appreciate hearing from you whether you wish to maintain the application in Japan.

Yours very truly,

I.G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Exhibit 930

June 20th, 1940

J. P. Hancock, Esq.
Patent Division—Legal Dept.
E. I.DuPont de Nemours & Co.
Wilmington, Delaware

Re: *DK 37—Your Ref. 893-K U.S. Ser. No. 181,990*

Dear Mr. Hancock:—

We have just been informed that the Japanese application corresponding to the above identified case has met with rejection and that our foreign associates do not wish to maintain the case any further.

Will you please endeavor to obtain the consent of Du Pont to the abandonment of this application. I believe it is included in the Agreement of May 10th, 1940.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL

Exhibit 931

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

June 27, 1940

Mr. Charles F. Kaegebehn
c/o Titan Co., Inc.
111 Broadway
New York City

PATENT DEPT.

My dear Mr. Kaegebehn:

Re: *DK-37—Hager Case 893-K (U.S. Ser. No. 181,990)*
Treatment of Calcined TiO_2 with Trivalent Titanium Compounds

Replying to your letter of June 20th advising that Titan, Inc. desires approval from du Pont to no longer maintain the Japanese application corresponding to the above identified case, in view of rejection thereof met in the Japanese Patent Office.

I have consulted the Krebs Pigments Department regarding Titan's proposal and am advised that du Pont has no objection to the proposed abandonment of said Japanese application. Du Pont in its own behalf does not desire to undertake prosecution or maintenance.

Very truly yours,

E. I. DU PONT DE NEMOURS & CO.

By JOHN P. HANCOCK
JOHN P. HANCOCK

JPH:H

Exhibit 932

COPY

TRANSLATION

June 28th, 1940

Titangesellschaft m.b.H.
z.H.: I. G. Patent Abteilung
Leverkusen I. G. Werk
Leverkusen bei Köln
Germany

Your Ref.: Gr. 2265 P. A.

Re: DK 37 Le. Nr. 2265 P. A.
U. S. Ser. No. 181,990 v. 27.12.1937
Germany No. P. 78,425

We are in receipt of your letter of May 9th, 1940 and have noted therefrom that Titan Kogyo is no longer interested in further prosecution of the corresponding Japanese application. We wish to inform you that neither Du Pont nor we are interested in prosecuting it on our own behalfs.

Yours very truly,

TITAN COMPANY, INC.

CEK:JL

Exhibit 933

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

May 24, 1940

Charles F. Kaegebehn, Esq.
c/o Titan Co., Inc.
111 Broadway
New York City

PATENT DEPT.

Dear Mr. Kaegebehn:

This will reply to your letter of May 14th, advising of the receipt of a cable from Fredrikstad, Norway, informing that Titan, Inc. desires to relinquish certain licenses and obtain consent to abandon certain foreign cases covered by agreements between Titan, Inc. and du Pont.

Immediately upon receipt of your letter, I communicated its contents to the Krebs Department and am now advised that du Pont will have no objection to the proposed action by Titan, Inc. on the cases involved. Specifically, du Pont has no objection to the relinquishment of Titan, Inc.'s licenses in Germany and Czechoslovakia under the Booge Blended Pigments 575-K application (your Case T-200) covered by the agreement dated July 27, 1937. Du Pont also consents to your proposed abandonment in Germany of Cases DK-16, 23, 24, 28, 30, 35, 37, 39, 40, 42 and 49, included, respectively, in the du Pont-Titan agreements dated April 21, 1939 and May 10, 1940. As we understand it, these DK cases correspond to Krebs Cases 754-K, 632, K-834-B, 868½, 634, 884, 893, K-885-A, 885, 898 and 892-K.

Exhibit 933

In addition to the above cases, you may recall that on December 20, 1939 you also advised du Pont that Titan, Inc. had decided on non-maintenance of certain recently issued French patents and requested that we advise you of our approval thereof. In particular these patents and their involved reference numbers are as follows:

Pat. No.	*Your Reference*	*Our Reference*
847,987	DK-37	893-K
848,405	DK-38	738-K
848,406	DK-39	K-885-A
848,407	DK-40	885-K
850,882	DK-43	894-K

These latter cases are included in the concluded du Pont-Titan, Inc. agreement, dated May 10, 1940.

I have taken up with Krebs the question of non-maintenance of these cases and am advised that they have no objection to your proposed action and do not desire to maintain the cases in du Pont's behalf.

Very truly yours,

E. I. du Pont de Nemours & Co.

By John P. Hancock

John P. Hancock

JPH:H

Exhibit 934

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
June 6th, 1940.

HE/HH *No.* 55.

National Lead Company,
Patent Department,
111 Broadway,
New York City,

Attention: Mr. Kaegebehn.

Dear Sirs:—

Abandonment DK-cases.

We beg to confirm exchange of cables as follows:

Our cable of May 9th, 1940:

INFORM DUPONT THAT WE WISH RELINQUISH LICENCES CASE T-200 GERMANY AND CZECHOSLOVAKIA INCLUDED AGREEMENT 27 JULY 1937 STOP ENDEAVOUR OBTAIN DUPONTS CONSENT TO ABANDON CASES DK 16 23 24 28 30 GERMANY INCLUDED AGREEMENT 21 APRIL 1939 AND CASES DK 35 37 39 40 42 49 GERMANY INCLUDED AGREEMENT ENCLOSED OUR LETTER 12 FEBRUARY 1940 CABLE FREDRIKSTAD—

Your reply of May 28th, 1940:

RE YOUR CABLE MAY 10 DUPONT CONSENTS RELINQUISH LICENCES T200 GERMANY CZECHOSLOVAKIA AND ABANDON-

MENT DK CASES 16 23 24 28 30 35 37 39 40 42 49 GERMANY STOP RE YOUR LETTER NOVEMBER 30 1939 DUPONT ALSO CONSENTS NONMAINTENANCE FRANCH PATENTS DK 37 38 39 40 43 STOP LETTER FOLLOWS—

as well as our cable of June 1st, 1940:

OUR LETTER FEBRUARY 19 DK 22 GERMANY INCLUDED AGREEMENT 21 APRIL 1939 CABLE WHETHER DUPONT AGREE TO ABANDONMENT STOP YOUR CABLE JUNE 1 SEND THREE COPIES DUPONT APPLICATIONS FREDRIKSTAD ONLY AND RESERVE THREE COPIES NEWYORK—

to which you replied June 4th, 1940:

DUPONT AGREES ABANDONMENT CASE DK 22 GERMANY STOP DUPONT ALSO CONSENTS BANDONMENT DK 39 AND DK 49 JAPAN—

We understand from your cables that you have obtained du Ponts consent to the abandonment of the above DK-cases, and we beg to express our best thanks for your assistance in this matter.

We are now looking forward to du Pont's formal written consent to these abandonments; and should be very much obliged to you if you would send us as usual photostat copies of same as soon as possible.

Yours very truly,

? ? ? RAVNESTAD

Exhibit 935

Letterhead of

TITAN COMPANY, INC.

ADDRESS FOR CORRESPONDENCE:
Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 9th August 1940

Dr. G. Jebsen Esq.
c/o National Lead Company,
111 Broadway,
NEW YORK U.S.A.

Dear Dr. Jebsen,

Proposed Du Pont Titanine Cross License Agreement
DK-Cases 51, 52, 56, 57, 60 and 61
T-Cases 43, 207, 240 and 242

I enclose herewith my comments to the draft for the above cross license agreement which was sent us with N.L. Co's letter of January 31, 1940.

I would mention that we wish to abandon three of the Du Pont applications included in this draft, namely, Cases DK 51 and DK 61 Germany and Case DK 61 Japan, the reason being that Titangesellschaft and Titan Kogyo respectively, who asked for these licenses, later on have come to the conclusion that the cases are not of sufficient value to them to uphold their request.

Du Pont have given their consent to the abandonment of DK 61 Japan. As to DK 51 and DK 61 Germany, I enclose copy of my letter to Mr. Kaegebehn of yesterday notifying him of our wish to abandon the cases.

Exhibit 935

The question whether Du Pont applications re. which we have notified Du Pont regarding our desire to abandon, previous to the execution of the cross license agreement in which they should be included, could be left out of the cross license agreement has been raised previously but, as far as I remember, Du Pont have been reluctant to leave them out, their attitude being that they could not consent to an abandonment before the agreement containing the stipulations re, such abandonment had been executed. They have now made an exception from this in consenting to the abandonment of DK 61 Japan, which is included in the draft cross license agreement now under consideration.

I am mentioning this point for the event that you may wish to take it up with Mr. Kaegebehn and Du Pont. I don't think that it is very important but it would of course be an advantage if effective licenses only be listed in the cross license agreements.

I am enclosing the comments in duplicate so that you, if you so wish, may hand one copy to Mr. Kaegebehn.

As I presume that the draft contract and the correspondance of interest is available to you in Mr. Kaegebehn's office, I am not sending you these papers in view of the considerable airmail postage involved.

For the sake of order I have to-day written Mr. Kaegebehn as per enclosed copy.

Yours sincerely,

SIGURD ANDERSEN
Sigurd Andersen
p.t.o.

Encl 4

Exhibit 935

Letterhead of
TITAN COMPANY, INC.

ADDRESS FOR CORRESPONDENCE:
Sigurd Andersen
Stora Nygatan 31
Stockholm.

Enclosure to letter to Dr. G. Jebsen
From Mr. Sigurd Andersen
Dated 9th August, 1940.

COMMENTS TO
DRAFT CROSS LICENSE AGREEMENT INC.—D.

sent us with N.L.Co's letter January 31, 1940

DK-Cases 51, 52, 56, 57, 60 and 61
T-Cases 43, 207, 240 and 242

CLAUSE 1

The first paragraph differs from that of foregoing agreements in that Du Pont has inserted "in the following countries and" after "license".

I see no objection to this alteration.

"/2/ Throughout the United Kingdom of Great Britain, Ireland and the Isle of Man": I propose to insert "Northern" before "Ireland" in order to bring the territory covered by the license in accordance with the territory covered by a British patent.

In addition to the licenses listed under clause 1 of the draft we asked for licenses under Case DK 61 /Du Pont's reference 912-K/ in Great Britain and Holland. I presume that these have been left out by an oversight.

(Applications in DK 61 in these countries as well as the other applications listed under clause 1 have been filed) These should accordingly be inserted as follows: under "/2/ Throughout the United Kingdom of Great Britain, Northern Ireland and the Isle of Man":

"c/ British Application corresponding to US application /912-K/ of John A. Geddes for Improved Titanium Oxide Pigments and Process of Making Same. Serial No. 228,926, filed September 8, 1939."

and under "/5/ Throughout Holland":

"b/ Dutch Application corresponding to US application /912-K/ of John A. Geddes for Improved Titanium Oxide Pigments and Process of Making Same, Serial No. 228,926, filed September 8, 1939".

In line 2 from the bottom of the penultimate paragraph of clause 1, I suggest to alter "manufacture and sale" to "manufacture, use and/or sale" so as to bring the draft in accordance with the previous cross license agreement. According to Mr. Kaegebehn's letter of the 14th of May this year Du Pont has accepted such wording of this passage.

The last paragraph of clause 1 states that purchasers from Titan and/or its sublicensees shall be free to use the products of the licensed inventions "within the licensed territory of this section" i.e. within the countries in which Titan is given licenses in each particular case.

The passage "within the licensed territory of this section" was inserted by Du Pont in the previous cross license agreement and we accepted this alteration with

the following reservation /our letter to N.L.Co of the 12th of February 1940/:

"We interpret this paragraph as it now reads as meaning that the purchasers are free to use and sell in the countries of Titan Company Inc's territory where we get licenses in each particular case, and in countries where no patents are taken out.

This being so, we are willing to accept the insertion of this passage on the understanding that—in the event of Dupont taking out patents in other countries of our territory than those specified in the agreement in each particular case, we will get licenses under such patents in countries outside Central and South America, and that we will get licenses for use and sale of the products in any countries in Central and South America in which Dupont might take out patents in any of the cases included in the agreement."

I am not as yet informed of Du Pont's comments to this reservation.

CLAUSE 2

I suggest to insert our reference numbers /T-numbers/ under the particular applications and patents, as has been done in the previous agreement.

1. US Serial No. 277.870 = Case T. 217
2. US Serial No. 283.986 = Case T. 240
3. US Serial No. 300.004 = Case T. 242
4. Patent No. 1,852.510 = Case T. 43

Of the patents and applications under which Titan grants Du Pont licenses according to clause 2, there are

p.t.o.

Exhibit 935

two cases which in addition to titanium compounds, which can be used as pigments, cover other matters, namely, P e and Ancrum, US application Serial No. 283.986 /T.240/ covering titanium pigments and printing inks and US patent No. 1.852.510 /T. 43/ Peder Farup covering a process of treating titaniferous materials with acid i.e. a process which may be used in the manufacture of titanium pigments as well as in the manufacture of other titanium compounds.

Following the usual practice, these licenses should be restricted by inserting the following passage at the end of the penultimate paragraph of clause 2:

"Provided, however, that in respect of aforesaid applications of Raspe and Ancrum, CaseT240, and aforesaid patent of Farup, Case T.43, the rights granted Du Pont hereunder shall be restricted to the use of the inventions involved in said application T.240 and said patent T.43 in the manufacture, use and/or sale of titanium compounds which can be used as pigments."

CLAUSE 3

From the photostate copy of the previous license agreement (of the 10th of May. 1940) I understand that the reservation as to Imperial Chemical Industries Ltd. covers the United Kingdom only and not Eire /the Irish Freestate/. "Northern" should accordingly be inserted before "Ireland" in the last line of clause 3.

CLAUSE 4

Kobe should be altered to Tokio in the address of Titan Kogyo, as this is the address of the Company according to the last information I have received.

Exhibit 935

CLAUSE 6

Du Pont has proposed an alteration of the wording of the paragraph relating to conditions for Titan's abandonment of Du Pont's patents and applications. I consider the alteration proposed to be an improvement.

Clauses 7 to 13 inclusive are identical* with the corresponding clauses of the previous cross license agreement.

At the time being I have no further remarks to make in connection with these clauses but it may be of interest to have Mr. Kaegebein's comments to the questions raised in our letter of February 13th, 1940, in connection with clause 7. Copy of this letter is attached.

---

* excepting the alteration of "herein-involved" to "herein-licensed" in Clause 7, line 2,—which seems in order.

Exhibit 936

August 28th, 1940

J. P. Hancock, Esq.
Patent Division—Legal Dept.
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re; Your Case 899-K—Our Case DK 44
Japan

Dear Mr. Hancock:—

Our foreign associates have just advised us that they do not wish to maintain further the above identified Japanese case.

The license covering this case was included in the Agreement of May 10th, 1940. Will you please advise whether Du Pont wishes to maintain the case on its own behalf, or whether it should be allowed to lapse.

Yours very truly,

TITAN COMPANY, INC.

CFK:Jl

Letter No. 86B.

Exhibit 937

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

September 25, 1940

Charles F. Kaegebehn, Esq.
c/o Titan Co., Inc.
111 Broadway
New York City

PATENT DEPT.

Dear Mr. Kaegebehn:

Re: Eckels Case 899-K
Your Reference DK-44
Japanese Application

Replying to your letters of August 28th and September 13, 1940, requesting Krebs' consent to the proposed abandonment of the above application in Japan.

This is to advise that Krebs has no objection to the above abandonment.

Very truly yours,

E. I. Du Pont De Nemours and Company,

By John P. Hancock
John P. Hancock

H.

Letter No. 86C

Exhibit 938

October 1, 1940

Air Mail

Mr. Andreas Ravnestad
Titan Company A/S
Fredrikstad, Norway

Dear Mr. Ravnestad:

Upon receipt of your cable of August 28th, reading as follows:

"WISH ABANDON DK44 JAPAN INCLUDED LICENCE AGREEMENT 10 MAY CABLE DU-PONTS CONSENT"

we took up the matter with Du Pont. Owing to vacations and other unforeseen circumstances, their reply has only just been received. On September 30th we cabled you as follows:

"DUPONT CONSENTS ABANDONMENT CASE DK44 JAPAN"

A photostatic copy of Du Pont's consent is enclosed with this letter.

We have separately advised Titangesellschaft. We have also advised Titangesellschaft of the receipt of this consent directly by air mail letter.

Very truly yours,

NATIONAL LEAD COMPANY

CFK:JM
Enclosure

c.c. Dr. G. Jebsen—Mr. C. F. Garesché—Mr. Sigurd Andersen

Exhibit 939

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
October 11th, 1940.

HBE/HH *No. 109*

PATENT DEPT.

National Lead Company,
Patent Department,
111 Broadway,
New York City.

Attention: Mr. Kaegebehn.

Dear Sirs:—

Abandonment DK-cases Germany.

On June 20th we informed you that we are abandoning various DK-cases filed in Germany.

Amongst the patents mentioned was also case DK-35. For the sake of order we would draw your attention to the fact that this German Patent has not been abandoned, as in the meantime Titangesellschaft informed us that, upon reconsideration of this case, they would be interested in a further prosecution of this application and they reported that they would take up again the question of maintenance if and when the patent is granted on the application.

We would suggest that you inform du Pont correspondingly in order that they may be kept informed of the situation as regards this case.

The remaining patent cases mentioned in our letter of June 20th, have been abandoned.

Yours very truly,

H. B. ECKHOFF

Exhibit 940

December 5th, 1940

Letter No. 36K

Mr. H. B. Eckhoff
c/o Titan Co. A/S
Fredrikstad, Norway

In Reply to Your Letter No. 109
Re: Abandonment DK-Cases—Germany—DK 35

Dear Mr. Eckhoff:—

Upon recepit of your letter of October 11th, 1940, we at once advised Du Pont that Titangesellschaft had re-considered this case and had decided to prosecute it further.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. C. F. Garesché
Mr. S. Andersen

Exhibit 941

December 5th, 1940

J. P. Hancock, Esq.
Patent Dept. Legal Division
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re; Your case 884-K—Our Case DK 35.
German Application

Dear Mr. Hancock: —

On May 24th, 1940 you wrote us, giving your consent to the abandonment of the above identified case, as well as the abandonment of other cases mentioned in your letter.

Our European associates advise us that our German affiliate, Titangesellschaft, has reconsidered the case and is proceeding with the further prosecution of the application. They will consider the question of maintenance if and when the patent is allowed on the application.

As soon as we have word from them as to their further decision, we shall promptly advise you.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL

Exhibit 942

MINUTES: MEETING December 3rd, 1940

TITAN COMPANY, INC.

Present:
Dr. G. Jebsen
Mr. C. F. Kaegebehn

MATTER CONSIDERED: Transmission of Licenses under DK Case Patents to B. T. P., S. I. T. and Titan Kogyo.

Mr. Andersen's letter of September 11th and 16th, 1940 with which he sent documents to be signed by Dr. Jebsen were read. These were as follows:

1.) Letter from Titan Co., Inc. to S. I. T. granting them sub-licenses under Cases DK 37, DK 38, DK 39, DK 40 and DK 43, to which was attached excerpts from the Du Pont-Titan Co., Inc. Agreement of May 10th, 1940.

2.) Letter from Titan Co., Inc. to Titan Kogyo, granting them sub-licenses under Cases DK 15-32, to which was attached excerpts from the License Agreement of Du Pont-Titan Co., Inc. of April 21st, 1939.

3.) Letter from Titan Co., Inc. to Titan Kogyo granting them sub-licenses under Cases DK 33-49, to which was attached excerpt of License Agreement of May 10th, 1940 between Titan Co., Inc. and Du Pont.

Exhibit 942

4.) Letter from Titan Co., Inc. to B. T. P. granting them sub-licenses under cases DK 33-49 to which was attached excerpts from the License Agreement of Du Pont-Titan Co., Inc. of May 10th, 1940.

Dr. Jebsen signed the four above listed documents and dated them December 10th, 1940.

Mr. Kaegebehn was instructed to send the letters addressed to B. T. P. and Titan Kogyo and to place in his vault for safe-keeping, pending further instructions, the letter to S. I. T. A cable was drafted to Mr. Andersen, informing him that Dr. Jebsen had signed and dated the documents and that the three mentioned letters had been forwarded to the respective addressees, and the fourth, addressed to S. I. T., was being held.

New York, New York
December 12th, 1940

G. JEBSEN
C. F. KAEGEBEHN

Exhibit 943

COPY

TITAN COMPANY, INC.

7 West 10th Street

Wilmington, Delaware, U. S. A.

British Titan Products Co. Ltd.,
Burlington House,
Yarm Rd.,
EAGLESCLIFFE
Co. Durham

Attention: Mr. C. J. Stopford

Dear Sirs:

British Patents and Patent Applications
of E. I. Du Pont de Nemours & Co.
Cases DK-33 to DK-49

According to a cross licence agreement dated the 10th of May 1940 between E. I. Du Pont de Nemours & Co. and our Company we have—on certain terms and conditions as specified in the enclosed extract—been granted licences under the following British patent applications:

British application corresponding to US application /876-K/ of Robert K. Whitten for Process for Production of Improved Titanium Pigments, Serial No. 166,943, filed October 2, 1937 /Our Reference DK-34/;

British application corresponding to US application /884-K/ of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937 /Our Reference DK-35/;

Exhibit 943

British application corresponding to US application /873-K/ of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937 /Our Reference DK-36/;

British application corresponding to US application /898-K/ of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938 /Our Reference DK-42/;

We hereby grant you a sublicence under the above mentioned British patent applications, this sublicence being restricted and subject to reservations as specified in the enclosed extract of the above mentioned cross licence agreement of 10. May 1940—and its grant being conditional upon your true and faithful performance of all undertakings and covenants on which our fulfillment of the stipulations of this cross licence agreement is dependent upon you as a sublicencee—these stipulations being likewise stated in the enclosed extract—and on the following particular conditions:

a/ You undertake to reimburse the part of our expenses according to art. 6 of the cross licence agreement which have been and will be involved in the prosecution of the herein sublicenced British patent applications and in the maintenance of any patents which have been or will be granted on them.

b/ You assume the same obligations as we have assumed according to art. 7 and 8.

c/ You accept the stipulations of art. 9, as if the words "Du Pont" were replaced by "Dupont and/or Titan"

Exhibit 943

and the word "Titan" by "British Titan Products Co. Ltd."

d/ You accept the stipulation of art. 10 and will notify us of infringements of herein-sublicenced patents and patent applications whenever such infringement comes to your attention.

We will, on your request in each particular case, endeavour to obtain Du Pont's agreement to give you the right to bring suit against specified infringer or infringers of herein sublicenced patents and patent applications or to join in such suit by Du Pont and/or ourselves on the understanding that your bringing or joining in such suit be subject to the principles stipulated in art. 10.

e/ You accept the stipulation of art. 11 regarding recoveries in litigation as if the words "Dupont and Titan" were replaced by "Dupont and/or Titan and British Titan Products Co. Ltd.".

f/ You will, in case you are called upon, fulfill towards Du Pont and/or ourselves the obligation we have taken on towards Du Pont according to the last period of art. 11, reading: "Where either party hereto brings suit against an infringer upon a patent licenced hereunder, the other party agrees to assist in the prosecution of said suit to the extent of making available any pertinent evidence in its possession."

g/ You accept the definition in art. 12.

Exhibit 943

We will inform you in a separate letter of filing dates and British numbers of the applications as well as of data regarding the patents which have up to now been granted on them.

Please acknowledge the receipt of this letter with your approval.

Yours very truly,

(signed) SIGURD ANDERSEN

Exhibit 944

MEMO. OF CONFERENCE—DR. JEBSEN AND MR. KAEGEBEHN—*Jan. 31, 1941*

Discussing the cross-license agreement between Du Pont and Titan Co., Inc., Mr. Kaegebehn drew attention to the possibility that Du Pont's interests may develop in such a manner that the possibility of Titan Co., Inc. and its non-American associates obtaining licenses to use and sell products within the Licensed Field in Central and South America may be excluded. It was noted that the National Lead Company agreement with Du Pont gives National Lead Co. the right to use and sell in Central and South America.

If such a situation arises, conditions will have developed which are against the understanding forming the basis for Titan Co., Inc.'s approval of the agreement between Du Pont and National Lead Co. (particularly I. G. Farbenindustrie, respectively, Titangesellschaft). This situation could, under certain circumstances, lead to the exclusion of Titan Co., Inc. and its non-American associates from Central and South America, to the advantage of National Lead Co. (and Du Pont), and so create a considerable ill feeling. A way partially to adjust this situation may be for National Lead Co. to permit Titan Co., Inc. and its associates to sell National Lead Co.'s products in Central and South America on the best possible terms, or to share the profits from shares in those countries in proportion corresponding to the two party's positions in these markets before the above situation was created, including consideration of potentiality.

Exhibit 945

DRAFT

June 3, 1941

TO: COMMITTEE ON PATENTS

FROM: KREBS PIGMENTS DEPARTMENT

PROPOSED LICENSE AGREEMENT WITH TITAN COMPANY, INC. COVERING SPECIFIC TITANIUM PIGMENT PATENTS

Herewith is submitted proposed license agreement with Titan Company, Inc. covering exchange of rights under a number of their United States Letters Patent and Applications, for rights under a number of du Pont foreign applications in several countries, as listed hereafter, all rights being restricted to the titanium pigment field.

Titan Company, Inc., a Delaware corporation, is owned 87% by National Lead Company, and handles all patent matters in foreign countries for National Lead Company and its foreign associates, also acting as sales agent for the latter. Foreign associates of National Lead Company involved in this agreement are Titangesellschaft m.b.H. of Leverkusen, Germany, owned 50% by National Lead Company and 50% by I. G.; British Titan Products Company, Billingham, England, in which National Lead Company has a 49% interest, I.C.I. 17%, with the remaining 17% owned by several other British companies; Societe Industrielle du Titane, Paris, France, in which Titan Company, Inc. has a 50% interest; and Titan Kogyo Kabushiki Kaisha, Tokyo, Japan, in which Titangesellschaft of Germany is a minority stockholder.

Negotiations leading to this proposed agreement were begun early in 1939. The du Pont U.S. patent applications

corresponding to their equivalent foreign applications involved, were all filed in the United States Patent Office between June 15 and October 7, 1938, and these foreign applications were filed in the various countries between June 16 and September 19, 1939. Some of the applications have since been issued as patents in the United States and foreign countries.

Except for some minor changes, the terms of the proposed agreement were practically agreed upon in the fall of 1939 and first draft submitted to the Legal Department on November 27, 1939, approval of which was obtained January 23, 1940. Subsequently Titan Company, Inc. submitted the proposed agreement to their foreign associates for approval; but the documents were lost during the German occupation of Paris. The Vice President of Titan Company, Inc., whose headquarters were in Paris, and who has handled all negotiations, has now been in the United States for some months and has advised that the proposed agreement is approved and he is prepared to execute.

The du Pont foreign applications and/or patents involved correspond to the following seven United States applications and patents, the same applications having been filed in more than one country in a number of instances:

In France:

Serial No.215,218, Filed June 22, 1938—"Titanium Pigment Production"

Serial No.213,835, Filed June 15, 1938—"Process of Preparing Alkaline Earth Metal Titanates"

Exhibit 945

Serial No.219,601, Filed July 16, 1938—"Titanium Oxide Suspensions"

Serial No.228,926, Filed September 8, 1938—"Improved Titanium Oxide Pigments and Process of Making Same"

In United Kingdom of Great Britan, Northern Ireland and the Isle of Man:

Serial No.215,218, Filed June 22, 1938—"Titanium Pigment Production"

Serial No.213,835, Filed June 15, 1938—"Process of Preparing Alkaline Earth Metal Titanates"

Serial No.228,926, Filed September 8, 1938—"Improved Titanium Oxide Pigments and Process of Making Same"

In Germany:

Serial No.225,716, Filed August 19, 1938—"Glue Treatment of Calcium Sulphate"

Serial No.215,218, Filed June 22, 1938—"Titanium Pigment Production"

Serial No.219,601, Filed July 16, 1938—"Titanium Oxide Suspensions"

In Italy:

Serial No.215,218, Filed June 22, 1938—"Titanium Pigment Production"

Exhibit 945

In Holland:

Serial No.215,218, Filed June 22, 1938—"Titanium Pigment Production"

Serial No.228,926, Filed September 8, 1938—"Improved Titanium Oxide Pigments and Process of Making Same"

In Belgium:

Serial No.215,218, Filed June 22, 1938—"Titanium Pigment Production"

In Japan:

Serial No.219,601, Filed July 16, 1938—"Titanium Oxide Suspensions"

Serial No.228,403, Filed September 3, 1938—"Oxidation Treatment of Tinted Titanium Oxide"

Serial No.233,749, Filed October 7, 1938—"Process for Production of Titanium Solutions"

Under this agreement, Titan Company, Inc. is granted a non-assignable, royalty-free license, in each case restricted to countries as specified above. License is exclusive except for du Pont or any company controlled by du Pont, and for I.C.I. in Great Britain. Titan Company, Inc. is permitted to sub-license its associates, as specifically defined in the agreement, on a royalty-free basis. Other sub-licenses may be granted subject to du Pont approval and the payment of 50% of any royalties obtained. Titan Company, Inc. as-

sumes all costs incidental to the filing and prosecution of our foreign applications under this license; pays all necessary maintenance fees during their life; and cannot permit abandonment without our approval.

Of the seven applications or patents under which Titan Company, Inc. will be licensed, only one is considered to be important, and one of moderate importance, i.e.:

"Application Serial No. 215,218 (now U.S. Patent No. 2,218,655), covers calcination of titanium with small amount of zinc oxide to produce low-chalking grade suitable for tinted finishes, and sold by du Pont as "Ti-Pure" O. This case was declared in interference with Titan Company, Inc., but du Pont was able to prove priority. It is considered relatively important, representing 1.4% of our total TiO_2 sales in 1940 and 1.2% over the first four months of 1941.

Application Serial No. 233,749, covers process for reuse of sulphide containing muds in dissolving titaniferous ores. Moderately important, as it offers possibility of some savings, but we have not yet been able to justify adoption in our operations.

Du Pont obtains from Titan Company, Inc. a non-exclusive, royalty-free, non-assignable license under the following four United States Letters Patent and/or Applications:

Serial No. 277,870, Filed June 7, 1939—"Manufacture of Titanium Dioxide Pigments"

Serial No. 283,986, Filed July 12, 1939—"Titanium Dioxide Pigment and Printing Inks Containing Same"

Exhibit 945

Serial No.300,004, Filed October 18, 1939—"Methods of Making Improved Titanium Dioxide Pigments"

Patent No.1,852,510, Dated April 5, 1932—"Process of Treating Titaniferous Materials with Acids"

Two of the above inventions under which du Pont will be licensed are of extreme importance, i.e.:

Serial No.283,986 (now U.S.Patent No.2,224,987), covers combination of antimony-aluminum treatment of TiO_2 for low-chalking pigment satisfactory for white finishes. Of our 1940 sales 14.2% came within the scope of this patent, and for the first four months of this year 20.8% of sales.. There is also indication that use of domestic or ore type ilmenite may require this treatment for all production.

Serial No.300,004, covers precipitating aluminum oxide on TiO_2 in atmosphere of ammonia by a specific method which we have adopted over our earlier procedure because of much improved quality resulting. Of our 1940 sales 12.2% came within claims of this application and 14.4% of our sales over the first four months of this year.

Du Pont rights under the patents listed are confined to the United States of America, its territories and dependencies. Du Pont is not obliged to pay any expenses incidental to preparation, filing and prosecution of United States patents covered by this license.

License specifically provides that where patent extends or applies outside titanium, no rights are granted except

Exhibit 945

insofar as they pertain to the manufacture of titanium compounds which can be used as pigments. Each admits validity of the patents involved, during period of license.

This exchange of patent rights is highly desirable and necessary for du Pont, inasmuch as two of the inventions under which we will be licensed are of great importance, since about 35% of our current TiO_2 sales represent grades produced within the claims of these two cases as described in a previous paragraph. The remaining applications under which du Pont will be licensed are of lesser importance, but permit us freedom of action in adopting process refinements which they cover and may prove of real value. Furthermore, the du Pont foreign applications and patents under which Titan Company, Inc. will be licensed are of relatively minor importance, and we retain all rights of manufacture and sale for du Pont under our foreign patents without any filing or maintenance costs.

If any future commitments on our part arise under the agreement its controlled by a clause to the effect that Governmental objection or prohibition shall be a valid plea for either party to decline to disclose or grant rights on any invention, patent or application therein mentioned, which will govern. Additionally, we propose to transmit to Titan Inc. to make certain that Titan Inc. (an American principal) shall comply with governmental order, etc.

This agreement has been prepared and approved by the Legal Department, and the required Operating and Chemical Department approvals have been obtained.

It is, therefore, recommended that the Management be authorized to execute license as herewith presented.

C. H. RUPPRECHT
General Manager

Exhibit 946

COPY

E. I. DU PONT DE NEMOURS & CO.

WILMINGTON, DELAWARE

June 23rd, 1941

KREBS PIGMENTS DEPARTMENT
Titan Company, Inc.
111 Broadway
New York City, N. Y.

Re: Du Pont—Titan Company, Inc. Agreement

Gentlemen:—

Attached hereto find your copy of duly executed original of the above agreement, dated June 23, 1941.

Since our obligations under this contract are directly with you as a domestic principal, and not as an agent for any other company, domestic or foreign, we do not believe it is necessary that we obtain any United States Government approvals under the agreement. However, disclosure and grant of any license rights by you, as the other principal under the contract, to any of your affiliates or agents outside of the United States, and particularly to any nationals of occupied countries, will involve matter which is subject to Governmental regulation and control. We respectfully direct your attention to the existence of these Governmental regulations, and especially to Executive Order No. 8389, as amended, relating to the blocking of assets of nationals of occupied countries, and suggest that before you grant any rights under the contract to your affiliates or agents outside

Exhibit 946

of the United States, the necessary approvals be obtained from the Division of Controls of the United States State Department, as well as from the Export License Control of the United States Treasury Department.

Very truly yours,

(Signed) C. H. RUPPRECHT
General Manager

CHR;s
Encl.

Exhibit 947

NATIONAL LEAD COMPANY

SUBJECT Du Pont—Titan Company, Inc. Agreement

DATE June 24th, 1941

TO Dr. G. Jebsen—Mr. C. F. Garesché

FROM Mr. C. F. Kaegebehn—Patent Department

In Reply to

Gentlemen:—

I beg to advise that a license agreement between Titan Co., Inc. and Du Pont, involving the latest exchange of licenses, has been executed on behalf of Du Pont. The contract bears the date of June 23rd, 1941.

In returning to us our executed copy, Mr. Hancock enclosed a letter addressed to Titan Co., Inc. by Mr. C. H. Rupprecht, copy of which is attached hereto. This letter again brings to our attention the Government regulations affecting the control of patent property and patent rights. I have drafted a reply to Mr. Rupprecht's letter, copy of which is also attached hereto, but refrain from sending this pending your approval thereof.

Yours very truly,

C. F. KAEGEBEHN

CFK:JL

Encs.2

3211

Exhibit 948

DRAFT OF LETTER TO BE SENT TO
MR. C. H. RUPPRECHT

June 24th, 1941

E. I. Du Pont de Nemours & Co.
Krebs Pigments Department
Wilmington, Delaware

Attention: Mr. C. H. Rupprecht
General Manager

Gentlemen:—

We acknowledge with thanks receipt of your letter of June 23rd, 1941 and the executed copy of the agreement of June 23rd, 1941 sent therewith.

Please be assured that we shall not grant to our associates any sub-licenses under this contract without obtaining the necessary approval from the proper governmental authorities.

Yours very truly,

TITAN COMPANY, INC.

C. F. Kaegebehn

Exhibit 949

COPY

BRITISH TITAN PRODUCTS CO., LTD.

BILLINGHAM

CJS/SL/2670 PATENT DEPT.

REGISTERED 17th September 1941

Titan Company Inc.,
111, Broadway,
New York, N.Y.

Dear Sirs,

PENDING U.S. APPLICATIONS OF E. I. DU PONT DE NEMOURS & Co.

With reference to your letter of April 14th, and to the copies of the following U.S. applications belonging to Du Pont de Nemours which were enclosed with that letter:

DK. Case	*Ser. No.*	*Filed*
126	338,381	June 1st, 1940
127	338,384	June 1st, 1940
128	346,370	July 19th, 1940
129	354,801	Aug. 30th, 1940

please note that we are not interested in obtaining licences in any of these patent cases, but we should like to be given an opportunity to reconsider any of these cases in which Du Pont de Nemours might themselves file applications within our territory, with a view to a non-exclusive licence, without any restriction on Du Pont as to licensing other firms.

Yours truly,

For BRITISH TITAN PRODUCTS CO. LTD.

CJS

C. J. Stopford,
Director and General Manager.

Exhibit 950

February 27th, 1939

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Co. Inc.
26 rue de la Pepiniere
Paris — 8e — France

Re: Recently Filed Du Pont Applications

Gentlemen:

Further to our letter of January 25th we are pleased to enclose herewith six copies of each of the following U.S. applications recently filed by Du Pont.

Ser. No.	*Inventor*	*Title*
242,603	Wood	Titanium Oxide Production
242,922	McKinney et al.	Production of Titanium Oxide Pigments
242,923	McKinney et al.	Production of Titanium Oxide Pigments
244,174	Schaumann et al.	Colored Titanium Pigments
244,175	Schaumann et al.	Colored Titanium Pigments
240,518	McKinney et al.	Colored Titanium Pigments (reissue)
242,461	Berry	Method & Apparatus for Effecting Particle Size Reduction
244,571	Hanahan	High Surface Hiding Pigment Materials & Process of Making the Same
244,568	Booge et al	High Surface Hiding Pigment Materials & Process of Making the Same
244,569	Hanahan	High Surface Hiding Pigment Materials & Process of Making the Same
244,572	Hanahan	High Surface Hiding Pigment Materials & Process of Making the Same
244,570	Hanahan	High Surface Hiding Pigment Materials & Process of Making the Same

Exhibit 950

You will note that application Serial No. 240,518 is a reissue application, the specification of which is identical with the original application Serial No. 1284 (DK 1) issued as U.S. Patent No. 2,062,137. Accordingly, there are enclosed herewith copies of only the claims of this reissue application.

Will you please assign DK Case Nos to these applications and in due time advise us as to whether you and your associates would desire to have corresponding applications filed.

For your information we are holding three other recently filed Du Pont applications and shall forward them to you as soon as we are able to have copies made.

Yours very truly,

NATIONAL LEAD COMPANY

JBH:RC
encs.
cc: Mr. Garesché

3201

Exhibit 951

March 17th, 1939

Dr. G. Jebsen
For Mr. Andreas Ravnestad
c/o Titan Co. Inc.
26 rue de la Pepiniere
Paris—8e—France

Re: Recently Filed du Pont applications

Gentlemen:

Further to our letter of February 27th we are pleased to enclose herewith six copies of each of the following U. S. applications recently filed by Du Pont:

U.S. Ser. No. 246,136—December 16, 1938—R. D. Nutting Tito-Organic Acid Treatment of TiO_2

U.S. Ser. No. 253,119—January 27, 1939—C. F. Oppermann. Improved Pigment Composition and Process of Making Same.

U.S. Ser. No. 254,160—February 2, 1939—G. D. Patterson Silicate Treated Titanium Pigments

Will you please assign DK Case Nos. to these applications and in due time advise us as to whether you and your associates would desire to have corresponding applications filed.

Yours very truly,

NATIONAL LEAD COMPANY

JBH:RC
encs.
cc: Mr. Garesché

Exhibit 952

Letterhead of

TITAN COMPANY, INC.

SA:ab

National Lead Company
Patent Department
111 Broadway
New York City

Paris, August 18th 1939

Attention: Mr. C. F. Kaegebehn

Dear Sirs:—

Re: Pending U.S.Applications of E.I. DU PONT de Nemours & Co. Cases DK. 4 to 13 (Previously T.190 to 199.)

The Titangesellschaft have asked us whether there exists any German Applications in the above cases.

As no licences have been wished by the associated companies on this side in Germany, no applications have been filed in that country through us.

We understand that Du Pont does not ordinarily file any application, outside America in the "D.K. Cases" but for the sake of order, we should be obliged if you would obtain du Pont's confirmation of this and communicate it to us.

We would appreciate it very much if you, at the same time, could obtain similar confirmation for the later D.K. Cases, to the extent this is possible, so that we may complete our records as far as this question is concerned and be in position to give definite information to our associated companies as far as their territories are concerned.

Thanking you in anticipation, we are

Yours very truly,

SIGURD ANDERSEN

Exhibit 953

August 28th, 1939

Dr. G. Jebsen
For Mr. S. Andersen
c/o Titan Co., Inc.
26, Rue de la Pépiniere
Paris—VIIIe—France

Re: Pending U. S. Applications of Du Pont
Cases DK 4 to 13

Gentlemen:—

We have your letter of August 18th, 1939.

We can confirm that Du Pont has filed no applications in foreign countries on their own behalf since the practice of exchanging patent applications was established. Only in two previous cases, viz. (1) Case T. 143 and (2) Case T. 200, Blended Titanium Pigments, were applications filed by Du Pont. They have not since filed any foreign applications.

We trust this is the information you desire.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. C. F. Garesché

Exhibit 954

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
November 14th 1939.

SA/EO

Mr. C. F. Kaegebehn,
National Lead Company,
Patent Dept.,
111 Broadway,
New York

Patent Applications of E.I.du Pont de Nemours & Co.

Dear Mr. Kaegebehn,

I beg to confirm my to-day's cable reading as follows:

"Have Dupont filed any applications outside North America in cases DK-15 to 75 inclusive Please cable."

I understand that Du Pont does not ordinarily file applications outside U. S. A. in the DK-cases, and we have proceeded upon this presumption when considering the question of obtaining licenses in DK-cases, asking, however, to be given an opportunity to consider the question of obtaining non-exclusive licenses in countries outside North America in which Du Pont might themselves file applications.

I would ask you whether it would be possible for you to get such confirmation from Du Pont so that you can inform us when forwarding the applications or say, within a couple

of months afterwards. I presume that Du Pont could not give a general confirmation, but that they would have to inform you re each particular case.

Please let me have your comments to the above.

With kind regards,

Yours sincerely,

SIGURD ANDERSEN
SIGURD ANDERSEN

Exhibit 955

December 8th, 1939

Dr. G. Jebsen
For Mr. S. Andersen
c/o Titan Co. A/S
Fredrikstad, Norway

Re: Patent Applns. of Du Pont

Gentlemen:—

On November 15th we received your cable, reading as follows:

"HAVE DUPONT FILED ANY APPLICATIONS OUTSIDE NORTH AMERICA IN CASES DK 15 TO 75 INCLUSIVE PLEASE CABLE"

to which, on the following day, we replied as follows:

"NO APPLICATIONS FILED BY DUPONT OUTSIDE NORTH AMERICA IN CASES DK 15-75 INCLUSIVE EXCEPT THOSE FILED ON DUPONTS BEHALF BY TITAN COMPANY"

We have also received your letter dated November 14th with reference to this matter.

I have discussed the question raised in your letter with Du Pont. It may be accepted as a general policy that Du Pont is not interested in filing applications in the titanium field outside the United States. Hence, in the future, you can assume, unless advised to the contrary with respect to any patent cases, that Du Pont has no intention of filing an application outside the United States.

Exhibit 955

Thus, you may regard that Du Pont has given a general confirmation of this policy and that they will inform us only should they intend to depart from this policy and file applications with respect to some particular development. This general understanding, we believe, is simpler than to endeavor to get confirmation in each particular case.

We trust these comments clarify the situation.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. C.F. Garesché

Exhibit 956

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, December 4th 1939.

HE/LRA

National Lead Company,
Patent Department,
111, Broadway,
New York.

Attention: Mr. C. F. Kaegebein.

Dear Sirs,

Re: DK-43, French Patent Application No. 442,580.
E. I. Du Pont de Nemours & Company.

We are pleased to inform you herewith that a patent has been granted on the above French Application and is numbered 850,882.

The patent stands in the name of Messrs. E. I. Du Pont de Nemours & Company, and the term of the patent is 20 years from February 27th 1939.

We will send you two copies of the printed specification as soon as available.

Yours very truly,

SIGURD ANDERSEN

Exhibit 956

December 20th, 1939

Dr. G. Jebsen
For Mr. S. Andersen
c/o Titan Co. A/S
Fredrikstad, Norway

Re: DK-43—French Patent Application No. 442.580—Du Pont

Gentlemen:—

We acknowledge receipt of your letter of December 4th, and note the issuance of the French patent in the above identified case which is numbered 850,882, standing in the name of Du Pont for the term of 20 years from February 27th, 1939.

We shall be pleased to receive copies of this patent when they are available.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. C. F. Garesché

Exhibit 957

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
March 15th, 1940.

Your ref.: CFK:JL
Our ref.: SA/HH.

National Lead Company,
Att.: Mr. C. F. Kaegebehn,
111, Broadway,
New York.

Patent Applications of the E. I. du Pont de Nemours & Co.

For the sake of order we beg to acknowledge the receipt of your letter of December 8th, 1939.

We note, that in the future we can assume, unless advised to the contrary with respect to any patent case, that Du Pont has no intention of filing applications outside U.S.A.

We quite agree with you that this general understanding is simpler than to endeavor to get confirmation in each particular case, and we beg to express our best thanks for your having cleared up this matter.

Yours very truly,

SIGURD ANDERSEN

Exhibit 958

TRANSLATION

I. G. Leverkusen Patent Dept.

May 31st, 1940

G/S May 9th, 1940 Fi/Ki 2252

DK 24 — Le. No. 2252 Pa
Germany P 77 209
Corresponding to U. S. Ser. No. 139,497 of April 28, 1937

For your information, we wish to advise you that Titan Kogyo has no longer any interest in prosecuting the above identified Japanese patent application. We ask you to please inform us whether you wish to continue the prosecution of this application on your own behalf.

Yours very truly,

I. G. FARBENINDUSTRIE A. G.

c.c. Titan Co., Inc.
c/o Mr. Ch. F. Kaegebehn
111 Bradway
New York

Exhibit 959

RCA RADIOGRAM

LC June 7th, 1940

SIGURD ANDERSEN
STORA NYGATAN
31 STOCKHOLM (SWEDEN)

PURSUANT CORRESPONDENCE DR JEBSEN REQUEST YOUR ADVICE STOP HAVE FILED TWO UNITED STATES APPLICATIONS ALSO RECEIVED SEVERAL NEW DUPONT CASES STOP RAVNESTAD REQUESTS US SEND HIM ONLY THREE COPIES WITHOUT ANY DISTRIBUTION TO ASSOCIATED COMPANIES STOP IS THIS CONSISTENT WITH RECENT UNDERSTANDING IG PATENTABTEILUNG

KAEGEBEHN

Exhibit 960

RCA RADIOGRAM

JUN 9 1940

ME SDC SW 8122
STOCKHOLM 42 8 2050
NLT KAEGEBEHN LEADCO NEW YORK

UNDERSTANDING IG MEANT INCLUDE YOUR SENDING THEM APPLICATIONS SUGGEST YOUR PROCEED ACCORDINGLY STOP PLEASE SEND COPY APPLICATIONS MENTIONED YOUR CABLE SEVENTH TO BTP STOP I WRITE THEM ON RECEIPT APPLICATIONS FROM YOU REFER MY PREVIOUS TELEGRAM TODAY

ANDERSEN

Exhibit 961

June 17th, 1940

Air-Mail

Mr. Sigurd Andersen
Stora Nygatan
31 Stockholm, Sweden

Dear Mr. Andersen:—

Upon receipt of your cable of June 9th we cabled you as follows:

"HAVE RECEIVED NO DESIGNATIONS CASES T243 T244 STOP CABLE SERIAL NUMBERS UNITED STATES CASES STOP HOW MANY COPIES PATENT APPLICATIONS TO BE FORWARDED IG"

to which you replied as follows on June 15th:

"T243 SERIAL 302,116 T244 Serial 304,620 3 COPIES APPLICATIONS TO IG STOP MAIL SWEDEN USA OPEN BY AMERICAN CLIPPER OR VIA SIBERIA LATTER PERHAPS SAFEST"

Accordingly we forwarded three copies of each of the following recently filed United States applications to the I. G. Farbenindustrie: Cases T. 202-B and T. 231-B (Divisional cases of T. 202 and T. 231), T. 241, T. 243, T. 244 and T. 245 together with copies of 7 United States applications recently filed by Du Pont. We have notified the I. G. Farbenindustrie and B. T. P. by Air-Mail that we are sending these applications separately. Copies of our letters of notification are enclosed herewith.

Exhibit 961

We have tentatively assigned DK Case Numbers to the Du Pont applications, as you will perceive when the documents are received. We are sending your copies and those of the I. G. via Siberia.

At Mr. Ravnestad's request, we are sending him three copies of the Du Pont applications. We have previously sent him five copies of the divisional applications in cases T. 202-B and T. 231-B.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL
Encs.

c.c. Mr. C. F. Garesché

Exhibit 962

June 17th, 1940

AIR MAIL

Mr. Andreas Ravnestad
c/o Titan Co. A/S
Fredrikstad, Norway

Dear Mr. Ravnestad:—

We are sending you under separate cover, via Siberia, three copies of each of the seven United States applications recently filed by Du Pont. We have tentatively assigned DK case numbers to these applications.

Acting on further cable instructions from Mr. Andersen who has been in touch with Dr. Jebsen by cable, we have also forwarded copies of these applications directly to the I. G. Farbenindustrie and British Titan Products.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. C. F. Garesché
Mr. S. Andersen

Exhibit 963

June 17th, 1940

Titangesellschaft m.b.H.
z.H.: I. G. Patent Abteilung
Leverkusen I. G. Werke
Leverkusen bei Köln
Germany

Gentlemen:—

We beg to advise you that we are forwarding under separate cover, via Siberia, three copies of each of the following recently filed United States applications:

1.) Divisional application of Ser. No. 154,779 (Case T. 202), which has been designated as Case T. 202-B.

2.) Divisional application of Ser. No. 247,037 (Case T. 231), which has been designated as Case T. 231-B.

together with three copies of seven United States applications filed by Du Pont.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. C. F. Garesché
Mr. S. Andersen—Stockholm
Mr. A. Ravnestad—Fredrikstad

Exhibit 964

June 19, 1940

Titangesellschaft m.b.H.
z.H.: I. G. Patent Abteilung
Leverkusen I. G. Werke
Leverkusen bei Köln
Germany

Gentlemen:

Further to our letter of June 17th, we are pleased to enclose herewith six copies of each of the following United States applications recently filed by us:

Case	*Ser. No.*	*Date*
T.202B (Division of Case T. 202)	334,572	May 11, 1940
T.231B (Division of Case T. 231)	336,006	May 18, 1940

We are not quite certain whether or not you have received copies of the United States applications which we filed in Cases T.241, T.243, T.244, and T.245 and are accordingly sending you six copies of these applications as follows:

Case	*Ser. No.*	*Date*
T.241	298,400	Oct. 7, 1939
T.243	302,116	Oct. 31, 1939
T.244	301,620	Oct. 27, 1939
T.245	314,604	Jan. 19, 1940

We are also enclosing herewith three copies of each of the following United States applications recently filed by Du Pont to which we have tentatively assigned DK Case numbers as follows:

Exhibit 964

Case	*Ser. No.*	*Date*
DK. 107	311,104	Dec. 27, 1939
DK. 108	315,162	Jan. 23, 1940
DK. 109	315,508	Jan. 25, 1940
DK. 110	315,167	Jan. 23, 1940
DK. 111	315,168	Jan. 23, 1940
DK. 112	321,408	Feb. 29, 1940
DK. 113	326,146	Mar. 27, 1940

We should like to have sent you six copies of each of these Du Pont applications to take care of your requirements for Germany and Japan, but owing to the limited number of copies of these applications which we have on hand, it is only possible for us to send you two copies of each of them.

Very truly yours,

NATIONAL LEAD COMPANY

JBW:JM
Enclosures

c.c. Mr. C. F. Garesché
Mr. Sigurd Andersen
Mr. Andreas Ravnestad

Exhibit 965

June 19, 1940

Mr. Sigurd Andersen
Stora Nygatan
31 Stockholm, Sweden

Dear Mr. Andersen:

Further to our letter of June 17, we are pleased to enclose herewith one copy of each of the following United States applications recently filed by us:

Case	*Ser. No.*	*Date*
T.202B (Division of Case T. 202)	334,572	May 11, 1940
T.231B (Division of Case T. 231)	336,006	May 18, 1940
T.241	298,400	Oct. 7, 1939
T.243	302,116	Oct. 31, 1939
T.244	301,620	Oct. 27, 1939
T.245	314,604	Jan. 19, 1940

We are also enclosing one copy of each of the following applications recently filed by Du Pont to which we have tentatively assigned DK numbers:

Case	*Ser. No.*	*Date*
DK. 107	311,104	Dec. 27, 1939
DK. 108	315,162	Jan. 23, 1940
DK. 109	315,508	Jan. 25, 1940
DK. 110	315,167	Jan. 23, 1940
DK. 111	315,168	Jan. 23, 1940
DK. 112	321,408	Feb. 29, 1940
DK. 113	326,146	Mar. 27, 1940

Very truly yours,

NATIONAL LEAD COMPANY

JBH:JM
c.c. Mr. C. F. Garesché

Exhibit 966

Letterhead of

TITAN COMPANY, INC.

Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 23rd July 1940

PATENT DEPT.

C. F. Kaegebehn Esq.,
Patent Department,
National Lead Company,
111 Broadway,
NEW YORK U.S.A.

Dear Mr. Kaegebehn,

New U.S. applications T cases and DK cases

I beg to thank you for your letter of the 19th of June, which arrived yesterday together with copies of applications in T cases and DK cases as listed therein as well as copies of letters, from which I note that the applications have been sent the associated companies and the DK cases applications in question have been sent Mr. Ravnestad /Fredrikstad has previously received copies of the T cases in question/.

The DK numbers you tentatively assigned to DK applications appear to me to be in order, the most recent U.S. application in these cases, which we received from you, being serial number 302,850 filed 11th of November 1939

Exhibit 966

/your letter 27th of December 1939/ to which we assigned the reference number DK 106.

I will inform you in due course regarding our wishes as to applications resp. licences in these T and DK cases.

Yours sincerely,

SIGURD ANDERSEN

Sigurd Andersen

Exhibit 967

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

July 9, 1940

Charles F. Kaegebehn, Esq.
c/o Titan Co., Inc.
111 Broadway
New York City,

PATENT DEPT.

Dear Mr. Kaegebehn:

Re: Your Case DK 24—Our Case K-834-B U. S. Pat. No. 2,166,257 Japanese Application

Replying to your letter of June 28th regarding the above Japanese application and Titan, Inc.'s proposal to abandon. The application is included among those in the license of April 21, 1939.

This is to advise that the Krebs Pigments Department informs they have no objection to the Titan, Inc. proposal, and that Krebs does not desire to undertake prosecution or maintenance in its own behalf.

Very truly yours,

E. I. DU PONT DE NEMOURS & Co.

By JOHN P. HANCOCK
JOHN P. HANCOCK

JPH:H

Exhibit 968

July 11th, 1940

Mr. Andreas Ravnestad
c/o Titan Co. A/S
Fredrikstad, Norway

Re: CASE DK 24—U. S. Pat. No. 2,166,257 Corresponding Japanese Application

Dear Mr. Ravnestad:—

We received recently from the Patent Department of the I. G. Farbenindustrie copy of their communication to you of May 31st, 1940, informing you that Titan Kogyo had no further interest in maintaining the above identified application in Japan.

We took the matter up with Du Pont who also do not desire to maintain the case and we so advised the Patent Department of the I. G. Farbenindustrie as per the enclosed copy. Photostatic copy of Du Pont's letter of July 9th, 1940 is also enclosed.

Yours very truly,

NATIONAL LEAD COMPANY

CEK:JL

c.c. Mr. Sigurd Andersen
Mr. C. F. Garesché

Exhibit 969

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
July 13th, 1940.

HE/HH. *No. 71.*

National Lead Company,
Patent Department,
111 Broadway,
New York City.

Attention: Mr. Kaegebehn.

Dear Sirs:—

DK-24, Jap. Pat. No. 131.757.

We have been informed that the Titan Kogyo are not interested in a further maintenance of the Jap ese patent in case DK-24.

We would therefore ask you to obtain du Pont's consent to the abandonment of this patent. A copy of the printed specification was sent you in our letter of December 6th, 1939.

Yours very truly,

A. RAVNESTAD

Exhibit 970

[Letterhead of]

TITAN COMPANY, INC.

HBE/HH. *No. 107.*

National Lead Company,
Patent Department,
111 Broadway,
New York City.

Fredrikstad, Norway,
October 11th, 1940

Attention: Mr. Kaegebehn.

Dear Sirs:—

DK-24 Japanese Patent Application No. 6.930/1938.

We beg to refer to your letter of July 11th, 1940 with enclosed photostatic copy of du Pont's consent to the abandonment of the above identified Japanese application.

We have, however, not instructed our Patent Agents to abandon this application, the reason herefore being briefly:

As we received I.G.'s communication that Titan Kogyo have no interest in a further prosecution of this application, the position was that the application was ready for publication. In view of this the Titan Kogyo reconsidered the question of maintenance, and informed us through the I.G. Patent Department that they were interested in a further maintenance of 3 years, the annuity fees herefore being already paid.

The I.G. further communicated that Titan Kogyo would take up again the question of maintenance after 3 years.

We would be obliged to you if you would communicate this to du Pont, in order that they may be kept informed of the position.

In this connection we beg to refer to our letter of December 6th, 1939 by which we informed you that the above mentioned application has matured into a patent No. 131.753.

Yours very truly,

H. ECKHOFF

Exhibit 971

COPY

October 9th, 1940

Titangesellschaft m.b.H.
I. G. Patent-Abteilung
Leverkusen I. G. Werk
Leverkusen bei Köln a/Rhein
Germany

Re: New Patent Applications of Du Pont and American Zirconium

Gentlemen:—

We are enclosing herewith copies of four new Du Pont applications and five new American Zirconium applications, as follows:

No. Copies	U.S.Ser. No.	Company	Du Pont Ref.	DK Case
3	332,979	Du Pont	873-K	114
3	332,989	Du Pont	949-K	115
3	332,990	Du Pont	949-AK	116
3	335,765	Du Pont	987-K	117
2	332,460	Am.Zirconium	—	—
2	350,124	Am.Zirconium	—	—
2	350,125	Am.Zirconium	—	—
2	350,126	Am.Zirconium	—	—
2	350,127	Am.Zirconium	—	—

You will note that we have tentatively assigned DK Case number to the Du Pont applications but refrained from assigning "T" case numbers to the American Zirconium applications. Titan Co., Inc.—Fredrikstad is con-

Exhibit 971

timing to give "T" case designations and when we are advised of these designations, we shall advise you promptly of the proper "T" case numbers of these applications.

We have not had the opportunity to consider the practical value of the several applications sent herewith because of the fact that it was more urgent to forward them to you then to take the time necessary to study them carefully. We suggest that if you have any questions concerning the value of the individual applications, you make such inquiry of us and we will promptly give you our reply.

In due time, please advise us in which countries in your territory you wish to file corresponding applications.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

Encs.

c.c. Titan Co., Inc. Fredrikstad
Dr. G. Jebsen
Mr. C. F. Garesché
Mr. S. Andersen

Exhibit 972

TRANSLATION

I. G. Farbenindustrie A. G.

Leverkusen—I. G. Werk
December 18th, 1940

Titan Co., Inc.
c/o Mr. C. F. Kaegebehn
111 Broadway
New York, New York

Your Letter of October 10th, 1940

Re: New Patent Applns. of Du Pont and American Zirconium Le. Nos. 2946-2954

Gentlemen:—

We thank you for your letter of October 9th, 1940 in the above matter with which you sent us Du Pont applications DK 114-117 as well as applications of American Zirconium, Nos. 332,460, 350,124, 350,125, 350,126 and 350,127. We have passed these applications on to Titangesellschaft and can now inform you that the T. G. is not interested in obtaining licenses under any of these applications.

Yours very truly,

I. G. FARBENINDUSTRIA A. G.

c.c. Titan Co., Inc.
Fredrikstad

Translated by:
J. Lüer—Pat. Dept.
February 13th, 1941

Exhibit 973

April 14th, 1941

Mr. C. J. Stopford
British Titan Products Co., Ltd.
Burlington House, Yarm Road
Eaglescliffe
Stockton-on-Tees, England

Re: New Du Pont Applications

Dear Mr. Stopford:—

We are enclosing herewith one copy of each of the following new Du Pont applications:

DK Case	*Ser. No.*	*Filed*
126	338,381	June 1st, 1940
127	338,384	June 1st, 1940
128	346,370	July 19th, 1940
129	354,801	Aug. 30th, 1940

We are not inclined to regard these cases as being of any fundamental importance. In due course, please advise us whether you would like corresponding applications filed.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL

c.c. Mr. C. F. Garesché
Mr. S. Andersen

Exhibit 974

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

CJS/SL/2670

17th September 1941

REGISTERED

Titan Company Inc.,
111, Broadway,
New York, N.Y.

Dear Sirs,

PENDING U.S. APPLICATIONS OF E. I. DU PONT DE NEMOURS & CO.

With reference to your letter of April 14th, and to the copies of the following U.S. applications belonging to Du Pont de Nemours which were enclosed with that letter:

DK. Case	*Ser. No.*	*Filed*
126	338,381	June 1st, 1940
127	338,384	June 1st, 1940
128	346,370	July 19th, 1940
129	354,801	Aug. 30th, 1940

please note that we are not interested in obtaining licences in any of these patent cases, but we should like to be given an opportunity to reconsider any of these cases in which Du Pont de Nemours might themselves file applications

within our territory, with a view to a non-exclusive licence, without any restriction on Du Pont as to licensing other firms.

Yours truly,

For BRITISH TITAN PRODUCTS CO. LTD.

C. J. STOPFORD

C. J. Stopford,
Director and General Manager.

Exhibit 975

Letterhead of

TITAN CO. A/S

PATENT DEPT.

Fredrikstad, May 13th, 1941.

HH No. 217.

National Lead Company,
Patent Department,
111 Broadway,
New York City.

Attention: Mr. Kaegebehn.

Dear Sirs:—

DK-36 Dutch Patent Application No. 90.864.

We are pleased to inform you herewith that a patent has been granted on the above application and is numbered

50.404.

The patent stands in the name of E.I. du Pont de Nemours & Company, and the term of the patent is 18 years from April 17th, 1941.

We will send you a copy of the printed specification as soon as available, in order that you may pass it on to du Pont.

Yours very truly,

A. RAVNESTAD

Exhibit 976

TITAN CO.
PATENT DEPARTMENT
FREDRIKSTAD

June 23rd, 1941.

HH. No. 241.

National Lead Company,
Patent Department,
111 Broadway,
New York City.

Attention: Mr. Kaegebehn.

Dear Sirs:—

DK-36 Dutch Patent No. 50.404.

Further to our letter No. 217 of May 13th, 1941 we enclose herewith a copy of the printed specification issued in the above case, and would ask you to kindly pass it on to du Pont.

Yours very truly,

A. J. RAVNESTAD

Encl.

3249

Exhibit 977

June 26th, 1941

Letter No. 108K

Mr. Andreas Ravnestad
c/o Titan Co. A/S
Fredrikstad, Norway

Re: Case DK 36—Dutch Pat.
Appln. No. 90,864

Dear Mr. Ravnestad:—

We acknowledge with thanks receipt of your letter of May 13th, 1941, informing us that a patent has been granted in the above identified Dutch application bearing the number 50.404, standing in the name of Du Pont for a term of 18 years from April 17th, 1941. We have passed this information on to Du Pont and shall also forward them a copy of the printed specification as soon as it is received.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. S. Andersen

Exhibit 978

June 26th, 1941

John P. Hancock, Esq.
Patent Div. — Legal Dept.
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re: Case DK 36 — Your Case 873-K
Dutch Pat. Appln. No. 90.864

Dear Mr. Hancock:—

We have just been informed that a Dutch patent has been granted in the above identified case, bearing the number 50.404, standing in the name of E. I. Du Pont de Nemours & Co. The term of this patent is 18 years from April 17th, 1941.

As soon as we receive a printed copy of the specification, we shall pass it on to you.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL

Exhibit 979

August 7, 1941

John P. Hancock, Esq.
Patent Division — Legal Department
E. I. Du Pont de Nemours & Company
Wilmington, Delaware

Dear Sir:

Re: Case DK 36 — Your Case 873-K
Dutch Pat. Appl'n No. 90,864

Supplementing our letter of June 26th, we are pleased to enclose herewith a photostatic copy of the printed specification issued in the above-identified case.

Very truly yours,

TITAN COMPANY, INC.

CFK:JM

Enclosure

Exhibit 980

Letterhead of

KAGAKU TOKKYO JIMUSHO

Tokyo. 11th July 1941.

Messrs. Titan Company Inc.,
Patent Department, Mr. Kaegebehn
111 Broadway
New York

Dears Sirs,

Re Sublicences on DK-Patents 16-49

Please find enclosed a copy of the Declaration, dated May 17th 1941. The Original of this declaration, bearing the signature of Messrs. Titan Kogyo Kaisha, Ld., Tokyo, we have sent to the address of I. G. Leverkusen.

Messrs. Titan Kogyo Kaisha, Ld., Tokyo, specially asked us to inform you that they expect that the licensed DK-patents will not be abandoned by patent-owners without first having such cases submitted and decided by Titan Kogyo.

In order to be sure that this is done, Titan Kogyo wishes to have a corresponding paragraph inserted in future cases similar to the § 6 of the Cross License Agreement between Du Pont and Titan Comp. Inc.

We are, dear Sirs,

Yours faithfully,

KAGAKU TOKKYO JIMUSHO

c.c.Leverkusen.

Exhibit 981

October 6th, 1941

Kagaku Tokkyo Jimusho
Kojimachi-ku, Maru-No-Uchi
3-Chome No. 6
Naka 2-Gokan
Tokyo, Japan

Re: Sublicenses on DK Patents DK 16-49

Gentlemen:—

We have your letter of July 11th, 1941 regarding licenses under DK cases.

We do not see how it will be possible for the patent owners to abandon DK cases in Japan. As we understand the situation, you will supervise the paying of the annual taxes and will only pay those taxes when authorized to do so by Titan Kogyo. It is only when Titan Kogyo no longer desires to maintain the patent that the obligation exists to so advise the patent owners in order that they may, if they elect to do so, maintain the patent on their own behalf.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL

Exhibit 982

Letterhead of

TITAN COMPANY, INC.

August 19th, 1941

J. P. Hancock, Esq.
Legal Dept.—Pat. Div.
E. I. Du Pont De Nemours & Co.
Wilmington, Delaware

Re: Your Case 911-K—Our Case DK 56—Japanese Application

Dear Mr. Hancock:—

Pursuant to our letter of May 21st, 1941, we enclose herewith copy of the printed Japanese application in the above identified case, which has just come into our possession.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

Enc: 1

Exhibit 983

Letterhead of

TITAN COMPANY, INC.

August 22nd, 1941

J. P. Hancock, Esq.
Patent Dept. Legal Div.
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re: Your case 900-K (DK 51)
French Pat. Appln. No: 447,629

Dear Mr. Hancock:—

We have just been advised that a patent has been granted in the above identified French application, bearing the number 856,227.

The patent stands in the name of E. I. Du Pont de Nemours & Co. and the term of the patent is 20 years from June 15th, 1939.

As soon as we receive copy of the printed specification, we shall pass it on to you.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

Exhibit 984

Letterhead of

TITAN COMPANY, INC.

August 22nd, 1941

J. P. Hancock, Esq.
Patent Div. — Legal Dept.
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re: Your Case 911-K (DK 56)
French Pat. Appln. 448,676

Dear Mr. Hancock:—

We have just been advised that a patent has been granted in the above identified French application, bearing the number 857,473.

The patent stands in the name of E. I. Du Pont de Nemours & Co. and the term of this patent is 20 years from July 7th, 1939.

As soon as copy of the printed specification is received, we shall pass it on to you.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

Exhibit 985

Letterhead of

TITAN COMPANY, INC.

August 22nd, 1941

J. P. Hancock, Esq.
Pat. Div. Legal Dept.
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re: Your Case 888-K (DK 52)
French Pat. Appln. No. 447,906

Dear Mr. Hancock:—

We have just been advised that a patent has been granted in the above identified French application, bearing the number 856,691.

The patent stands in the name of E. I. Du Pont de Nemours & Co. and the term of the patent is 20 years from June 21st, 1939.

As soon as copy of the printed specification is received, we shall pass it on to you.

Yours very truly,

TITAN COMPANY, INC.
C. F. KAEGEBEHN

CFK:JL

Exhibit 986

Letterhead of

TITAN COMPANY, INC.

August 22nd, 1941

J. P. Hancock, Esq.
Pat. Div.—Legal Dept.
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re: Your Case 912-K (DK 61) French Pat. Appln. No. 163

Dear Mr. Hancock:—

We have just been advised that a patent has been granted in the above identified French application, bearing the number 860,301.

The patent stands in the name of E. I. Du Pont de Nemours & Co. and the term of the patent is 20 years from September 19th, 1939.

As soon as we receive copy of the printed specification, we shall pass it on to you.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

Exhibit 987

Letterhead of

TITAN COMPANY, INC.

August 27th, 1941

J. P. Hancock, Esq.
Patent Div.—Legal Dept.
E. I. Du Pont De Nemours & Co.
Wilmington, Delaware

Re: Cases 900-K—888-K—912-K—911-K
Our Cases DK 51, DK 52, DK 61, DK 56

Dear Mr. Hancock:—

Pursuant to our letters of August 22nd, in the above identified cases, we are pleased to enclose herewith printed specifications of the recently issued French patents, as follows:

Case 900-K — French Pat. No. 856,227
Case 888-K — French Pat. No. 856,691
Case 912-K — French Pat. No. 860,301
Case 911-K — French Pat. No. 857,473

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

Encs.4

Exhibit 988

October 9th, 1941

Mr. C. J. Stopford
British Titan Products Co., Ltd.
Burlington House, Yarm Road
Eaglescliffe, Stockton-on-Tees
England

In Reply to Your Letter No. 2670
Re: Pending U. S. Applications of Du Pont

Dear Mr. Stopford:—

We acknowledge with thanks receipt of your letter of September 17th, 1941. We note that you do not wish any applications filed in the following applications:

DK case	*Ser. No.*
126	338,381
127	338,384
128	346,370
129	354,801

There is very little possibility that Du Pont will file patent applications in these cases in any countries in B. T. P.'s territory.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL

Exhibit 989

Letterhead of

TITAN COMPANY, INC.

January 7th, 1942

John P. Hancock, Esq.
Patent Div.—Legal Dept.
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re: Your Case 911-K—Our Case DK 56
French Patent Application No. 448,676

Dear Mr. Hancock:—

We have been advised that a patent has been granted in the above identified French application, bearing the number 857,473.

The patent stands in the name of E. I. Du Pont and the term of the patent is twenty years from July 7th, 1939. Copy of the printed specification will be sent you as soon as it is received by us.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

Exhibit 990

Letterhead of

TITAN COMPANY, INC.

January 7th, 1942

John P. Hancock, Esq.
Patent Div. Legal Dept.
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re: Your Case 912-K—Our Case DK-61
French Patent Application No. 163

Dear Mr. Hancock:—

We have been advised that a patent has been granted in the above identified case and is numbered 860,301.

The patent stands in the name of E. I. Du Pont and the term of the patent is twenty years from September 19th, 1939. Copy of the printed specification will be sent you as soon as it is received by us.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

Exhibit 991

Letterhead of

TITAN COMPANY, INC.

January 7th, 1942

John P. Hancock, Esq.
Patent Div.—Legal Dept.
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re: Your Case 900-K—Our Case DK 51 French
Patent Application No. 447,629

Dear Mr. Hancock:

We have been advised that a patent has been granted in the above identified case and is numbered 856,227.

This patent stands in the name of E. I. Du Pont for the term of 20 years from June 15th, 1939. Copy of the printed specification will be sent you as soon as it is received by us.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

Exhibit 992

Letterhead of

TITAN COMPANY, INC.

January 7th, 1942

John P. Hancock, Esq.
E. I. Du Pont de Nemours & Co.
Pat. Div.—Legal Department
E. I. Du Pont de Nemours & Co.
Wilmington, Delaware

Re: Your Case 888-K—Our Case DK-52 French Patent-application No. 447,906

Dear Mr. Hancock:—

We have been advised that a patent has been granted in the above identified application and is numbered 856,691.

The patent stands in the name of E. I. Du Pont and the term of the patent is twenty years from June 21st, 1939. Copy of the printed specification will be sent you as soon as it is received by us.

Yours very truly,

C. F. KAEGEBEHN

CFK:JL

3265

3252

Exhibit 993

Copy for Mr. MacCarty

Gj/KL

March 14, 1927.

Titanium Pigment Co., Inc.,
New York.

Gentlemen,

The Fuji Paint & Varnish Mfg. Co., Ltd., Kawasaki, near Yokohama, which is working for the introduction of Titanium White in Japan, it seems with an activity which demands respect, has telegraphed us as follows:

> "Leading Paint Company here lately advertised for sale Titan paint in the name of "Titanox" Furthermore it is rumoured they have ordered 50 tons material Are afraid that they have managed to buy from America Ascertain from Titan Co. New York and take steps to protect our interest urgently if it is true."

We shall appreciate any information you kan acquire regarding this, and trust that you will be able to stop the export to Japan.

Yours very truly,

TITAN Co. A/S.

G. JEBSEN

pr.pr.

Exhibit 994

September 2, 1927

Dr. G. Jebsen, Managing Director
Titan Company A/S
Fredriksstad, Norway

Dear Dr. Jebsen:

The Titanium Pigment Company has had several inquiries recently for pure titanium oxide such as we sell to the trade in this country. These inquiries are mainly for shipment to Australia.

I see no reason why we should not make these shipments for the account of the Titan Company if it has your approval. We are charging the trade 40¢ per pound for this material, and would charge the same to Australian buyers if it met with your approval allowing some margin or commission to the Titan Company.

The Titanium Pigment Company are sending you copies of the correspondence so that you will have it before you when you get this letter. Will appreciate your advice.

Yours very truly,

Vice President

Copy to Mr. Meredith
sent to Paris 9/14/27

Exhibit 995

February 16, 1929

Mr. Otto Klein
Pardubitz
Austria

Dear Sir:

We are in receipt of your favor of January 30th, but have to advise you that we are not in a position to make an agency arrangement with you.

Thanking you for your interest, we are,

Yours very truly,

Vice President

3268

3255

Exhibit 995

Letterhead of
OTTO KLEIN

Pardubitz, den 30 Januar 1929

Titl.
National Lead Co., Inc.,
111 Broadway, New York City.

Cestutzt auf die Empfenlungen der "The National City Bank of New York" bitte ich Sie mir die Vertretung Ihres werten Hauses für die Gesammtgebiete unserer, eventuell auch der benachbarten Republik Oesterreich zu übertragen.

Meine reichen Erfahrungen und Beziehungen als ehemaliger Bankdirektor, meine profunden Kenntnise angeführter Wirtschaftsgebiete, versetzen mich in die Lage vollauf befriedigende Resultate zu erzielen.

Einer gunstigen Entscheidung entgegensehend, zeichne ich

Hochachtungsvoll

OTTO KLEIN

Referenzen:

Direktionen der Anglobank in Pardubic
der Böhm. Kommerzialbank in Pardubic und
des Bankvereines in Pardubic

Mr. McCarty
This man wishes
to become our agent for
Austria Suggest sending
letter to Dr. Jebsen.

ASW

Mentions no definite article

Exhibit 996

February 27, 1929.

Mr. Arthur Schiffers
Wien 18/1, Schulgasse Wr. 18
Austria

Dear Sir:

Replying to your letter of the 14th of February would advise that at the present time we are not interested in establishing our business in Austria.

Yours very truly,

W. C. BESCHORMAN
Vice President.

3270

3257

Exhibit 996

Letterhead of

ARTHUR SCHIFFERES

Titl. Mr. Warshow,
National Lead Co.

New-York.
111 Brodway

Mit Heutigem gestatte ich mir die nöfl. Anfrage, ob Sie geneigt wa. el mir die Vertretung Ihres hochgesch. Hauses zu ubergebel, indem ich mir erg. zu bemerken erlaube, das ich sait 27 Janrel am Wiener-Platze als protokollierter Kaufmann bestehe und bei den in Betracht kommenden Industrien bestens bek und eingefüart bin.

Inre gesch. Nachrichten umgehend erbittend, zeichn ich

hochachtungsvoll

ARTHUR SCHIFFERES

Wishes to represent The Nat. Lead Co. in Austria. Has been a merchant of high repute for 27 yrs.

Exhibit 997

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, May 14th 1930.

Titanium Pigment Company, Inc.
60 John Street
New York

Dear Sirs,

We acknowledge receipt of your favours of May 1st re the inquiry from the Dunlop Rubber Shoe Co, Australia, and of April 21st regarding sales to Manila and beg to refer to the writer's letter of May 16th last year, concerning sales to the Philippine Islands. As no reply to this letter has been received, we have presumed that you intend to keep the Philippine Islands as part of your territory in accordance with the agreement of July 1920. Please let us know whether or not we are right in this presumption.

For the case of future inquiries for titanium products from our territory, we beg to recall that, according to the agreement of July 1920 and subsequent agreements, the whole territory outside of Titanium Pigment Co's is dealt with by the Titan Co.Inc. (which has subrogated Titan Co A/S and which represents these territories. towards Titanium Pigment Co.)

The Titan Co. Inc. has given a license to

Titangesellschaft m.b.H. for the following countries:

Germany, Russia, Austria, Hungaria, Czechoslovakia, Switzerland, Roumania, Servia-Croatia-Slavonia, Bulgaria,

Greece, Turkey, Japan, China, Spain, Poland and Portugal; and to

Société Industrielle du Titane for France, Colonies, Protectorates and Dependencies.

The sales in these respective countries are conducted by these two companies and for all other countries of the territory of Titan Co. Inc. the sales are done through its general agent

Titan Co A/S, respectively this company's representatives in the various countries.

We beg you therefore in case of inquiries to refer to the one of the three above mentioned companies which works the market from which the inquiry has come, and inform the respective company correspondingly. For the sake of order and control, we should appreciate that you at the same time send copies of the correspondence to our office, addressed until further notice to:

Dr. G. Jebsen
26 Rue de la Pépinière
Paris.

We beg at the same time to recall that Titan Co. Inc. acts as your agent under the agreement of 1920, in case of any sale from you to the above mentioned three companies or anybody else outside of your territory, and be you therefore, in a possible event of such nature, to address yourselves to Dr. G. Jebsen, 26 Rue de la Pépinière, Paris. Excluded from this are, of course, deliveries to R.W. Greeff & Co and Titan Co A/S for those materials regarding

Exhibit 997

which arrangements already have been made for direct settlement.

For your information we enclose a list of the agents and representatives which are working in the various markets for the companies which operate that market.

Yours very truly,

G. JEBSEN

Exhibit 997 —

TITANGESELLSCHAFT m.b.H.'s REPRESENTATIVES & AGENTS

General Agent: I. G. Farbenindustrie Aktiengesellschaft, Verksufsgemeinschaft Chemikalien Abt.V.I, Frankfurt a.M.

Gutleutstrasse 31.

Subagents of I. G. Farbenindustrie Akt.Ges. for titanium products.

Switzerland: Emil Vogel, *Zürich, 8,* Kreuzplatz-Ottenweg 30.

Germ. Austria: "Detag", Deutsche Teerfarben-und Chemikalien Handels A.-G., *Vienna* IV/1; Wiedner Hauptstr. 23/25/.

Czechoslovakia: "Tefa" Teerfarben-und Chemikalien-Handels A. G., *Reichenberg,* Neissegasse 6a, with branch offices *Preg II,* Vaelavske nam 53 and Brünn, Beethovengasse 4.

Hungaria: "Budanil" Farbenverkaufs A. G., *Budapest 62* Fickberlö

Roumania: "Romanil" Aktiengesellschaft für Teerfarben- und Chemikalien-Handel, *Bucarest,* Bulevardul Domnitei 3/5

Servia-Croatia-Slavonia: "Juganil" k.d., *Belgrad,* Sarajevska 6c

Poland: Dobrowolski, Fulde i Ska, *Warsaw,* Bielanska 16, The whole correspondence with these agents should, according to agreement, pass through

Exhibit 997

Anilinchemie Aktiengesellschaft, Vienna IV/1, Wiedner Hauptstrasse 23/25, Austria.

Bulgaria: Verkaufsgesellschaft Deutscher Anilinfarben, *Sofia* Rakowskastr.111

Greece: Jenny & Vock, *Salonica,* B.P. 19.
Nic. Steinhauer & Co, *Athens,* r. Pandrossou-Kapnikarea Stoa Stathi 7.

Turkey: C. Fröhlich, *Stambul,* Kendros-Han 6-8

China: Siemmsen & Co; *Shanghai.*

Japan: Doitsu Senryo Gomei Kaisha, *Tokyo,* Kojimachi-Ku,-Maruno-uchi, Nakadori 2

Russia: Ígerussko Handelsgesellschaft m.b.H., *Berlin NW7* Dorotheenstrasse N°35

Spain: Union Quimica y Lluch S.A. Seccion Productos Quimicos, *Barcelona,* Paseo de Gracia 51

Portugal: Sociedade de Anilinas Lda, *Porto,* Rua Jose Falcao 199

SOCIETE INDUSTRIELLE DU TITANE, PARIS

Agent

France
Colonies
Protectorates
Dependencies

Anciens Etablissements P. Gilbert & Cie, *Paris* 9 23 Rue Ballu.

Exhibit. 998

No. 419

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, January 6th 1932.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

For your files, I enclose copy of an enquiry from Messrs. Chas. A. Pfeiffenberger, Ph.D., 8508—90th Street, Woodhaven—New York,—with copy of our reply.

Yours very truly,

G. JEBSEN

Copy to Mr. Cornish.

Exhibit 998

Letterhead of

CHAS. A. PFEIFFENBERGER, PH.D.

December 15th, 1931.

Titan Co A/S Frederickstad, Norway

Dear Sirs:

Attention of the Directors:

We have just learned that you have a German patent for the manufacture of titanium pigments and we wish to inform you hereby that we are very much interested in these products.

We may add that we wish to take up such processes in collaboration with a chemical factory associated with our concern.

We look forward, therefore, to details concerning this process, the information required concerning the necessary patents and patent applications, license on the most favorable basis, apparatus, costs of the plant, manufacturing costs, yields, advantages, information where the process is being worked, etc. Is a patent for this process also applied for in the United States or can this still be done?

At the same time we ask that you give us power of attorney so that we can make a contract according to your wishes.

Assuring you of a mutually confidential and profitable business consummation, we are, with best regards

Respectfully yours

CHAS. A. PFEIFFENBERGER, PH.D.

CAP:OL

translated by H. Espenschied
January 23, 1932

Exhibit 998

GJ/AK

..... Paris, January 6th 1932.

Dr. G. Jebsen
26 Rue de la Pépinière.

Messrs. Chas. A. Pfeiffenberger, Ph.D.
8508—90th Street
Woodhaven—New York.

Dear Sirs,

We acknowledge receipt of your favour of December 15th and beg to inform you that we have a license arrangement with the Titanium Pigment Company, Inc., 60 John Street, New York,—so we are not at liberty to make use of your offer.

Yours very truly,

TITAN Co. A/S

(3279)

Exhibit 999

No. 59

Letterhead of
TITAN COMPANY, INC.

Paris, February 28th 1934.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I.G. Farbenindustrie, Frankfurt, asks me if the Titanium Pigment Co. or Dupont make deliveries at their inland prices to American wholesale dealers, who, with or without the manufacturers' knowledge, may export the product. In the latter months the I.G. has been informed of export offers from Japan, as well as European countries, for instance Portugal, at prices which are to quite some extent below Titangesellschaft's usual quotations, and indications are that these competitive offers are based on American Titanium Oxide.

I.G. begs also to be informed of the prevailing prices in U.S.A.

I should be much obliged for all information you can send me on this subject.

You will appreciate that competition from U.S.A. will only lead to a lowering of Titangesellschaft's prices with correspondingly less profit for all of us, and that it is desirable to exercise an efficient control in this question.

Exhibit 999

I will tell the I.G. that they can be assured that both Dupont and the Titanium Pigment Co. will look after this matter, but a letter from you to me in this connection will certainly be appreciated.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 1000

March 15, 1934.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

Replying to your letter of February 28th, # 59, regarding inquiry from I. G. Farbenindustrie as to whether Titanium Company or DuPont make deliveries at inland prices to wholesale dealers, beg to advise that neither of us sell any of our product through dealers; all of our trade is direct with manufacturers and users. Occasionally we receive inquiries from dealers, but in no case do we make a sale to them unless we know exactly where it is going. As a result of this policy there can be no possibility of anything being exported from here without our knowledge.

I am enclosing you one-half dozen of our U.S.A. price lists on Titanium products.

Yours very truly

Executive Vice President.

Exhibit 1001

Letterhead of

TITAN COMPANY, INC.

Paris, May 29th 1934.

GJ/AK

William C. Beschorman.Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Enclosed I send you copy of a letter from I.G. Farbenindustrie of May 25th, with translation, which speaks for itself.

I shall much appreciate a reply to the same, so that I can inform the I.G. accordingly.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 1001

I.G. Farbenindustrie Akt.Ges.
Verkaufsgemeinschaft Chemikalien

Translated from German.

Frankfurt, May 25th 1934.

Dr. G. Jebsen
c/o.Titan Comp.Inc.
P a r i s
26 Rue de la Pépinière

Re: "Kronos Titanium White / China.

Dear Dr. Jebsen,

Our Chinese representatives, the firm Siemssen & Co., Shanghai, inform us under date of April 4th, that the cheap American Titanium White offers already mentioned by us in our letter of March 29th have now been made also in Shanghai and Hankow. The product is stated to be sold through the firm Melchers. We are further informed that the National Lacquer & Paint Products Co., Hongkong, gets Titanium White from a dealer in New York at the price of U.S.A.$cents 6 per lb., that is USA $13.20 per 100 Kg. fob shipping port, and that we would lose our business established with much difficulty if we do not adapt our sales quotations to the competitive prices. We were therefore obliged to give our representative the following prices:

For	Kronos Titanium White Standard A and T	FFrs 255.—
"	" " " Extra T	" 480.—
"	" " " Titanium Dioxide	" 700.—

Exhibit 1001

per 100 Kg. incl. original casks cif Shanghai.

For Kronos Titanium White Standard A in paste, we fixed the quotation at

FFrs. 328.0 per 100 Kg. cif Shanghai incl. tin packing of 28 lbs. content.

In order that our Chinese business should not continue to be disturbed by American dealers, we may ask you to please again request the National Lead Co., as well as Dupont, to prevent such offers by imposing corresponding obligations on the American exporters. We already have to compete in China with the cheap Japanese White Paints industry and would be much obliged if you could eliminate these low price-offers from American firms.

Yours very truly,

I. G. FARBENINDUSTRIE AKTIENGES.

Exhibit 1001

Letterhead of

I. G. FARBENINDUSTRIE
AKTIENGESELLSCHAFT

Herrn
Dr. G. Jebsen,
i.Fa.Titan Comp.Inc.,
Paris 8e
26, Rue de la Pepiniër

Abt. V K/Sch. 25.Mai 34

"KRONOS" Titanweiss / China.

Sehr geehrter Herr Dr. Jebsen.:

Unsere chinesische Vertretung, die Firma Siemssen & Co., Shanghai, berichtet uns unterm 4. vr.Mts., dass nunmehr auch in Shanghai und Hankow die Ihnen bereits mit unseren Schreiben vom 29.März aufgegebenen billigen amerikanischen Titanweiss-Offerten angetroffen wurden und swar soll das Produkt durch die Firma Melchers vertrieben werden. Weiterhin wurde uns mitgeteilt, dass die National Lacquer & Paint Products Co., Hongkong, Titanweiss von einer Händlerfirma in New York zum Preise von USA $cents 6 per lbs, das sind USA $ 13.20 per 100 kg fob Verschiffungshafen erhalte und dass wir unsere seither mit grosser Mühe aufgebautes Geschäft verlieren würden, wenn wir unsere Verkaufemotierungen nicht den Konkurrenzpreisen anpassen würden. Wir haben uns daher gezwungen gesehen, unserer Vertretung folgende Notpreise anhand zu geben:

Für	"KRONOS" Titanweiss Standard A und T	ffrs. 255.—
"	" " Extra T	" 480.—
"	" Titandioxyd	" 700.—

Exhibit 1001

per 100 kg einschliesslich Originalfässer cif Shanghai.

Für "KRONOS" Titanweiss Standard A in Paste setzten wir die Verkaufsnotierung auf

ffrs. 328.—per 100 kg cif Shanghai einschl. Blechpackungen von 88 lbs Inhalt fest.

Abt.V K/Sch. 25.5.34 2

Damit unser chinesisches Geschäft nicht weiterhin von amerikanischer Händlerseite aus beunruhigt wird, möchten wir Sie hiermit nochmals höflichst bitten, die National Lead Comp. sowie Dupont zu veranlassen, derartige Angebote durch entsprechende Verpflichtungen der amerikanischen Exporteurs unmöglich zu machen. Wir haben in China schon sowieso gegen die billigen japanischen Weissfarbenindustrie anzukämpfen und wären Ihnen zu Dank verbunden, wenn Sie uns die Unterbietungen seitens amerikanischer Firmen fernhalten könnten.

Hochachtungsvoll

I. G. Farbenindustrie Aktiengesellschaft

Exhibit 1002

June 8, 1934

Letter No. 83

Dr. G. Jebsen,
Titan & Co.,
26 Rue de la Pepiniere,
Paris, France.

Dear Dr. Jebsen—

I have your letter of May 29th, addressed to Mr. Beschorman, and transmitting copy of letter from I. G. Farbenindustrie, in which they comment upon prices made on titanium white by New York sellers, for shipment to China. The price named, 6¢ per pound, is Titanium Pigments Co. minimum to the trade, carload lots (1% discount for each ten days). If, therefore, a New York seller is offering at that figure for shipment to China or elsewhere, he would be doing it without profit.

Apparently I. G. Farbenindustrie has adjusted their price to meet this 6¢ figure. It should be the absolute bottom, and it is rather difficult to understand why a seller should go that low. *However, it would not be possible for us to impose restrictions upon exporters.* A purchaser from Titanium Pigments Co. can sell to whom he will, and there is no legal method by which we could prevent him. I. G. Farbenindustrie, however, should be able to control the business, if they make a price with which offers at 6¢, f.o.b. U.S. shipping ports would be non-competitive.

Trusting that this will clear up the situation for you,

Yours very truly,

President

Exhibit 1003

Letterhead of

TITAN COMPANY, INC.

GJ/AK Paris, June 26th 1934

F. M. Carter Esq.
President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Carter,

Re sale to China.

Many thanks for your letter of June 8th.

I.G. Farbenindustrie have, as you point out, adjusted their price. They felt this to be necessary in view of the American offers.

Although recognizing that a too great difference in prices will lead to "bootlegging" in the titanium pigment trade, it is of considerable importance to endeavour to prevent a trespassing of the frontiers of the various territories allotted to the different companies. I have always, towards our friends here, emphasized this policy, which was laid down in the agreement of 1920 as well as the successive agreements. This is of reciprocal interest, and during the years passed, in which export, for instance to Canada from Europe, could have taken place, we have prevented this.

The fault of a legal method to prevent export of goods once delivered exists also in the countries on this side. It is, however, possible to stop deliveries to such customers. All

Exhibit 1003

our invoices contain a stipulation that export of the goods is not allowed, and in contracts for deliveries over a period we reserve the right to cease deliveries in case goods received are exported. We have been able in this way to maintain the lines drawn for each company's territory.

In the case of China the I.G. Farbenindustrie have gone to the trouble and found out the name of the American exporter. Can it not be made clear to him, that such export must not take place, otherwise deliveries to him will be stopped? Is there any objection to this, so serious that it weighs more than the above principle and the obligations once undertaken by the Titanium Pigment Co.?

It would be very regrettable if the Titanium Pigment Co. should not take the same interest in these matters as over here, particularly as in the eyes of our European friends its organisation is identical with the National Lead Co.

With kind regards,

Yours very truly,

G. JEBSEN

P.S.—I enclose copy of Article 3 of the Agreement between the British Titan Products Co. and R.W. Greeff & Co., as an example of the attention we pay to this matter over here.

The condition re export by the customers to the American Continent of Titanium products in a bona fide manufactured form goes beyond the conditions stipulated in the 1920 agreement, in order to be on the safe side. It will of course be impossible to prevent entirely such export neither from your side nor from ours, but the condition has been

Exhibit 1003

put in, in order to have a free hand towards our agents in case of necessity.

P.P.S.—*Quotation from I.G.'s letter of May 25th:*

> "The product is stated to be sold through the firm "Melchers. We are further informed that the "National Lacquer & Paint Products Co., Hong-"kong, gets Titanium White from a dealer in New "York. . . .

Exhibit 1003

EXTRACT OF THE AGREEMENT BETWEEN BRITISH TITAN PRODUCTS COMPANY LTD. AND R.W. GREEFF & COMPANY LTD. MARCH 10TH 1933.

3. The Agents shall not sell Titan products for export outside the Agents' territory, nor shall the Agents enter into any contract providing for the delivery of more than fifty tons of Titan products to any one customer at any one time without imposing the above-mentioned restrictions on any such customer and reserving the right to cancel all future deliveries on the breach of the said restrictions by any such customer and upon being called upon by Manufacturers will exercise such right of cancellation. Nothing contained in this clause shall prevent the export to any part of the world by the customers of Titan products in a bona fide manufactured form except that Titan products in any form shall not be exported by the customer to the American Continent north of the Panama Canal and islands adjacent thereto.

Exhibit 1004

Letterhead of

TITAN COMPANY, INC.

No. 85

Paris, July 5th 1934.

GJ/AK

William C. Beschorman Esq.
Park Lane Hotel
Piccadilly
London W.I.

Dear Mr. Beschorman,

In accordance with our conversation, I have herewith the pleasure to send you my letter to Mr. Carter of June 26th, concerning export from U.S.A. to China, which you kindly would hand Mr. Carter personally, with your comments.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 1005

September 4, 1934.

INTER-OFFICE CORRESPONDENCE

TITANIUM PIGMENT COMPANY, INC.

111 BROADWAY, NEW YORK

SUBJECT.

TO Mr. W. C. Beschorman, Vice President,
National Lead Company, Building.

FROM I. D. Hagar, Eastern Sales Manager,
New York Office.

REFERENCE

Dear Mr. Beschorman:

Complying with your instructions, I have checked up on the three broker customers who purchased TITANOX-B from us in the first six months of this year, and have questioned them regarding their offering of Titanium pigment for shipment to China. They report as follows:

H. Kohnstamm & Company. Interviewed both Mr. Kohnstamm and Mr. Castellano. They claim that 10,300 pounds of TITANOX-B was none of it resold in dry form, all of it being incorporated with various oils in paste form, and most of this paste sold in the domestic market. They are very emphatic in their statement that they do not resell any Titanium pigments in dry powdered form.

Smith Chemical & Color Co., 55 John St., Brooklyn. Both Mr. Smith and his associate states that all of the TITANOX-B bought by them was resold to small paint manufacturers, some of whom were accounts to which

Exhibit 1005

we would not extend satisfactory credit. They state that everything sold by them has been disposed of in the local market, and that the price was well above 6¼¢ per lb., which was the figure paid by them to us.

Dooner & Smith Chemical Co., Newark. The 300 lbs. of TITANOX-B which they bought was sold in small quantities to cosmetic concerns, all of them situated in the local territory. None of it has been offered by them for sale abroad.

Yours very truly,

TITANIUM PIGMENT CO., INC.,

I. D. HAGAR
Eastern Sales Manager.

IDH:LE

Exhibit 1006

September 5, 1934.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

Referring further to your letter of May 29th to which Mr. Carter replied on June 8th regarding a letter from the I.G. as to reports which they had received from their Shanghai Chinese representatives to the effect that the National Lacquer & Paint Products Company of Hongkong were obtaining Titanium White from a dealer in New York at a price of 6¢ U.S.A. per pound; and further that this product was sold through the firm of Melchers.

I presume that they are referring to the firm of Melchior Armstrong Dessau Co., Inc. to whom we have never sold a single pound, nor have we had an inquiry from them.

I have had the Titanium Pigment Company go over all of their sales to exporters, and further interview these parties, to learn where the material had been resold. Of course, you understand that all exporters are also importers and consequently sell a great deal of stuff locally. Each of these parties has satisfied us that everything they have sold has been sold to the domestic trade. However, our price in less than carload lots, in which all of these parties are buying, is 6¼¢ per pound.

I am very sorry to note that the I.G. people have reduced their prices to meet the 6¢ quotation which I cannot help

Exhibit 1006

but feel was not a legitimate price and that no purchase had been made at that price.

Rest assured that we will use our best endeavors at all times to keep any material from being exported even when we have a surplus stock, which we have not had for over a year. We are today about 2000 tons behind our orders.

With kindest regards,

Very truly yours

Executive Vice President.

Exhibit 1007

Letterhead of

TITAN COMPANY, INC.

No. 91.

Paris, September 25th 1934.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

My very best thanks for your letter of September 5th regarding the investigations made as to possible exports to China, which I much appreciate. I am forwarding a copy in full to Frankfurt, which no doubt will be much appreciated there.

The Germans are investigating these matters very thoroughly and have recently found out that some export to Japan has been undertaken by a Swiss firm which is a client of Thann & Mulhouse. They are anxious to convince their clients in Japan of our close control of the distribution of our products.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 1008

Letterhead of

TITAN COMPANY, INC.

SJH/AK Paris, February 24th, 1936.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Dr. Jebsen being actually in England, I beg to refer to his letter No.182 regarding import of American Titanium Oxide to Holland.

As you will know, our working agreements with Mr. Blumenfeld's group provide for cooperation on a quota basis in the Dutch market and we are now informed that one of Thann's customers in Holland, The Ferro Enameling Co., is drawing its supply from *"The Titanium Alloy Co."* at a price which is Fl.100.- lower per 1000 Kg. than our prices.

Our prices in Holland are Fl.550.- per ton for quantities of 200/250 Kg. and Fl.510.- for 10.000 Kg. lots. Calculating backwards, we find that this should correspond to about 13 c/lbs. cif New York or considerably less than your ordinary sales price.

Further, we have indications to the effect that the firm Oosthoek Jr. in Rotterdam is selling American Titanium.

We are of course very much interested in locating the source of this American Titanium White and will do our

Exhibit 1008

best to secure samples. In the meantime we would appreciate any assistance to the effect of preventing American Titanium from entering the Dutch market, as we, due to our agreements with Thann, suffer as much as they do from such imports.

Very truly yours,

S. J. HENRIKSSEN

Exhibit 1009

Letterhead of.

NATIONAL LEAD COMPANY

March 12, 1936

Mr. W. C. Beschorman,
Scarsdale.

Dear Will —

Mr. Rupprecht called this morning to say he had an order from British Titan Co. for 50 lbs. Rayox. He said he was inclined to send it as a sample, no charge; not wanting to have any question raised about their selling outside of the United States. I approved of the suggestion.

I take it for granted the inquiry was caused by a desire to make some comparisons with Rayox, particularly in connection with questions raised by the delusterizing rayon industry. If I remember rightly, one of the English rayon companies is strongly wedded to Rayox type.

Yours very truly,

F. M. CARTER
President

Exhibit 1009

On Friday, the 24th, the day after you went home ill, Mr. Rupprecht phoned that Krebs had received a remittance from American Zirconium on their Titanium production for the period January 1st to Sept. 30th on 1252.89 tons. The last quarter was not in at that time, but I gave Mr. Warshow that figure which he said he would send to Dr. Jebsen by that night's steamer.

Monday of this week Mr. Phelps telephoned the production for the last quarter of 1935—October 1st to December 31st, inclusive. This amounted to 953.7 tons which he said brought them under their quota for the year of 3000 tons. He said to tell you that inasmuch as their 1936 quota would also be 3000 tons they would not be able to keep up their rate of production for the last quarter. Mr. Warshow also has this figure.

Exhibit 1010

Letterhead of

H. GUSTAFSSON & CO. AKTIEBOLAG

RG/PT. the 9th May 1936

Messrs. National Lead Company,
Sayreville, N.J.
U.S.A.

Gentlemen:—

Re: Titanium Oxide.

Having learned that you have built up a new factory for making Titanium Oxide we would be very pleased to know if you would be interested in entering the Swedish market in which case we should like to act as your general agents here.

To your guidance we beg to state that we are very well connected with this Trade having placed great quantities with the Rubber and Paint Trade as agents for the French Manufacturers of that pigment. Unfortunately, our French friends made an agreement with the German Concern I.G. to treat the Swedish market. Consequently, we are now looking for a new first class connection.

In case you are interested in our proposal we shall let you have very wellknown American firms and our Bankers as references.

Awaiting to be favoured with your reply, we are,

Very truly Yours,

H. GUSTAFSSON & Co. AKTIEBOLAG

RICHARD W. GUSTAFSSON.
Richard W. Gustafsson.

Exhibit 1011

May 22, 1936.

H. Gustafsson & Co. Aktiebolag
Mastersamuelsgaten 3
Stockholm C. Sweden.

Dear Sirs:

Replying to your esteemed favor of the 9th regarding Titanium Oxide, we are sorry that we are not in position to quote you or make any offer to enter the Swedish market at the present time.

While it is true that we have built a large new plant at Sayreville, New Jersey, it is also the case that we are selling the entire production of the unit in the American market and, at the present time, are considering a large increase in the capacity of the plant.

If at any time we have a surplus will be very glad to take the matter up with you.

Yours very truly

Executive Vice President.

Exhibit 1012

May 28, 1936

MEMO to Mr. Beschorman:

We attach hereto an inquiry received at our St. Louis Office from The McGean Chemical Company of Cleveland, Ohio enclosing an inquiry received from Production & Grondstoffen of Amsterdam, asking for prices on titanium oxide and compounds, for shipment to Rotterdam and Antwerp. We have not replied to these people, as we presume you will wish to refer the matter to Dr. Jebsen.

C. F. Garesché

3292 3:305

Exhibit 1012

Letterhead of

THE McGEAN CHEMICAL COMPANY

May 25th, 1936

Titanium Pigment Co. Inc.,
Carondelet Station,
St. Louis, Mo.

N.V. Producten & Grondstoffen Hmy,
Sarphatikade 1,
Amsterdam-C, Holland.

Gentlemen:

We enclose inquiry from the above concern for Titanium Oxide.

We have written subject concern advising them that this inquiry has been referred to you.

Yours very truly,

THE McGEAN CHEMICAL COMPANY

JOHN A. TURK

JAT:AM
Enc.

Exhibit 1012

Letterhead of

N.V. PRODUCTEN & GRONSTOFFEN HMIJ

Messrs. McGEAN CHEMICAL COMPANY,

CLEVELAND OHIO.

Sp/L. 15th. May 1936.

Gentlemen:

TITANIUM OXIDE.

We shall be pleased to hear from you whether you are well placed for the supply of TITANIUM OXIDE 98/99% TiO2 and other TITANIUM COMPOUNDS.—If so, we would suggest to you to give us your very best prices for these pigments, c.i.f. Amsterdam/ Rotterdam and Antwerp, with fair sized samples, packed in casks of abt. 250 kilos, in quantities of 1000, 5000 and 10,000 kilos.—

For your guidance we beg to point out to you that we are in close touch with users overhere from whom we are regularly getting their enquiries.— Therefore we should like to come into touch with competitive manufacturers of these Pigments in U.S.A. being able to supply if any excellent qualities.—

Exhibit 1012

As regards references re our firm we beg to refer you to the following American Companies:

THE CALCO CHEMICAL COMPANY,
BOUND BROOK, N.J.
E.W. COLLEDGE INC.,
JACKSONVILLE, FLA.
ACME WHITE LEAD & COLOR WORKS Ltd.,
NEW ARK.

Awaiting your early reply, we beg to remain,

Yours truly,

N.V. PRODUCTEN & GRONDSTOFFEN HMY;

(Signature Illegible)

Exhibit 1013

June 3, 1936.

The McGean Chemical Company
25 Prospect Avenue, N. W.
Cleveland, Ohio.

Dear Sirs:

We beg to acknowledge receipt of your letter of the 25th addressed to Titanium Pigment Co., Inc. with regard to an inquiry from N. V. Producten & Grondstoffen Hmy, and thank you for passing the inquiry on to us.

Very truly yours

Executive Vice President

33309

Exhibit 1014

COPY

June 3, 1936

N. V. Producten & Grondstoffen HMY.,
Serphatikaqe 1
Amsterdam-C, Holland.

Dear Sirs:

The McGean Chemical Company of Cleveland, Ohio has referred your esteemed favor of the 15th of May to us for attention.

We are sorry that we are not in position to quote you, or make any offer to enter the Holland market, on Titanium Oxide or other Titanium Compounds at the present time due to the fact that we are selling our entire production in the American market.

If at any time we have a surplus we will be very glad to take the matter up with you.

Yours very truly

Executive Vice President.

Exhibit 1015

Letterhead of

ASSOCIATED INVENTORS

INCORPORATED

November 17, 1936

Titanium Pigment Co. Inc.
111 Broadway
New York, N. Y.

Gentlemen:

Our affiliate in Czechoslovakia, Dr. Rudolf Vanicek, has written us to inquire about the sales rights of your newly published invention re:

#55,187 — Titan Pigments

Our affiliated office in Czechoslovakia is under the very able hands of Dr. Vanicek who is a man of high standing and high repute.

We shall, therefore, be glad to know if you would enter into connection with us for the sale or license of your invention and upon your favorable reply we shall be glad to inform you upon what terms he eventually would be willing to negotiate and consummate deals in his country.

Yours very truly,

ASSOCIATED INVENTORS INC.

KOLL BIORNSTAD

Koll Biornstad
General Secretary

KB:GO.

3311

Exhibit 1016

November 20, 1936.

Mr. Koll Biornstad, General Secretary
Associated Inventors
512 Fifth Avenue
New York, N. Y.

Dear Sir:

I have your letter of the 17th addressed to the Titanium Pigment Co. with reference to Patent #55,187, Titanium Pigments, and beg to refer you to Titangesellschaft, m.b.H., Leverkusen, Germany, who holds the license for Czechoslovakia as well as other Central European countries.

Very truly yours

Executive Vice President.

3312

3299

Exhibit 1017

TITANIUM WHITE SELLING AGENTS

LIST OF COMPANIES AND AGENTS TO WHOM ENQUIRIES FOR TITANIUM WHITE SHOULD BE ADDRESSED.

COPY OF CORRESPONDENCE TO BE ADDRESSED TO THE SALES OFFICE OF THE COMPANY HAVING EXCLUSIVE SELLING RIGHTS IN THE TERRITORY IN QUESTION

FEBRUARY 1937

Exhibit 1017

COMPANIES HAVING EXCLUSIVE SELLING RIGHTS:

BRITISH TITAN PRODUCTS COMPANY Ltd., Billingham Co. Durham England.

CANADIAN TITANIUM PIGMENTS, Ltd., P.O. Box I.260, Montreal Que., Canada.

SOCIETE BELGE DU TITANE, 61, rue du Marché-aux-Herbes, Bruexelles, Belgium.

SOCIETE INDUSTRIELLE DU TITANE, 26, rue de la Pépinière, Paris, (8ème), France.

TITAN CO. A/S, Fredrikstad, Norway.

TITANGESELLSCHAFT m.b.H., Leverkusen, I.G. Werk, bei Köln a/eRhin, Germany.—Copies of enquiries should be addressed to: *I.G. Farbenindustrie A/G,* Verkaufsgemeinschaft, Chemikalien, Grüneburgplatz, Frankfurt a/Main, 20, Germany. H. H. Borgwardt.

TITANIUM PIGMENT CORP., 111 Broadway, New York, N. Y., U. S. A.

Country:	Agent:	Copies of Corresp. to:
Albania	I. G. Farbenindustrie A/G, Verkaufgemeinschaft, Chemikalien, Frankfurt a/Main, 20, Germany.	I.G.
Argentine	"Indunidas" Sociedad Anonima Mercantil de Industrias Unidas Azopardo 862, Buenos-Aires.	I.G.
Australia	Imperial Chemical Industries	B.T.P.

Exhibit 1017

Country:	Agent:	Copies of Corresp. to:
Austria	Anilinchemie A. G. Heumarkt 10, Wien III.	I.G.
Belgium	Société Belge du Titane, 61, rue du Marché-aux-Herbes, Bruxelles.	
Bolivia	Hugo Ernst Rivera, Casilla 422, La Paz.	I.G.
Bulgaria	Verkaufsgesellschaft Deutscher Anilinfarben, Boulevard Dondukoff 51, Sofia.	I.G.
Brazil	Alliança Commercial de Anilinas Ltda., Caixa Postal 650, Rio de Janeiro.	I.G.
Canada	Canadian Titanium Pigments Ltd., P. O. Box I. 260, Montreal, Que.,	
Chile	Anilinas Aelmanas Cia. Ltda. Casilla 607, Santiago de Chile.	I.G.
China	"Defag" Deutsche Farbenhandelgs. Waibel & Co., Szechum Road—P. O. Box 115—Shanghai—	I.G.
Columbia	Anilinas Alemanas Cia. Ltda. Apartado national 301, Bogota	I.G.
Cyprus	I. C. I. (Levant). Ltd., Imperial Chemical House, Haifa, Palestine, P. O. Box 412,	B.T.P.
Czecho-Slovakia	"Tefa" Teerfarben u. Chemikalien Handels. A.G. Neiseegasse 6a, Reichenberg. (Czec. Slovk.)	I.G.

Exhibit 1017

Country:	Agent:	Copies of Corresp. to
Denmark	Det Hempelske Handelshus, Amaliegate 8, Copenhagen.	Titan Co.
Ecuador	Juan H. Krüger, Casilla 1291, Guayaquil, Ecuador.	I.G.
Egypt	I. C. I. (Egypt) S. A., 19 Casr el Nil Street, Cairo, P. O. Box 2089	B.T.P.
England	(see Great Britain)	
Estonia	Nationalisierte Agentuur "Estanil" Kursell & Raudsep Vana Post 6-4B, Tallinn	Titan Co. Tallinn
Finland	Bang & Co. Aktiebolag, Mikaelsgatan 3, Helsingfors	Titan Co.
France	Société Industrielle du Titane 26, rue de la Pépinière, Paris.	
Germany	I. G. Farbenindustrie A/G., Verkaufsgemeinschaft, Chemikalien Grüneburgplatz, Frankfurt a/Main.	
Great Britain	R. W. Greeff & Co., Ltd., Thames House, Queen St. Place London E. C. 4.	B.T.P.
Greece	Farbenund Chemikalien Handels-Akt. "Athanil" A. Godos Philothers 17, Athen.	I.G.
Holland	Société Belge du Titane, 61, rue du Marché-aux-Herbes, Bruxelles.	
Hungary	Anilinchemie A/G., Hauptmarkt 10, Wien III., Austria.	I.G.

Exhibit 1017

Country:	Agent:	Copies of Corresp. to:
Iceland	Titan Co. A/S, Fredrikstad, Norway.	
India	Imperial Chemical Industries (India) Ltd., 18 Strand Road, Calcutta	B.T.P.
Irak	I. C. I. (Levant) Ltd., Imperial Chemical House, Haifa-Palestine P. O. Box 412	B.T.P.
Ireland	R. W. Greeff & Co. Ltd., Thames House, Queen St. Place, London E. C. 4.	B.T.P.
Japan	Doitsu Senryo Gomei Kaisha, No. 37, Nakamachi, P. O. Box 88—Kobe.	I.G.
	Doitsu Senryo Gomei Kaisha, Maru-no-uchi, 3 chome, No. 6, Kojimachi-Ku, Nakadori 2, Tokyo	"
Jugoslavia	Anilinchemie A/G., Hauptmarkt 10 Wien, III, Austria.	I.G.
Latvia	A. Ostrowsky, 1, Smilsu isalā 22 Riga	Titan Co.
Lithuania	Christensen, Schwartz & Co. Jungfernstieg 40, Hamburg, Germany.	Titan Co.
Mexico	Titanium Pigment Corp. 111 Broadway, New York, N. Y. U. S. A.	
New-Zealand	Imperial Chemical Industries of Australia and New-Zealand Ltd., 380, Collins Street, Melbourne C. I., Australia.	B.T.P.

Exhibit 1017

Country:	Agent:	Copies of Corresp. to:
Norway	Titan Co. A/S, Fredrikstad, Norway.	
Palestine	I. C. I. (Levant) Ltd., Imperial Chemical House, Haifa-Palestine P. O. Box 412.,	B.T.P.
Peru	"Anilinas Alemanas" Wiegand & Cia. S. en C., Avenieda Brasil 190, Lima	I.G.
Poland	Anilinchemie A/G, Hauptmarkt 10, Wien III, Austria.	I.G.
Portugal	Sociedade de Anilinas Lda., Rua José Falcao 199, Porto.	I.G.
	Sociedade de Anilinas Lda., 1 Travessa das Pedras Negras 1, Lissabon.	"
Roumania	Anilinchemie A/G, Hauptmarkt 10, Wien, III., Austria	I.G.
Russia	Igerussko Handelsgesellschaft m. b. H., Dorotheenstr. 35, Berlin NW. 7.	I.G.
Siam	E. Jurgens, Bangkok,	Titan Co.
South-Africa	Kittleson & Rees Ltd., P. O. Box 1894, Johannesburg.	B.T.P.
Spain	Union Quimica y Lluch S. A. Seccion Productos Quimicos Paseo de Gracia 51, Apartado de Correos 462, Barcelona.	I.G.
Straits Settlements	I. C. I. (Malaya) Ltd., 35, Robinson Road, Singapore s. s. Malaya,	B.T.P.

Exhibit 1017

Country:	Agent:	Copies of Corresp. to:
Sweden	G. & L. Beijer, Import och Export A/B, Västra Trädgardgatan 4, Post Box 1243, Stockholm 16	Titan Co.
Switzerland	Emil Vogel, Kreuzplatz-Ottenweg 30, Zurich 8.	I.G.
Trans-jordania	I. C. I. (Levant) Ltd., Imperial Chemical House Haifa, Palestine P. O. Box 412.	B.T.P.
Turkey	"Turkanil" Hans Mönius ve Ssi Postakutusu 1157, Istanbul-Galata Ahen ve Münih Han.	I.G.
Uruguay	Anilinas Alemanas S. A., Casilla Correo 304, Montevideo.	I.G.
U.S.A.	Titanium Pigment Corp., 111 Broadway, New York, N. Y. U. S. A.	
Venezuela	La Quimica Industrial "Bayer, Meister-Lucius" Wes ott & Cia Apartado 827, Caracas.	I.G.

Exhibit 1018

SJH/MH

Paris, April 1st 1937.

I.D. Hagar Esq.,
Titanium Pigment Corp.
111 Broadway,
New York, N.Y.

Dear Mr. Hagar,

Imports to China

We beg to inform you that we have received to-day a letter from the I.G. Farbenindustrie, Frankfort, reading in translation as follows:

" As you know, we have often been informed by our
" Chinese Representative that Titanium White was
" imported in China from America, without it being
" possible so far to discover the seller.
" We heard to-day that the Export Firm Butcher & Co.,
" Los Angelos, were probably the sellers in question.
" We should be much obliged to you if you will get
" from the Titanium Pigment Corp., New York, the
" information whether the above mentioned Firm is
" one of their customers.
" If this is the case, we would like to ask you to
" take the necessary steps in order to keep this
" Firm away from the Chinese Market."

We should be much obliged if you would kindly investigate this matter so that we may be in a position to reply to the I.G.'s letter.

Thanking you in advance, we are,

Yours very truly,

TITAN COMPANY, INC.,

(Sign. S.J. Henrikssen)

Copy sent to:
Mr. Roosevelt
Mr. Beschorman.

Exhibit 1019

July 12,
1937

Dr. G. Jebsen,
Societe Industrielle du Titane,
26 Rue de la Pepiniere,
Paris, 8e, France.

Dear Doctor Jebsen:

Some time ago, you made complaint to the effect that an American Company was exporting titanium pigments to China.

We have followed this up very carefully and have found that the concern doing such exporting was the L. H. Butcher Company of Los Angeles, California, who were combining titanium pigments of our manufacture with other materials destined for Chinese customers.

We have taken the matter up with them very tactfully and they have kindly agreed not to make any further shipments of this kind. Therefore, we believe that the matter is now settled and trust that you will be satisfied with the action we have taken and the outcome thereof.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. HAGAR
General Sales Manager

IDH:ELB
cc. Mr. W.C. Beschorman

Exhibit 1020

SJH/MH Paris, December 4th, 1937.

I.D. Hagar Esq.,
General Sales Manager
Titanium Pigment Corporation
111 Broadway,
New York.

Dear Mr. Hagar,

Export to China—
L.H. Butcher Co., Los Angeles.

Referring to your letter of July 12th, I am sorry to tell you that we are to-day informed by the I.G.Frankfort, that their Agent in Hongkong has had the occasion to see personally an invoice from L.H. Butcher Co. to the National Lacquer & Paint Products Co., of September 13th this year, covering a shipment of 8 casks Titanox C., totalling lbs. 2.000.- at a price of U.S.A. $0.06¼ per lb. cif. Hongkong.

This price corresponds to £3.- per 100 kgs, cif, while I.G.'s lowest quotation is £3.8.6. per 100 kgs, cif.

As you will note, Butcher Co. apparently do not stick to their agreement with you not to make any shipments of this kind to China, and we should be particularly obliged if you could take the matter up with them again, or in some way or other prevent this export.

In this connection, we may mention that the I.G. request that the name of the National Lacquer & Paint Prod. Co. be not mentioned, as they will naturally not welcome the loss of their present source of supply at the above low price, and if they learn that the discontinuance of supply from

America is due to steps taken by the representative of the I.G., the relations between the I.G.'s representative and the National Lacquer & Paint Prod.Co. may of course easily become difficult.

Thanking you in advance for anything you can do in this matter, I remain,

Yours very truly,

Copy to Mr. Beschorman

Exhibit 1021

December 15, 1937

Dr. G. Jebsen,
Societe Industrielle du Titane,
26 Rue de la Pepiniere,
Paris, 8e, France.

Dear Doctor Jebsen:

We have your letter of December 4 in which you advise us that your agent has seen an invoice from the L. H. Butcher Company to the National Lacquer & Paint Products Company, of September 13, 1937, covering a shipment of 8 casks of Titanox-C, totaling 2,000 pounds. The incident is very much to be regretted, particularly, since the sale is consummated at a price so much lower than that regularly charged by the I. G. in Chinese territory.

However, we think there must be an error in this connection. Upon receipt of your communication, we immediately looked up our records and we find that we have not sold any Titanox-C to L. H. Butcher during 1937. Their last purchase of this pigment was in the first quarter of 1936, and it hardly seems probable that they would carry material in stock for a year and a half, and then ship it to China.

This company has agreed not to export any of our Titanox pigments to China in accordance with your request. On the other hand, it is entirely possible that they might purchase material from another source and export to China, and we do not see how we could possibly control such a situation.

Also, it seems strange that the invoice should be made out for Titanox-C. It is hardly customary for a broker when re-selling materials to invoice them under a specific brand's name. It would be more likely to invoice such material as Titanium Calcium Pigment. We can, of course, take this matter up again with L. H. Butcher but, before doing so, we would want to be sure that the material was specifically invoiced as indicated by you and, even so, there would be reasonable doubt that the product was ours because of the infrequency of sales noted above.

Yours very truly,

TITANIUM PIGMENT CORPORATION

General Sales Manager

IDH:ELB

cc. Mr. Beschorman

Exhibit 1022

December 16,
1937

Dr. G. Jebsen,
Societe Industrielle du Titane,
26 Rue de la Pepiniere,
Paris, 8e, France.

Dear Doctor Jebsen:

We acknowledge your letter of December 4. It is quite surprising to us to learn therefrom, that the L. H. Butcher Company have made another shipment to the National Lacquer and Paint Products Company, c.i.f., Hongkong. You realize that this incident is quite disturbing to us, particularly, because of the lower prices at which the material is offered.

On the other hand, we are quite puzzled with regard to this entire situation. You state that the agent of I. G., Frankfort, in Hongkong, personally saw an invoice from the L. H. Butcher Company to the National Lacquer & Paint Products Company, dated September 13, this year, covering 8 casks of Titanox-C.

We feel that there is a reasonable doubt that this pigment was Titanox-C, for the following reasons:

First, the L. H. Butcher Company have bought no Titanox-C from us since the first quarter of 1936. In that quarter, they purchased 3,000 pounds, for which they paid 6¼ cents a pound, f.o.b., our Los Angeles warehouse. It hardly seems probable that they carried this Titanox-C from early 1936 until September 1937, before making a delivery thereof.

Exhibit 1022

You will note also that, at the price quoted by you, there would be no profit, and probably a loss, to the L. H. Butcher Company, since it would be necessary to truck at their own expense from our warehouse to them and thence to the piers, pay the ocean freight, and also repack the material.

Your letter states that the 2,000 pounds were contained in eight casks, which means that the material was packed at the rate of 250 pounds per cask; all of our packing in barrels is done at 300 pounds net. Consequently, original packages could not have been used.

Secondly, there is reasonable doubt that a broker would invoice a material as Titanox-C. We sell considerable material through brokers who, like L. H. Butcher, receive no concessions from us in the way of commission. Such brokers usually sell at a definite advance over card prices and they always ask that the material be supplied in plain packages so that the identity of the manufacturer may be concealed.

It would be very surprising if L. H. Butcher did invoice the material as Titanox-C, and we would like very much to have this point accurately checked. The logical method of procedure would be to invoice the material as titanium calcium pigment.

L. H. Butcher have given us a definite promise that they would not export any more of our pigment to China. We know them sufficiently well to believe that they will keep their promises. On the other hand, it is entirely possible that they might purchase titanium pigments from another source and export such pigments to China. It would be

very difficult for us to control such a situation; perhaps, this is what happened in this case and the pigment supplied may have been Ti-Cal, manufactured and sold by Krebs Pigment & Color Corporation.

We will again ask Mr. Irwin, representative of the National Lead Company in Los Angeles, to take this matter up with L. H. Butcher, but to go into the subject thoroughly, we should like very much to have further confirmation of the facts stated in the first paragraph of your letter and clarification of the thoughts suggested in this communication.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. HAGAN
General Sales Manager

IDH:ELB

cc. Mr. Beschorman

Exhibit 1023

December 28,
1937

Dr. G. Jebsen,
Societe Industrielle du Titane,
26 Rue de la Pepiniere,
Paris, 8e, France.

Dear Dr. Jebsen:

With further reference to the alleged shipment of Titanox-C by L. H. Butcher Company of Los Angeles, California, last September to China, I call your attention to the attached letter just received from Mr. H. S. Irwin, Divisional Manager of the National Lead Company located at Los Angeles.

Mr. Irwin has further investigated this matter as a result of my request following your previous communication, and you will note that his letter serves to confirm many of the opinions expressed to you in my communication sent a few days since on the same subject.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. HAGAR
General Sales Manager

IDH:ELB
cc, Mr. Beschorman

Exhibit 1023

COPY

National Lead Company
Pacific Coast Branch
932 Wilson Street,
Los Angeles, Calif.

December 22, 1937

Mr. I. D. Hagar, General Sales Manager,
Titanium Pigment Corporation,
111 Broadway
New York

Dear Mr. Hagar:

I think our European connections must have been misinformed in regard to shipments of Titanox to the National Lacquer & Paint Products Company by L. H. Butcher. I have checked with the Butcher people and they state definitely that they have made no shipments of Titanox since they gave me their promise to desist.

I have checked over our sales records and the L. H. Butcher Company have not bought any C Pigment from us this year; but, as your records will show, they have purchased some A and B. However, this was not for export.

I do not know what I can do further in the matter in view of the Butcher Company's statement that they are not exporting our pigment.

Yours very truly,

H. S. Irwin—Div. Manager

Exhibit 1024

January 17, 1938

Mr. H. Bernstorff
The Ore & Chemical Corporation
80 Broad Street
New York, N. Y.

Dear Mr. Bernstorff:

I am in receipt of your favor of the 13th addressed to Mr. Carter which has been referred to me for attention.

We note the inquiry from your friends "Sachtleben" A. G. as to the possibility of obtaining a license agreement for the manufacture of titanium colors in Central Europe. Please be advised that licenses under all patents on any product containing titanium originating with us, or obtained by us from others, is granted by us under our contract for Central Europe to Titangesellschaft, G.m.b.H., Leverkusen.

Very truly yours

Executive Vice President.

33331

Exhibit 1025

Letterhead of

THE ORE & CHEMICAL CORPORATION

HB:T

January 13th, 1938

Mr. Fred. M. Carter,
President,
National Lead Co.,
111 Broadway,
New York City.

My dear Mr. Carter:

My friends, the "Sachtleben" A. G. fuer Bergbau und chemische Industrie, Woerthstr. 34, Cologne, who as Mr. Beschorman knows, are the leading lithopone producers in Central Europe, have asked me whether or not there is any possibility of making a license agreement with you or rather your subsidiary company, the Titanium Pigment Corp., for the manufacture of titanium colors in Central Europe.

I shall be grateful to have you tell me what to answer my friends abroad.

With kind regards, I am

Yours very sincerely,

H. BERNSTORFF
H. Bernstorff

Exhibit 1026

TRANSLATION

SOCIETY BELGE DU TITANE

Bruxelles-Brussel
Rue Marché-aux-Herbes, 61
August 8, 1939

Titanium Pigment Corporation
111 Broadway
New York, New York

Attention: *Mr. I. D. Hagar*

Gentlemen:—

For your information, we are enclosing herewith a copy of the order which was sent us by the following firm:

Hans H. Joseph
Apartado 2033
Mexico D. F.

as well as our answer thereto.

Yours very truly,

(Signed) J. de Vleeschouwer

Enc. 1 copy of letter
1 copy of reply

Exhibit 1026

HANS H. JOSEPH

Apartado 2033

Mexico D. F.

5 de mayo 10

July 29, 1939

Société Belge du Titane S. A.
61, rue du Marché-aux-Herbes
Bruxelles

Gentlemen:—

I saw your address in the "Annuaire Official Belge des Industries Chimiques" (Translator's note: an annual chemical gazette).

As there is a great demand in the Republic of Mexico for the products which you manufacture, such as oxide and titanium white, I am very much interested to be your representative. If you have not already an agent here, I would appreciate it very much if you would instruct me about the prices of the products, as well as your sales service (condition).

I am willing to place at your disposal references and any information you may desire.

Yours very truly

(signed) Hans. H. Joseph

Exhibit 1026

Société Belge du Titane

Mr. Hans H. Joseph
Apartado 2033
Mexico D. F.

August 8, 1939

Dear Sir:—

We are in receipt of your letter of July 29th, for which we wish to thank you, and wish to inform you at this time that titanium dioxide and whites of titanium in which we are interested are already being sold in your territory by a subsidiary company.

We regret not to be able to reply favorably to your request and remain,

Yours very truly,

(signed) J. de Vleeschouwer

Translated by:
Ruth Dannenbaum
Patent Department
National Lead Company
August 15, 1939

Exhibit 1027

Letterhead of

CANADIAN TITANIUM PIGMENTS LIMITED

December 17, 1939.

Mr. C. F. Kaegebehn, Manager
Patent Department
National Lead Company
111 Broadway
New York, N. Y., U. S. A.

Dear Kaegy:

I am attaching some information concerning #2000 pigment which is being distributed in Canada by Chemical and Pigment Company of the United States. As this pigment contains a portion of Titanium Dioxide I am wondering whether the license under which this company is operating allows them to ship Titanated pigments into Canada and, if so, whether there is any limit to the Titanium Dioxide content.

I have been unable to determine the TiO_2 content of #2000 pigment but should imagine that Mr. D. W. Robertson will have the information.

Yours very truly,

CANADIAN TITANIUM PIGMENTS LIMITED

R. G. BECK

R. G. Beck—Manager

RGB:PWR
Enc.
c/c—Mr. I. D. Hagar
—Mr. R. T. Henry

Exhibit 1028

Mr. R. G. Beck
Canadian Titanium Pigments, Ltd.
P. O. Box 10
Montreal, Canada

December 20, 1939

Dear Bob:—

I have your recent letter concerning No. 2000 pigment. Mr. Robertson informs me that this is a product of The Glidden Company, or one of its subsidiaries. He believes that it contains between about 11% and about 15% TiO_2. It is to be expected that this titanium dioxide is manufactured by the American Zirconium Corporation in whom Glidden has an interest and who fill Glidden's titanium dioxide requirements.

This pigment since it contains zinc sulfide and barium sulfate in addition to magnesium silicate appears to be in the nature of a titanated lithopone and it may well be that patents held, or controlled by Canadian Industries, Limited, would cover the product and hence furnish a simple and expedient means of stopping its importation into Canada.

National Lead Company, as you know, has licensed the American Zirconium under its United States titanium patents. In the agreement "Finished Articles" are defined as:

> ". . . a cohesive intermixture of titanic material with other material with which such titanic material was not previously intermixed or associated as, for example, in paint, rubber, glass, and titanated lithopone".

With respect to such "Finished Articles" the agreement provides that zirconium shall appoint National Lead Com-

pany, or any licensee specified by National, its sole agent for the sale outside the United States. However, the agreement provides that zirconium may export "Finished Articles" of which titanium products "shall not constitute such an important part that the sale thereof within the territory of such agent" (in this case National or C. T. P.) "will substantially interfere with such agent's sales of its own titanium products in its territory." The Glidden Company in guarantying the performance of the American Zirconium Corporation undertakes insofar as in its power fully to respect the license agreement.

As to your present problem; it would seem to me that, if the importation of No. 2000 pigment into Canada, is bothersome to C. T. P. the simplest way to stop it would be on the basis of titanated lithopone patents held by C. I. L. If this is not possible, and the matter appears of sufficient importance, we might, on the basis of assurance from you that the importation of No. 2000 pigment is interfering with your sales, make representations to Glidden and American Zirconium with a view to stopping the importation or having C. T. P. made the agent for its sale.

Yours very truly,

NATIONAL LEAD COMPANY

CFK/rg
c.c. Mr. Garesché

Exhibit 1029

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
13th October 1939.

GJ/HS.
Fletcher W. Rockwell Esq.,
Executive President,
National Lead Co.,
111 Broadway,
New York, N. Y., U.S.A.

Dear Mr. Rockwell:

I have received some time ago a letter from Mr. Tasker, as per copy enclosed, concerning restrictions re communication of information, and I have answered him as per copy attached.

The line we have taken in these matters is chiefly a policy of "Wait and see". It is to be expected, that when the first confusion is over, certain rules will be developed in these matters as well as questions concerning patents. Whether these will follow the practice during the last war is of course difficult to say to-day; but probably they will be more stringent. Our policy will have to be to observe a strict neutrality.

I have had a cable from Mr. Stopford in which he tells me, that he may have to consider a £40.000 expenditure for an acid-recovery plant, and he will try to have a Board Meeting held, which he though thinks may be difficult in view of the various members being in different places out of London.

Mr. Henrikssen left Norway for Brussels on September 30th, from there he went on to Paris on October 2nd:

he intends to return via England, and Stopford will try to have the Board Meeting at the time Mr. Henrikssen is there.

B.T.P. have suspended extension work, and it looks as if the capacity will be restricted to about 17 tons of TiO_2 a day for a considerable time.

You have already been informed that B.T.P. cannot continue to supply Canada, and presumably they will have to rely on your factory for supply of their other oversea markets.

I should much appreciate to have a word from your side as to your present and future production capacity in relation to the demand from your markets.

I much appreciated your letter of September 19th assuring us of your cooperation in assisting us. It may interest you to hear that I only got the copy of your letter, whereas the original has not arrived yet, but it will probably come in one of these days.

The organisation of the Work of the Titan Company Inc's personnel here in Fredrikstad has now more or less been settled, but there are any number of irregular questions coming up needing my attention, so I am not able yet to get away, and this may still take some time—of course depending upon the developments. I am therefore afraid I will not see you on your side before early next year.

Hoping that you and your family are well, I am, with kindest regards,

Yours sincerely

G. JEBSEN

Encl.

Exhibit 1030

Letterhead of

DUPLICATE

BRITISH TITAN PRODUCTS CO., LTD.
CJS/SL/11103

3rd November, 1939.

I. D. Hagar Esq.,
Titanium Pigment Corporation,
111 Broadway,
New York, N. Y.

Dear Mr. Hagar,

I was very pleased to receive your letter of October 20th, letting me know the position in regard to the enquiry by the New York Purchasing Agent of the Celanese Corporation of America, on behalf of the English plant.

I fully appreciate that on the basis of 13¢ per lb. f.a.s. New York, the price must be prohibitive landed duty paid in England, and this of course, suits us, as we do not want Celanese to import American pigment into this country, but on the other hand do not want to give rise to any resentment on their part by taking any action to prevent their importing, and your co-operation in this respect has helped us very considerably.

In regard to the English duty on American titanium pigments, this is 20% of an agreed figure, based on the market selling price, less an allowance for selling expenses. On the last lot of Titanox-A we imported we paid duty at the rate of £12.3.3. per ton.

We much appreciate your offer to deal with further business on our behalf on the same basis and to credit us

for the shipments as referred to in your letter of October 18th, the difference between the cost plus 10% and the selling price. Where you make a sale direct to a customer as distinct from selling to us, according to the established procedure between the associated companies, you are entitled to make a further deduction to reimburse you for the selling expenses incurred. You had possibly overlooked this point. Therefore, on sales to customers made on our behalf, the credit to us should be the selling price to the customer, less 5% of that amount, less any delivery expenses incurred, less cost plus 10%.

This covers the offer made to American Celanese referred to in your letter of October 20th and to the sale being made to the Singapore Rubber Works, referred to in your letter of October 18th. In regard to this last letter, only the profit on the shipment to Singapore should be credited to us, as Batavia comes in the territory of Societe Belge du Titane and therefore, the profit on that sale should go to that company through Dr. Jebsen.

Again referring to your letter of October 18th, we note that you have received several requests to quote from points in our territory such as New Zealand and South Africa within the last few days, but have turned them all down in view of the heavy demands being made against you by your domestic customers. We fully appreciate that with the titanium pigment situation being so acute in the States, your own customers must have first call on the supplies available. I should be interested, however, if you would keep me advised of all enquiries from our territory, whether you are in a position to supply them or not, as we are naturally interested to know which of our customers is trying to obtain supplies outside.

Exhibit 1030

We are very grateful to you for the help you are giving us in these matters and much appreciate the manner in which you have handled the enquiries received.

With kindest personal regards,

Yours very truly,

C. J. STOPFORD,
General Manager.

Exhibit 1031

COPY

March 12th 40.

GJ/AK

Fletcher W. Rockwell, Esq.
President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Rockwell,

I take the opportunity to send you a few words from here.

On my way down, I passed one day in Brussels and saw Mr. de Vleeschouver and Mr. Kersten. It was a Sunday, so Mr. de Vleeschouver had got a leave from his military duties.

Business was good last year. It has been rather slow in January-February, but altogether we cannot complain.

Outstanding risks have been considerably reduced and the stock is small, partly forced by circumstances, with the exception of a quantity of Lead Titanate taken over last autumn. It arrived just as the crisis came last autumn (fear of German invasion) with the consequence that the customers did not take the quantities ordered. It was particularly our friend Pieter Schoen & Soon, Zaandam, who failed us. Société Belge is however very optimistic with regard to the future of Lead Titanate. The Dutch manufacturers are very enthusiastic about it and two of the most important firms have launched themselves on great propaganda on paints, based on Titanated Lead. They use this partly as the only pigment and partly a mixture of Titanated Lead with TiO2 (with 1% antimony), the latter in quantities up to 30 parts mixed with 70 parts of Titanated

Exhibit 1031

Lead. First of all it was used for marine paints, and now also in house paints.

Our profit on this pigment has been very small, due to the policy you have followed in U.S.A. I am inclined to hope that your production cost for this pigment will go considerably down, with the increased consumption, which I understand you also have there. I should, though, much appreciate if Mr. Garesché would write me a few words, what your long view policy will be, with regard to this pigment; whether you intend to continue to use it as a "loss-leader" or you are looking forward to a profitable business in this pigment, with the idea of holding the price where it is or somewhere in that neighbourhood, in view of its remarkable properties in certain directions.

Here in France we have, as you will have understood, a shortness of material.

Mr. Gilbert has during the first 4 months of the war been selling about 40% of the total consumption, which represents about 83% of his quota in the market. This has been done partly with the old stock and partly with material furnished us by Blumenfeld. As we had surplus sales in Belgium and Holland in the first 8 months of last year, amounting to 120 tons TiO_2, we have arranged that he delivers this quantity to Sté Ind. du Titane. 90 tons have been delivered and we are awaiting further 30 tons. Our stocks are now exhausted.

I intend to go to England one of the first days and will see if we cannot get goods from Billingham, in view of the treaty between France and England, which is under development and according to which it seems that an exchange of goods will take place between these two countries as before the war, without restrictions caused by the war.

Exhibit 1031

If they are short of goods in Billingham, I intend to suggest that the quantities they would deliver to France (and somewhat to Belgium and Holland) could be replaced by deliveries from Sayreville and St. Louis to B.T.P.'s overseas markets like Australia and South Africa. I trust that this will be in order as far as the Titanium Pigment Corporation is concerned, as Mr. Garesché informed me that he expected to be in a position to deliver from the middle of February this year. I will write nearer about this matter as soon as I have been in England.

I have had a conversation with Blumenfeld, who at the present also is looking forward to getting some material from Laporte, as his factory is not ready for production and he is short of goods.

I intend to remain in England nearly a week and will then return to Paris and discuss an arrangement for future cooperation with Blumenfeld, in which he has expressed also his interest. I hope that the basic principles can be agreed upon fairly quickly, so that I can leave the matter for development in detail to Mr. Gilbert and Mr. Henriksen, and go to Norway, as I will then have already been away 5 weeks, which is a long time under the present circumstances.

I have received letters from Mr. Tasker and Mr. Stopford, telling me that last year was a very good year, but of course the increase in profit will chiefly be taken by the Government in taxes.

They intend to propose definitely at the next Board Meeting an extension of the capacity with 3000 tons TiO2 at a cost of £40.000, and a plant for recuperation of acid, at a cost of also £40.000.—

They have further had a request from the Government to widen their export field, but this, as Mr. Stopford re-

marks, is connected with difficulties in view of their agreement with Titan Company Inc. He wants to talk it over. As Titan Company Inc. has no market which they can leave to B.T.P., this question can only be considered from the point of view, to which extent Titan Company Inc. buys from B.T.P.

I am writing you the above to inform you of the situation and how my thoughts are running, and I should much appreciate your comments and any advice you will send me.

March 13th

News have just arrived that the Finnish Delegation in Moscou has agreed on terms which will be placed before the Finnish Government and finally the parliament, for decision.

I hope that the conditions are such, that the Finnish strategical position in the future will be fully satisfactory, otherwise it does not speak well for the future.

You will realise that during the last week I have had to ask myself the question whether I will be able to get back to Norway in a reasonable way or not, as a continuance of the war would more than likely have brought Norway and Sweden also in. With a peace between Finland and Russia, there will be a pause, but the question may turn up again from time to time, if new incidents similar to "Altmark" occur, which is not unlikely. Regarding the Altmark affair, the Norwegian Government and all the people I have spoken to, with knowledge of international law, consider that the Norwegian Government has acted correctly and it is my impression that this is being more and more realised also in France and England. This is apart from sentiment which is of course an entirely different

matter, that is the question of entering the war or not and whether Norway in that case will not be more of a liability than an asset, in view of the long coast and thin population, and the country being insufficiently prepared.

It is admirable and a comfort to see the good spirit (you may nearly say gay) among the French. Life is going on very much the same as before the war, with the exception of the black-out and earlier closing hours.

Hoping you and your family are well, I am, with kindest regards,

Yours sincerely,

sign G. JEBSEN

P.S.—I have just received the preliminary result of Sté Industrielle du Titane for 1939, showing a profit of about Frs. 100.000.—after provision for depreciation and taxes.

Copy to Mr. Garesché

Exhibit 1032

March 29, 1940

Dr. G. Jebsen,
Titan Company A/S,
Fredrikstad, Norway

Dear Dr. Jebsen:

In the absence of Mr. C. F. Garesché, who is in Florida recuperating from a recent operation, I have been requested by Mr. Rockwell to reply to your very interesting letter of March 12th.

We are pleased to learn that business was good last year, although somewhat lower in January and February. You have already been advised that our tonnage sales for 1939 increased 33.2% over 1938, while for the first two months of 1940 there was an increase of 18.3% over the corresponding two months of 1939. The increase in dollar sales would be even greater, due to the fact that our principal gain has been in "TITANOX"-A which, of course, commands a much higher price than the composite pigments.

Unfortunately, our costs since the first of the year have been very much higher than for last year, due primarily to the excessive freight rates now charged for the transportation of ilmenite ore. Consequently, our profits have diminished. The shrinkage, however, has not been sufficiently great so that we have found it necessary to increase any of our selling prices. In fact, we have, since the first of the year, reduced the price of "TITANOX"-C one-fourth of a cent per pound, applicable to all of the various types of this pigment, and have reduced the premium on "TITANOX"-A NC by one cent per pound.

Exhibit 1032

With respect to "TITANOX"-L, which we note still offers you little opportunity for profit, we call your attention to the fact that the production cost of this pigment was substantially improved throughout the year 1939, and so enabled us to continue our policy of selling you on the basis of cost plus the regular percentage, rather than an arbitrary sales figure. The report of December 31st, 1939, shows the total manufacturing cost for the year at $146.14 per ton of 2000 pounds, and your transactions with us were adjusted on that basis. However, due to the increased freight rates on ilmenite and other advances, fortunately of a more moderate character, the cost for the first two months of 1940 stands at $150.61. We hope and expect that this will be improved during the year. You are, of course, being billed for 1940 purchases on the basis of 1939 manufacturing cost, subject to adjustment at the end of the year.

The improvement in costs which we were able to accomplish last year definitely removed "TITANOX"-L from the category of a "Lost Leader Pigment". While the profits accruing to us from the sale of this pigment were not as great proportionately as that of other "TITANOX"-Pigments, they were reasonably satisfactory.

As for our future policy, we are not disposed to discontinue a material which showed an increase in tonnage sales of 127% in 1939, as compared with 1938, and which, in the first two months of 1940, has shown an increase of 74% over the corresponding months of 1939. Moreover, we feel that "TITANOX"-L definitely fills an important place in the list of pigments obtainable by the paint manufacturer, and that it has desirable qualities which are available in no other pigments.

With respect to a shortage of goods in Billingham, we have already promised Mr. Stopford that upon receipt of

a request from him we will do our best to accomodate him in connection with requirements originating in Australia and South Africa, and to this end have already made some shipments.

The increased production now available at our Sayreville plant, through the completion of the third unit, and somewhat greater production at St. Louis, both have helped to relieve a situation which had us rather worried in the latter months of 1939. At the moment, we are in a reasonably easy position with respect to supply and demand.

It is true that our stocks on hand of "TITANOX"-A and "TITANOX"-C have not yet attained the maximum which we have set up as a safe limit, but they are pretty close and in the case of "TITANOX"-B we have a little excess. In this connection we can release further shipments of "TITANOX"-B-25 for your requirements in Norway as soon as advice is furnished by you with respect to the quantities desired and the details of shipment.

I will leave the other points touched upon in your letter for such comment as Mr. Garesché may care to make, following his return which we expect will be by April 15th.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. Hagar—General Sales Manager

cc Mr. Rockwell
Mr. Garesché

Exhibit 1033

Telephone 41365 P. O. Box 270
Telegrams: "SILCA" AUCKLAND

281 VICTORIA STREET W. AUCKLAND

27th March 1940.

Titanium Pigment Corporation,
111 Broadway,
New York, U. S. A.

Dear Sirs,

We have to thank you for your letter of the 21st ultimo and have to state that we are particularly interested in titanium for use in the manufacturing of coloured cements. Perhaps you could advise us on this point and send us a sample or samples of the most satisfactory grade for this purpose. We would appreciate a reasonably large sample of say two pounds to enable us to carry out the necessary work prior to ordering.

We would order only in reasonably large quantities and pay as usual in your country prior to shipment. Could shipment be made from the Pacific Coast and if so what difference if any would it make to prices.

We look forward to receiving the sample asked for and if it is suitable and competitive we could cable an immediate order.

Yours truly,

SILICA DEPOSITS LTD.

per: B. Sivrski
Technical Adviser.

BS:IB

3352

Exhibit 1034

NATIONAL LEAD COMPANY
Titanium Division
111 Broadway
New York

Dr. G. Jebsen,
26 Rue de la Pepiniere,
Paris,
France

April 12, 1940

Dear Dr. Jebsen:

I have read with much interest your letter of March 12th to Mr. Rockwell. I note that Mr. Hagar has replied to your questions. I note your intention to suggest the possibility of Billingham supplying your French, Belgium and Holland markets, in which event, it may be necessary for us to take care of the requirements of Australia and South Africa. We will be very much interested to hear their reaction to your proposal.

Our latest information regarding Billingham's supply of ilmenite was as of September 1st, 1939, at which time we calculated they had a little more than three months' supply on hand. We have had no further news, except that we were advised that shipments of ore from Sogndol were reasonably heavy. We would be very much interested to know whether Billingham was able to increase their stock pile to give them a reserve for as much as six months. It would seem that the recent developments in Norway put them into a serious predicament, unless the Germans are quickly driven out of the country.

Yours very truly,

Manager

P. S. Have just heard that Billingham is trying to arrange for 2000 tons of Colachel ore from Hopkins & Williams.

C. F. G.

Exhibit 1035

COPY

New York, April 12, 1940

NLT
JEBSEN
26 Rue de la Pepiniere
Paris

HAVE CARLE BRUSSELS SIGNED KROMOS ASKING QUOTATIONS CIF ROTTERDAM AND ANTWERP TITANOX PIGMENTS ADVICE CONCERNING REPLY

HAGAR

Exhibit 1036

COPY

Paris, April 13, 1940

NLT
HAGAR
LEADCO
NEWYORK

KROMOS IS SOCIETE BELGES CABLE ADDRESS QUOTE FOR ALL QUALITIES EXCEPT LEADTITANATE PRICES EQUAL YOUR SALES PRICE TO TITANINC FACTORY PLUS FIFTY PERCENT AND ADD FREIGHT AND OTHER EXPENSES STOP CREDIT TITANINC THE FIFTY PERCENT STOP SEND INVOICE TO SOCIETE BELGE FOR TOTAL AMOUNT

JEBSEN

Exhibit 1037

April 18, 1940.

SOCIETE INDUSTRIELLE DU TITANE
26, Rue de la Pepiniere
Paris

Mr. Fletcher W. Rockwell, President
National Lead Company
111 Broadway, New York City

Dear Mr. Rockwell:

Although I think the Germans will be thrown out of Norway within a relatively short period, we must reckon that quite some time will pass before Titan Company Inc.'s work as hitherto done on this side, can be resumed.

It is out of question to attempt to organize such work here in Paris at present. We will therefore, for the time being, have to get along in the simplest way possible and each company carry on its business as far as possible without depending on Titan Co. Inc.'s organization here in Europe.

In this connection I will have to ask more work being done on your side, for Titan Co. Inc.

Hitherto the Company's bookkeeping in New York has been reduced to a minimum and kept, as regards the European business, as well as Inc.'s accounts with the Guaranty Trust Co., on the basis of records made in Fredrikstad.

Some of this work I suggest now to be done in New York, until further, as it will appear in the course of my dealing with various matters below. I hope this can be done without causing too much trouble.

I instructed them Friday to take their supply from you or Billingham.

I assume, though, that they will not receive anything from Billingham for the time being, and on a telegram from Hagar Saturday, I replied, the 13th, as per copy enclosed.

Sté Belge du Titane sold in 1939 a very nice quantity, i.e., a little over 1000 tons calculated as TiO_2, and business is going well at present.

They operate with their own capital and funds (altogether about Belg. Frs. 800,000 of which B. Frs. 500,000 in share capital)—further with a Belgian loan of B. Frs. 1,000,000 and a Dutch loan of Fl. 50,000, these two amounting together to ea $60,000. The loans are guaranteed by National Lead Company.

Sté Belge is instructed to transfer all available cash into dollars, besides covering exchange also for receivables, and they will, in case these loans for some reason should not be renewed, have to call on Titan Co. Inc. for payment.

Sté Belge has today paid in to Titan Company Inc. more than they owe; how much I do not know, but expect to hear from Sté Belge one of these days. (Our records are in Fredrikstad).

Our business in Belgium and Holland has been of a very satisfactory nature, with good profits for Titan Co. Inc., so we are interested in and owe to help them as far as we can.

I suggest, though, that Mr. Hagar watches that we do not send too large shipments on one boat.

Invoices concerning the shipments, I trust, will be sent to Sté Belge on the basis mentioned in my cable of April

Exhibit 1037

13th, and these will serve Sté Belge for their bookkeeping and, in case it should be necessary, as a basis for the purchase of Dollars.

As regards payments, Sté Belge has hitherto paid into Titan Co. Inc.'s account with the Guaranty Trust Company, London or New York, as they have had means available, and independent of invoices. I have now asked them to pay to National Lead Company until they receive other instructions from you or me. National Lead Company will consequently receive money on account, independent of what goods, resp. invoices, have been sent to Sté Belge. This money should be credited Titan Co. Inc., which on the other hand, I take it, will be debited for the goods sent to Sté Belge.

As regards the means to pay Inc.'s expenses on this side, I suggest as most practical that I ask you (National Lead Company) to send us money as it will be required—this to be debited to Titan Co. Inc.'s account.

Consequently I must ask that the bookkeeping for Titan Co. Inc. be extended to record the above mentioned transactions.

Societé Industrielle du Titane

Societé industrielle du Titane has been working with the stock in hand in September, and 130 tons received from Thann et Mulhouse.

Blumenfeld has promised to supply us with 30 to 50 tons per month, but these are coming very slowly and he would like us to import from England.

Import from U. S. A. is subject to licenses, which no doubt will not be given because of more urgent use of foreign currencies.

Billingham has until lately refused deliveries because of shortage, but Stopford has informed us of their interest to export now. This is in connection with the English Government's wish to see their export developed.

With the new English-French Treaty, France can be supplied from England without special licenses.

I have written to Stopford and suggested that B. T. P., in case of shortage of goods, should deliver to Societé Industrielle du Titané against being correspondingly supplied by National Lead Company in their oversea markets, Australia and perhaps South Africa, until the extension of the factory in Billingham has been made. (I assume that the extension of Sayreville is now completed and that you have no difficulties in making deliveries).

Stopford will send us 20 tons Extra T, but says he can not send any more before verbal discussion of the situation. This has not come off yet, as my departure to England has been delayed for various reasons.

As regards the outcome of the German invasion, I am fairly optimistic that the Germans will be thrown out within not too long. However, they may do a lot of damage in their usual way and you will realise my anxiety, particularly as to my family, friends, our staff and our factory and warehouse in Fredrikstad. Fredrikstad has been bombed, but indications are that our place has not been hit yet. I am without any personal news hitherto and do not know whether my wife and the children have been able to evacuate, according to plans made last autumn. If so, they should be in Lillehammer, which is unoccupied.

Henrikssen being of military age, is going to Norway with the first transport taking Norwegians for the army. Personally I have no definite plans. I wish to go back as

Exhibit 1037

soon as possible, to see my wife and family and see to the reorganization of the Titan Co. A/S, and wish also beforehand to have arranged for the supplies of France and the working of Sté Belge. As my return to Norway will presumably have to be via England, I suppose both can be achieved without interfering with each other.

The consolidated results of our activities last year were under preparation by Mr. Iuell and well on the way. From preliminary information it looked as if it would show about the same results as for 1938, after stocks had been put at prices equal to those of January 1, 1939, and also otherwise certain reserves made, but now it will be impossible to establish such a report for quite some time.

I am enclosing a copy for Mr. Garesché and will appreciate if you or he will give the necessary information or instructions to Messrs. Simon, Warshow, Hagar, Cole and Kaegebehn.

Please convey my best regard to all my friends.

Trusting that you and your family are well, I am, with kindest regards to you all

Yours,

(Signed) G. JEBSEN

P. S. I also enclose copy of a cable of April 15th to Mr. Hagar and beg this letter to be considered as answers to the cable he was good enough to send me the twelfth, copy of which also is enclosed.

P. P. S. I have just received a cable from Mr. Andersen, as per copy enclosed. This is the first contact I have since April eighth.

Copy to Mr. Garesché

Exhibit No38

Paris, May 9th 1940.

I.D. Hagar Esq.
Titanium Pigment Corporation
111 Broadway
New York City, U.S.A.

Dear Mr. Hagar,

I beg to confirm my cable of May 6th:

"CABLE CARLOAD PRICES IN USA FOR
"TITANOX A B AND C AND SEND
"PRICECARDS"

and your reply of May 7th:

"CARLOAD PRICES IN USA TITANOX A
"THIRTEEN CENTS POUND B FIVE AND ONE
"FOURTH CENTS C FIVE CENTS ALL IN BAGS".

I have to-day cabled you as follows:

"PLEASE CANCEL OLD PRICEQUOTATIONS
"TO KRONOS AND CABLE NEW PRICES BASED
"ON YOUR PRICES PREVAILING UNITED
"STATES PLUS FREIGHT AND OTHER COSTS
"STOP THESE SHALL BE APPLIED ALSO TO
"GOODS ORDERED OR SHIPPED SINCE APRIL
"13 STOP SEND IF NECESSARY NEW
"INVOICES EXCUSE TROUBLE HAVE
"INFORMED KRONOS".

I am sorry to have to trouble you in this manner and draw on your patience. My excuse is that we are at war on this side, which certainly complicates matters.

As our price policy for Titan Co. Inc.'s charging Sté Belge for goods from U.S.A. will be based on your do-

Exhibit 1038

mestic prices until further, I must ask you kindly to keep me informed in time of any changes in your domestic prices and also give Sté Belge sufficient notice of such changes.

The reasons for changing to this policy are several, which it will take too long to go into here. I hope we will be able to continue on this basis, which seems also the most practicable, but this will depend on various conditions which are beyond our influence.

With kindest regards,

Yours very truly,

sign. G. JEBSEN

Copy to Mr. Garesché

Exhibit 1039

April 19, 1940

Silica Deposits Ltd.,
281 Victoria Street East,
Auckland, New Zealand

Gentlemen:

Thank you for your letter of March 27th in further reference to the use of Titanium Pigments for the manufacturing of cements.

For the purpose which you have indicated the standard grade of Titanium Dioxide would probably be as beneficial as any. Of equal stability, but lessor in tinting strength, is Titanium Barium Pigment, and this also should prove satisfactory.

In the matter of samples, we feel it best to refer you to:—

Imperial Chemical Industries,
380 Collins Street,
Melbourne, Australia

from whom you can also obtain quotations.

Yours very truly,

TITANIUM PIGMENT CORPORATION

d I. D. Hagar—General Sales Manager.

cc: Imperial Chemical Industries, Melbourne
cc: British Titan Products Co. Ltd., Stockton, England

Exhibit 1040

April 23, 1940

Mr. J. Gerlach,
J. A. Ewing & McDonald, Inc.,
101 West 31st Street,
New York City

Dear Sir:

We acknowledge your letter of April 19th in further reference to an order recently received from your client in *South Africa*.

First, let us advise you that since your order came to our attention, we have been requested by our English associates to refer all orders originating in the British Empire to them, since it is highly important that they maintain the maximum of Empire trade under existing conditions.

We cannot, therefore, accept further orders from any part of the British Empire, but will in this instance work along with you, since the inquiry came to us prior to the instructions referred to above.

In response to your request for information regarding the various grades which we produce, we believe we can best serve you by furnishing galley proofs of advice soon to be published in one of the Paint Trade Journals. These came to us for correction just recently and two copies are attached, one for your own use and one to be forwarded to your South African clients.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. Hagar—General Sales Manager.

d

Exhibit 1041

Paris, May 1st, 1940.

GJ/AK

H. S. Tasker Esq.
Stocks Wood
Wareham
Dorset

Dear Mr. Tasker,

I note the Minute No. 932 of the Board Meeting of April 17th 1940, and can not but think that the criticism which apparently is expressed by the Board of the British Titan Products Company has been made without knowledge or sufficient consideration of the circumstances.

I beg therefore to mention the following:

Titan Company Inc., which has licensed the various associated companies, has operated commercially in these territories re which licenses have not been given, and it has also supplied Société Industrielle du Titane, which, of various reasons, has not yet constructed a manufacturing unit.

Some of these markets, and this particularly applies to France, have been developed and maintained for years even at a loss, as a matter of policy which it should be unnecessary to explain here, a policy which also has had the interest of all the associated companies in mind.

It has been the practice between the British Titan Products Co. and Titan Co. Inc., that deliveries to Titan Co. Inc. for territories outside B.T.P.'s have been made at cost plus 10%.

What Titan Co. Inc. has done with the goods so purchased is Titan Co. Inc.'s own matter, and it is difficult to

understand the objection the Board feels, and this to such extent as to make it the subject of a Board resolution.

In parenthesis, I will mention that an exception has been made as regards deliveries, which have been made to territories which are operated by companies with manufacturing units. This has been a matter of understanding in these specific cases.

When Titan Co. Inc. in the case dealt with in Minute No. 932 asked B.T.P. to reserve a profit of 10% for Titan Co. Inc., instead of sending its own invoice to Sté Industrielle du Titane, this was a practical measure due to the specific circumstances arisen from the war, which at present and for some time has prevented Titan Co. Inc's organisation in Europe for a considerable part from functioning.

I suppose that also the following should be mentioned:

From the Minute I am under the impression that the 10% profit mentioned is considered as a payment for which Titan Co. Inc. has not made or is not making any contribution.

Probably most of the members of the Board are not sufficiently familiar with the functions of Titan Co. Inc. This company has maintained at its own expense a clearing office for technical and commercial exchange of experience, which has been considerably more than a pure automatic work and has, I believe I can say, exercised a beneficiary influence on the international cooperation. To this end, a staff has been maintained of more than secretarial qualifications, and also other expenses are involved.

The money for this has to come from somewhere, and therefore the profit to which the Board has taken an objection is not a net profit.

Although the war to a great extent has eliminated this work, the staff is still existing and has a right to be sup-

ported in a similar manner as the staff of the associated companies doing war service. It should be remembered that this staff consisted chiefly of Norwegians living in Paris and not of Americans in New York, and further that the expenses I refer to were incurred in Europe, chiefly in France, until the war broke out.

I should appreciate if you will bring the above to the attention of the other members of the Board, as the Minute leaves with me the feeling that the Board is under a wrong impression, having not been made sufficiently acquainted with real circumstances.

With kind regards,

Yours very truly,

Exhibit 1042

Paris, May 2nd 1940.

C. F. Garesché Esq.
National Lead Company
Titanium Division
111 Broadway
New York City, U. S. A.

Dear Mr. Garesché,

Many thanks for your letter of April 12th in answer to my letter of March 12th to Mr. Rockwell.

I wrote another letter concerning the markets to Mr. Rockwell on April 25th, and am now following this matter up in a letter to you, assuming that he prefers you to deal with this first hand.

Mr. Stopford left here this morning for London, after three days visit, during which we discussed the situation thoroughly.

There is not much to be added in principle to my letter of April 25th, but I may develop the matter somewhat.

First: In addition to the countries mentioned in my letter of April 25th "China and probably Spain and Portugal" should also be mentioned Turkey. Stopford was also in hope of South America, as these currencies are of great interest.

He repeated that B. T. P., according to the government's proposal, could hold the profits in suspense until after the war, with a view to transferring these profits to Titan Co. Inc. when the war is over, with full liberty for Titan Co. Inc. to dispose of the profits then, as Titan Co. Inc. considers right. Whether these profits would be taxed

in England was a matter under investigation, re which he could not express himself at present. I include a memo which Stopford detached on my request.

Stopford pointed out the importance to England and the British Empire of acquiring foreign currencies and reducing the need for such.

For the latter reason, he considered export from U. S. A. to Australia, as I suggested, out of question. Dollars are scarce.

The English government wish export even at the expense of the home market and the size of a firm's export business is of primary importance for the obtainment of facilities as to raw material requirements as sulphuric acid, ilmenite, etc., as well as to the purchase and time of delivery of apparatus and materials for an extension of the factory's capacity.

The English government would not ask them to break their agreement, but if the export was not done, he was wondering if the government would not look out for other ways of acquiring this export business.

A supply of France would be considered as export, but of less interest than export to countries with a currency not connected with the pound. England and France cooperating together are more or less in the same boat in these matters and he assumed that, as long as England restricted home consumption to necessities, export licences to France would be considered with this in mind and be correspondingly limited.

However, I understand that France shall also be enabled to export so that its requirements in this respect will to a certain degree be considered as necessities and an import

Exhibit 1042

to France may be permitted also with the consequence of liberating some material of Blumenfeld's for export.

Blumenfeld is contractually free to operate the markets like South America, China, Turkey, Spain, Portugal, etc.

Another supplier to these markets may be Montecatini at the time being.

Stopford has accepted orders (for shipment soonest), from Société Industrielle du Titane, corresponding to 187 tons calculated as TiO2, and he considers the question of further supplies of ca 50 tons TiO2 per month in various qualities.

B. T. P. may also in part supply Belgium and Holland. His prices cif works begin to be practically the same as yours and I believe it will be wise to give him this opportunity, but how long will Belgium and Holland be left in peace?

Supply from England has the advantage of quicker deliveries with the possibility of keeping lower stocks in these countries.

Billingham's capacity at present is ca 7000 tons TiO2. Extension to 8000 tons will be ready in 6 months, but the extension planned last summer will take ca 11 months from now.

He has Ilmenite in stock for 6 to 7 months, which may just keep him going until supply can come from India at the beginning of next shipping season, but as it is a very narrow margin, he hopes anxiously to get the 2000 tons you mention.

I shall look forward to hear from you in the near future and will then go to England to talk the various matters over with B. T. P.

Exhibit 1042

As regards the countries like China, Turkey, Spain, Portugal, I should appreciate a clear cut answer.

With kindest regards,

Yours very truly,

G. JEBSEN.

P. S.—Yesterday Gilbert received a word from Janda of Thann et Mulhouse (Blumenfeld), that they could not deliver 30 to 50 tons per month (because of shortness of raw materials?), but would send small parcels of 3 to 5 tons, so that a supply from them is as always feared rather doubtful.

P. P. S.—In connection with the above, I refer also to my letter of today to Mr. Hagar.

Copy to Mr. Rockwell

Exhibit 1043

Letterhead of

TITAN COMPANY, INC.

GJ/AK

C. F. Garesché Esq.
National Lead Company
Titanium Division
111 Broadway
New York City, U.S.A.

Paris, May 29th 1940.

Dear Mr. Garesché,

I confirm my cable of to-day as follows:

"SUGGEST YOU TAKE OVER SALESWORK
"SUPPLY BELGIAN DUTCH COLONIES FOR
"TITANICS ACCOUNT STOP WILL TRY
"SUPPLY YOU LIST OF CUSTOMERS STOP
"BASE PRICES ON YOUR OWN FOB PRICES
"STOP HAVE NO NEWS FROM VLEESCHOUWER
"AND KERSTEN BUT ACCOUNTANT DHONT
"AMONGST REFUGEES NEAR ROUEN,"

which speaks for itself.

The list of customers I hope to get from Mr. Dhont and will send it as soon as I have received it.

Many thanks for your letter of May 17th.

I suppose you will hold the profits in suspense until after the war and keep track of how much profit has been made on each market in question.

I am very glad to note that these markets now will be taken care of and I trust that you will go after them energetically.

Exhibit 1043

With the new situation which has arisen since the capitulation of the King of Belgium, the question arises how long Billingham will be able go continue export, as I assume that all efforts will be put to war production and sulphuric acid may be difficult to have in sufficient quantities.

I have sent you yesterday copy of my letter of May 29th to Mr. Rockwell, which speaks for itself.

Personally I do not feel that we will have to leave Paris in the very early future, but it is better to be prepared early than too late.

The capitulation of the king of Belgium has rather reinforced the determination here in France, than having a depressing effect.

With kindest regards,

Yours very truly,

G. JEBSEN

Copy to Mr. Rockwell.
" " *Mr. Hagar.*

Exhibit 1044

Letterhead of

GJ/AK

TITAN COMPANY, INC.

C. E. Garesché Esq.
National Lead Company
Titanium Division
111 Broadway
New York City, U. S. A.

Paris, June 5th, 1940.

Dear Mr. Garesché,

Many thanks for your letter of May 17th.

Reading this, I got at first the impression that you had in mind that B. T. P. also should supply China, Spain, Portugal and Turkey besides the Titanium Pigment Corporation.

However, I could not find any information concerning an authorization of the Board of Titaninc for B. T. P. supplying those countries and, as Mr. Rockwell's telegram and letter were quite definite, I have informed Mr. Stopford in conformity with this.

I assume you had in mind the British Titan Products Co.'s deliveries to France and the contemplated deliveries to Societé Belge.

The factors which you put forward in the second paragraph to be considered in connection with B. T. P.'s proposal, are of course fully justified and the decision taken creates a clearer position, so that in fact I was expecting the decision arrived at.

From your letter, however, and considering as information from Mr. Hagar last autumn, I am under the im-

pression that the Titanium Pigment Corporation will only accept such orders as they receive, and not solicitate orders or do any active sales work. It may be that the last would be putting too high a demand on you, compared with the possible results, but you will realize the importance of maintaining those markets.

In view of the last paragraph of your letter of May 17th, I may mention that I have expressly said to Mr. Stopford that deliveries to Titaninc's territories during the war shall not form a basis for any claim from them or obligation for us as regards supplies later, and he was perfectly in agreement with them.

Contractually Sté Ind. du Titane's territory form a part of Titaninc's territory vis a vis the B. T. P. but, for the sake of clearness, it was expressly mentioned that the above applies also to the territory of Sté Ind. du Titane.

With kindest regards,

Yours sincerely,

G. JEBSEN

Copy to Mr. Rockwell.

Exhibit 1045

June 7, 1940

original regular mail
copy air mail

Dr. G. Jebsen,
26 rue de la Pepiniere,
Paris
France

Dear Dr. Jebsen:

I acknowledge yours of the 29th ultimo confirming your cable regarding sales to Belgian and Dutch colonies.

I note your request that we hold profits in suspense until after the war and keep track of how much profit has been made on each market in question. I am referring your request to Mr. Warshow's department.

I am asking Mr. Hagar to go after the business in the Belgian and Dutch colonies just as soon as we receive the list that you expect to get from Mr. Dhont.

Yours very truly,

Manager

cc Mr. Warshow (2)
Mr. Hagar

Exhibit 1046

COPY

NATIONAL LEAD COMPANY
Titanium Division
111 Broadway
New York

Dr. G. Jebsen,
Villa Nordis,
Allee du Tour du Lac
Hossegor, Landes
France

June 21, 1940

Dear Dr. Jebsen:

I have yours of the 5th instant from Paris.

We had presumed that you were perhaps arranging for BTP to furnish pigments to China, Spain, Portugal and Turkey during the emergency, but had not in our letters intended to convey the idea that there had been formal authorization to that effect.

As regards our soliciting business in the various colonies, we wish to make our program fit what you feel is desirable. We can see the importance, particularly under present conditions, of our attempting to serve these customers so that they will not be lost when the emergency is ended. Please be assured that we will do this to the best of our ability.

Yours very truly,

C. F. Garesché

cc Mr. Hagar

Exhibit 1047

COPY

February 6, 1941

Mr. C. J. Stopford,
British Titan Products Company Limited,
Burlington House,
Yarm Road,
Eaglescliffe,
Stockton-onTees, England

Dear Mr. Stopford:

We cabled you on February 5th as follows:

"HAVE REQUEST 4 TONS OXIDE INDIA FROM LOCAL BROKER. IF REFUSED WILL PURCHASE ELSEWHERE. SHALL WE QUOTE. CABLE RPLY." HAGAR

This morning we were pleased to receive from you the following cable in reply:-

"AGREE YOU QUOTE FOUR TONS OXIDE INDIA" STOPFORD

The Binney & Smith Company represent us in South America but they also do export business all over the world. They recently had an order from one of their clients in India, the identity of which they have not divulged other than to say it was a rubber manufacturing plant, for several different products including 4 tons of Titanium Dioxide.

The Manager of their Export Department, Mr. H. V. Whelan, called us on this matter and asked if we would supply them with the Titanium Dioxide. I was hesitant to consent to this, even after talking with Dr. Jebsen and

Exhibit 1047

despite the fact that Mr. Whelan claimed they would have to go into the market and purchase the pigment from someone else in the event we would not sell them. Accordingly I cabled you and was very glad to have your consent to the transaction.

We are selling the pigment to Binney & Smith at our regular American price of 14-1/4¢ per pound, packed for export, delivered either to their warehouse or to the steamship pier. They will charge this price, plus the cost of handling, delivery, etc., and will waive their usual commission of 5% unless you would be willing to grant that out of your profits. We, of course, will handle the transaction as for your account, invoicing you on the basis of cost, plus 10%, any profits beyond this to accrue to your credit.

Yours very truly,

d

I. D. Hagar Vice President.

Exhibit 1048

BRITISH TITIAN PRODUCTS CO., LTD.
BILLINGHAM

CJS/SL/19520 8th March 1941.

I. D. Hagar Esq.,
Titanium Pigment Corporation,
111 Broadway,
New York, N. Y.

Dear Mr. Hagar,

Many thanks for your letter of February 6th, confirming arrangements in regard to the quotation to the Binney & Smith Company for shipment to India. I thank you for the action you have taken in this matter, with which I am in full agreement.

With regard to the correspondence with Mr. Barnes, of Lewis Berger & Sons Ltd., enclosed with your letter, I find the first paragraph of Mr. Barnes' letter to Mr. Corddry, dated February 4th, very interesting. I do not want to appear grasping, but we certainly need every dollar we can get hold of in these days of heavy purchases from America, and as it would appear that we are entitled to the profit over and above cost plus 10% on your material shipped by the Sherwin Williams Company to Australia, if they or Mr. Barnes would tell you how much they have shipped since the outbreak of war, we should be very pleased to receive credit for the profit on the shipments.

Yours very truly,

C. J. STOPFORD
Director and General Manager.

Exhibit 1049

copy

Nov. 29, 1939.

Mr. George Barnes,
Lewis Berger & Sons, Ltd.
c/o Sherwin Williams Co.,
292 Madison Avenue
New York City

Dear Mr. Barnes:

I very much appreciate your letter of Nov. 21 asking that we quote you on our various grades of "TITANOX" pigments required for your plants located in the British colonies.

In accordance with out telephone conversation of yesterday, we cabled the British Titan Products Company, and have been advised by them that it will be satisfactory for us to quote and supply you thus removing the restrictions mentioned in your letter.

We are, therefore, pleased to quote you domestic prices f. a. s. New York packed for export for deliveries to your plants in the British Empire outside of the United Kingdom. We are attaching our price schedule of domestic prices applying to all pigments.

For your information, "TITANOX"—A is our trade name for commercially pure titanium dioxide (TiO_2). "TITANOX"-B (Titanium Barium Pigment) contains 25% TiO_2 and 75% barium sulphate, while "TITANOX"-B-30 contains 30% TiO_2 and 70% barium sulphate. "TITAN-

ox"-C (Titanium Calcium Pigment) contains 30% TiO_2 and 70% calcium sulphate. "TITANOX"-M (Titanium Magnesium Pigment) contains 30% TiO_2 and 70% magnesium silicate.

If this letter, together with the attached price list and booklet, does not give you all the information you desire, please do not hesitate to communicate with us.

Yours very truly,

TITANIUM PIGMENT CORPORATION

cfe G. W. CORDDRY—Eastern Sales Manager

cc I. D. Hagar

Exhibit 1050

Letterhead of

LEWIS BERGER & SONS, LTD.

Mr. G. W. Corddry
Eastern Sales Manager
Titanium Pigment Corporation
111 Broadway
New York, N. Y.

February 4, 1941

Dear Mr. Corddry:

On occasions our very good friends the Sherwin-Williams Company have been shipping to our associated company in Australia supplies of Titanium Oxide which have apparently been purchased from you, and I have now received an order from Australia in which they ask me to ship 4000 lbs. of Titanium Oxide No. 134N/169.

After considerable correspondence with the Sherwin-Williams Company they inform me that the No. 134N/169 was a grade manufactured by you and the number was assigned to a grade while you were experimenting with a color retention Titanium. Finally, however, when you standardized you made your reference number Titanox A #168MO, the "MO" meaning medium oil absorption.

The writer would be grateful if you would at your earliest convenience indicate the price f.a.s. your nearest port of shipment to Sydney, Australia, that you are prepared to quote for a small quantity of 4000 lbs., indicating whether the price is subject to any buying commission and terms

Exhibit 1050

of payment, so that I can arrange to send you the necessary official order.

With kindest regards.

Yours very truly,

LEWIS BERGER & SONS, LTD.

G. BARNES
G. Barnes

GB:J

LON ORD MAIL
SYD ORD MAIL

Exhibit 1051

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

CJS/SL/19873 31st March 1941

I.D. Hagar Esq.,
Titanium Pigment Corporation,
111, Broadway,
New York, N. Y.

Dear Mr. Hagar,

Lewis Berger & Sons Limited advise us that in January, 4,500 lbs of Titanox-A were shipped to Australia on their account by their American associates. The invoice was at 13¾ cents per lb., amounting to 1,618.75 dollars, with the addition of 72.25 dollars for freight. Also a further order has been placed covering 4200 lbs.

I am sending this information to you, as you may not have obtained it from Lewis Berger's in U. S., and in the hope that you will credit us with the profit on the transactions.

Yours very truly

C. J. STOPFORD
C. J. Stopford
Director and General Manager.

Exhibit 1052

May 1, 1941

Mr. C. J. Stopford,
British Titan Products Company Ltd.
Burlington House,
Yarm Road,
Eaglescliffe,
Stockton-on-Tees, England

Dear Mr. Stopford:-

We refer to your letter of March 31st in reference to shipments to Lewis Berger & Sons.

The first paragraph of your communication states that in January, 4,500 pounds of Titanox A were shipped to Australia on their account by their American associates and that the invoice was at 13-3/4¢ per pound, amounting to $1,618.75.

Our records indicate that this shipment was made in January 1940, and that the value at 13-3/4¢ per lb. was $618.75. We call your attention to the fact that the profit on this transaction was transferred to you by our credit memorandum No. Y-2427 dated January 29, 1940, in the amount of $252.22.

The order for 4,200 pounds, to which you also refer, is in the process of being billed at the present time. It was shipped from our Sayreville plant on April 9, 1941. As soon as the transaction is complete a proper credit memorandum will be issued to you.

Exhibit 1052

So far as we can determine these are the only transactions with Lewis Berger and credit for each is being awarded to you.

Yours very truly,

TITANIUM PIGMENT CORPORATION

d

I. D. Hagar-Vice President.

Exhibit 1053

Letterhead of

KWANG HWA

27.3.40

Messrs. Titanium Pigment Corporation
111 Broadway
New York

Dear Sirs,

We are in current need of Titandyoxyd for our production.

We would be very much obliged to you if you could send us samples and a price-list as well as your conditions.

Yours sincerely

THE KUNG HWA RUBBER FACTORY

Exhibit 1054

April 19, 1940

The Kwang Hwa Rubber Mfg. Co. Ltd.
28A. Laucerne Road,
Shanghai, China

Gentlemen:

We acknowledge your letter of March 23, 1940 requesting samples and a price list on Titandyoxyd. We presume that you have reference to Titanium Dioxide.

Under arrangements consummated some time ago we are represented in China through agents who handle the production of Titanium Pigments from our European Affiliates. Therefore, we respectfully refer you to:

"Defag" Deutsche Farbenhandelag,
Waibel & Company,
Szechuan Road,
P.O.Box 1115
Shanghai, China

Yours very truly

TITANIUM PIGMENT CORPORATION

d I. D. Hagar-General Sales Manager

cc: Defag Deutsche Farbenhandelag, Weibel & Co., Shanghai

cc: I. G.Farbenindustrie A/G Frankfurt a/ 2020, Germany

Exhibit 1055

Paris, May 3rd, 1940.

I. D. Hagar Esq.
Titanium Pigment Corporation
111 Broadway
New York City, U. S. A.

Dear Mr. Hagar

I asknowledge receipt of your cable of May 1st, received yesterday, reading:

"H. M. HODGES SHANGHAI REQUESTS REPRESENTATION OUR PIGMENTS BECAUSE DEFAG CLOSED.

"PLEASE ADVISE."

and confirm my today's reply, as follows:

"CABLE RE CHINA RECEIVED. REFER MY LETTER APRIL 25 TO ROCKWELL AND LEAVE DECISION

"TO TITANINCS BOARD STOP LETTER TO GARESCHE WITH FURTHER INFORMATION GOES WITH

"CLIPPER TOMORROW".

My letters to Mr. Rockwell and Mr. Garesché contain all the information I can send and I must leave it to Titaninc's Board to take a decision.

As a Norwegian, being at war with Germany, I neither can, nor do I wish to have anything to do with the Germans.

Exhibit 1055.

Trusting that the right decision will be taken in New York, I am, with kindest regards and best wishes to Mrs. Hagar and yourself,

Yours very truly,

G. JEBSEN.

P.S.—I would, though, in view of the steadily changing conditions in the world, suggest to avoid giving a representation definitely to a firm, but rather let them work and protect them by not selling to others in that territory, until more experience is gathered.

Under the present circumstances where, generally speaking, it is more difficult to get materials than to sell them, this will probably be satisfactory to the applicant.

2 P.S.—I have no knowledge as to where H. M. Hodges is.

Copy to Mr. Gaffesché.

Exhibit 1056

May 16, 1940.

Dr. G. Jebsen,
26 Rue de la Pepiniere,
Paris, France

Dear Dr. Jebsen:

We acknowledge your letter of May 3rd in which you confirm the cable received from us with respect to *Hodges, Shanghai,* and your reply thereto in which you instruct us to leave the decision to the Board of Titan Co., Inc.

As we stated in another letter, at a meeting of Titan Co., Inc.'s Board yesterday, it was agreed that during the emergency we would accept orders from certain countries previously served by I. G. where it was now impossible for them to fill orders, such action on our part to be only for the duration of the emergency.

It is not our thought to make any hard and fast arrangements from which we could not readily withdraw when the time comes for us to do so.

We are looking up H. M. Hodges and may make a proposal to them a little later on if their credit references seem satisfactory.

We will keep you advised of whatever steps we take in this direction.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. HAGAR—General Sales Manager.

Exhibit 1057

COPY

May 17, 1940

Dear Dr. Jebsen:
26 rue de la Pepiniere,
Paris, France

Dear Dr. Jebsen:

Your letter of May 2nd is acknowledged. I note from it that Mr. Stopford spent three days with you in Paris discussing the matter of B.T.P. furnishing pigments to certain territories heretofore served by Titangesellschaft.

One factor to be considered when contemplating B.T.P's proposal to hold profits in suspense until after the war, is that such funds in escrow might well be depreciated even to worthlessness by reason of possible inflation. Of course, the uncertainty as regards possible taxation is another important factor.

We can appreciate the importance of export to England, and can only be sympathetic regarding the necessity of such a program. However, we feel it would be rather doubtful that they would be able, or willing, to supply all of the requirements of Titangesellschaft's foreign territories, and in the event that they failed, it would probably mean that Blumenfeld or Montecatinie, would be in position to capture the market and perhaps hold it after hostilities ceased. It would be our feeling, therefore, that if you are in position to supply these territories from both B.T.P and ourselves, that Titaninc's best interests would be served.

We were very interested to hear that Billingham have on hand a 6-7 months' supply of ore. Having had no

figures since September 1, 1939, we had attempted to estimate how much they might possibly have accumulated and had more or less arrived at a figure of a maximum six months' supply as of May 1st. Apparently they have done a little better.

As Mr. Rockwell has advised you, the Board of Directors of Titaninc have authorized the Titanium Pigment Corporation to accept orders from China, Spain, Portugal, Turkey and other territories which before the war, were served by Leverkusen.

We had gathered the impression that B.T.P were asking Titaninc to agree to take certain foreign supplies from them for a period of years, perhaps longer than the end of the war, but this situation is not touched upon in Mr. Stopford's memorandum attached to your letter.

Yours very truly,

(signed) C. F. GARESCHÉ
Manager

cc Mr. Hagar

Exhibit 1058

Letterhead of

SUGRO A.-G. BASEL

May 25th 1940

VST/MR.

SECOND MAIL

Titanium Pigment Corporation,

New York.
111 Broadway

Dear Sirs, *Titanium Dioxide pure 99%.*

We are the Swiss agents for Messrs. Fabriques de Produits Chimiques de Thann et de Mulhouse S.A., Thann, the French producer of Titanium Dixoide, and have been supplying the Swiss market in competition to the J.G.Farbenindustrie. Since the war deliveries from France have become rather irregular. Matters have grown worse since the invasion of Holland, Belgium and France and these last days supplies from Thann stopped entirely, the French railway system being temporarily monopolised by the Military authorities.

In order not to lose contact with our clients we are on the lookout for a new source of supply and we beg to inquire by the present whether and on what conditions you would be in a position to furnish us

Titanium Dioxide pure 99%

in lots of *10/20 tons at a time,* packed either in bags of 50 kgs each or casks of 200 kgs contents. Shipment would

have to be effected to Genoa and we shall thank you to indicate with your offer the present freight rates in force for this product to that port.

We sincerely hope that you will not hesitate to give this matter your careful attention and pass us a favourable decision by return of mail.

When fixing your prices please keep in mind that we still have to face German competition and that high freight rates from U.S.A., warriskinsurance etc. will make business very difficult.

./.

Exhibit 1059

WESTERN UNION TELEGRAM

JUNE 3 1940

JEBSEN
26 RUE DE LA PEPINIERE
PARIS

SUGRA A/G BASEL REQUESTS WE QUOTE OXIDE 10 TO 20 TON LOTS FORMERLY SUPPLIED BY THANN. PLEASE ADVISE

HAGAR

Exhibit 1060

WESTERN UNION CABLEGRAM

TFCH PST113 EG. 10 4/1558

PARIS

HAGAR C/O NATIONAL LEAD CO.,
111 BROADWAY.

LC HAGAR LEADCO

NEW YORK

MAKE NO OFFERS TO SWITZERLAND

JEBSEN.

Exhibit 1061

Translated from Norwegian.

Minutes

of the Board Meeting in A/S TITANIA

on June 21, 1940.

Present:

Members of the Board: Mr. Vogt and Mr. Borchgrevink

Others: Mr. Knudsen, Mr. Mölbach and Mr. Anker

---

1. Mr. Knudsen informed that space has been booked for shipment of approx. 6000 tons Ilmenite to Titangesellschaft. The shipment will go forward before the end of the present month.

On telegraphic inquiry how it will be with additional shipments, Titangesellschaft have replied that they will require 40,000 tons during the rest of the year, in monthly shipments of about 6000 tons.

There has also come a telegraphic inquiry from Montecatini Italy, if we can offer them Ilemenite. This inquiry has been communicated to Titangesellschaft, as it was desirable to obtain the latter company's consent before offering. However, no reply has as yet been received from Titangesellschaft.

With these prospects of future shipments, it was decided to commence operations on August 1, and Mr. Mölbach was requested to make preparations for the starting.

Signed: C. H. VOGT. Signed: H. S. BORCHGREVINK.

Exhibit 1062

Minutes

of the Board Meeting in A/S TITANIA

on July 31, 1940.

Present:

Members of the Board: Mr. Vogt and Mr. Borchgrevink

Others: Mr. Knudsen and Mr. Anker.

---

3. Mr. Knudsen informed that approximately 12,800 tons have now been shipped to Titangesellschaft and the stock of ilemenite is thereby reduced to about 12,700 tons. Titangesellschaft have consented to that 5,000 tons can be supplied to Montecatini, Italy, but the sale is not closed, as Montecatini is awaiting the Italian authorities' permission to import and to pay for the material with free currency.

In respect to further shipments to Titangesellschaft, space has been booked for shipment of approximately 6,000 tons in August, and Titangesellschaft have informed that they expect being able to receive about 6,000 tons per month during the rest of the year.

Signed: C. H. Vogt. Signed: H. S. Borchgrevink.

Exhibit 1063

September 12, 1940

MEMO *to Dr. Jebsen:*

I am attaching hereto a statement which I had our Accounting Dept. compile showing in detail all sales to countries south of the Panama Canal during the year ending August 31, 1940.

It will be noted that the total sales of all pigments were approximately 192 tons, and that most of it was sold through our New York brokers, Binney & Smith and National Lead Co. of South America.

Of course, South America is open territory, but if it were possible to identify any of these sales as normally going to Titangesellschaft, we would give consideration to adjusting the profits with them after hostilities have ceased.

You will note that we have made no sales to China, or to Spain or Portugal or their colonies.

I will be pleased to discuss this further with you at your convenience.

Please return the statement when it has served your purpose.

C. F. GARESCHÉ

Exhibit 1064

WESTERN UNION TELEGRAM

September 13, 1940

Kuhne
Titanco
Leverkusen
GERMANY

HAVE INQUIRY PIGMENTS PORTUGAL. SHALL WE QUOTE IF SO WHAT PRICE WILL PLAN TO HOLD PROFIT FOR YOUR ACCOUNT.

Garesche
Titanox

Exhibit 1065

WESTERN UNION TELEGRAM

NLT

September 17, 1940

Titangesellschaft
I. G. Werk
Leverkusen, Germany

YOUR LETTER AUGUST TWENTIETH WE HAVE MADE SOME OFFERS WITH INTENTION HOLD PROFIT FOR YOU AFTER DEDUCTING COST PLUS TEN PERCENT AND FIVE PERCENT SALES EXPENSES STOP INCREASING INQUIRIES INDICATED YOU UNABLE SUPPLY AND WE FEARED MARKETS LEFT TO COMPETITION STOP NO SALES EFFECTED STOP WILL CEASE OFFERING NOW STOP IF NEEDED WE WILLING SELL ON ABOVE PRINCIPLE TO PEOPLE YOU INDICATE MINIMUM BILLING PRICE BE OUR DOMESTIC PRICES FOB PLUS EXPORT PACKAGES TERMS CASH

Garesche

Exhibit 1066

RCA RADIOGRAM

SEP 20 1940

HRDGG PR 1188
FRANKFURTMAIN 25 19 1314
NLT TITANIUM PIGMENT CO

111 BROADWAY NEWYORK

GARESCHE PLEASE NOT MAKE OFFER PORTUGAL STOP INQUIRIES WILL BE DIRECTED TO SODANIL BECAUSE ARE ABLE SUPPLY.

SULFUR

Exhibit 1067

I. G. Farbenindustrie A. G.

Frankfurt (Main) 20
September 23, 1940

Titanium Pigment Co.
111 Broadway
New York, New York

Re: "Kronos" Titanium White

Gentlemen:-

Your telegram, addressed to Dr. Kuhne at Leverkusen, with reference to deliveries to Portugal, was passed on to us by Titangesellschaft. We are unable to take advantage of your kind offer due to the fact that we are now in a position to supply the Portuguese market from our side.

We ask you, therefore, not to send any offers to Portugual and to refer any interested parties to our representatives at the following addresses:

1. *In the Province of Porto:* Sociedade de Anilinas Lda. Rum José Falcao 199, Porto.

2. *In the Province of Lisbon:* Sociedade de Anilinas Lda. 1 Travessa das Pedras Negras 1 Lisbon.

We have cabled you according to these above given instructions.

We beg to remain,

Yours very truly,

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

c.c. Titangesellschaft-Leverkusen

Exhibit 1068

RCA RADIOGRAM

Sep 29 1940

Received at 64 Broad Street, New York at , Standard Time

DGGMA FRANKFURTMAIN PR 1754 88 28 1059 1/50
NLT ITANIUM PIGMENT CORPORATION
111 BROADWAY NEWYORK

GARESCHE WE ARE ABLE SUPPLY TO FAR EAST WITHOUT DIFFICULTY PLEASE STOP FURTHER OFFERS WHICH HAVE COMPELLED US TO QUOTE LOWER PRICES AND WE FEAR THAT THE EFFECT WILL BE OF A CERTAIN DURABILITY FOR THIS REASON WE BEG YOU NOT TO MAKE

Exhibit 1068

RCA RADIOGRAM

Received at 64 Broad Street, New York. At Standard Time

DGGMA 1754 NLT ITA 2/38
ANY OFFERING IN FUTURE BEFORE HAVING COMMUNICATED WITH US WE THANK YOU FOR YOUR PROPOSAL TO ASSIST US WITH SUPPLIES IN COUNTRIES WHERE WE ARE NOT ABLE TO SUPPLY WE SHALL REVERT TO YOUR OFFER WHERE NECESSARY

SULFUR

Exhibit 1069

September 30, 1940.

Titangesellschaft, I. G. Werk
Leverkusen,
Germany

Attention Dr. Kuhne
&
Dr. Bruggemann

Gentlemen:

We acknowledge receipt of your cables of September 19th and 29th from Frankfort, Main, signed "Sulphur".

In view of the fact that you are able to supply both Portugal and China, we will make no more offers in either market. In the future, we will make no quotations to inquiries from your territory until we have had your request to do so.

With best regards to Drs. Kuhne, Bruggemann and Raspe, I am

Yours very truly,

C. F. GARESCHÉ
Manager

cc Dr. Jebsen

Exhibit 1070

COPY

Agencia Helice,
R. Jardin do Tobaco, 90,
Lisbon, Portugal

October 25, 1940.

Gentlemen:

We refer to our leter of October 4th in which we quote you on titanium pigments of our manufacture for shipment to Portugal.

Please be advised that we are now informed by our European associates, I. G. Farbenindustrie A. G. that they are in a position to take care of requirements in Portugal, wherefore, we must withdraw our quotations.

In lieu thereof we wish to refer you to:

In the Province of Porto
Sociedade de Anilinas Lda.
Rua José Falcao 199, Porto

In the Province of Lisbon
Sociedade de Anilinas Lda.
1 Travessa das Pedras Negras 1, Lisbon

We trust that they will be able to take care of whatever requirements you may have.

Yours very truly,

TITANIUM PIGMENT CORPORATION

d

I. D. HAGAR—Vice President

cc: Mr. C. F. Garesché

Exhibit 1071

Titangesellschaft m.b.H. October 28, 1940.
Leverkusen—I. G. Werk
Germany

Attention Dr. Kuhne
&
Dr. Bruggemann

Gentlemen:

With further reference to my letter of September 30th, we find that through inadvertence, a quotation was made on October 4th to Agencia Helice,

R. Jardin do Tobaco, 90,
Lisbon, Portugal

on 200 drums of titanium dioxide. We have not, as yet, heard from this quotation, but under date of October 25th, when the error was discovered, we withdrew our quotation.

Also, under date of October 11th, a quotation was made to Marshall Dill, Broker
San Francisco, California,
U. S. A.

on "TITANOX"-B-25 and "TITANOX"-B-30 for shipment to China. This quotation was rescinded on October 25th.

We are very sorry that through an oversight in our office these quotations were made, but trust that our having rescinded them will cause you a minimum of inconvenience. We assure you that definite instructions have been issued so that no more quotations will be made.

Yours very truly,

C. F. GARESCHÉ
Manager

cc Mr. Hagar
Dr Jebsen

3410

3397

Exhibit 1072

October 25, 1940

Mr. N. P. Malin,
Marshall Dill,
24 Bluxome Street,
San Francisco, Calif.

Dear Sir

On October 11th we quoted you on "TITANOX"-B-25 and "TITANOX"-B-30 for shipment to China.

We now have to advise you that we are informed by our European associates that they are in a position to take care of requirements in China, wherefore it is necessary for us to withdraw our quotations.

We regret our inability to work further with you in this matter, and hope that you will not be unduly embarrassed by the action which it becomes necessary for us to now take in view of the changed conditions abroad.

TITANIUM PIGMENT CORPORATION

I. D. Hagar-Vice President

cc: Mr. C. F. Garesché

3411

Exhibit 1073

TRANSLATION

November 20th, 1940

LEVERKUSENIGWERK 50/49 30 1332

TITANCY 111 BROADWAY NEW YORK

YOUR CABLE NOVEMBER 20 PLEASE DO NOT MAKE ANY OFFERS TO CHEMICAL EXCHANGE SHANGHAI BECAUSE OUR MERCHANDISE IN SHANGHAI IS AT THEIR DISPOSAL STOP DELIVERIES TO HODGES HONGKONG IS NOT POSSIBLE ON OUR SIDE STOP INCASE DELIVERIES ARE MADE FROM THERE* PLEASE EXRCISE CARE THAT MERCHANDISE DOES NOT GO OVER HONGKONG TO CHINA

TITANGESELLSCHAFT

*Apparently means Shanghai

Translated by:
J. Lüer - Pat.Dept.
December 2nd, 1940

Exhibit 1074

TRANSLATION

I. G. FARBENINDUSTRIE A. G.
Frankfurt (Main) 20

December 17th, 1940

Titanium Pigment Corporation
111 Broadway
New York, N. Y.

Our Ref: Abt. V B/W
Re: "KRONOS" Titanium White

Gentlemen:

We confirm receipt of your letter, addressed to Titangesellschaft m.b.H. at Leverkusen, from which we understand that the firm

Chemical Exchange, Shanghai and
Hodges, Hongkong

have been pressing you for offers of Titanium White, supposedly due to the fact that these firms are unable to fill their requirements in China, and that you, accordingly, would be prepared to make deliveries.

We very much appreciate this proposal, but would ask you to refrain from making any offers to the firm in Shanghai as we have the possibility of delivering there, and also because we have a sufficiently large supply on hand to supply customers located there.

As concerns supplying the firm of Hodges in Hongkong, due to the present circumstances, we are not in a position to deliver (sell) Titanium White there and we, therefore, authorized you by cable to deliver directly from the U. S. A. to Hongkong while the present conditions pre-

Exhibit 1074

vail. In the meantime, we understand from your cable, addressed to Titangesellschaft, that you will also refrain from sending your offers to Hongkong, and we take it that you have reached this decision due to the fact that you are of the opinion that the material would be re-shipped from there to China.

With best regards,

Yours very truly,

I. G. Farbenindustrie A. G.

(Both Signatures Illegible)

Translated by:
J. Lüer - Pat. Dept.
February 7th, 1941

Exhibit 1075

February 7, 1941

I. G. Farbenindustrie A.G.
Frankfurt (Main) 20
Germany

Gentlemen:

Thank you very much for your letter of December 17th which has just reached us.

Since September we have refused to make any offers to both Shanghai and Hong Hong. Our position in this respect is based upon the advice in the cablegram sent us by Titangesellschaft on November 20th which reads as follows:-

"YOUR CABLE NOVEMBER 20 PLEASE DO NOT MAKE ANY OFFERS TO CHEMICAL EXCHANGE SHANGHAI BECAUSE OUR MERCHANDISE IN SHANGHAI IS AT THEIR DISPOSAL. STOP DELIVERIES TO HODGES HONGKONG IS NOT POSSIBLE ON OUR SIDE STOP IN CASE DELIVERIES AREMADE FROM THERE* PLEASE EXERCISE CARE THAT MERCHANDISE DOES NOT GO OVER HONGKONG TO CHINA." TITANGESELLSCHAFT

*Apparently means Shanghai

Your communication just received indicates that you are willing, however, for us to supply Hong Kong while present conditions prevail. Therefore, we are modifying our policy to the extent that in the event we have offers from Hong Kong in the future we will accept them until advised to the contrary by yourselves. We will take such steps as are possible to make sure that the pigment sold to Hong

Exhibit 1075

Kong does not get into Shanghai, but naturally our influence over this situation will be limited since the only thing that we can do is to ask for assurance from the purchaser that such a movement will not take place.

We have noted with considerable concern that substantial quantities of titanium pigments are being shipped to China by other producers whose identity we have not been able to establish. Naturally, since there is some business to be had in China we are rather disappointed that we have been unable to benefit thereby.

Yours very truly,

TITANIUM PIGMENT CORPORATION.

d I. D. HAGAR—Vice President

Exhibit 1076

May 19, 1941

Geo. Ube Company,
75 8th Avenue,
New York City

Gentlemen:

We enclose a copy of our current price list on "TITANOX" Pigments.

The prices quoted under the heading barrels will apply to all export shipments, packed either in barrels or in multiple ply export bags, at the option of the purchaser. These prices are f.a.s. New York, and since we must pass on all profit in connection therewith to our European associates, we cannot grant any commissions.

Furthermore we point out that due to the unprecedented heavy demand for "TITANOX" Pigments we can give no definite assurance at this time of the acceptance of any orders for export.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. HAGAR—Vice President.

Exhibit 1077

7/1/40

Cable received by Mr. Miho about three days ago:

ILMENITE OUR PRESENT STOCK LAST ABOUT 6 MONTHS STOP WE MUST HAVE AT LEAST 6 MONTHS STOCKS FOR SAFETY REQUIRE 7500 TONS FROM JANUARY LAST PLANT EXTENSION COMPLETE END OF THE YEAR STOP ASSISTANCE OF TITANIUM CORP APPRECIATED GREATLY

Waldorf Astoria Hotel—El. 5-3000

Exhibit 1078

WESTERN UNION TELEGRAM

FV990 VIAIRCA-E TOKIO 37 22

NLT GARESCHE PRESIDENT TITANIUM PIGMENT CORPORATION-111 BROADWAY NYK-

REFERRING CONVERSATION BETWEEN YOU AND MIHO ABOUT TRAVANCORE ILMENITE CAN YOU QUOTE US 2000 TO 3000 TONS CIF MOJI SHIPMENT WITHIN THIS YEAR SOP APPRECIATE YOUR CABLE-

TITANCO.

3406

3419

Exhibit 1079

DR. JEBSEN:

WHAT SHOULD WE DO?

C. F. G.
8-23-40

RETURN TO GARESCHE WITH REFERENCE TO CONVERSATION.

E. G.

Exhibit 1080

COMMERCIAL CABLEGRAM

AUGUST 23, 1940

NLT
HOPKIN WILLIAMS, 10 PRINCES ST LONDON
(ENG)

40085 NATIONAL INFORM US JAPAN FIRM IN WHICH THEY HAVE A MINORITY INTEREST ENQUIRING TWO TO THREE THOUSAND TONS COLACHEL ARRIVING MOJI JAPAN PRIOR END CURRENT CALENDAR YEAR STOP IF INTERESTED PLEASE QUOTE CIF MOJI PRICE FIRM FOR STATED INTERVAL

TENNANTS

cc: Mr. Garesche

Exhibit 1081

Letterhead of

C. TENNANT, SONS & CO.
OF NEW YORK

August 29, 1940

National Lead Company,
Titanium Division,
111 Broadway,
New York, New York.

Attention of Mr. C. F. Garesche

Gentlemen:

ILMENITE—JAPAN

We are in receipt of a cable this afternoon from Hopkin & Williams in which they ask us to please thank you for the information in connection with the Japanese inquiry for 2,000 to 3,000 tons of Colachel Ilmenite.

They add that they have already been in touch with this business through their agents in Japan.

Very truly yours,

C. TENNANT, SONS & CO. OF NEW YORK

A. McKNIGHT
Manager, Chemical Department

AM:BB

—Exhibit 1082.

GERMAN TRANSLATION

(Dept. V B/W)

Dr. G. Jebsen
c/o Titanium Pigment Corp.
111 Broadway
New York, N.Y.

air mail
2nd "

Sept. 2nd 1940.

"KRONOS" TITANIUM PIGMENT

We take the liberty of informing you of the following:

Titan Kogyo K.K., Tokio, which formerly obtained its ore supply from Norway, now does not have the possibility of ordering its raw material from that source. Therefore, as early as December of last year consideration was given to placing orders for Travancore ore in the event that the war became more intense, so that at least an accumulation of the stocks on hand would be possible. Factory experiments, which have been carried out this year, with this ore have given products of good color. Thereupon, Titan Kogyo decided to place an order for 3,500 tons of Travancore Ore. The export license of British India required for the first shipment of 1,500 tons was granted on the condition that the ore would not be delivered to Germany. Export licenses for additional shipments have been refused on the ground that German capital is invested in Titan Kogyo. Furthermore, in order to prevent discussion our representative heard (hoerte—possibly meaning "was told") that the interested American parties would, in the future, also receive only export licenses to the extent of their former orders.

3423

Exhibit 1082

Since obtaining ore from Norway by the land route is impossible due to the high freight rates, we have discussed with the representative the possibility of using Japanese ores or ores from Manchukuo. However, according to the information of Mr. Fujita, part of the ore deposits of this region are not useable and the other part could only be supplied after possibly two years.

Considering the continued expansion of the plant an increasing consumption of ore is to be expected and, according to information received by us, it is to be concluded that the present ore supplies will be used up in production by the middle of 1941. Since the continuing operation of the plant is dependent upon the ore supply, Titan Kogyo has applied to the Japanese Foreign Office to act through diplomatic representation to the proper corresponding English authorities, with a view to obtaining an export release of Travancore ore. It was suggested by the Japanese that you support the efforts of our friends and negotiate with the English Government for the export release of Travancore ore in connection with which you might like to call attention to the fact that the German held share of Titan Kogyo is only slight.

We join Titan Kogyo in its request and would greatly appreciate it if you would take steps in the light of the suggestions made by Japanese Titanium Pigment Company relative to an unhindered importation of Travancore ore into Japan.

We look forward with interest to your reply in this matter.

c.c. Titangesellschaft, Le.

Yours very truly,

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Weiss Ernst

Exhibit 1083

TRANSLATION

Fredrikstad, September 4, 1940

Dr. G. Jebsen
c/o National Lead Company
111 Broadway
New York, N. Y., U. S. A.

Dear Dr. Jebsen:

TITAN KOGYO

Please find herewith "Resolutions" and "Niederschrift" (minutes) from the Board Meeting of June 27, in connection with which I. G. Farbenindustrie, Frankfort, write as follows:

"We have already mentioned in our letter of June 13, 1940 that a member of the Japanese executive committee, Mr. Ishizaka, had submitted his resignation. We are sorry to say that all our efforts to keep this gentleman with Titan Kogyo have been unsuccessful, consequently his leaving the company will have to be regarded as final. At the meeting of the executive committee of June 27, 1940, it was suggested by Mr. Fujita that Nakajima, the manager in Ube, be elected director as successor to Mr. Ishizaka. At the same time, the nomination for director of Mr. Tanaka, who has been designated as sales manager in Tokio, was suggested. As this would increase the Japanese representation on the executive committee to three (Messrs. Fujita, Nakajima, Tanaka) the Doitsu has asked for our approval for the election of a director from the European-American group, which, up to this time, was only represented by two gentlemen on the executive committee (Dr. Rockstroh and Mr. van der Laan). To safe-guard the parity Doitsu fur-

ther suggested Mr. Grimm as director. We have, in the meantime, cabled our approval hereto.

"We are enclosing herewith three copies of the minutes, as well as the official record of the above-mentioned meeting of the executive committee of June 27, 1940. Article 4. of the minutes states that the matter of the "retiring allowance". (Abfindungssumme) for Mr. Ishikaza is to be handled by Mr. Fujita. In the meantime, we have been advised that the amount of 20,000. Yen was suggested as "retiring allowance", which amount, according to information received by us from Doitsu, corresponds with the usual custom of Japanese firms. We have, therefore, answered the cabled request for approval in the affirmative."

With kind regards,

Translator: R. DANNENBAUM — *Patent Department* — *National Lead Co.*—Oct. 4, 1940

Tokyo, July 2, 1940

Minutes of the Meeting of the Executive Committee of Titan Kogyo, held in the Nissan Building, 10:30 A.M., June 27, 1940

Present: Messrs. Fujita, Tanaka, Nagasaki, Abe, Pahl, Dr. Rockstroh, van der Laan

Business of the day:

1. Suggestions for a successor to Director Zenso Ishizaka who has resigned.

Exhibit 1083

2. Increasing the number of directors to six.

3. Raising the maximum remuneration for directors and auditors to 50,000 Yen.

4. Retiring Allowance (Gratifikation) for Mr. Z. Ishizaka.

5. Calling a principal meeting (a.o. Hauptversammlung) to vote on the aforementioned points.

6. Transfer of the 30 shares of stock presently standing in the name of Z. Ishizaka to Mr. Kikujiro Nakajima.

7. Suggestion to nominate Messrs. E. Grimm, Otokichi Tanaka, and Kikujiro Nakajima to the position of director.

8. Duties of Messrs. Tanaka and Nakajima.

9. Fixing the position of Dr. Rockstroh.

10. Authorization of funds for the acquisition of apparatus, etc.

As to Nos. 1 and 2: Mr. Fujita stated that an effort to influence Mr. Ishizaka to renounce his resignation was unsuccessful, and that the resignation set for the end of February would have to be accepted now. He further stated that Mr. Murayama has also repeatedly conferred with Mr. Ishizaka, without finding a way for further interesting the latter in the business of Titan Kogyo. Mr. Fujita recommended that Messrs. Tanaka and Nakajima be elected to the Board of Directors, the latter of whom has had the same university training as Mr. Ishizaka, is slated for the business in Ube, while Mr. Tanaka is to be made sales manager in Tokio. To safe-guard the parity within the executive committee, Doitsu recommended an additional director, for

which Mr. Grimm was suggested. Doitsu has now objections to Mr. Grimm's election, and Mr. van der Laan offered to inform the European-American Group by telegram of the above suggestion, so that they may also comment on this matter.

As to No. 3: At the principal meeting on June 22, 1936, founding Titan Kogyo the total amount of the yearly remuneration for directors and auditors was fixed at 30,000 Yen. In view of the enlarged number of directors an increase of this amount to 50,000 Yen is deemed desirable. The usual bonus will not be affected by this ruling.

As to No. 4: Mr. Pahl suggests the payment of a retiring allowance to Mr. Ishizaka be left to be determined by Mr. Fujita in accordance with the usual practice of the Nihon Yushi. Mr. Fujity will try to get this information and will report the amount some time in the near future.

As to No. 5: An "a.o." principal meeting will be called for July 13, 1940 to vote on the above-mentioned points. It is expected that telegraphic comments from Frankfort will have been received in the meantime. Mr. Nagasaki calls attention to the fact that the permission of the Ministry of Finance will have to be obtained on points 3 and 4.

As to No. 6: Of the 30 shares of stock now standing in the name of Mr. Ishizaka, 10 shall be transferred to Mr. Nakajima, and, according to the suggestion of Messrs. Pahl and Tanaka, 20 shares to Mr. Abe. As to Doitsu it will have to be established whether they on their part want to recommend a further stockholder not presently represented on the Board of Directors.

As to Nos. 7-9: In assigning positions among the directors, Dr. Rockstroh and Mr. Ishizaka were, some time ago, nominated as Managing Directors (Jomu Torishimariyaku). As it is desirable that Mr. Nakajima should not become a managing director, and all directors are now on equal basis, Dr. Rockstroh will, therefore, in the future be regarded as a director only, and not as managing director.

Mr. Fujita explains that Nakajima will be factory manager at Ube, but that Dr. Rockstroh as "sōji kantoku" will remain general manager. To Mr. Pahl's question thereto, it is specifically stated that Mr. Nakajima will have to obtain the permission of Dr. Rockstroh before taking any decisive steps.

As to No. 10: The following payments are authorized:

Y 1,130—for a reserve acid pump

Y 1,140—for reserve steering heads for rotary filters

Y 1,900—for tube conduits for recovering waste liquors (without tank, as this is taken care of in the excavation program.)

Y 1,000—Toward the erection of a Chamber of Commerce building in Ube.

Mr. Van der Laan asked as to this (latter) for a statement of the amounts to be paid by the other industrial firms in Ube.

Obtaining Ore:

1. Travancore Ore: Mr. Van der Laan states that Doitsu has cabled Dr. Jebsen through Frankfort asking him to

negotiate with the British government for lifting the embargo on Travancore ore export. No answer has been received so far. Mr. Tanaka acknowledges that Titan Kogyo has, on its own behalf, approached the Japanese Foreign Office to influence the respective British authorities through diplomatic channels in relation to the same matter.

Mr. Fujita states that he has telegraphically contacted Mr. Miho, Mr. Aikawa's former companion on a trip to Germany, who is now in America (U.S.A.) to endeavor to arrange through Titan Co., Inc.—Wilmington that Titan Kogyo will be able to receive a part of the ore from British India.

2. *Ore From Brazil:* Dr. Rockstroh states that according to his information there are deposits of ilmenite at Bahia and it was agreed to approach the I. G. representatives in Brazil to gather information about transportation possibilities as well as a sample and price list.

3. *Ore in Asia:* Mr. Fujita reported the results of his last trip to Manchuria, where the Manshu Kogan K. K. possesses exploitation rights to an ore deposit in the Nekka District from which samples of ilmenite have been submitted. Deliveries from these deposits can be expected at the earliest, two years from now, because the obtaining of ilmenite and iron ore are connected with blast furnace works presently under construction.

The ilmenite deposits examined up to now in Korea (Chosen) are so unfavorably situated that their use, according to the Japanese opinion, cannot be considered because of high transportation costs.

Exhibit 1083

The deposits on Shodoshima (Translator's Note: This seems to be a mountain.) mentioned by Dr. Rockstroh, are not regarded as being suitable by the Japanese because that district has been declared as a National Park (Naturschutzpark) and permission for working will, in all probability, be refused by the government.

Expense Refunds: In view of the affirmation obtained at the last meeting of the Board of Directors, regarding the refund of expenditures, Mr. Van der Laan would like to know what further steps have been taken in the meantime. He was informed that it will again be brought to the attention of the Ministry, so as to speed up the granting of the transfer-petition which is in their hands.

(signed) VAN DER LAAN

Translator: R. Dannenbaum—Patent Department—National Lead Co.—Oct.4,1940

Exhibit 1084

J. M. Fisher,
Apartado 2882
Mexico D. F.

October 28, 1940

I. G. Farbenindustrie Aktiengesellschaft
Dept. B B/W
Frankfurt (Main) 20,
Germany

Attention Messrs. Weiss
&
Ernest

Gentlemen:

We beg to acknowledge receipt of your letter of September 2nd with reference to the difficulty which Titan Kogyo K. K., is having in obtaining ore for the operation of their plant.

Under date of August 23rd, we also had a cable from Tokyo asking us to quote them on 2000 - 3000 tons of Travancore ilmenite for shipment this year. We cabled them in reply on September 5th that we were unable to obtain quotations from our London suppliers because of war complications. We, however, offered to sell them some Norwegian ore from our stock at Sayreville, N. J., if they found it impossible to get ores elsewhere. We have since had a reply from them stating that they are trying to negotiate direct with a native producer in India.

It apparently is not possible to arrange for shipments to them from our English suppliers, due to war complications. However, if they are unsuccessful in obtaining sup-

plies elsewhere, we will be glad to keep them going with several thousand tons of Norwegian ilmenite from our stock pile.

Yours very truly,

C. F. Garesché
Manager

cc Dr. Jebsen

Exhibit 1085 34333

Letterhead of

TITAN KOGYO KAISHA, LTD.

Mr. C. F. Garesche, Oct. 31st. 1940.
President,
Titanium Pigment Co., Ltd.,
111 Broadway,
New York

Dear Mr. Garesche:

Referring back to your cable dated Sept. 7th regarding import of Travancore Ilmenite to Japan through you, we appreciate very much for your kind inquiry made for us to your London supplier and the good suggestion you have given us for possibility of securing the ore.

We are very glad to inform you that by negotiating with Hopkin & Williams (Travancore) Ltd. through Brunner Mond Co. (Japan) Ltd. we have succeeded at last to obtain quotation for 2,000 tons, and we are now negotiating with steamship company here for the space which is not easy at present on account of the government control of the space of ocean carriers. However we are endeavoring utmost effort to secure it as soon as possible.

Should the present situation change in future, which would make the dealing with the Travancore supplier impossible, we may ask your assistance again in obtaining Norwegian Ilmenite from your side, and we trust that you would help us at anytime if necessary.

Hoping to remain, always,

Yours truly,

M. FUJITA
M. Fujita
President

TITAN KOGYO KAISHA, LTD.

P.S.: Please give my heartiest regards to Dr. Jebsen if he is there.

Exhibit 1086

WESTERN UNION CABLE

FV1064 VIA RCA—F TOKIO 24 29
NLT GARESCHE TITANOX—
NYK-

1940 NOV 29 PM 11 52.

GARESCHE C/O
TITANIUM PIGMENT CO INC.
111 BWAY R—1814.

REFERRING TO YOUR TELEGRAPH IN SEPTEMBER FOUR LETTER OCTOBER 31ST CAN YOU STILL SUPPLY US NORWEGIAN ILMENITE 1000 TONS—

ITANCO.

31st 1000.

Exhibit 1087

WESTERN UNION CABLE

Dec 2, 1940

Titanco
Tokio
Japan

NORWEGIAN ORE STILL AVAILABLE PRICE ELEVEN DOLLARS GROSS TON FAS NEWYORK TERMS CASH AGAINST DOCUMENTS CONFIRMED IRREVOCABLE LETTER OF CREDIT NEW YORK

Garesche
Titanox

Exhibit 1088

WESTERN UNION CABLE

1940 DEC 18 AM 1 27

FV1124 VIA RCA—F TOKIO 28 17
NLT CARESCHE—TITANOX—

NYK—
CARESCHE
C/O TITANIUM PIGMENT CO INC
R-1814 111 BROADWAY

ILEMENITE CAN YOU OBTAIN EXPORT LICENSE IF NECESSARY JANUARY FEBRUARY SHIPMENT STOP ARE YOU QUOTING IN LONG TON STOP WE ARE NEGOTIATING FREIGHT—

TITANCO.

Exhibit 1089

WESTERN UNION CABLE

December 20, 1940

Titanco
Tokio
Japan

ILMENITE REQUIRES NO EXPORT LICENSE
QUOTATION LONG TONS

Garesche
Titanox

Exhibit 1090

Letterhead of

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Per Flugpost via Süd-Amerika
Attention Mr. Garesché

National Lead Company
New York
Broadway 111

Dear Mr. Garesché,

We beg to acknowledge receipt of your favour of the 28th ult. from which we note that the Titan Kogyo K. K. has also communicated with your goodselves with regard to obtaining supplies of Travancore Ilmenite.

As we share your opinion that it will be useless for the Titan Kogyo to take further steps with a view to obtaining supplies of Travancore Ilmenite; we advised them already on Oct. 2nd by cable to apply to you for Norwegian Ore.

We should not fail to express to your kindness our sincere thanks for the fully understanding of the situation that you have already offered in September to supply Norwegian Ore to Titan Kogyo.

Yours very truly

I. G. FARBENINDUSTRIE

34339

Exhibit 1091

WESTERN UNION CABLEGRAM

FV989 VIA RCA=F TOKIO 25 9

1941 JAN 10 AM 12 41

NLT GARESCHE TITANOX=

GARESCHE

C/O TITANIUM PIGMENT CO INC

R—1814 111BROADWAY

NYK=

ILMENITE STEAMER DOES NOT AGREE TO TAKE CARGO IN BULK CAN YOU PACK IN BAGS IF SO WHAT IS QUOTATION=

TITANCO.

Exhibit 1092

WESTERN UNION CABLEGRAM

January 10, 1941

Titanco
Tokio
Japan

USING OLD CEMENT BAGS ADDITIONAL COST TWO DOLLARS TON STOP CAN WE ASSIST OBTAIN ACCEPTANCE BULK CABLE CARRIERS NAME

Garesche
Titanox

Exhibit 1093

January 29, 1941.

Norwegian Ilmenite to Titan Kogyo K. K., Tokyo
Mr. F. J. Shirley—Sayreville
J. Stranad

Dear Mr. Shirley:

Mr. Garesché received a cable today from Tokyo, advising that arrangements were made by Titan Kogyo K. K. for space on the Mitsui Line's vessel "ASOSAN MARU" for 700 tons of Ilmenite in bags.

This vessel according to the cable is to leave New York about March 9th, and the necessary permits from the Japanese Government are expected shortly.

We are passing this information on to you so that you will be prepared to ship this material when the confirmation of the permit and credit arrangements are received.

We are informed that the best way to ship these 700 gross tons in bags would be by a large barge to handle the whole tonnage at the 45¢ per gross ton lighterage rate.

Very truly yours,

J. STRANAD

c.c. M. B. Tipton
J. F. Doyle
A. H. Hoffman

Exhibit 1094

WESTERN UNION CABLEGRAM

February 19, 1941

TITANCO
TOKYO
JAPAN

ILMENITE READY ASOSAN MARU CABLE
DESTINATION AND ANY INSTRUCTIONS

GARESCHE
TITANOX

Exhibit 1095

Norwegian Ilmenite February 24, 1941

Mr. M. B. Tipton—Sayreville

J. Stranad

Dear Mr. Tipton:

We confirm our several conversations in connection with the movement of 707 gross tons of Norwegian ilmenite, which we have sold to Titan Kogyo K. K. at Tokio, Japan. This material is to be prepared for shipment as arranged by Mr. Garesche some time ago in second-hand cloth cement bags and is to be loaded in barges during the latter part of this week for delivery to the S. S. Asosan Maru of the Mitsui Line, Brooklyn Pier foot of 31st Street on March 3rd or 4th.

The bags as we understand it will be packed to their full capacity and weighed in bulk and are to be marked as follows:

TITAN
KOBE

This lot of ilmenite has been sold to our Japanese affiliate on the basis of cash against on board order bills of lading against an irrevocable letter of credit issued to us by Titan Kogyo K. K. on the Yokohama Specie Bank at New York. Will you kindly arrange for the careful handling of this ilmenite in accordance with the information given above.

Very truly yours

J. Stranad

c.c. F. J. Shirley
R. P. Bunker
M. Howard—Atlantic Branch
A. H. Hoffman
J. F. Doyle
D. F. Gleason
W. H. Woods

Exhibit 1096

February 25, 1941

I. G. Farbenindustrie Aktiengesellschaft,
Dept. V B/W
Frankford (Main) 20,
Germany

Gentlemen:

We acknowledge yours of December 23rd with reference to our offer to Titan Kogyo to ship them some of our Norwegian ilmenite. You will be interested to know that they have asked us to ship 700 tons and that it is due to be forwarded about the first week in March on the "Asosan Maru" of the Mitsui Line.

We trust this will keep them going until they can obtain ore from nearby sources.

Yours very truly,

Manager

cc. Mr. Jebsen

Exhibit 1097

February 27, 1941

Mr. M. B. Tipton—Sayreville
J. Stranad

Dear Mr. Tipton:

On February 24th we informed you that you were to arrange for the shipment of 707 gross tons of Norwegian ilmenite to Titan Kogyo K. K. at Kobe, Japan. At that time the Mitsui Line asked us to have their material alongside their dock on March 3rd or 4th. We are now informed that due to a change in plans they do not want delivery of this ilmenite alongside the S. S. Asosan Maru until March 8th to 10th, and Mr. Doyle therefore suggests that we plan to have the barge, which is to carry this material, load it at Sayreville for departure on March 6th.

This shipment is to be made in the name of the Titanium Pigment Corporation on the basis of cash against on board order bills of lading as previously advised against an irrevocable letter of credit issued to us by Titan Kogyo K. K. on the Yokohama Specie Bank of New York.

On the bill of lading the consignee to be notified is Titan Kogyo Kabushiki Kaisha, Tokio, and according to the Mitsui Line the material will be consigned to Kobe, Japan. Just as soon as you can possibly arrange to do so, will you kindly inform us how many bags will be used in making up this consignment of 707 gross tons net together with the gross, tare and net weights. We need this information during the early part of next week in order that the necessary

documentary procedure in connection with export shipments may be started.

Very truly yours

J. Stranad

c.c. R. P. Bunker
M. Howard
F. H. Dow
A. H. Hoffman
J. F. Doyle
D. Gleason
W. H. Woods

Exhibit 1098

ILMENITE FOR TITAN KOGYO K. K.

March 6, 1941

Yesterday afternoon during a telephone conversation with the Mitsui Line with Messrs. Caldron and Katsumouri, the latter the Manager of the Mitsui Line at New York, and the former their export manager, we were informed that the Customs Office at New York advised them to the effect that ilmenite shipments to Japan were classified as Ferrous ores and would therefore require a permit. This is contrary to the information, which we received from the Bureau of Foreign and Domestic Commerce as previously noted. They suggested that we immediately prepare the necessary export declaration and to file it with the Customs House. This was done promptly and the export declaration was accepted and signed—#114873.

In order to determine at the suggestion of Mr. Garesché the matter of loading this ilmenite on the Asosan Maru prior to the deadline under the new restrictions going into effect 12:01 AM, March 10th, I called on Mr. Katsomouri with Mr. Howard of the Atlantic Branch Export Department and the whole situation was discussed. Mr. Caldron their export manager was present at this conversation. Mr. Katsomouri advised us that they are anxious to cooperate in every way with their Japanese customer, even to go as far as to put in overtime in Philadelphia to unload sugar from this vessel to prepare for the loading of the ilmenite before the vessel arrives at New York by handing one half of it over the pier and then to have stevedores come in to load the tonnage on Sunday all of which extra expense would probably run over $2,000.00.

He was pleased with the fact that the export declaration was cleared through Customs because they expected con-

siderable difficulty owing to the fact that Mr. Caldron's previous day's conversation with Customs Officials, particularly Mr. Frye, indicated that they would not pass ilmenite.

In view of the possibility of complications arising from the possible refusal or withdrawal of the export declaration permit, I felt it advisable to discuss this situation with the Customs office for the purpose of obtaining the exact position of our company with relation to the export declaration. Hr. Katsomouri reluctantly acceded to the suggestion that we go to the Customs Office and obtain a ruling.

We first talked with a Mr. Diamond, who initially informed us that ilmenite could not be exported after March 10th according to the new regulations which had just gone into effect. When Mr. Caldron reviewed with him his conversation of the previous day with Mr. Frye, during which there was doubt as to whether or not ilmenite required an export permit and they finally decided that since it contained iron its exportation is prohibited under ferrous ores. He informed Mr. Diamond that we had received an approval on our export declaration, but Mr. Diamond evidently misunderstood it and a great deal of discussion took place between the personnel of the Customs Office and we were later informed that the issue became quite confused because of his belief that the declaration was refused.

After a lot of conversation, which finally was turned over to Mr. Fitzgerald, a special agent for th Deputy Collector, it was decided by him that before they would be able to tell us whether or not the material could be shipped to Japan prior to the new regulations come into effect, they would have to take samples, analyze them and then the Appraiser's

Stores would give a ruling as to whether or not the shipment came within the realm of the current restrictions. I tried and tried to find out from him how we could get an interpretation from someone in New York as to whether an ilmenite of the approximate analysis of the Norwegian ore in question was subject to export permit requirements before March 10th. His continual and definite answer was we could not find it out until after the material had been sampled, submitted to the Appraiser's Stores, analyzed and ruled on by them. I tried to get from him some means of getting such a ruling by the Appraiser's Stores prior to the final analysis and he would not concede to any such way or procedure. The final outcome as far as Mr. Fitzgerald was concerned was that we would not in any way verify whether or not we were within the law in exporting this ilmenite to Japan before the new restrictions go into effect on Monday morning.

The conversation was then shifted over to Mr. Frye where the whole thing was reviewed all over again. They looked over their books and decided that ferrous ores were not exportable. Someone had typed into the book the words ilmenite and rutile. When I tried to find out the authority for those items from the clerk who had inserted them, he disappeared and did not come back.

We were informed that after a definite determination of the composition of the material was made a ruling would have to come through Mr. Fitzgerald's office or from Washington and they could not tell us the information we wanted until then. After a great deal of effort in trying to find where in New York such information was available, he finally gave me the name of either Captain Graff or Mr. Hentz in the State Department at 90 Church St., Rector

Exhibit 1098

2-2100. After discussing the situation with Mr. Garesché and later with Mr. Katsouri I telephoned Captain Graff and outlined the whole picture to him and asked whether or not ilmenite could be exported at the present time. He informed me that ilmenite would be effected by the ruling on March 10th but that it was not under any export restrictions at the present time. However, he also stated that the Customs Office had the prerogative of examining the cargo before permitting it to be loaded and intimated that they might be stalling in order to hold the material subject to export permits.

I recited to him about the history of the transaction and the fact that coincidental to its final consummation this ruling was issued, we had gone to a great deal of expense in packing this material and had it aboard a barge to take care of the first vessel designated for the cargo. Captain Graff promised to get in touch with the Customs Office and talk with Mr. Fitzgerald to see what he could do in getting the material cleared for us.

March 7, 1941

Telephoned Captain Graff this morning about 10 AM to learn of the result of his conversation with the Customs Office. He advised that he was in his office until a quarter after 6:00 last night working on our ilmenite export transaction and was sorry to report that the Customs Office definitely stands on its prerogative to examine the sample and analyze the cargo in question before authorizing its loading. He was sorry that they took such a stand but that there was nothing he could do about it. In spite of the attempt he again stated that as far as his office knew ilmenite

does not require an export permit until the new ruling goes into effect.

He suggested as our last point of appeal that we communicate with the State Department, Division of Control at Washington, Mr. Leonard H. Price at Republic 5600 as there was nothing further that he could do about the situation from his office. I extended our sincere appreciation for his very kind efforts and advised him that we would present the whole picture to our management to see what further action they would want to take.

This information was relayed to Mr. Katsomouri and in view of the fact that the situation had not been definitely cleared up he suggested that we hold the barge for a final decision. I also informed Mr. Caldron and asked that he communicate with Mr. Fitzgerald as soon as possible to find out whether or not the necessary permission would be granted to load the cargo. I also advised him that samples were taken this morning by Mr. Haley the Perth Amboy District official, and that they would probably be delivered to New York this afternoon. He will contact Mr. Fitzgerald personally immediately to find out if possible what the situation is at the moment. In talking with Mr. Turner I asked as to the length of time required to make TiO2 and iron determinations on ilmenite and was informed that the plant takes about one day with a complete set-up ready for such work and that one not acquainted with it would probably take two days. If the decision of the Appraiser's Stores is dependent on an actual analysis, we would then not receive their verdict until on Monday at the earliest, which would be too late for the loading of this vessel to bring the ilmenite within the new regulations.

On Friday I again called on Mr. Katsomouri to be sure that he was thoroughly familiar with our efforts in connection with this matter so that he would be in a position to advise his home office in Japan of our activity, and he in turn suggested that we leave no stone unturned and that we follow through Captain Graff's recommendation that we contact the State Department in Washington. I informed him that I would present the matter to the management again and would probably receive their consent to take this step.

After discussing this with Mr. Garesché he authorized me to make the Washington call and I attempted to contact Mr. Leonard H. Price in the State Department, Division of Control. As Mr. Price takes no phone calls my conversation was with Dr. Johnson in his office. The situation was again explained and he regretfully informed us that if any aid at all could be given to us it would be from Captain Graff and whatever he informed us was the best that the State Department could do for us. He wanted it clearly understood that they were not in any way passing the buck, but that Captain Graff was thoroughly familiar with the attitude of the Government and was set up as a spokesman for the government.

I reviewed for him the attitude of our company in connection with this matter. He appreciated the way our company felt but again suggested that we contact Captain Graff and if there is nothing further that he can do that our last appeal would have to be to the head of the Customs Department in Washington.

This information was promptly telephoned to Captain Graff, who of course informed us that he had done every-

thing he could with Mr. Fitzgerald's office. I thereupon decided to try once more to discuss with Mr. Fitzgerald the whole situation and threw all of our cards on the table. This interview was quite pleasant and when I attempted to obtain some indication as to whether or not we were being held up by a Government request or by a routine situation, he thought it would be best for me to present the whole picture to the Collector of Customs for New York, Mr. O'Keefe, and get whatever decision could be obtained directly from him.

I was thereupon ushered into Mr. O'Keefe's office and presented the whole picture as well as the attitude of our company on the matter, offering every cooperation that we could, if the government felt that it would be unwise to ship this ilmenite to Japan in view of current conditions. After a great deal of conversation he indicated that ilmenite was a commodity that has never cleared through the Port of New York as outgoing cargo and it would therefore be held up until they were thoroughly satisfied that the material was ilmenite by a verdict from their laboratory. Until they got this they could not issue the necessary permit. He did promise however that they would exert every possible means to get this permission to us as soon as possible after the material is received by the laboratory and they felt that an answer would be ready for us the first thing in the morning. I outlined to Mr. O'Keefe our concern in the event that it is perfectly all right for us to export this ilmenite and it takes us a full day to analyze ilmenite and pointed out that we felt it would take someone not actively engaged in the work two days which of course would be much too late for our information unless the material were to be examined microscopically and through such an examination identified as ilmenite.

I extended our appreciation for his very kind attitude and after a brief discussion with Mr. Fitzgerald I telephoned Mr. Katsomouri of what had transpired.

March 8, 1941

On Saturday morning at 11:12 Mr. Fitzgerald telephoned that their laboratory report was OK and that we had the green light to load the ilmenite before midnight Sunday, March 9th. I immediately conveyed the information to Mr. Katsomouri and was advised almost simultaneously by Mr. Caldron, who was with Mr. Fitzgerald when he telephoned. At 11:40 Mr. Katsomouri called, saying that he had just been in touch with the Captain of the vessel and plans were made to get the ship here by noon Sunday. However he was fearful that we might be stuck with part of the tonnage in the event it would be impossible for them to load all of the cargo by midnight.

At 11:45 Mr. Duval instructed us to have the Barge Pelham delivered to the North Side of their Pier, foot of 31st St., Brooklyn. This information was relayed at 11:50 to Mr. James Dwyer. At 12:06 Duval telephone again and said that there was some difficulty about the ship at Philadelphia and would we please hold up on our instructions to Dwyer. I immediately telephoned to Dwyer who advised us that he would wait for final instructions. At 12:23 Duval advised that the situation at Philadelphia had cleared up and would we please follow through on his original instructions.

At 12.24 Dwyer informed and said he would have the barge at the Mitsui Pier probably late that night.

Exhibit 1098

March 10, 1941

Mr. Katsomouri informed us that all of the cargo had been loaded onto the vessel before 11:30 PM. Mr. Duval called our attention to the fact that the number of bags which we informed them of was incorrectly stated. I took this matter up with Mr. Tipton and he verified the number of bags which were actually delivered to the liner. This gave some concern to Mitsui but when they were informed that we made no attempts whatsoever to pack in uniform weights, they decided to issue their Bill of Lading and manifests and all of the documents on the basis of net weight content of the material as cleared by us. The bills of lading were delivered to the writer on March 11th late in the afternoon and turned over to Mr. Woods in connection with the collection of the letter of credit.

Exhibit 1099

WESTERN UNION CABLEGRAM

April 1, 1941

Titan
Leverkuvnigwerk
GERMANY

CABLE ACKNOWLEDGED SEVEN HUNDRED TONS ILMENITE SHIPPED UBE MARCH NINTH STOCK PILES WILL NOT SAFELY LAST UNTIL DOMESTIC DEPOSIT IN OPERATION REPLENISHMENT FROM INDIA BECOMING IMPOSSIBEE REGRET WE CANNOT SPARE ORE FOR USE

Titanox
Garesche

Exhibit 1100

April 3, 1941

Mr. M. Fujita, President
Titan Kogyo Kaisha, Ltd.
Tamuracho 1-Chome,
Shiba-Ku
Tokyo, Japan

Dear Mr. Fujita:

Your letter of October 31st has just been received and we are indeed pleased to note that you have been able to arrange through Brunner Mond Co. (Japan) Ltd. for 2,000 tons of Travancore ilmenite. We trust that you will be successful in obtaining space from a steamship company to enable you to move this to Japan.

We also are having great difficulty in obtaining vessels to move supplies of ilmenite from India to the United States. The situation has become so serious that we are now developing a domestic deposit, but mining and milling equipment is very difficult to obtain quickly, and it will probably be more than a year before we can start commercial production. The situation is serious for us in that our supplies of ilmenite are so low that it is questionable if they will last until our mine is in production. Our situation is, therefore, that we cannot spare additional shipments of Norwegian ilmenite to you until such time as either the shipping situation from India is relieved, or we can be reasonably sure that our domestic supply will be available in time.

Even at the time we made shipment to you of 700 tons on March 9th, the situation was so serious that we should have much preferred not to have released even this quantity,

Exhibit 1100

but in view of the fact that we had promised it to you early last Fall, we felt that we should not witdraw our offer. Incidentally, at the time we made this shipment to you in March, the replacement value of that ore was more than double the price at which we invoiced it to you.

We sincerely hope that you are able to obtain a sufficient and continuous supply of ilmenite from India so that your plant will not be curtailed in its operation.

Sincerely yours,

C. F. GARESCHÉ
Manager

cc Dr. Jebsen

Exhibit 1101

Letterhead of

TITAN KOGYO KAISHA, LTD.

May 27th, 1941.

Mr. C. F. Garesche, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York,
U. S. A.

Dear Mr. Garesche:

We acknowledge the receipt of your information of April 11th through Doitsu Senryo and also your letter of April 3rd regarding ilmenite.

As our stock piles of Norwegian ilmenite has almost been exhausted and there is no more possibility to obtain such ore for sometime to come, we must depend on Travancore ilmenite and other similar kinds for the future operation. We appreciate greatly, therefore, to receive such information you have furnished us which are quite valuable and useful for the solution of difficult questions we have on hand at present.

Negotiation to import Travancore ilmenite through Brunner Mond Co. (Japan) Ltd. last fall was futile on account of war complication. Therefore we also have projected to develop our own Manchurian deposit recently, but situation here is not favorable to obtain necessary equipments for mining quickly, and it will take many months before we can start actual production.

700 tons lot of Norwegian ilmenite you have kindly spared us has recently been arrived Ube except 200 tons

Exhibit 1101

which is sunk in transit from Kobe to Ube on lighters by a storm accident. We are trying everything possible to save the lost cargo as much as possible.

We sincerely hope that in near future we can reciprocate your kind assistance extended to us in the past,

Sincerely yours,

M. FUJITA
M. Fujita,
President, Titan Kogyo K.K.

Exhibit 1102

June 20, 1941

Mr. M. Fujita, President
Titan Kogyo K.K.
Tamuracho 1-Chome, Shibu-Ku
(Nissan Kan)
Tokyo, Japan

Dear Mr. Fujita:

Your letter of May 27th is acknowledged and very much appreciated.

We are indeed pleased to hear that the 700 tons of Norwegian ore which we shipped you arrived safely at Kobe, but we regret to hear that some 200 tons were sunk on a barge during a storm.

We sincerely hope that you will be able to develop your own Manchurian deposit in time to keep your plant continuously supplied. We, too, are confronted with the same problem and will be very fortunate if we can bring domestic supplies into production before our stocks are exhausted.

With kind regards, I am

Yours very truly,

C. F. GARESCHÉ
Manager

Exhibit 1103

September 7th, 1939

Dr. G. Jebsen
Titan Co., Inc.
c/o Titan Co. A/S
Fredrikstad, Norway

Dear Dr. Jebsen:—

Now that the much feared European war has broken out, the question arises concerning United States patents which stand in the name of I. G. Farbenindustrie or Titangesellschaft, under which National Lead Company is licensed.

As long as the United States stays neutral, the license which we enjoy and the title of the I. G. Farbenindustrie or Titangesellschaft will, of course, not be affected. However, should the United States enter the war, it is to be expected that both the title and our license may be placed in jeopardy. At the moment there is no question of America coming in in the near future, but from the editorial comment in the American papers, statements of political leaders and the general public sentiment, I personally believe American opinion is somewhere about where it was in 1916. In other words, it took three years during the last conflict to bring American sentiment to the point where America was ready to enter the war. In the present situation it would probably require very much less time. During the last war all German owned patents were confiscated and placed under the supervision of a custodian of alien property, who then turned over these patents to an organization known as The Chemical Foundation. The Chemical Foundation then licensed any American company who desired to operate under the patent. If a similar situation should

arise from the present circumstances, we cannot be sure that our exclusive license would be respected.

A suggestion has been made that for the protection of the I. G. Farbenindustrie, Titangesellschaft and ourselves the patents might be assigned to us on something of a trust basis. We would, thus, have title to these patents, and would undertake to return these to the I. G. Farbenindustrie and Titangesellschaft when things cleared up.

I am writing this to you as a personal letter for your consideration. *It seems to me that if the I. G. Farbenindustrie and Titangesellschaft would be willing to assign to us for the duration of the present affair their United States patents in the Licensed Field, they would insure the preservation of their property and at the same time we would be in a position to protect our license.* Mr. Garesché believes this is a very good suggestion, and if it also strikes you as being worthy of following up, perhaps you could present it to the I. G. Farbenindustrie and Titangesellschaft in such way as you think best.

With very kind regards,

Yours very truly,

CFK:JL

c.c. Mr. C. F. Garesché

Exhibit 1104

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
8th Novbr. 1939.

GJ/HS.

C. F. Kaegebehn Esq.,
Manager Patent Department,
National Lead Company,
111 Broadway,
New York, N. Y., U. S. A.

Dear Mr. Kaegebehn:

Many thanks for your letter of September 7th.—Your suggestion strikes me as being a very good one.

I have not answered your letter before, as I was in the hope to have accomplished something in a relatively near future, but this has not come off. The matter is though under consideration, and I hope to have an opportunity for discussing the same in the near future.

It is regretable that matters of this kind can only be developed slowly in view of all the complications existing, but you may be assured that I will do what can be done to get the patent questions arranged on the lines you have suggested.

With very kind regards,

Yours very truly

G. JEBSEN

Exhibit 1105

Exchange of Patent Assignments
December 11th, 1939
Mr. C. F. Garesché
Mr. C. F. Kaegebehn—Patent Department

Dear Mr. Garesché:

Confirming our recent conversations, regarding exchange of title to patents, I beg to review the situation for you.

On September 7th I wrote Dr. Jebsen, pointing out that in view of the war certain questions arose effecting the United States patents which stand in the name of Titangesellschaft and the I. G. Farbenindustrie under which we enjoy an exclusive license. We suggested to Dr. Jebsen that it might be desirable to assign to National Lead Company, in trust, the patents of the I. G. Farbenindustrie and Titangesellschaft against the possibility of the United States entering the war and taking over these patents. The suggestion was primarily designed to protect the patent property of the I. G. Farbenindustrie and Titangesellschaft and at the same time would have protected our exclusive license by insuring that no one else could have petitioned the government to secure licenses under them. On December 7th I received the following cable from Dr. Jebsen:

"YOUR LETTER SEPTEMBER 7 STOP
SUBJECT LEADCOS AND TITANINCS
APPROVAL HAVE AGREED ASSIGNMENT
TG PATENTS AND APPLICATIONS
COUNTRIES OUTSIDE TG TERRITORY TO
TITANINC AND ASSIGNMENT LEADCOS

Exhibit 1105

AND TITANINCS PATENTS AND APPLICATIONS COUNTRIES WITHIN TG TERRITORY TO TG STOP ASSIGNMENT PATENTS BRITISH EMPIRE FRANCE MUST BE POSTPONED DUE WAR SITUATION STOP PATENTS AND APPLICATIONS OF IG CANNOT BE INCLUDED PRESENTLY BUT QUESTION WILL BE STUDIED STOP PLEASE CABLE APPROVAL STOP GERMAN PATENTS 571387 and 588230 and 604311 ARE IN LEADCOS CZECHOSLOVAKIAN PATENT 39354 IN TITANIUM PIGMENT CO INCORPORATEDS NAME ALL OTHER PATENTS TG TERRITORY IN TITANINCS NAME STOP CABLE TITANINC BOARDS AUTHORISATION I ASSIGN TITANINCS PATENTS AND APPLICATIONS TO TG AS ABOVE OUTLINED STOP SUGGEST FORMAL RESOLUTION BE MADE GENERAL REGARDING ASSIGNMENT AND MAILED STOP PLEASE ACKNOWLEDGE CABLE UPON RECEIPT"—JEBSEN.

The suggestion here is that Titangesellschaft will assign their United States patents and applications to National Lead Co. and National Lead Co. and Titan Co., Inc. will assign their applications and patents in Germany and other countries within Titangesellschaft's territory to Titangesellschaft. For purposes of considering this suggestion, National Lead Company's title may be disregarded. Seven years ago National Lead Company formally renounced maintenance of any European patents owned by it, putting upon Titan Co., Inc. the obligation to pay all maintenance

charges and, hence, under the Agreement of 1920, Titan Co., Inc. could have requested formal assignment of these patents. They have not done so in order to save the expense of preparing the assignments and recording them in the various countries. The question is, therefore, whether Titan Co., Inc. should assign its patents and applications to Titangesellschaft.

In discussing this matter with you on December 8th, it appeared to us that to assign these patents in Germany to Titangesellschaft might involve some risks for the future. For instance, if the Germans owned all the patents now held in Germany by Titan Co., Inc., and if, as a result of the war they were forced by their government, or through other circumstances, to abrogate the main agreement, they would be free to export their products and, in general, take themselves outside of the titanium family cooperation. I cabled this thought to Dr. Jebsen, soliciting his views. A reply has just been received which reads as follows:

"PROPOSAL MY CABLE DECEMBER 7 IS NOT TGS BUT MINE STOP CONSIDER THIS BEST PRESENT CIRCUMSTANCES TO SECURE LEGAL POSITION ALL AROUND STOP EXACTLY LEGAL POSTWAR POSITION PATENTS OTHERWISE VERY UNCERTAIN STOP PREVENTION IMPORT PARTLY SECURED IN FUTURE BY PATENTS IN RESPECTIVE COUNTRIES BUT WILL BE CHIEFLY SECURED BY ALL COMPANIES SELFISH INTEREST IN COOPERATION BECAUSE OF ADVANTAGES ALREADY REALIZED BY EXPERIENCE"—JEBSEN.

You will see that Dr. Jebsen believes that in view of the war the best possible legal position for all the members of the family is to hold title to all patents in its territory. He believes that prevention of import or export competition will chiefly be secured in the future through the individual company's recommendation of the advantages to be derived from maintaining the coöperation, having through experienced appreciated the value of this coöperation.

It should be noted in this connection that even if Titan Co., Inc. retained title to the patents in Germany, and should the government force abrogation of the main agreements, particularly with a view to fostering German exports, they will find means to negate Titan Co., Inc.'s patent rights also. Should the situation develop where Titangesellschaft is forced, perhaps against its will, to engage in export competition with other members of the titanium family, then, as pointed out by Dr. Jebsen, that competition can be controlled by patents owned by the other members of the family in their particular territories.

Therefore, I believe we should approve Dr. Jebsen's proposal.

Yours very truly,

CFK:JL

Exhibit 1106

Letterhead of

TITAN COMPANY, INC.

GJ/HS. Fredrikstad, 15th Decbr. 1939.

C. F. Kaegebehn Esq.,
Manager, Patent Department,
National Lead Company,
111 Broadway
New York, N. Y., U. S. A.

Dear Mr. Kaegebehn:

I confirm the following correspondence:

My radiogram of December 7th:

"Your letter September 7 Stop Subject Leadcos and Titanincs approval have agreed assignment TG patents and applications countries outside TG territory to Titaninc and assignment Leadcos and Titanincs patent and applications countries within TG territory to TG Stop assignment patents British Empire France must be postponed due war situation Stop patents and applications of IG cannot be included presently but question will be studied Stop please cable approval Stop German patents 571.387 and 588.230 and 604.311 are in Leadcos Czechoslovakian patent 39.354 in Titanium Pigment Co Incorporateds name all other patents TG territory in Titanincs name Stop cable Titanincs boards authorization I assign Titanincs patents and applications to TG as above outlined Stop suggest formal resolution be made general regarding assignment and mailed Stop please acknowledge cable upon receipt

Jebsen"

Exhibit 1406

Your radiogram of December 8th:

"Discussed assignment proposal Mr Garesche Stop suggestion of our letter September 7 primarily directed protecting TG and IG United States patents property by trust assignment to us Stop as to assignment Titanine Leadco patents to TG can foresee possible risks TG future Titanium family cooperation should war bring about abrogation main TG IG agreements particularly export provisions Stop Please cable your views

Kaegebehn"

My radiogram of December 9th:

"Proposal my cable December 7 is not TGs but mine Stop consider this best present circumstances to secure legal position all around Stop Exactly legal postwar position patents otherwise very uncertain Stop Prevention import partly secured in future by patents in respective countries but will be chiefly secured by all companies selfish interest in cooperation because of advantages already realized by experience

Jebsen"

It will be too long to discuss all the various aspects of this matter, as we have to deal with many uncertainties and assumptions.

In short I trust under the present circumstances more the individual private enterprises than the German government, and consider German firms like I. G. and T. G. in a better position to safeguard the Titanium interests towards the German Government than private enterprises of a belligerent country, as it also will be better for us to get into

our hands the patents in the countries outside T. G.'s territories than to have them in I.G.s and T.G.s hands.

The T.G. patents can be transferred, as this is a contemplated possibility in our agreements.

Unfortunately a transfer of the I. G. patents has not been contemplated in the agreement, and such a transfer is under the present war regulations dependant on a government permission. I do not think it advisable to postpone the transaction in expectation of such permission.

Unfortunately we cannot deal with the English and Canadian patents belonging to the Germans, but I believe this will not have any serious consequences, as I believe the custodians in these countries will give much considerations to the exclusive licences of our associated companies, if the question becomes of actual interest.

The patents we, according to the contemplated arrangement, will have ~~to~~ transfer to T. G. against their transfer to us of their patents—are all German patents—except a few Japanese patents, under which the Japanese company is licenced.

Under these circumstances I do not see that we risk much by making the arrangement, but we gain considerable advantages.

I should much appreciate to have your early answer.

With kindest regards,

Yours very truly

G. JEBSEN

Copy:
Mr. Garesché

Written in longhand: "Trust assignment" will I am afraid not hold.

3472

3459

Exhibit 1107

RCA RADIOGRAM

December 27th, 1939

LC

TITANCO FREDRIKSTAD (Norway)

ASSIGNMENT OF PATENTS AS YOU PROPOSE WILL BE APPROVED STOP DELAY OCCASIONED BY NECESSITY FOR CONSIDERATION OF LEGAL EFFECT UNDER UNITED STATES LAW OF SUCH ASSIGNMENT ON GENERAL LICENSE STRUCTURE LETTER AND AUTHORIZATION TO FOLLOW

KAEGEBEHN

3460

34773

Exhibit 1108

RCA RADIOGRAM

LCLMR 1137
FREDRIKSTAD 26 10 1252

NLT KAEGEBEHN LEADCO NEWYORK
YOUR CABLE 27TH DECEMBER DOES
ASSIGNMENT INVOLVE CONDITIONS
NECESSITATING AWAITING LETTER STOP
IF NOT PROPOSE LEADCO AND TITANINC
CABLE AUTHORITIES SOONEST

JEBSEN

Exhibit 1109

WESTERN UNION CABLEGRAM

January 22 1940

Jebsen
Titanco
Fredrikstad
Norway

Reference your cable January twentieth arrangement proposed your cable December seventh Kaegebehn approved in substance by both Titanine and Leadco without further qualification Stop Authorizing resolutions will be mailed you due course but see no reason why you should not take preliminary steps at once

M. D COLE

3475

Exhibit 1110

RCA RADIOGRAM

LC January 22nd, 1940

TITANCO FREDRIKSTAD (Norway)
ASSIGNMENT DOES NOT INVOLVE
CONDITIONS NECESSITATING AWAITING
LETTER STOP DISPATCH OF AUTHORITY
AWAIT PRESENTATION OF RESPECTIVE
BOARDS BY MR COLE

KAEGEBEHN

Exhibit 1111

January 23, 1940

Dr. G. Jebsen
c/o Titan Co. A/S
Fredrikstad, Norway

Dear Dr. Jebsen:—

Please accept my apologies for not replying previously to your cable of January 11th and January 20th, as well as your letter of December 15th.

Upon receipt of your radiogram of December 7th, and after the radiogram exchange of December 8th and 9th, we discussed the matter of drafting the necessary resolutions with Mr. M. D. Cole. In these discussions a point, previously not considered here, came up, viz. what would be the effect upon the contractual structure existing between the companies after assignment of the patents. The existing arrangement is one, to a large measure, based upon a mutual exchange of licenses under patents owned by the respective parties. To assign the patents to the respective licensees, would appear to eliminate from the contractual structure one of its principal raison d'etre and what would remain would be in the nature of a commercial arrangement. It was considered desirable to consider the relationship of American law to such a situation, and the matter was presented for opinion to Mr. Locke of Alexander and Greene, our corporation counsel.

Mr. Locke pointed out that under United States law, an assignment of a patent is always subject to any outstanding licenses; i.e. the licensee enjoys his privileges and is bound by his obligations, regardless of whether or not the owner transfers title to the patent, and the new owner cannot disturb the license. In view of this, Mr. Locke felt that even though the assignment might be to the exclusive

licensee, the obligations of that licensee need not necessarily be destroyed by the assignment. This opinion was, of course, more or less superficial and based upon Mr. Locke's experience and general view of the situation, without attempting to analyse in detail the whole contractual structure and the legal effect of the assignment contemplated. His opinion was considered sufficient assurance to proceed with the proposed assignments. This opinion was given towards the end of December, shortly before my radiogram of December 27th. Since that time, due to the pressure of affairs here, it has not been possible to draft the necessary authorizing resolutions until yesterday, January 22nd.

It would be my suggestion that the assignment of our patents to Titangesellschaft proceed according to German law; they are, in effect German property. Consequently, would it be possible to have prepared in the German language the necessary documents for execution by us. On our side, we would undertake to prepare for execution by Titangesellschaft the necessary assignments transferring the United States patents and patent applications to Titan Co., Inc. In this connection, we would appreciate it if Mr. Andersen would check his records of those patents and patent applications of the United States standing in the name of Titangesellschaft, and cable us the "T" case numbers. We will have prepared a similar list, and if these correspond, will proceed to draft the necessary documents.

I regret the delay in consummating this matter, and hope that it has not caused serious inconvenience.

Yours very truly,

CFK:JL
c.c. Mr. C. F. Garesché

3478 3465

Exhibit 1112

25/1/40 GJ/MS
NL

KAEGEBEHN

LEADCO

NEWYORK

TG WRITES CANADIAN PATENTS MAY POSSIBLY BE ASSIGNED TITANINC OR LEADCO STOP CAN YOU CONFIRM THIS STOP DO YOU ADVISE TRANSFER AND IF SO TO TITANINC OR LEADCO CABLE REPLY

JEBSEN

Exhibit 1113

RCA RADIOGRAM

LCN/SE NW233
FREDRIKSTAD 28/27 29 1520

NLT KAEGEBEHN LEADCO NEWYORK

WHICH OF TITANGESELLSCHAFTS US PATENT CASES HAVE NOT BEEN FORMALLY ASSIGNED TO TITANINC OR NLCO PLEASE CABLE T NUMBERS WISHED FOR CHECKING PURPOSES

ANDERSEN

Exhibit 1114

RCA RADIOGRAM

February 1st, 1940

LC

TITANCO FREDRIKSTAD (NORWAY)
US PATENT T125C PATENT APPLICATIONS
T187 AND T227 STAND NAME TG NO
ASSIGNMENTS EXECUTED T240 T242 STOP
BELIEVE TWO LAST SHOULD BE TG CASES
STOP CABLE IF YOU WISH US PREPARE
NECESSARY ASSIGNMENT DOCUMENTS

KAEGEBEHN

Exhibit 1115

RCA RADIOGRAM

FEB 9. 1940

LCLCW NW1577
FREDRIKSTAD 51 8 143
NLT KAEGEBEHN LEADCO

YOUR CABLE FEBRUARY FIRST ASSIGNMENTS US APPLICATIONS T187 AND T227 SENT HUTZ JOSLIN BY TG STOP HAVE ASKED TG SEND YOU ASSIGNMENT INVENTORS TO TITANINC CASE T242 AND SEND US ASSIGNMENT DR. RASPES PART T240 IN WHICH WE WILL REQUEST ASSIGNMENT OTHER INVENTOR AND SEND YOU DOCUMENTS

ANDERSEN

Exhibit 1116

NATIONAL LEAD COMPANY

February 20, 1940

NIGHTLETTER
Jebsen
Titanco
Fredrikstad (Norway)

Your cablegram Rockwell nineteenth Resolutions will be mailed via Carolina Thorden sailing twenty fourth

Cole
Leadco

Exhibit 1117

RCA RADIOGRAM

FEB. 22, 1940

LCLCW NW1234
FREDRIKSTAD 148/140 21 16 1/50
NLT KAEGEBEHN LEADCO NEWYORK

TG COMMUNICATES THEY SET HUTZ JOSLIN ASSIGNMENTS TO TITANINC US CASES T187 T187F T227 CANADIAN T187 T227 STOP ASSIGNMENT US CASE T125C AND ALL EUROPEAN TG PATENTS FOR WHICH ASSIGNMENT FORESEEN RECEIVED HERE STOP REQUESTED TG SEND ASSIGNMENT T242 TO KAEGEBEHN AND T240 TO FREDRIKSTAD AND

Exhibit 1117

RCA RADIOGRAM

1284 KAE 2/50 LCLCW

ALL FORESEEN ASSIGNMENTS EUROPEAN APPLICATIONS TO FREDRIKSTAD STOP SUGGEST TO SAVE TIME YOU ARRANGE ASSIGNMENT GERMAN PATENTS 666148 671738 684658 666409 657599 666530 BY TITANINC AND 571387 588230 BY LEADCO IN NEWYORK AND EXCHANGE THESE ASSIGNMENTS AGAINST THOSE SENT HUTZ BY TG STOP PRESUME ASSIGNMENT FORMS OBTAINABLE FROM HUTZ STOP

Exhibit 1117

RCA RADIOGRAM

LCLCW NW1284 KAE 3/40

SUGGEST BOARDS AUTHORIZATIONS GIVEN ALTERNATIVE TO JEBSEN AND/OR OFFICERS NEWYORK FOR ALL ASSIGNMENTS TO ENABLE FURTHER ASSIGNMENTS IN NEW YORK IF DESIRABLE STOP CABLE REPLY TO ANDERSEN STOP IF SUGGESTING NOT POSSIBLE JEBSEN WILL EXECUTE ASSIGNMENTS HERE ONE RETURN

JEBSEN

Exhibit 1118

(COPY)

COPY FOR MR. KAEGEBEHN

February 23, 1940

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

mailed to:
Titan Co. A/S
Fredrikstad, Norway

Dear Sir:

At a meeting of the Executive Committee held today the following resolution was adopted:

RESOLVED, that this Company hereby approves and consents to that certain proposed arrangement between its subsidiary Titan Company Inc. and Titangesellschaft m. b. H., of Leverkusen, Germany, with a view to safeguarding the reciprocal patent interests of these two companies under the License Agreement between Titan Co. A/S (predecessor in interest of said Titan Company Inc.) and said Titangesellschaft dated October 3/20, 1927, whereby each shall assign to the other all patents and patent applications of the one party, within the "Licensed Field" as defined in said License Agreement and amendments thereto to date, in countries embraced within the territory of the other party as similarly defined, upon the understanding and condition that such reciprocal assignments shall in no way alter or limit the general intent and operating effect of said License Agreement or any of the sev-

eral other rights and obligations of the respective parties thereunder; and that to the same end and subject to the same general conditions, and in furtherance of the respective interests of both parties to that certain Agreement between said Titan Co. A/S (predecessor in interest of said Titan Company Inc.) and Titanium Pigment Company Inc. (predecessor in interest of this Company) dated July 30, 1920, the officers of this Company be and they hereby are authorized and empowered in its name and behalf to assign to said Titangesellschaft all patents and patent applications of this Company, within the "Licensed Field" as defined in said Agreement of July 30, 1920, in countries embraced within the territory of said Titangesellschaft as defined in said License Agreement of October 3/20, 1927, first above mentioned and amendments thereto to date, against the assignments by said Titangesellschaft to said Titan Company Inc. contemplated by the arrangement first hereinabove referred to.

Yours respectfully

H. O. BATES
Secretary

Copy to Mr. Cole
" " Mr. Kaegebehn

Exhibit 1119

(COPY)

February 23, 1940.

Dr. Gustave Jebsen, Vice President
Titan Company Inc.

Titangesellschaft-Titaninc.
Interchange of Patent Assignments

Dear Dr. Jebsen:

Please forgive, if you can, my delay in sending you the promised confirmation of the formal action of Titan Company Inc. and of National Lead Company in this matter. I have been under unusual pressure of work complicated recently by jury service, and the exact phraseology of the resolutions required unusual care. Hence the delay in answering your cable to me of February 1st and to Mr. Kaegebehn of February 9th.

Pursuant to my cablegram to you of the 20th (confirmation enclosed) in answer to yours to Mr. Rockwell of February 19th, I now enclose.

(1) two certified copies of Titaninc resolution of December 19, 1939, and

(2) two certified copies of the National Lead Company resolution of this date

and hope you will find these sufficient to enable you to carry out all necessary details of this exchange of assignments. Mr. Kaegebehn informs me today by telephone from his home, where he is confined with a cold, of your cablegram of even date in this connection, and both of us feel that the enclosed resolutions are sufficiently broad in terms to permit of the execution of the necessary assignments by Titaninc either in Europe or here as may be most convenient.

Exhibit 1119

In order to bring your and Mr. Henrikssen's files up to date I am also enclosing two copies each of the Titaninc Board meetings of October 3rd, December 19th and December 27th, 1939, which I believe you will find in order.

With apologies again for my delay in this mater and with personal regards as always,

Yours very truly,

Assistant to the President.

MDC-P

(COPY)

RESOLVED, in furtherance of that certain License Agreement between Titan Co. A/S (predecessor in interest of this corporation) and Titangesellschaft m. b. H., of Leverkusen, Germany, dated October 3/20, 1937, and pursuant to the recommendation of Dr. G. Jebsen, Vice President of this corporation, the officers of this corporation be and they hereby are authorized and empowered to execute and deliver in its name and behalf appropriate assignments to said Titangesellschaft of all patents and patent applications of this corporation, within the Licensed Field as defined in said Agreement, in countries now embraced within the territory of said Titangesellschaft as defined in said Agreement and subsequent amendments thereto, in consideration of the execution and delivery by said Titangesellschaft to this corporation of appropriate assignments of all patents and patent applications of said Titangesellschaft, within said Licensed Field, in countries embraced within the territory of this corporation as

defined in said Agreement and subsequent amendments thereto, and upon the express understanding and condition that such reciprocal assignments shall in no way alter or limit the general intent and operating effect of said Agreement or the several other rights and obligations of the respective parties thereto.

I, H. Douglas Cole, Secretary of Titan Company, Inc., a corporation of the State of Delaware, do hereby certify that the foregoing is a true copy of a resolution duly adopted by the Board of Directors of said corporation at a meeting thereof duly held on the 19th day of December, 1939, at which a quorum was present and acting throughout, and that said resolution is now in full force and effect.

IN WITNESS WHEREOF I have hereunto set my hand and the seal of said corporation this 23rd day of February, 1940.

Secretary.

(COPY)

National Lead Company Resolution

RESOLVED, that for the purpose of assisting Titan Company, Inc., subsidiary of this corporation in safeguarding the reciprocal patent interests of said Titan Company Inc., and Titangesellschaft m. b. H., under that certain License Agreement between Titan Co. A/S (predecessor in interest of said Titan Company Inc.) and said Titangesellschaft m. b. H. dated October 3/20, 1927, and for the purpose of safeguarding the patent interests of this corpora-

tion itself, as successor in interest to Titanium Pigment Company Inc., under that certain agreement between said Titan Co. A/S and said Titanium Pigment Company Inc., dated July 30, 1920, the officers of the corporation be and they hereby are authorized and empowered to deliver in its name and behalf appropriate assignments to said Titangesellschaft of all patents and patent obligations of this corporation, within the Licensed Field as defined in said agreement dated July 30, 1920, in countries now embraced within the territory of said Titangesellschaft as defined in said License Agreement dated October 3/20, 1927 first above mentioned and subsequent amendments thereto, in consideration of the execution and delivery by said Titangesellschaft to said Titan Company, Inc. of all patents and patent applications of said Titangesellschaft, within said Licensed Field, in countries embraced within the territory of said Titan Company Inc., as defined in said License Agreement dated October 3/20/1927, and upon the express understanding and condition that such reciprocal assignments shall in no way alter or limit the general intent and operating effect of either of the Agreements hereinabove mentioned or the several other rights and obligations of the respective parties thereto; and that this corporation hereby approves for the same corresponding consideration and upon the same corresponding conditions as aforesaid, the like assignment by said Titan Company Inc. to said Titangesellschaft of all patents and patent applications of said Titan Company Inc., within said Licensed Field in countries embraced within the territory of said Titangesellschaft.

Exhibit 1120

Letterhead of

TITAN COMPANY, INC.

SA/LRA

Fredrikstad, March 4th, 1940.

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
New York.

Dear Mr. Kaegebehn,

Re: *Assignment of Titan Company, Inc.—and T.G. Patents.*

I beg to confirm the following exchange of cables:
Dr. Jebsen's cable of February 21st, 1940:

TG COMMUNICATES THEY SENT HUTZ JOSLIN ASSIGNMENTS TO TITANINC US CASES T 187 T187F T227 CANADIAN T187 T227 STOP ASSIGNMENT US CASE T125C AND ALL EUROPEAN TG PATENTS FOR WHICH ASSIGNMENT FORESEEN RECEIVED HERE STOP REQUESTED TG SEND ASSIGNMENT T242 TO KAEGEBEHN AND T240 TO FREDRIKSTAD AND ALL FORESEEN ASSIGNMENTS EUROPEAN APPLICATIONS TO FREDRIKSTAD STOP SUGGEST TO SAVE TIME YOU ARRANGE ASSIGNMENT GERMAN PATENTS 666148 671738 684658 666409 657599 666530 BY TITANINC AND 571387 588230 BY LEADCO IN NEW YORK AND EXCHANGE THESE ASSIGNMENTS AGAINST THOSE SENT HUTZ BY TG STOP PRESUME ASSIGNMENT

Exhibit 1120

FORMS OBTAINABLE FROM HUTZ STOP SUGGEST BOARDS AUTHORIZATIONS GIVEN ALTERNATIVE TO JEBSEN AND OR OFFICERS NEWYORK FOR ALL ASSIGNMENTS TO ENABLE FURTHER ASSIGNMENTS IN NEW YORK IF DESIRABLE STOP CABLE REPLY TO ANDERSEN STOP IF SUGGESTION NOT POSSIBLE JEBSEN WILL EXECUTE ASSIGNMENTS HERE ON RETURN—JEBSEN.

Your cable February 26th, 1940:

BOARD RESOLUTION AUTHORIZES AND EMPOWERS OFFICERS TITANINC TO ASSIGN PATENT APPLICATIONS TO STOP THIS PERMITS EXECUTION ASSIGNMENTS NEW YORK OR FREDRIKSTAD STOP PROCEEDING AT ONCE TO PREPARE ASSIGNMENTS GERMAN PATENTS TITANINC AND LEADCO AS SUGGESTED—KAEGEBEHN

My cable of February 28, 1940:

YOUR CABLE 26 FEBRUARY PLEASE CABLE WHETHER BOARD RESOLUTIONS PERMIT EXECUTION ASSIGNMENTS FREDRIKSTAD OR NEW YORK ALSO OF PATENTS IN LEADCOS NAME AS DESIRABLE KEEP OPEN BOTH ALTERNATIVES FOR TWO LEADCO PATENTS NOT INCLUDED DR. JEBSENS SUGGESTION CABLE TWENTYFIRST FEBRUARY STOP CONFIRM THAT RESOLUTIONS COVER BOTH PATENTS AND APPLICATIONS SEE TENTH AND ELEVENTH WORDS OF TEXT YOUR CABLE—ANDERSEN.

Exhibit 1120

Your cable of February 29th, 1940:

TITAN BOARD RESOLUTION PERMITS EXECUTION ASSIGNMENTS PATENTS AND PATENT APPLICATIONS FREDRIKSTAD OR NEW YORK STOP LEADCOS BOARD RESOLUTION PERMITS ASSIGNMENTS PATENTS AND PATENT APPLICATIONS AND AUTHORIZES OFFICERS TO EXECUTE ASSIGNMENTS STOP SINCE UNDER LAW ONLY OFFICERS PERMITTED TO ACT FOR CORPORATION WITH CONSENT BOARD EXECUTION ON BEHALF LEADCO MUST BE EFFECTED NEWYORK—KAEGEBEHN.

My cable of March 2nd, 1940:

YOUR CABLE TWENTYNINTH FEBRUARY SUGGEST YOU INCLUDE LEADCO GERMAN PATENT 604311 IN ARRANGEMENT SUGGESTED DR JEBSEN CABLE TWENTYFIRST FEBRUARY STOP THIS LEAVES ONE LEADCO PATENT NAMELY CZECHOSLOVAKIAN 39354 FOR WHICH I SEND YOU ASSIGNMENT FORM—

ANDERSEN.

I enclose herewith assignment form for *Czechoslovakian* Patent No. 39.354 (Case T-47).

The signature of the National Lead Company on this document should be legalized by a Notary Public, who should certify that the signatories are entitled to sign for that company. The document should thereupon be legalized by a German Consul.

The patent stands in the name of Titanium Pigment Company Inc in the Czechoslovakian patent register, and

the assignment will be arranged by filing a certified copy of the deed transferring the assets of the Titanium Pigment Company Inc to the National Lead Company in the Czechslovakian Patent Office together with the Assignment Deed executed by National Lead Company. The certified copy of this Deed, asked for by my cable of the 6th of Februtary, is intended for this use. I presume it has now been despatched, and we will then forward it from here. If not, please hand it to Messrs. Hutz and Joslin together with the executed assignment document.

German patents Nos. 571.387 (T-47) and 588.230 (T-78), listed in Dr. Jebsen's cable of the 21st of February, together with German patent No. 604.311 (T-90) and Czechslovakian Patent No. 39.354 (T-47) are all the patents for which execution of assignment by National Lead Company is required. The other patents which are coming in question as well as all patent applications stand in the name of Titan Company, Inc. excepting 2 patents standing in the name of Titan Co. A/S. The assignment for Case T-125 C USA, received here, will be sent you shortly. In Case T-240, U.S.A. we have requested assignments from both inventors, and we will forward you also these when they come to hand.

Yours sincerely,

SIGURD ANDERSEN

Enclosure

Exhibit 1121

Letterhead of

HUTZ AND JOSLIN

March 5, 1940

Re: Assignment of Titan cases
to the Titan Co. Inc. of Delaware
Mr. Charles F. Kaegebehn,
National Lead Company
111 Broadway
New York City.

Dear Mr. Kaegebehn:

Confirming our telephone conversation, I wish to advise that we have received new assignments from the inventors to the Titan Co. Inc. of Delaware in the following three pending U. S. applications:

Serial No.	204,838, Tillmann et al.	Case T. 187	Titan #20
" "	238,358, Tillmann et al.	Case T. 227	Titan #23
" "	304,323, Tillmann et al.	Case T. 187F	Titan #24(*)

In each case I. G. has asked us to substitute the new assignments for the ones we are now holding in our files running from the inventors to Titangesellschaft. As you know, it is our practice to withold the recording of such assignments until allowance of the applications.

I. G. has requested us to return to it the original assignments from the inventors to Titangesellschaft. We plan to do so, but would first like to hear whether you have any objection to the proposed procedure.

The question arises to whom we should make our future charges in connection with the prosecution of these appli-

(*) (see our letter of even date regarding this application)

cations. In the past we have, of course, charged Titangesellschaft. In view of the assignments, however, I wonder whether we should not change our methods of charging in these cases. Please let me have your comments on this point.

Very truly yours,

HUTZ AND JOSLIN

WH:FT

Exhibit 1122

Dr. G. Jebsen
For Mr. S. Andersen
c/o Titan Co. A/S
Fredrikstad, Norway

March 7th, 1940.

Gentlemen:—

Messrs. Hutz and Joslin inform us that they have received assignments to Titan Co., Inc. in the following United States applications:

U. S. Ser. No. 204,838 Tillmann et al. Case T. 187
U. S. Ser. No. 238,358 Tillmann et al. Case T. 227
U. S. Ser. No. 304,323 Tillmann et al. Case T. 187-F

Messrs. Hutz and Joslin have raised the question of expense and have suggested that possibly they should bill us directly. Of course, ultimately National Lead Co. will stand this expense, but we do not feel justified in authorizing the charge directly to us at this time. Since Titan Co., Inc. is now the owner of the cases, question, we think, might be raised as to why we are maintaining outside attorneys to handle the cases. I believe expense might be saved if Power of Attorney in these cases is transferred to us, and we carry on our correspondence directly with the German inventors in the I. G. Farbenindustrie's Patent Department at Leverkusen. However, we have not made this suggestion to Hutz and Joslin. Whether or not we took Power of Attorney, we should undertake to keep Hutz and Joslin informed on the prosecution of the cases and would consult with them in the future prosecution.

Please let us have your views.

Yours very truly,

NATIONAL LEAD COMPANY

CHK:JL
c.c. Mr. C. F. Garesché

3486 34590

Exhibit 1123

March 7th, 1940

Werner H. Hutz, Esq.
Messrs. Hutz and Joslin
521 Fifth Avenue
New York, New York

Re: Assignments of Titan Cases
to Titan Co., Inc.

Dear Mr. Hutz:—

We acknowledge receipt of your letter of March 5th, 1940, informing us that you have received new assignments to Titan Co., Inc. in the following cases:

Ser. No. 204,838 Tillmann et al. Case T. 187 —Titan No. 20
Ser. No. 238,358 Tillmann et al. Case T. 227 —Titan No. 23
Ser. No. 304,323 Tillmann et al. Case T. 187-F—Titan No. 24

Regarding the question of whom to bill for charges connected with the future prosecution, the situation is a little puzzling to me at this time. In the final analysis it will be National Lead Co. who will pay the expense. At the present time our book-keeping set-up is such that these charges come through Titan Co., Inc. through Titangesellschaft and are paid in the regular manner. For a few months more I should prefer to keep that arrangement. We are taking up the question with Titan Co., Inc. and will advise you later. Personally, we see no reason why we should not be billed directly but would like to have Titan Co., Inc.'s comments first.

Yours very truly,

CFK:JL

Exhibit 1124

Letterhead of

HUTZ AND JOSLIN

March 6, 1940

Re: Assignment of Titan Cases
from Titangesellschaft to the Titan Co., Inc. of Dela.
in Canada

Mr. Charles F. Kaegebehn
National Lead Co.,
111 Broadway
New York City

Dear Mr. Kaegebehn:

Supplementing our letter of March 5th, I wish to advise that we have now received assignments from Titangesellschaft to the Titan Co., Inc., Delaware, in the following two Canadian applications:

Tillman et al. Ser. No.	456,990	Case T. 227	Titan #23
Tillman et al. " "	451,898	Case T. 187	Titan #20

The assignments are informal in that they were not executed in duplicate and because they do not include the usual affidavit of execution. I doubt whether it would be possible to record these assignments even if they were in proper form, because the Canadian Patent Office does not record assignments from enemy aliens, unless it is first shown to the satisfaction of the Custodian of Enemy Alien

Exhibit 1124

Property that such assignment has been made in good faith and will not result in the payment of any moneys to the enemy alien.

We shall hold the two assignments in our files subject to your instructions.

Very truly yours,

W. H. Hutz

Exhibit 1125

March 7, 1940

Mr. W. H. Hutz
Hutz & Joslin
521 Fifth Avenue
New York, New York

Re: Assignment of Titangesellschaft Cases to Titan Company, Inc.

Dear Mr. Hutz:—

Your letter of March 6, 1940 has just been received.

Would it not be desirable for us to prepare proper assignment documents in Canadian cases T. 227 and T. 187, forward them to Titan Company, Inc. for transmission to Titangesellschaft and re-execution? If you think this procedure desirable, we will be glad to undertake the preparation of the instruments, and in fact to forward them to Titan Company, Inc. who, I am sure, will be glad to forward them to Titangesellschaft.

Yours very truly,

CFK/rg

Exhibit 1126

Letterhead of
HUTZ AND JOSLIN

March 16, 1940.

re—Assignment of Titan Gesellschaft
cases to Titan Company, Inc.

Mr. C. F. Kaegebehn
National Lead Company
111 Broadway
New York, N. Y.

Dear Mr. Kaegebehn:

We thank you for your two letters of March 7, 1940, replying to our letters of March 5 and 6, 1940, regarding the above subject. It is our understanding that it will be in order for us to substitute the new assignments of the three U. S. applications from the inventors to Titan Company Inc. for the former assignments from the inventors to the Titan Gesellschaft and to return the old assignments to I. G.

As regards the assignments of the two Canadian applications from the Titan Gesellschaft to Titan Company Inc., we agree with you that it would be desirable for you to prepare proper assignment documents to replace the informal ones which we received from I. G. We believe, however, that it would be simpler for you to send the new documents to us for transmittal to I. G. rather than to have them go by way of Titan Company Inc. and Titan Gesellschaft. This appears to be the more logical procedure since we received the informal documents from I. G.

Very truly yours,

WHH:DK Hutz and Joslin

Exhibit 1127

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
March 29, 1940.

National Lead Company,
Patent Department,
111 Broadway,
New York.

Att.: Mr. C. F. Kaegebehn

Dear Sirs,

Assignments of Patents:

T-187, U. S. Ser. No. 204.838
T-227, U. S. Ser. No. 238.358
T-187 F, U. S. Ser. No. 304.323.

We thank you for your letter of the 7th inst. from which we note that Messrs. Hutz & Joslin have received assignments to Titan Company Inc. of the above patents. We presume that they have received instructions to hand these assignments to you, and that you will hand them assignments for those of our patents referred to in Dr. Jebsen's cable of February 21st. and Mr. Andersen's cable of March 2.

We note your remarks in connection with the expenses as involved in assignments of cases T-187, T-227 and T-187 F and suggest that these be charged to the Titan Company Inc. and are looking forward to your bill.

With regard to the question of attorney in U. S. A. for these cases, we quite agree to your suggestion that you

Exhibit 1127

take over their handling. We presume that powers of attorney required in this connection must be signed by the inventors, and if this is so, we suggest that you arrange with Messrs. Hutz & Joslin that the documents be sent direct for execution by the inventors. Should powers executed by the Titan Company Inc. (as assignee) be necessary, we take it, that you can have such documents executed in U. S.

Yours very truly,

Sigurd Andersen.

Exhibit 1128

August 20th, 1940

Mr. Sigurd Andersen
Stora Nygaten 31
Stockholm, Sweden

Re: Case T. 187 —U. S. Ser. No. 204,838
Case T. 227 —U. S. Ser. No. 238,358
Case T. 187F—U. S. Ser. No. 304,323

Dear Mr. Andersen:—

We find that we have not replied to your letter of March 29th, 1940, which was in reply to our letter of March 7th.

Messrs. Hutz and Joslin will hold the assignments received from I. G. until the cases are allowed. The assignments will then be recorded and the recorded documents handed to us with the Letters Patents.

Messrs. Hutz and Joslin have given us associated powers of attorney in the three above identified cases. This enables us to act as may be necessary, for instance, where interviews with the Examiner are required, or filing amendments, etc. In view of the fact that Messrs. Hutz and Joslin have handled these cases from the beginning, are familiar with them and are able to give valuable advice, we do not consider it expedient at this time to completely eliminate them from this case.

With regard to the expense involved, we have asked Hutz and Joslin to bill the I. G. in the regular way and expect that through T. G. you will be informed of these charges.

Exhibit 1128

The question of patent expense connected with United States applications and patents of Titan Co., Inc. is under consideration on this side, and in a short time we hope to be able to advise you on this point.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Dr. G. Jebsen
Mr. C. F. Garesché
Mr. A. Ravnestad

Exhibit 1129

TRANSLATION

(COPY)

May 14th, 1940

I. G. Farbenindustrie Aktiengesellschaft
Leverkusen-I. G. Werk
Leverkusen bei Köln

Germany

Your Ref. Patent Department
Kp./Mr.

Re: Mutual Transfer of Patent rights between
T. G. and Titan Co., Inc. (U.S.A.).
Cases T. 125-C and T. 240.

Gentlemen:-

We acknowledge with thanks receipt of your letter of April 4, enclosing assignment document from the T. G. to Titan Co., Inc. of U. S. Pat. No. 2,121,215 (Case T. 125-C) as well as an assignment from the inventor, Dr. Raspe, to Titan Co., Inc. in U. S. Ser. No. 283,986 (Case T. 240).

Yours very truly,

TITAN COMPANY, INC.
C. F. KAEGENBEHN

CFK:JL

Exhibit 1130

TRANSLATION

(COPY)

June 10th, 1940

Titangesellschaft m.b.H.
z.H.: I. G. Patentabteilung
Leverkusen-I.G. Werk
Leverkusen bei Köln

Germany

Your Reference: Patent Department
KP/Mr.

Re: Mutual transfer of Patent Rights between Titangesellschaft and Titan Co., Inc. (Case T. 125-C)

Gentlemen:-

We beg to advise you that the assignment document sent with your letter of April 4th, 1940 has been recorded in the United States Patent Office under their designation Liber S183, Page 544, dated May 21st, 1940.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

c.c. Mr. C. F. Garesché
Titan Company, Inc.

Exhibit 1131

Messrs. Hutz and Joslin
521 Fifth Avenue
New York, New York

June 25, 1940

Re: Tillmann et al.—Application Ser. No. 204,838—Titan No. 20—Case T. 187
Tillmann et al.—Ser. No. 238,358—Leverkusen 1652/1980—Titan. Case T. 227
Tillmann et al.—Ser. No. 304,323—Filed Nov. 14 1939 — Corresponding German Appln. T. 51309—Lev. 2019—Titan No. 24—Case T. 187-F

Gentlemen:

You will recall that last March the question of how to handle charges in connection with the above cases came up. We wrote to Titan Company at Fredrikstad, Norway, for their instruction and have just received their reply.

Titan Company suggests that you bill them, forwarding the bill to me. They further suggest, since Titangesellschaft is no longer chargeable with any part of the expense having given title to Titan Company Inc., that we take over prosecution of the case as attorney and carry on direct correspondence with the German inventors. In connection with the latter suggestion, we would want to send you copies of Patent Office Actions and consult with you in preparing the amendments as may be necessary, having you bill us, as Titan Company Inc., for such services. Will this arrangement be in accord with your wishes?

Very truly yours,

CFK:JM

Exhibit 1132

Second Mail

SA/EE Fredrikstad, March 4th 1940.

Registered.

National Lead Company,
Patent Department,
Broadway 111,
New York.

Attention: *Mr. C.F. Kaegebehn.*

Dear Sirs,

Re: T.G. and I.G. Canadian Patent Applications.

We have received from the I.G.Farbenindustrie A.-G. authorizations requesting their Canadian agents to give information to and receive instructions from the Titan Company Inc. in connection with the following Canadian patent Applications:

T-115	Canadian	Patent	Application	No. 448.315
T-155 (T-183)	"	"	—"—	" 457.525
T-155	"	"	—"—	" 437.424
T-157	"	"	—"—	" 440.763
T-186	"	"	—"—	" 443.725
T-187	"	"	—"—	" 451.898
T-213	"	"	—"—	" 454.748
T-227	"	"	—"—	" 456.990

We hope that the enclosed authorizations will serve the purpose although they may not be quite satisfactory from a formal point of view.

Exhibit 1132

We hope it will not cause any serious difficulties that there in the authorizations is stated c/o Titan Co.A/S, Fredrikstad, as address of Titan Company Inc., supposing that you can easily show evidence of the Titan Company Inc. being an American company. Should, however, any difficulties raise in connection with these authorizations, please write us and also inform us whether you wish these authorizations to be delegated to the National Lead Company (or Mr. Kaegebehn).

As far as we can see from our files here, yourselves resp. the Canadian Titanium Pigments Ltd. have exclusive licenses in these Canadian cases.

We do not know whether Messrs. Hutz and Joslin have been informed that these authorizations have been sent you. Please, therefore, take up the matter with them.

We take it that you will settle with them and possibly the C.T.P. the questions how the further handling of these applications should be arranged.

We suppose that Messrs. Hutz & Joslin also in the future can collaborate with you re these Canadian Applications—to the extent you may find this desirable.

Yours very truly,

SIGURD ANDERSEN

Enclosures:

Authorizations regarding Canadian Patent Applications.

35113

Exhibit 1133

March 28, 1940

Hutz and Joslin
521 Fifth Avenue
New York, New York
Attention of Mr. Werner H. Hutz

Gentlemen:

Re: Assignment of Canadian Applications
T-187 and T-227 from Titangesellschaft
to TITAN COMPANY, INC.

In reply to your letter of March sixteenth, we are pleased to enclose herewith in duplicate assignment forms with attached affidavits for transferring Canadian applications Serial Numbers 451,898 and 456,990 (cases T-187 and T-227), from Titangesellschaft to Titan Company, Inc.

Enclosed also are copies of these assignment documents for your files.

Very truly yours,

NATIONAL LEAD COMPANY

JBH:JM

3514

Exhibit 1134

April 18th, 1940

Werner H. Hutz, Esq.
Messrs. Hutz and Joslin
521 Fifth Avenue
New York, New York

of Canadian Folders
T. 155.
T. 157
T. 186
T. 115
T. 187
T. 213
T. 227
T. 183

Re: T. G. and I. G. Canadian Patent Applications

Dear Mr. Hutz:-

With respect to the following Canadian patent applications

Ser. No.	Your Ref.	Our Ref.	In the Name of
437,424	Titan No. 13 Uord. 1041	T. 155	I. G. Farbenindustrie
440,763	Titan No. 18	T. 157	I. G. Farbenindustrie
443,725		T. 186	I. G. Farbenindustrie
448,315	Titan No. 5	T. 115	I. G. Farbenindustrie
451,898	Lev. 1481 Titan No. 20	T. 187	Titangesellschaft
454,748	Titan No. 22	T. 213	I. G. Farbenindustrie
456,990	Titan No. 23	T. 227	Titangesellschaft
457,525	Titan No. 13/1 cip.	T. 183	I. G. Farbenindustrie

we have received documents authorizing the Canadian agents, Fetherstonhaugh and Company, to furnish to Titan Company, Inc. any information they require and to accept any instructions Titan Co., Inc. may give as to the prosecution of the cases. These documents all follow the safe form as photostatic copy attached hereto.

We really do not know why these were sent. They apparently originated as a result of correspondence between our German associates and Titan Co., Inc. in Europe, growing out of the recently concluded arrangement whereby each of the associated companies will take con-

CLERK'S COPY.
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749408
Sup. Ct.

Vol. IV

EXHIBITS

TRANSCRIPT OF RECORD

(Pages 3515 to 4399)

Supreme Court of the United States

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT,

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

No. 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC., APPELLANTS,

vs.

THE UNITED STATES OF AMERICA

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY, INC., APPELLANT,

vs.

THE UNITED STATES OF AMERICA

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

FILED APRIL 18, 1946.

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT,

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

No. 90

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vs.

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APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

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JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., AUG. 21, 1946.

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trol over the prosecution of applications in their respective territories.

It does not seem to us that there is any present need to use these documents. The cooperation between us is of such nature that anything we wish accomplished with respect to the Canadian applications can be taken up directly with you. Therefore, these authorizations, at best, serve to confirm the control which the I. G. Farbenindustrie and Titangesellschaft have vested in Titan Company, Inc.

We propose to hold these authorizations against the time when it may be necessary to use them. In the meantime, if you have any questions relative thereto, we should be glad to answer them.

Yours very truly,

CFK:JL

Exhibit 1135

Letterhead of

HUTZ AND JOSLIN
COUNSELORS-AT-LAW
521 FIFTH AVENUE
NEW YORK

December 18, 1940

Re: Assignment of Titangesellschaft Canadian cases to TITAN Co., INC.

Mr. Charles F. Kaegebehn
National Lead Co.
111 Broadway
New York City

Dear Mr. Kaegebehn:

Referring to your letter of March 28th, we now enclose the duly executed assignments (including affidavits of execution), in duplicate, of the Canadian applications, Ser. No. 451,898 and Ser. No. 456,990 from Titangesellschaft to Titan Co., Inc. As indicated in our letter of March 6th 1940, we do not believe you will be able to now record these assignments in the Canadian Patent Office. We believe they are in proper form and you should have no difficulty in recording them at the conclusion of the war between Canada and Germany.

Very truly yours,

encls.
WHH:FT

HUTZ AND JOSLIN

Exhibit 1137

Letterhead of

CANADIAN TITANIUM PIGMENTS LIMITED
TITANIUM DIOXIDE PIGMENTS

January 6th, 1941

C. F. Kaegebehn, Esq.,
National Lead Company,
111 Broadway,
NEW YORK CITY, New York, U. S. A.

Re: Assignment of T. G.'s Canadian
Cases to Titan Company, Inc.—
Cases T. 187 — T. 227

Dear Mr. Kaegebehn:-

With reference to your letter of December 20th, we would advise that you will be able to record these assignments in the Canadian Patent Office provided they were executed prior to September 3rd, 1939. If executed subsequent to that date you will be unable to record them in the Canadian Office and in this event we agree that you should hold them pending the outcome of the war.—

Yours very truly,

E. T. HENRY
E. T. Henry

PATENT DEPARTMENT

ETH/FL

Exhibit 1136

December 20th, 1940

Mr. E. T. Henry
Canadian Titanium Pigments, Ltd.
P. O. Box 10
Montreal, Canada

Re: Assignment of T. G. 's Canadian
Cases To Titan Co., Inc.—Cases T.187-T.227

Dear Mr. Henry:-

We have just received from Messrs. Hutz and Joslin executed assignments of the above identified Canadian applications, Canadian Ser. No. 451,898 and Ser. No. 456,990, vesting title in Titan Co., Inc.

We are doubtful that you will be able to record these assignments at this time in the Canadian Patent Office and are holding them here pending the outcome of the war.

However, if you think they can be recorded at this time, we shall be glad to forward them to you for that purpose.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. C. F. Garesché

Exhibit 1138

January 10th, 1941

Mr. E. T. Henry
Canadian Titanium Pigments, Ltd.
P. O. Box 10
Montreal, Canada

Re: Assignment of T. G.'s Canadian
Cases To Titan Co., Inc.
Cases T. 187 and T. 227

Dear Mr. Henry:-

The assignment documents in the above identified cases were dated June 15th, 1940. Therefore, it will not be possible, according to your letter, to register them in the Canadian Patent Office.

We will hold them, pending the outcome of the war.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. C. F. Garesché

Exhibit 1139

Handling of U.S. and Canadian Patent Applns. Originating with I.G. or T. G. January 5th, 1942

Dr. G. Jebsen

Mr. C. F. Kaegebehn-Patent Department

Dear Dr. Jebsen:-

I beg to confirm my previous conversation with you concerning the handling of United States and Canadian patent applications originating with Titangesellschaft and the I. G. Farbenindustrie.

On December 22nd, I had a conference with Mr. Hutz of Hutz and Joslin. He informed me that the firm is dissolving. We agreed between us that the best procedure in handling the applications now pending in the Canadian and United States Patent Offices would be as follows:

Titan Company, Inc., as assignee of the United States applications in cases T. 187, T. 187-F and T. 227 (Rutiox cases) will revoke the Power of Attorney of Hutz and Joslin and appoint Mr. Henrich and myself as joint attorneys. (I already enjoy associated power of attorney in these cases.)

With respect to three other pending applications title to which stands in the name of German companies, and one where title stands in the name of a German inventor, Hutz and Joslin will simply inform the Patent Office that it is withdrawing from the prosecution of these cases. This notice will be given as soon as an Alien Property Custodian is appointed. In the meantime, I will try to ascertain what will be the attitude of the United States Patent Office and of the Alien Property Custodian with respect

Exhibit 1139

to the preservation of Titan Company, Inc.'s rights in these cases and the possibility of our taking over the prosecution thereof. I will keep you advised as this might develop.

Yours very truly,

CFK:JL

Exhibit 1140

(COPY)

January 5th, 1942

Mr. E. T. Henry
Canadian Titanium Pigments, Ltd.
P. O. Box 10
Montreal, Canada

Dear Mr. Henry:-

The firm of Hutz and Joslin, attorneys who have formerly represented the I. G. Farbenindustrie and Titangesellschaft with respect to United States and Canadian patent applications, is in the process of dissolution. Last week I had a conference with Mr. Hutz and we agreed that as regards United States cases, we would revoke the Power of Attorney of this firm in those cases which are owned by Titan Company, Inc.

With respect to the Canadian cases, I enclose a list drawn up by Messrs. Hutz and Joslin, together with a copy of their letter to me of December 23rd, as well as a copy of their letter to Messrs. Fetherstonhaugh of Ottawa. You will note that it was agreed that the instructions to Messrs. Fetherstonhaugh with respect to the maintenance of the Canadian applications will come from either you or me. These instructions, of course, will come from you.

Please let me know whether you have any suggestions as to what might further be done to facilitate your taking

control of these cases to the extent you desire, or to the extent it is possible under the circumstances. Please also let me know whether you desire any of Mr. Hutz's files.

Yours very truly,

NATIONAL LEAD COMPANY

C. F. KAEGEBEHN

CFK:JL

Encs.3

3511

Exhibit 1141

1/28/42

Phone conversation with Dr. J. He feels it will be alright to send copy.

C. J. K.

Exhibit 1141

COPY

Canadian Case T. 236—and other cases originating with I. G. or T. G.

January 15th, 1942

Dr. G. Jebsen

Mr. C. F. Kaegebehn—Patent Department

Dear Dr. Jebsen:—

At the present time there are six applications, covering inventions originating with the I. G. or T. G., pending in the Canadian Patent Office. Of these, five were filed before the outbreak of hostilities and our Canadian associate has copies thereof. The sixth was filed after the outbreak of hostilities and no copy of the original case or of the United States application was sent to Canada. Our Canadian associate has no knowledge of its subject matter.

Agreeable to Hutz and Joslin and necessitated by the dissolution of that firm, C. T. P. has indicated its readiness to pay the expense of prosecution of all pending Canadian applications originating with the German associate, and Hutz and Joslin have informed Fetherstonhaugh & Co. of Ottawa, Canada, our Canadian agents, to deal directly with C. T. P. In connection with this arrangement, C. T. P. has been informed of the existence of case T. 236, although its subject matter was not revealed to them. I am now in receipt of a request from C. T. P. for a copy of the specification in case T. 236.

While, technically speaking, to furnish C. T. P. copy of the specification in case T. 236 might be a violation of the understanding not to transmit technical information from

one belligerent to another, it might be justified in view of the following considerations: We could not give the Canadian application as careful consideration as could our Canadian associates. In this sense, they are actually protecting the property rights of the I. G. in this application. Furthermore, they are entitled to an exclusive license under the application and are prepared to assume all the expense of the prosecution, paying the same directly to Fetherstonhaugh & Co. of Ottawa.

Case T. 236 is not an important one. It covers the use of welding rods and coatings for welding rods. The patent protection which may be expected is not to be regarded as particularly broad.

Will you please consider this matter and let me have the benefit of your advice.

Yours very truly,

C. F. Kaegebehn..

CFK:JL

Exhibit 1142

TRANSLATION

I°G. FARBENINDUSTRIE A. G.

Leverkusen-I. G. Werk

April 4, 1940

Titan Company, Inc.
c/o Mr. C. F. Kaegebehn
111 Broadway
New York

Re: Mutual Transfer of Patent Rights between Titangesellschaft and Titan Co. Inc. (Italy)

We are enclosing herewith transfer document for Italien Patents, Nos. 337,218, 318,816, and 345,187 from Titangesellschaft, Leverkusen to Titan Company, Inc., Wilmington. The transfer document has been duly executed by Titangesellschaft Leverkusen. We would like you to sign the document on your behalf, and have the signature acknowledged by a notary public, who will testify that the gentleman or gentlemen who have signed the document are empowered to do so. The signature of the notary public will then have to be legalized by the Italian consul.

We are also enclosing a power of attorney for each of the patents to be transferred, which we would also ask you to have signed. A notarial acknowledgment of the signature on these documents is not needed.

Please return the transfer document and power of attorneys to us after they have been duly executed.

Yours very truly,

I. F. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Exhibit 1143

(Copy)

TRANSLATION

May 20th, 1940

I. G. Farbenindustrie Aktiengesellschaft
Leverkusen-I. G. Werk
Leverkusen bei Köln
Germany

Your References: Kp/Mr
Patent Department
Re: Mutual transfer of patent rights
between T. G. and Titan Co., Inc. (Italy)

Gentlemen:-

Pursuant to the request contained in your letter of April 4, we return herewith transfer documents for Italian patents Nos. 337,218, 818, 816 and 345,187, transferring title from Titangesellschaft-Leverkusen to Titan Co., Inc. This document has been executed on behalf of Titan Co., Inc., notarized and duly legalized by an Italian consul. We also return the individual Powers of Attorney documents for these 3 cases.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL

Exhibit 1144

(COPY)

Dr. G. Jebsen
For Mr. S. Andersen
c/o Titan Co. A/S
Fredrikstad, Norway

May 20th, 1940

Re: Patent Expense

Gentlemen:-

In connection with the transfer of title of Italian patents Nos. 337,218, 318,816, 345,187 (Cases T. 108, T. 112, and T. 125), we beg to advise you that we incurred the following expense:

County Clerk Certificate	$ .25
Italian Consul—Legalization	$ 7.19
Incidentals	$ .90
	$ 8.34

This amount has been charged against Titan Co., Inc. on the books of the Treasurer of National Lead Company. Copy of this letter for Mr. Juell as well as two additional copies are enclosed herewith.

Yours very truly

NATIONAL LEAD COMPANY

C. F. KAEGEBEHN

CFK:JL

c.c. Mr. C. Simon
Mr. C. F. Garesché

Exhibit 1145

TRANSLATION

I. G. FARBENINDUSTRIE A. G.
Leverkusen I. G. Werk

June 12, 1940

Titan Company, Inc.
c/o Mr. C. F. Kaegebehn
111 Broadway
New York, New York

Re: Assignment of Italian Patent Applications to Titan Co., Inc. (i.e. Patents)

Gentlemen:

Enclosed herewith we are sending you an assignment document covering patents in the name of Titangesellschaft. The patents covered by this document are as follows:

No. 360,407
No. 362,555
No. 362,556
No. 362,557
No. 362,558
No. 377,430 and application No. 96,52/39

These patents are to be assigned from Titangesellschaft, Leverkusen to Titan Co., Inc. Wilmington. The document has been duly executed by Titangesellschaft, Leverkusen. We would ask you to please sign the document also on your behalf and have the signature notarized, which notarization will serve to confirm that the persons

signing it have the power to do so. The signature of the notary must then be legalized by the Italian consul.

Further, we are forwarding two Power of Attorney forms for the attorneys which we also ask you to please sign. A legalization of these latter documents is not required.

Please return to us the assignment document as well as the Power of Attorney forms after they have been duly signed.

Yours very truly,

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Enclosure

Exhibit 1146

COPY

TRANSLATION

Titangesellschaft m.b.H.
I. G. Patent Abteilung
Leverkusen I. G. Werk
Leverkusen bei Köln
Germany

July 29th, 1940

Re: Assignment of Italian Patent Applications—and Patents to Titan Co., Inc.

Gentlemen:—

We are in receipt of your letter of June 12, 1940 as well as the assignment document covering the following Italian patents:

No. 360,407	No. 362,557
No. 362,555	No. 362,558
No. 362,556	No. 377,430

and Pat. Appln. No. 9652/39

We have noted that this document is already signed by Titangesellschaft—Leverkusen.

We are sending you herewith the assignment document duly signed by Titan Co., Inc. as well as the signed Power of Attorney forms which were also sent with you letter of June 12, 1940.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL
Encs.

Exhibit 1147

Letterhead of

TITAN COMPANY, INC.

Registered.

Fredrikstad, Norway,
November 26th, 1940.

HBE/HH *No. 132.*
National Lead Company,
Patent Department,
111 Broadway
New York City

Attention: MR. KAEGEBEHN.

Dear Sirs:—

Assignment from Titangesellschaft to Titan Company, Inc. Belgian Patents T-187 F and T-227.

We received today from Titangesellschaft an assignment document transferring their Belgian Patents T-187 F —Belgian patent No. 437.017 and T-227—Belgian patent No. 436.472 to Titan Company, Inc.

We enclose this assignment document in duplicate, and we would ask you to kindly have them both signed by Titan Company, Inc. The documents are, as you will note, already signed by Titangesellschaft. We would ask you to return the documents to us whereupon we will transmit them to Titangesellschaft's Belgian Patent Agents for registration at the Belgian Patent Office.

One copy of the assignment is enclosed for your file.

Yours very truly,

A. RAVNESTAD

Copy to Mr. Andersen.

Exhibit 1148

April 18th, 1941.
Letter No. 75K

Mr. Andreas Ravnestad
c/o Titan Co. A/S
Fredrikstad, Norway

In Reply To Your Letter No. 185
Re: Assignment from T. G. to Titan Co., Inc.
Belgian Patents T. 187 and T. 227

Dear Mr. Ravnestad.—

We have your letter of March 22nd, 1941, returning to us the assignments in the above identified cases for execution by the Vice-President of Titan Co., Inc.

We apologize sincerely for this oversight and return them herewith duly signed by Mr. Garesché.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL.
Encs.

Exhibit 1149

Letterhead of

TITAN CO. A/S

COPY BY AIR MAIL

FREDRIKSTAD, September 11th, 1941.

HBE/GE. *No. 265.*
National Lead Company,
Patent Department,
111 Broadway
New York City, U. S. A.

Assignment of Titangesellschafts Belgian Patents to Titan Co. Inc.

I. G. Patent Department communicates that the assignment document previously executed, relating to the following patents, have gone lost in the mail transmission:

T-108	Belg.	Pat.	No.	401.442
T-118	"	"	"	411.527
T-125B	"	"	"	417.420
T-187ABCD	"	"	"	427.799

We enclose a new document duly signed by Titangesellschaft and would ask you to kindly have it signed by Titan Co. Inc.. A copy of the assignment is enclosed for your file.

Please return the executed document to us at your earliest convenience.

Yours very truly,

H. ECKOFF.

Encl. by Air Mail.

Exhibit 1150

Letterhead of

TITAN COMPANY, INC

Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 2nd January 1941

By Air Mail

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U.S.A.

Dear Mr. Kaegebehn,

Assignment of Titangesellschaft's Patents in Holland to Titan Company Inc.

Case T.187 ABCDE	Dutch	Patent	Application	No.	87.186
" T.187 F.	"	"	"	"	95.925
" T.227	"	"	"	"	95.209

I enclose herewith an assignment executed by Titangesellschaft transferring the above patent applications to our company. This document requires the signature of Titan Company Inc., which I would ask you kindly to obtain.

For the registration of this assignment at the Dutch Patent Office one power of attorney from Titan Company Inc. for each of the three patent cases is necessary. I have asked our Dutch patent agents, Nederlandsch Octrooibureau, Hague, to send you by air-mail forms for such

powers and I would ask you to have them signed by Titan Company Inc.

A legalisation of the signatures of the assignment and the powers is not necessary.

I also enclose for your files a copy of the assignment.

Please send the executed document as well as the three powers of attorney to the Titangesellschaft, z.H. I.G. Farbenindustrie Patentabteilung, Leverkusen, who will take care of the registration of the assignment at the Dutch patent office.

The above assignment completes the transfer to us of Titangesellschaft's patent cases in Holland. For three further cases, namely, patents in T.108, T.118 and T.125 Holland the transfer has been effected.

The completion of the enclosed assignment was delayed on account of the situation and also because of a recent alteration in the Dutch patent practice, according to which the value of the rights should be stated in the assignment document. This necessitated correspondence with the Titangesellschaft and our Dutch patent agents, which resulted in that it was agreed to insert the value of FLR. 500:—and you will note that this has been done in the enclosed document.

Kindly let me have for my records information re the names of the signatures for Titan Company Inc. and the date of execution.

Thanking you in anticipation I am,

Yours sincerely,

SIGURD ANDERSEN
Sigurd Andersen

Encl.

Exhibit 1151

Letterhead of

TITAN COMPANY, INC

Sigurd Andersen
Stora Nygatan 31
Stockholm

Stockholm, the 17th October 1940

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U.S.A.

Dear Mr. Kaegebehn,

Assignment of Titangesellschaft's Patents
to Titan Company Inc. Sweden and Denmark

The assignments transferring T.G.'s patent cases in Sweden and Denmark to our Company have been filed at the respective patent offices together with preliminary powers of attorney signed on this side, in order to save time.

It will probably be advisable to substitute these preliminary powers with powers signed by officers of Titan Company Inc. in order to get the matter in strict formal order.

I therefore enclose 3 forms for powers in Sweden /Cases T. 187, T. 187-F and T. 227/ and 2 forms for powers in Denmark /Cases T. 187 and T. 227/ and should

be obliged to you if you would have these executed by Titan Company Inc. in the usual manner.

Kindly return the executed documents to me.

I also enclose copies of the documents for your files.

Thanking you in anticipation I am,

Yours sincerely,

SIGURD ANDERSEN.
Sigurd Andersen

Encl.

Exhibit 1152

December 12th, 1940

Mr. Sigurd Andersen
Stora Nygatan 31
Stockholm, Sweden

Re: Assignment of T. G.'s Patents to Titan Co., Inc.
Sweden & Denmark

Dear Mr. Andersen:—

We received your letter of October 17th, 1940 and enclose herewith executed Power of Attorney for Sweden and Denmark, which were sent therewith.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL
Encs.

c.c. Mr. C. F. Garesché
Mr. A. Tennestad

Exhibit 1153

COPY TO TITAN COMPANY INC.

BRITISH TITAN PRODUCTS CO. LTD.

Billingham

CJS/SL/19892

19th March 1941

Imperial Chemical Industries Ltd
Legal Department,
Black Fan Road,
Welwyn Garden City,
Herts.

Dear Sirs,

E. L. 93—Case 2989—German Patent 643,995

We thank you for your letter of March 13th from which we are rather surprised to note that the I. G. have applied for an Emergency Licence under this patent.

Under an agreement dated 12th April 1939 between I. C. I. and ourselves, this patent with others was transferred to us. We then transferred those patents lying outside the British Empire to Titan Company Inc., an American Company, although this transfer does not appear to have been formally recorded in an agreement. So far as we know, Titan Company Inc. then transferred the patent in question to Titangesellschaft.

Titangesellschaft is a German Company, owned 50% by the I. G. and 50% by Titan Company Inc., and under the arrangement outlined above, it would appear unneces-

Exhibit 1153

sary for them to apply for a licence under the German Emergency Regulations.

If they do obtain a licence and pay a royalty, can you enlighten us as to what happens to the royalty. So far as any claims we have to it, Titan Company Inc., would have an equal claim on us for it. Are we correct in assuming that any royalty paid will be absorbed by the German equivalent of our Custodian of Enemy Property?

Yours truly,

For BRITISH TITAN PRODUCTS CO. LTD.
C. J. S.

C. J. Stopford
Director and General Manager.

Exhibit 1154

COPY

May 14th, 1940

I. G. Farbenindustrie Aktiengesellschaft
Leverkusen I. G. Werk—Patent-Abteilung
Leverkusen bei Köln
Germany

Gentlemen:—

We have the pleasure to enclose herewith the following:

1.) Assignment Document—Titan Co., Inc. to Titangesellschaft, m. b. H., covering German Patents as follows: Nos. 657,599, 666,148, 666,409, 666,530, 671,738 and 684,658.

2.) Assignment Document—National Lead Co. to Titangesellschaft, m. b. H., covering German Patents as follows: Nos. 571,387, 588,230, and 604,311.

3.) Assignment Document—National Lead Co. to Titangesellschaft, m. b. H., covering Czechoslovakian Patent No. 39,354.

These assignments have been executed pursuant to the understanding reached by Titangesellschaft m. b. H. with Titan Co., Inc. in Fredrikstad.

In connection with the transfer of Czechoslovakian Patent No. 39,354, this patent stands in the name of Titanium Pigment Co., Inc. in the Czechoslovakian Patent Register. Upon the request of Titan Co., Inc. in Frederikstad we forwarded to them, on February 16th, 1940, two certified copies of a document transferring the assets of

Titanium Pigment Co., Inc. to National Lead Co. The receipt of these documents was acknowledged from Fredrikstad on March 12th. We understand that this transfer document will be filed in the Czechoslovakian Patent Office to indicate the transfer of title from the Titanium Pigment Co., Inc. to National Lead Co. and thus will enable you to record the assignment document sent therewith.

In preparing these assignments we have been in touch with Messrs. Hutz and Joslin of New York. We may mention that they have advised us of the receipt of new assignments from the inventors to Titan Co., Inc. in U. S. Cases T. 187, T. 187-F and T. 227, as well as assignments from Titangesellschaft m. b. H. to Titan Co., Inc. of Canadian applications in Cases T. 187 and T. 227.

Yours very truly,

TITAN COMPANY, INC.

C. F. Kaegebehn

CFK:JL

c.c. Titan Co., Inc.—Frederikstad

Exhibit 1155

May 14th, 1940

Werner H. Hutz, Esq.
Messrs. Hutz and Joslin
521 Fifth Ave.
New York, New York

Dear Mr. Hutz:—

We are enclosing herewith copies of the following documents, which we have forwarded to the I. G. Farbenindustrie-Patent-Abteilung under today's date:

Assignment Document—Titan Co., Inc. to Titangesellschaft, covering German Patents, as follows: Nos. 657,599, 666,148, 666,409, 666,530, 671,738 and 684,658.

Assignment Document—National Lead Co. to Titangesellschaft, covering German Patents, as follows: Nos. 571,387, 588,230 and 604,311.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL
Encs.

Exhibit 1156

May 14th, 1940

Dr. G. Jebsen
For Mr. S. Andersen
c/o Titan Co. A/S
Fredrikstad, Norway.

Re: Assignment of Titan Co., Inc.
and Titangesellschaft Patents

Gentlemen:—

We beg to acknowledge receipt of your letter of March 4th, 1940. As per copies of letters enclosed, you will note that Messrs. Hutz and Joslin have received from the I. G. Farbenindustrie-Patent-Abteilung assignments from Titangesellschaft m.b.H. to Titan Co., Inc. for Canadian applications in Cases T. 187 and T. 227., and new assignments from the inventors to Titan Co., Inc. for U. S. applications in cases T. 187, T. 187-F and T. 227.

It is the practice between Messrs. Hutz and Joslin and ourselves for them to keep such assignments until the patents are about to issue and then to record the assignments and turn over the recorded assignment with the Letters Patent deed to us, and this procedure is being followed with respect to these cases. By agreement with Messrs. Hutz and Joslin we forwarded directly to the I. G. Farbenindustrie executed assignments, as follows:

1. Assignment Document—Titan Co., Inc. to Titangesellschaft m.b.H., covering German Patents as follows: Nos. 657,599, 666,148, 666,409, 666,530, 671,738 and 684,658.

2.) Assignment Document—National Lead Co. to Titangesellschaft, m.b.H., covering German

Exhibit 1156

Patents as follows: Nos. 571,387, 588,230, and 604,311.

3.) Assignment Document—National Lead Co. to Titangesellschaft, m.b.H., covering Czechoslovakian Patent No. 39,354.

We enclose copies of our letter of transmittal and assignments for Germany.

We may mention that we have received directly from the I. G. Farbenindustrie assignments of United States Patents in Case T. 125-C from Titangesellschaft to Titan Co., Inc. and assignment from the inventor of United States application in case T. 240 from the inventor to Titan Co., Inc.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

Encs.

c.c.Mr. C. F. Garesché

Exhibit 1157

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
June 7th, 1940.

Rd/EE—*No. 58.*

National Lead Company,
Patent Department,
111 Broadway,
New York City. *Attention: Mr. Kaegebehn.*

Dear Sirs:

T-90, German Patent No. 604,311.

The transfer of the above German patent from Titanium Pigment Co. to National Lead Co. has now been entered in the Patent Register. This was, as you are aware, necessary in connection with the assignment of the patent from National Lead Company to the Titangesellschaft.

In order to enable our patent agent in Berlin, Dr. Weber, to take any step which might be required at the German Patent Office in this case, he will need a Power of Attorney signed on behalf of National Lead Co., and we would therefore be obliged if you would have the enclosed Power of Attorney signed and returned to us at your earliest convenience. Dr. Weber will need this until the registration of the patent in the name of Titangesellschaft has taken place.

The 2nd copy of Power of Attorney is intended for your file.

Thanking you in anticipation, we are

Yours very truly,

Encls. ANDREAS RAVNESTAD

3536

Exhibit 1157

Patent
Gebrauchsmuster
Warenzeichen

Nur für ausländische Auftraggeber.

VOLLMACHT
(Stempel RM 1.50)

Der Patentanwalt Dr. Arnold Weber, Blücherstrasse 66, Berlin SW 61

wird hiermit in Sache des Deutschen Patentes Nr. 604,311 zum Vertreter

gemäß § 16 des Patentgesetzes,
§ 20 des Gebrauchsmustergesetzes,
§ 35 des Warenzeichengesetzes
bestellt.

New York, N. Y., U. S. A., den 16. August, 1940.

NATIONAL LEAD COMPANY

FLETCHER W. ROCKWELL
President

H. O. BATES
Secretary

Exhibit 1158

August 20th, 1940

Mr. Andreas Ravnestad
c/o Titan Co. A/S
Fredrikstad, Norway

In Reply to Your Letter No. 58
Re: Case T. 90—German Patent
No. 604,311

Dear Mr. Ravnestad:—

Enclosed is an executed Power of Attorney document which was sent with your letter of June 7th, 1940.

We trust that this document will enable Dr. Weber to act in the matter as desired.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL
Enc: 1

c.c. Dr. G. Jebsen—Mr. C. F. Garesché
Mr. S. Andersen

Exhibit 1159

Letterhead of

TITAN COMPANY, INC.

ADDRESS FOR CORRESPONDENCE:

Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 23rd September 1940

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK, U. S. A.

Dear Mr. Kaegebehn,

Patents Germany

Further to my letter of the 19th of August I beg to inform you that the Titangesellschaft has taken over the further maintenance of the following German patents:

T-47	D.R.P.	571.387
T-78	"	588.230
T-90	"	604.311
T-102	"	684.658
T-116	"	666.658
T-129	"	657.599
T-137	"	666.530

These patents have accordingly been removed from our records regarding watch for formalities of maintenance of patents.

Exhibit 1159

As you will note, there were two further German patents included amongst those which were assigned to the Titangesellschaft by the assignments dated 6th of April 1940, namely, Case T-45 D. R. P. 666.148 and Case T-101 D. R. P. 671.738. The Titangesellschaft have informed us that they do not wish to maintain these patents and they will accordingly be allowed to lapse by non-payment of the next annuity due.

Yours sincerely,

SIGURD ANDERSEN
Sigurd Andersen

Exhibit 1160

TRANSLATION

I. G. Farbenindustrie
December 6th, 1940

Your Letter: October 18th, 1940

Re: Assignment Documents for Germany

Titan Co., Inc.
c/o Mr. C. F. Kaegebehn
111 Broadway
New York, N. Y.

Gentlemen:—

With reference to your letter of October 18th, 1940, in reference to application in case T. 248 (U. S. Ser. No. 297,814), with which you sent us documents required for filing this application in Germany, we are sending you herewith the desired forms. We are enclosing 30 copies of

1) Power of Attorney
2) Inventor's Declaration
3) Priority Assignment

Yours very truly,

I. G. Farbenindustrie

Translated by:
J. Lüer

Exhibit 1161

TRANSLATION

I. G. FARBENINDUSTRIE A. G.
Leverkusen Werk

June 12, 1940

Titan Co., Inc.
c/o Mr. C. F. Kaegebehn
111 Broadway
New York, New York

Re: T. 165 — Le. No. 2202
T. 225 — Le. No. 2230
Our Ref: Kp/Gr u.2230 2202 P. A.

Gentlemen:—

We are enclosing herewith two Power of Attorney forms which Titan Co., Inc. asked us to forward to you. Will you please sign these forms and have them notarized and, in order to simplify matters, we would ask you to please forward them directly to the Japanese patent attorney, Dr. Nagashima, of Nagashima Law and Patent Office, 6 Tsjukiji 3-Chome, Kiobashi-ku, Tokio. These documents are needed for the purpose of assigning a Japanese patent, that is to say, a Japanese patent application of Titan Co., Inc. to Titangesellschaft.

Yours very truly,

I. G. Farbenindustrie

Enclosures
2202 P. A.
2230 P. A.

Exhibit 1162

July 30th, 1940

Dr. Nagashima
Nagashima Law & Patent Office
6 Tajukiji 3-chome
Kiobashi-ku
Tokio, Japan

Re: Case T. 165—Japanese Pat. No. 130,169
Case T. 225—Jap. Pat. Appln. 15180/1939

Dear Sir:—

Pursuant to the request of the Patent Department of the I. G. Farbenindustrie, we enclose herewith executed Powers of Attorney, enabling you to transfer the above identified cases to Titangesellschaft m.b.H.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL
Encs. 2

c.c. Dr. G. Jebsen
Mr. C. F. Garesché
Mr. A. Ravnestad
Mr. S. Andersen

Exhibit 1163

TRANSLATION

July 30, 1940

Titangesellschaft m.b.H.
z.H.: I. G. Farbenindustrie
Patent Abteilung
Leverkusen I. G. Werk
Leverkusen—Germany

Re: Case T. 165 — Le. Nr. 2202
Case T. 225 — Le. Nr. 2230

Gentlemen:—

Upon receipt of your letter of June 12, we signed the two Power of Attorney forms and had them notarized. We then forwarded these to the Japanese attorney, Dr. Nagashima of Nagashima Law and Patent Office. Copy of our letter is enclosed herewith.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL

3557

Exhibit 1164

Letterhead of

TITAN COMPANY, INC.

REGISTERED

Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 29th August 1940

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U.S.A.

Dear Mr. Kaegebehn,

Assignment of Titan Co. Inc's Patents in T.G.'s Territory to T.G.

For some of the patents and applications to be assigned to Titangesellschaft the documents have not as yet been executed.

As it is not at present possible to obtain Titan Co. Inc's signature on this side, I should be greatly obliged to you if you would obtain the necessary signatures and am enclosing herewith forms for the documents as follows:

Germany	Assignment of Applications
Japan	Assignment of Patent Case T.165 and Application T.225
Czechoslovakia	Assignment of Patent Application T.171

All these patents and applications are in the name of Titan Co. Inc.

As to the execution of the documents, kindly note that the assignments for Germany and Czechoslovakia should be legalized by a German Consul, which, as you are aware, necessitates notarial certification. A legalisation of patent assignments in Japan is not ordinarily required. I have asked our Japanese patent agent, Dr. Nagashima, whether he advises a legalisation in the present case, requesting him to send his reply direct to you with copy to me. A copy of my letter to him is enclosed.

I might suggest that you submit the matter to Dr. Jebsen before the documents are executed. I presume that the signatures will be effected by him or by Mr. Rockwell and I think that they should be made in the usual manner with your attestation as secretary and under Titan Co. Inc's seal.

The assignments to Titangesellschaft already executed together with those for which forms are enclosed herewith include all patents and applications for which assignment to Titangesellschaft is foreseen at the time being, with the possible exception of a few Japanese Cases which Titangesellschaft possibly do not wish to maintain or may wish to have assigned to Titan Kogyo. We will revert to these when we receive Titangesellschaft's comments.

I would suggest that you send the executed documents for Germany and Czechoslovakia to the Titangesellschaft c/o I. G. Farbenindustrie Patentabteilung.

As to Japan, the Titangesellschaft has requested that these documents be sent direct to Dr. Nagashima and I should be obliged to you if you would do so.

Exhibit 1164

I should be glad to receive copies of the executed documents for my files.

Yours sincerely,

SIGURD ANDERSEN

SIGURD ANDERSEN

P.S. I enclose 2 sets of copies of the documents, one of which is intended for your files and the other for returning to myself completed with execution dates and names of signatories.

Encl. forms
copy

Copy to Dr. G. Jebsen
" " Ing. A. Ravnestad—Ing. H. Eckhoff

Exhibit 1165

ADDRESS FOR CORRESPONDENCE:
Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 23rd September 1940

By Air Mail.

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U. S. A.

Dear Mr. Kaegebehn,

Assignment of Titan Co. Inc. Patents in T. G.'s Territory to T. G.

Further to my letter of the 29th of August, page 2, first paragraph, I enclose herewith forms for assignment from Titan Co. Inc. to Titangesellschaft of the following Japanese Patents:

Patent No 134.406 of October 10th 1939 Our Reference T. 171
" " 137.323 " April 15th 1940 " " T. 182

and should be greatly obliged to you if you would have these documents executed by the Titan Co. Inc. and sent to our Japanese agent Dr. Nagashima.

With regard to the manner in which the documents should be executed, I beg to refer to the penultimate paragraph on page 1 of my letter of the 29th of August and hope you have received in due course Dr. Nagashima's advice on this question.

Exhibit 1165

Kindly return for my files one set of the copies* with indications regarding the signatures. The other set of copies are for your files.

Your sincerely,

SIGURD ANDERSEN.
Sigurd Andersen

Encl.

Copy to Dr. G. Jebsen
" " Ing. A. Ravnestad—Ing. H. B. Eckoff

*Separately by ordinary mail.

Exhibit 1166

Letterhead of

TITAN COMPANY, INC.

ADDRESS FOR CORRESPONDENCE:
Sigurd Andersen
Stora Nygatan 31
Stockholm.

By air-mail Stockholm, the 5th October 1940

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U. S. A.

Dear Mr. Kaegebehn,

Assignment of Titan Company Inc's
Patents in T.G.'s Territory to T.G.

I received yesterday your telegram reading as follows:
"re your letter september 23 assignment titan co patents"
"tg neither your letter august 29 nor nagashimas advice"
"received stop suggest forward airmail duplicate the"
"former".

and enclose herewith copy of my letter of the 29th of August—as well as a further set of forms for the documents mentioned therein and copy of my letter to Dr. Nagashima.

I believe that the advice from Dr. Nagashima could hardly be expected to reach you by this date, as you note from the enclosed copy I wrote him at the same time as writing you. I have however sent him copy of my letter for the event of my letter to him has not reached him.

Yours sincerely

SIGURD ANDERSEN

Encl

3550

Exhibit 1166

Stockholm, the 29th August 1940

Nagashima Law & Patent Office
6 Tsukiji 3-chome, Kiobashi-ku,
TOKIO

Dear Sirs,

Case T-165 Japan Patent No. 130.169
Case T-225 Japan Patent Application No. 15.180

I beg to refer to prior correspondence regarding contemplated assignment to the Titangesellschaft of the above Japanese patent cases and should like to have your opinion on the question whether it is advisable to have the assignment documents which we execute legalized by an attorney public or by a Japanese Consul or by both.

We are aware that such legalisation is not ordinarily required for assignments in Japan but should like to know whether it presents advantages, in which case we would prefer to have the documents legalized in the present case.

Please send your reply to:

Mr. C. F. Kaegebehn
c/o National Lead Co
Patent Department
111 Broadway
NEW YORK U. S. A.

with copy to the writer under the address:

Stora Nygatan 31
Stockholm.

Yours very truly,

Exhibit 1167

Mr. Sigurd Andersen
Stora Nygatan 31
Stockholm, Sweden

October 25th, 1940.

Re: Assignment Titan Co. Inc.'s Patents to T. G.
(In T. G.'s territory)

Dear Mr. Andersen,

We received your air-mail letter of September 23rd, 1940 on October 3rd and cabled you as follows:

"RE YOUR LETTER SEPTEMBER 23 ASSIGNMENT TITAN CO PATENTS TG NEITHER YOUR LETTER AUGUST 29 NOR NAGASHIMAS ADVICE RECEIVED STOP SUGGEST FORWARD DUPLICATE THE FORMER"

On October 7th, your letter of August 29th was received and we cabled you as follows:

"YOUR LETTER SEPTEMBER 23 ASSIGNMENT TITAN PATENTS TG JUST RECEIVED"

This matter has been considered here and approved.

The documents for Japan, viz., assignments of Cases T. 165, T. 171, T. 182 and T. 225 have been received and already executed. In due time we received from Nagashima instructions concerning the execution of the documents in Cases T. 165 and T. 225 to the effect that a Japanese consular legalization was not necessary but the acknowledgment of a Notary Public was desirable. We executed the documents according to these instructions and have

Exhibit 1167

The documents for Germany and Czechoslovakia, viz., the general assignment for Germany and the assignment of Case T. 171 for Czechoslovakia, have been executed, notarized, legalized by the German Consul, and forwarded to Titangesellschaft, as per your suggestions.

Copies of the executed documents for Japan, Germany and Czechoslovakia are herewith returned for your files.

The cost of legalization by the German consul of the German and Czechoslovakian documents has been rather high, namely $12.00 for each document. We are unable to understand what rules govern the procedure for legalization. In Baltimore, the Consul has charged only $4.00, whereas in New York, we have sometimes paid $8.00 and at other times, $12.00. It appears that unless proof be submitted to the German Consul that the value of the matter submitted, i.e., the patent or patent application, is more than RM 10,000.00, a fee of $12.00 is charged; if proof be submitted that the value is less than RM 10,000.00 a fee of $8.00 is asked. Please, therefore, in the future, give us the approximate evaluation of such cases as are to be assigned the documents for which require legalization of German Consul.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL
Encs.

c.c. Mr. A. Ravnestad
Dr. G. Jebsen—Mr. C. F. Garesché

Exhibit 1168

Titangesellschaft m.b.H.
I. G. Patentabteilung
I. G. Leverkusen Werk
Leverkusen bei Köln a/Rhein
Germany

October 25th, 1940

Re: Assignment of Titan Co., Inc.'s Patents in T.G.'s Territory to T.G.

Gentlemen:—

Pursuant to advice received from Titan Co., Inc., Fredrikstad, we have executed certain assignment documents, as follows:

1.) General assignment transferring title to Titangesellschaft in Cases T. 100, T. 107, T. 132, T. 135, T. 153, T. 162, T. 165, T. 171, T. 179, T. 182, T. 184, T. 225 and T. 235.

2.) Assignment of Czechoslovakian patent in Case T. 171 to Titangesellschaft.

These documents, duly notarized and legalized by the local German Consul are enclosed herewith.

Documents transferring title to Japanese Cases T. 165, T. 171, T. 182 and T. 225 to Titangesellschaft will be forwarded directly to Nagashima Law and Patent Office, Tokyo.

In the future, we would like to request that if possible, when transferring title to patents and applications, or in connection with any other document of transfer, requiring the legalization of German Consul, you advise us approxi-

Exhibit 1168

mately of the value of the matter in question. If we cannot supply a value for the document to be legalized, the legalization fee becomes more expensive.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL
Encs.

c.c. Titan Co., Inc.—Fredrikstad
Dr. G. Jebsen
Mr. C. F. Garesché
Mr. S. Andersen

Exhibit 1169

October 25th, 1940

Nagashima Law & Patent Office
6, Taukiji 3-Chome
Kiobashi-ku
Tokyo, Japan

Re: Case T. 165—Japanese Patent No. 130,169
Case T. 225—Japanese Pat. Appls. 15.180/39

Gentlemen:—

We have received your letter of September 21st, 1940, advising us that assignment documents for cases T. 165 and T. 225 need not be legalized by a Japanese Consul, but should, preferably, be acknowledged by a Notary Public. This has been done, and we are pleased to enclose herewith executed assignment documents for these two above identified cases.

We have also received assignment documents for Cases T. 171 and T. 182, which we also have had executed and send you herewith.

Please acknowledge receipt of these documents.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL
Encs.

c.c. Dr. G. Jebsen
Mr. C. F. Garesché
Mr. A. Ravnestad
Mr. S. Andersen

Exhibit 1170

November 12th, 1940

Mr. Sigurd Andersen
Stora Nygatan 31
Stockholm, Sweden

Re: Assignment Titan Co., Inc. Patents
to T. G. (T. G. Territory)

Dear Mr. Andersen:—

We acknowledge receipt of your second mail copy of the letter of September 23rd, with which duplicate assignment documents in Cases T. 171 and T. 182 were enclosed.

We believe we forwarded to you, with our letter of October 25th, copies of these assignment documents, showing the signatures and date of execution. However, in the event we did not, we enclose herewith one copy of each of the documents, showing the signatures and date of execution.

In connection with this matter we note from your letter of October 17th that Mr. Nagashima's letter of September 21st was not quite clear. It was not quite clear to us either. We made some inquiries of our foreign patent agents here and the situation seems to be this: The Japanese Patent Office does not require the legalization of assignment documents by their consuls. This being the case, it is not even necessary to obtain a notarization. The notarization which is attached to such documents is simply to confirm that the individuals who executed the document were known to the Notary Public. In turn the County Clerk certifies that the Notary Public is, in fact, a Notary Public and a Consul Confirms that the County Clerk is a representative of the state where the document was executed, for instance, New

York State. If the consular legalization is not necessary, then the notarization by a Notary Public and County Clerk certificate is also not necessary. However, since in Japan they seem to prefer some sort of sealing on the document to make it appear more official (Japanese certificate of nationality, which also does not require legalization, does, however, require notarization by a Notary Public), we attached notarizations by a Notary Public to all documents we send to Japan when executed either on behalf of the company or by an individual.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL
Encs. 2

c.c. Mr. A. Ravnestad

3571

Exhibit 1171

Letterhead of

NAGASHIMA LAW & PATENT OFFICE

November 27th, 1940.

Messrs. Titan Company, Inc.,
New York.

Dear Sirs:

Re: Case T. 165—Japan. Patent No. 130,169,
Case T. 225—Japan. Patent Application No. 15,180/39.

We have duly received your favour of October 25th with the two assignment-documents and soon today necessary steps for transfer of the above-mentioned two cases to the firm Titangesellschaft m.b.H., Germany.

We have at the same time received two assignment documents for Cases T. 171 and T. 182, but we have not yet heard from any side about the transfer thereof. If we should take necessary steps as the Cases T. 165 and T. 225, so you would kindly send us Powers of Attorney with Certificate of Nationality of the firms Titan Co., Inc., Wilmington, Delaware and Titangesellschaft m.b.H., Leverkusen, Germany.

Yours very truly,

L. NAGASHIMA

Exhibit 1172

Letterhead of

TITAN COMPANY, INC.

Stockholm, the 19th December 1940.

Sigurd Andersen
Stora Nygatan 31
Stockholm.

By air-mail

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
New York, U. S. A.

Dear Mr. Kaegebehn,

Assignment Titan Company Inc. Patents to T. G.

I beg to refer to your letters of October 25th and November 12th with which were enclosed copies of executed assignment transferring to T. G. the following patent cases:

Patent Applications Germany
Patent Application Czechoslovakia Case T. 171
Patent Cases Japan T. 165, T. 171, T. 182 and T. 225.

I notice that you have sent to T. G. the documents for Germany and Czechoslovakia and to Dr. Nagashima the documents for Japan.

I have sent to Fredrikstad copies of the executed documents.

Exhibit 1172

The rules governing the procedure for legalisation of the German Consul are not very clear to me either. Previously, an evaluation of the patent cases in question was not asked for, as the fee was independent on their value. Later, we have, however, also on this side had cases in which we were requested by the Consul to state the value and particularly, whether it was more or less than RM 10,000:— I will in the future endeavour to give you the approximate value of patents for which assignments are to be legalized by a German Consul.

I have noted with interest your remarks in your letter of the 12th of November regarding legalisation of assignment documents in Japan.

I beg to express my best thanks for your kind assistance in the above matter.

Yours sincerely,

SIGURD ANDERSEN
Sigurd Andersen

Exhibit 1173

Sigurd Andersen
Stora Nygatan 31
Stockholm, Sweden

Stockholm, December 21st 1940

By Air Mail.

Nagashima Law & Patent Office,
6 Tsukiji 3-chome, Kiebashi-ku
TOKIO

Dear Sirs,

Case T-171 Japan Patent No 134.406
Case T-182 " " No. 137.323 a pl No. 16.798-37

We received to-day a telegram from Mr. Kaegebehn, Titan Company Inc., 111 Broadway, New York according to which you have written him that you are without instructions regarding the transfer of the above patents to the Titangesellschaft m,b,H.

Our letter to you of the 23rd September instructing you regarding this transfer has apparently gone lost and we enclose herewith copy of same. We take it that you have received from Mr. Kaegebehn the assignment documents referred to in that letter.

We have asked the Titangesellschaft to send you direct the two powera of attorney with certificates of nationality signed by a Notary Public, which we understand are required in connection with this transfer, and note from Mr. Kaegebehns telegram that he will send you the necessary powers signed by Titan Company Inc.

Please inform us when the matter has been settled. Your reply should be addressed to the writer using the address in Sweden indicated above sending at the same time

a copy to Titan Company Inc., 111 Broadway, New York, Attention Mr. C. F. Kaegebehn.

Yours very truly,

Sigurd Andersen

P.S. Correpondance re. our other patent and trade mark matters should—as you understand—be continued under our usual adress Titan Co.A/S, Fredrikstad, Norway.

cc. Mr. C. F. Kaegebehn

Exhibit 1174

Letterhead of

TITAN COMPANY, INC.

Stockholm, the 28th December 1940

Sigurd Andersen
Stora Nygatan 31
Stockholm.

By air-mail

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK, U. S. A.

Dear Mr. Kaegebehn,

Assignment to Titangesellschaft of Japanese Patents
T. 171 Patent No. 134.406
T. 182 " " 137.323

I beg to confirm exchange of telegrams as follows:
Your telegram of the 20th of December:

"nagashima writes he is without instructions re"
"transfer japanese patents t-171 t-182 to tege"
"stop requests power of attorney nationality cer-"
"tificate for titaninc and tege stop we will attend"
"titaninc please communicate tege for documents"
"their behalf"

My telegram of the 21st of December:

"Remailing Nagashima instructions transfer patents
"T171 T182 and arranging Tege send him powers".

Exhibit 1174

By letter dated the 23rd of September we instructed Dr. Nagashima regarding the transfer of these patents to Titangesellschaft. This letter has apparently gone lost and I air-mailed on the 21st of December a letter to Dr. Nagashima as per enclosed copy. I hope this will reach him in due course.

I have also requested that the Titangesellschaft sign powers with notarial attestation of the certificates of nationality and that they send these powers direct to Dr. Nagashima.

Yours sincerely,

SIGURD ANDERSEN.
Sigurd Andersen

Encl.

Exhibit 1175

January 2nd, 1941

Nagashima Law and Patent Office
6, Taukiji 3-Chome
Kiobashi-ku
Tokio, Japan

Re: Case T. 165—Jap. Pat. No. 130,169
Case T. 225—Jap. Pat. No. Appln. 15, 180/39

Gentlemen:—

Your letter of November 27th, 1940 was received.

We understand that instruction regarding the transfer of the Japanese patents together with necessary documents were forwarded to you by Titan Co., Inc. (Mr. Sigurd Andersen).

Upon receipt of your letter we made arrangements with Mr. Andersen that duplicate instruction should be sent you, as well as additional powers which, we understand, will be sent you by Titangesellschaft.

Enclosed herewith are powers, duly executed on behalf of Titan Co., Inc.

We trust that this matter has now been taken care of to your satisfaction.

Yours very truly,

TITAN COMPANY, INC.

CFK/JL
Encs.

Exhibit 1176

January 8th, 1941.

Mr. Sigurd Andersen
Stora Nygatan 31
Stockholm, Sweden

Re: Cases T. 171 and T. 182 Japanese Patents

Dear Mr. Andersen:—

We forwarded a copy of our letter of January 2nd, 1941 to you, addressed to Nagashima Law and Patent Office, with which we sent that company assignment documents in the above identified cases, pursuant to our exchange of cables.

Inadvertently the file designation of our letter of January 2nd refers to cases T. 165 and T. 225. Assignment documents for these cases were forwarded to Nagashima with our letter of October 25th, 1940. The correct file designation of our letter of January 2nd should have been *Case T. 171 and T. 182.*

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. A. Ravnestad
Mr. C. F. Garesché

Exhibit 1177

TRANSLATION

Kagaku Tokkyo Jimusho
Tokyo Sept. 28th, 1940.

I. G. Farbenindustrie
Patent Department
Leverkusen

Re: Case T. 77 Jap. Pat. 94271
T. 78 Jap. Pat. 94534

Gentlemen:

Titan Kogyo has, as per the following paragraphs quoted from their letter to the Patent Office of Nagashima, decided to further maintain for one year the above identified patents:

"It has been decided by us to further maintain the patent rights for T. 77 and T. 78, which cases were assigned to us by National Lead Co. on June 19th, 1940, for one more year."

"We wish to inform you further than the taxes will be paid by us.".

Yours very truly,

KAGAKU TOKKYO JIMUSHO

(signed) Dr. Buchert

Translated by:
J. Lüer—Dec. 11, 1940.

Exhibit 1178

TRANSLATION

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Titan Co., Inc.
c/o Mr. C. F. Kaegebehn
111 Brodway
New York, New York

Leverkusen I. G. Werk
October 1st, 1940

Re: T. 28, T. 77, T. 78

Gentlemen:—

We confirm the receipt of your today's telegram reading as follows:

"FEES FOR CASES T28 T 77 T78 JAPAN DUE DECEMBER 9 OCTOBER 7 AND OCTOBER 9 RESPECTIVELY TITAN CO INC NOT INTERESTED IN MAINTENANCE LEAVE TO TG MAINTENANCE IF DESIRED RECOMMEND CASE T 28 BE ABANDONED"

As the T. G. is not interested in maintaining Japanese patents we cabled Dr. Buchert today as follows:

"TITAN CO NO LONGER INTERESTED IN MAINTAINING T28 T77 T78 JAPAN LEAVE MAINTENANCE TO TITAN KOGYO"

We take it that you, or we, shall be informed in due time of Titan Kogyo's decision in this matter.

Yours very truly,

I. G. FARBENINDUSTRIES

Translated by:
J. Lüer

c.c. Titan Co., Inc,
Fredrikstad

Exhibit 1179

TRANSLATION

I. G. Farbenindustrie
Leverkusen I. G. Werk

October 24th, 1940

Titan Co., Inc.
c/o Mr. C. F. Kaegebehn
New York, New York

Re: T. 77 Jap. Patent 94271
T. 78 Jap. Patent 94534

Gentlemen:—

With reference to our letter of October 1st, 1940 in the above identified matter, we are enclosing herewith copy of a letter from Dr. Buchert, from which you will note that Titan Kogyo is interested in maintaining the above patents for one more year.

Yours very truly,

I. G. FARBENINDUSTRIE

c.c. Titan Co., Inc.
Fredrikstad

Translated by:
J. Lüer—Dec. 11, 1940

Exhibit 1180

TRANSLATION

November 2, 1940

I. G. Farbenindustrie
Patent Department
Leverkusen

Re: T. 28—Jap. Pat. 75,851
T. 77—Jap. Pat. 94,271
T. 78—Jap. Pat. 94,534

Gentlemen:—

In reply to your letter of October 1st, 1940 we wish to inform you that Titan Kogyo will reach a decision concerning the maintenance of T. 28 (Tax due December 9, 1940) towards the end of November. We shall then inform you of their decision.

As concerns the cases T. 77 and T. 78, Titan Kogyo has, as per our letter of September 28th, 1940, decided to maintain these two cases for another year.

Yours very truly,

KAGAKU TOKYO JIMUSHO

c.c. Titan Co., Inc.—N. Y.
Mr. Kaegebehn

Translated by:
J. Lüer—Nov. 25, 1940

Exhibit 1181

Letterhead of

TITAN COMPANY, INC.

ADDRESS FOR CORRESPONDENCE:
Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 25th November 1940

By air-mail

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U. S. A.

Dear Mr. Kaegebehn,

Patents in Spain and Japan

I beg to refer to my letter of the 29th of October in the above.

Fredrikstad has inquired regarding the status of cases T.28, T.77, T.78 and T.150 Japan with regard to registered ownership. According to the information received by them, Case T.78 Japanese Patent No. 94.534 was assigned on the 19th of June 1940 and Case T.150 Japanese Patent No. 127.633 was assigned on the 17th of May 1940, both to Titan Kogyo. For cases T.28 and T.77 Japan assignments to Titan Kogyo have not been registered. These cases are, as already mentioned, maintained by Dr. Buchert, presumably on Titan Kogyo's costs.

Exhibit 1181

Case T.28 Japan stands in the name of Titan Co. A/S and case T.77 in the name of Titanium Pigment Company Inc.

Should a formal assignment of the latter case be desired, we will take the liberty to send you the necessary documents for execution.

Yours sincerely,

SIGURD ANDERSEN
Sigurd Andersen

Copy to Mr. Ravnestad

Exhibit 1182

December 5th, 1940

I. G. Farbenindustrie A. G.
Patent Abteilung
Leverkusen I. G. Werk
Leverkusen bei Köln a/Rhein
Germany

Your Ref: Fi/Gr P. A.
Re: Cases T. 28, T. 77, T. 78

Gentlemen:—

We beg to confirm receipt of your letter of October 1st, 1940, informing us that Titangesellschaft is not interested in maintaining patents in Japan in cases T. 28, T. 77 and T. 78, and that in due time you would inform us of Titan Kogyo's decision.

We are also in receipt of copy of a letter of Kagaku Tokkyo Jimusho, addressed to you, of November 2nd, in which they advise that they have decided to maintain cases T. 77 and T. 78 for another year and that they would reach a decision with respect to the maintenance of T. 28 toward the end of November.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL
c.c. Titan Co. A/S
Fredrikstad

Mr. C. F. Garesche
Dr. G. Jebsen
Mr. S. Andersen

Exhibit 1183

January 8th, 1941

Mr. Sigurd Andersen
Stora Nygatan 31
Stockholm, Sweden

Re: Patents in Spain and Japan

Dear Mr. Andersen:

We acknowledge receipt of your letter of November 25th, 1940, giving us information concerning the registered ownership of the Japanese patents in Cases T. 28, T. 77, T. 78 and T. 150.

We will attend to the execution of assignments for cases T. 28 and T. 77 whenever this may be desired.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

c.c. Mr. A. Ravnestad
Mr. C. F. Garesché—Dr. G. Jebsen

Exhibit 1184

TRANSLATION

I. G. Farbenindustrie
Leverkusen I. G. Werk
January 10th, 1941

Titan Co., Inc.
c/o Mr. C. F. Kaegebehn
111 Broadway
New York, New York

Our Ref: Kp/Krö—2109 P. A.
Re: Case T. 28—Japanese Patent
No. 75,851

Gentlemen:—

With reference to our letter of October 1st, 1940, we are now able to send you enclosed herewith copy of a letter from Dr. Buchert from which you will note that Titan Kogyo Kaisha Ltd. is no longer interested to further maintain Japanese patent No. 75,851.

Yours very truly,

I. G. FARBENINDUSTRIE A. G.

Translated by:
J. Lüer

3575

Exhibit 1184

TRANSLATION

TOKKYO JIMUSHO
December 3rd, 1940

I. G. Farbenindustrie
Patent Department
Leverkusen

Re: Case T. 28—Japanese
Patent 75,851

Gentlemen:—

Titan Kogyo Kaisha Ltd. informs us that they no longer are interested in maintaining the above patent.

Yours sincerely,

KAGAKU TOKKYO JIMUSHO
Dr. Buchert

Exhibit 1185

Letterhead of

TITAN COMPANY, INC.

Fredrikstad, Norway,
January 24th, 1941.

HBE/HH No. 154.

National Lead Company,
Patent Department,
111 Broadway,
New York City.

Attention: Mr. Kaegebehn.

Dear Sirs:—

T-77 Japanese Patent Nr. 94.271.

The above mentioned Japanese patent stands in the name of Titanium Pigment Company, Inc.

Titan Company, Inc. abandoned their interests in this patent in the year 1938, and since that time the patent has been maintained on behalf of the Titangesellschaft, according to the wish of that company.

The maintenance of this patent was taken over by Titangesellschaft's Japanese representative, Dr. Buchert, Kagaku Tokkyo Jimusho, last year.

We have in accordance with the agreement regarding mutual assignment of patent rights, asked the Titangesellschaft whether they wish this patent to be assigned to them, resp. Titan Kogyo, and we are now advised that they desire to have it transferred to Titan Kogyo.

We enclose herewith the documents required in connection with the transfer, as follows:

Exhibit 1185

Deed of Assignment
2 Powers of Attorney,
Certificate of Juridical Person
Declaration of transfer of Assets.

As we are not informed whether Titan Kogyo wish their own patent attorney to handle this case, or whether they wish to maintain our patent agents, Nagashima Law & Patent Office, as attorney for this case, we have prepared one power document for each attorney, and we leave it to the Titan Kogyo to decide further.

The declaration of transfer of assets from Titanium Pigment Company, Inc. to National Lead Company is, as you are aware, necessary because the patent stands in the name of Titanium Pigment Company, Inc., and we have used the same wording for the declaration as in the similar case T-78, which was assigned previously.

We would ask you to have the assignment, the powers and the declaration signed on behalf of National Lead Company and the certificates by a Notary Public.

Please send the signed documents to Dr. Buchert.

One copy of the papers are enclosed for your file. Thanking you in anticipation, we are

Yours very truly,

Andreas Ravnestad

Encls.

Exhibit 1185.

TRANSLATION

Copy of letter from Titan Company, Inc., Patent Dept.

Fredrikstad, Norway
January 24th, 1941.

HBE/HH No. 160

Titangesellschaft m.b.H.,
z.H. I. G. Patent-Abteilung,
Leverkusen—I. G. Werk.

T-28 Japanese Patent No. 75,851, Your Ref.: 2109
T-77 Japanese Patent No. 94,271, " " 2132

We received your letter No. 4, dated January 3rd, with which you request us to prepare the transfer of the two above patents to the Titan Kogyo.

From your letter to Mr. Kaegebehn, New York, of January 10th, we note, however, that Titan Kogyo is not interested in the further maintenance of the Japanese Patent T-28—Patent No. 75,851.

We assume that Dr. Buchert, in whose charge this patent is, will take care of necessary instructions to the Attorneys Nagashima Law & Patent Office.

With regard to Patent T-77, we are now able to inform you that we have sent the necessary documents, required for the transfer to Titan Kogyo, to Mr. Kaegebehn, New York, with the request to forward the documents direct to Dr. Buchert.

We have informed Dr. Buchert as per the attached copy.

Yours very truly,

c.c. Mr. C. F. Kaegebehn, New York

Translated by:
M. Harms
Patent Dept.
April 7th, 1941.

Exhibit 1185

TRANSLATION

Copy of letter from Titan Company, Inc.—Patent Dept.

Fredrikstad, Norway
January 24th, 1941.

HBE/HH.

Kagaku Tokkyo Jimusho,
Kojimachi-Ku,
Maru-No-Uchi, 3-chome No. 6.
Tokio/Japan.

T-28 Japanese Patent No. 75,851
T-27 Japanese Patent No. 94,271

From the I. G. Farbenindustrie, Patent Dept., we received a copy of your letter of December 3rd 1940, from which we noted that Titan Kogyo has no interest in the further maintenance of Patent T-28, Japanese Patent No. 75,851, and we assume that you will give the Attorneys Nagashima Law & Patent Office instructions for the discontinuance of this patent protection, since we also are not interested in its further maintenance.

Since the I. G. Farbenindustrie, Patent Dept., has asked us to launch a transfer of the Japanese Patent T-77—Patent No. 94,271—to Titan Kogyo, we have sent the necessary documents to Mr. Kaegebehn, New York, with the request to forward the signed documents to you.

Since we do not know whether Titan Kogyo wishes to use our Attorneys, Nagashima Law & Patent Office, for the above maintenance, we have sent two Power of Attor-

ney forms for signature and that is to say one each for the Attorney of Titan Kogyo, Masura Susuki, and Dr. Isawo Nagashima.

Yours very truly,

initialed Rd (Ravnestad)

c.c. Mr. Kaegebehn, New York
I. G. Patent Dept.

Translated by:
M. Harms
Patent Dept.
April 7th, 1941.

Exhibit 1186

COPY

TRANSLATION

March 5th, 1941

I. G. Farbenindustrie
Patent Department
Leverkusen I. G. Werk
Leverkusen bei Köln a/Rhein
Germany

Your Ref: Kp/Krö—2109 P. A.

Re: T. 28—Japanese Patent
No. 75,851

Gentlemen:—

We are in receipt of your letter of January 10th, 1941 and have noted therefrom that Titan Kogyo is no longer interested in maintaining Japanese Patent No. 75,851. We would like to inform you herewith that we also do not have any interest in further maintaining this patent.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL

Exhibit 1188

October 1, 1940

Mr. Sigurd Andersen
Stora Nygatan 31
Stockholm, Sweden

Dear Mr. Andersen:

We have endeavored here, in consultation with all parties concerned, to consider Titan Co., Inc.'s patent position in Spain, Portugal and Japan.

In this consideration we have used as a source of information the "List of 'T' Cases" which show the situation as of December 31, 1938. For knowledge of the situation from that date up to the present, we have consulted our own files which, however, will show the situation in these countries only insofar as concerns inventions originating with ourselves or our American licensees. Thus, from the "list of 'T' Cases", showing the situation as of December 31, 1938, it appears that the last case to have been filed in Japan, when that record was completed, was in Case T. 105. For "T" cases of a later date, and up to T. 245, our own records were consulted.

The object of this consideration was to ascertain whether Titan Co., Inc. should continue to maintain patents in these countries, or whether these should be assigned to the associate of Titan Co., Inc. most interested in their maintenance. Two alternatives present themselves, as follows:

Alternative (a): Titan Co., Inc. abandons the case.

Alternative (b): Titan Co., Inc. abandons the case and recommends that its associate also abandon the case.

Exhibit 1188

In applying these alternatives to the individual cases in the respective countries, an attempt was made to evaluate the case both from the point of view of its technical and strategic importance. The records in our possession do not show the existence of any patents or patent applications in Portugal and, hence, only the Spanish and Japanese cases come into question.

The alternatives are applied to the individual cases as follows:

Case T. 28 —Japan—Alternative (b)

Case T. 43 —Japan—Alternative (b)

Case T. 47 —Spain—Alternative (a)

(This apparently is already in force.)

Case T. 77a—Japan—Alternative (a)

(The "T" Case Lists note that this case is owned by T. G. but information from Nagashima indicates that the patent stands in the name of Titanium Pigment Co.)

Case T. 78 —Japan—Alternative (a)

(The list of "T" Cases does not indicate that this patent stands in the name of T. G. It is, however, a companion patent to T. 77a. Information from Nagashima indicates that the patent stands in the name of Titanium Pigment Co.)

Exhibit 1188

Case T. 80 —Spain—Alternative (b)

(This is probably in force. List of "T" Cases for 1938 indicates that this patent is owned by T. G. and that it is in force but we have had no information about it from Elsaburu. Presumably it has been abandoned in the interval.)

Case T. 82 —Spain—Alternative (b)

(Presumably this is already in effect. List of "T" Cases indicates this case to be owned by T. G. but carries the note that it was abandoned on October 16, 1936. However, Elsaburu give us information concerning it.)

Case T. 116—Spain—Alternative (a)

Case T. 117—Spain—Alternative (b)

(This is probably already in effect.)

Case T. 129—Spain—Alternative (b)

(This is probably already in effect.)

Case T. 136—Japan—Alternative (a)

(List of "T" Cases indicates the case to be owned by T. G. but Nagashima give us no information concerning it. Presumably it has been abandoned in the interval.

Exhibit 1188

In Spain—Alternative (b)

(Presumably this is already in effect.)

Case T. 150—Japan—Alternative (a)

In Spain—Alternative (b)

(Presumably this is already in effect.)

Case T. 165—Japan—Alternative (a)

Case T. 171—Japan—Alternative (a)

Case T. 176-178—

(The list of "T" Cases does not indicate whether Japanese patents stand in the name of originating company or which other company.)

Case T. 182—Japan—Alternative (a)

Case T. 184—Japan—Alternative (a)

With respect to cases marked "Alternative (a)" it recommended, provided you concur in the recommendation, to advise the associated company interested in maintaining this patent that Titan Co., Inc. is relinquishing the maintenance thereof and that they should arrange to make payments directly for the maintenance. We should be glad to execute formal assignment papers transferring title to the associated company.

With respect to Cases T. 176, T. 177, T. 178: If these stand in the name of Titan Co., Inc., it is recommended that alternative (a) be applied.

Exhibit 1188

It is noted that the Japanese patents or applications, respectively, in cases T. 154b, T. 203, T. 204, T. 205, T. 209, T. 210, T. 211, T. 212, T. 222, T. 223, T. 224, T. 225, T. 229, T. 230, T. 235, and T. 239 have been filed in the name of Titan Koggyo, whereas Case T. 206 has been filed in the name of T. G.

With respect to those cases where Alternative (b) is applied, it is suggested that, if you concur in this recommendation, you advise the associated company that Titan Co., Inc. is not interested to maintain the patent further and does not regard it of sufficient technical or other value to justify the associate in maintaining it.

Exhibit 1188

We note that there are two other cases, namely, T. 217 and T. 232, which if filed in Japan, might stand in the name of Titan Co., Inc., although our records give no information as to these two cases. If Japanese applications have been filed in Japan or applications have been filed in Spain, it is recommended that Alternative (a) be applied.

The consideration which has been given on this side to the matter of patents in Spain and Japan has led to the general conclusion that such patents and applications as Titan Co., Inc., holds in these countries are not of sufficient importance to justify the further expense of their maintenance.

We shall be pleased to hear from you in this matter.

With kind regards,

Yours very truly,

CFK:JM

c.c. Dr. G. Jebsen

Mr. C. F. Garesché

Exhibit 1187

COPY

July 22nd, 1941

Dr. Buchert
Kagaku Tokkyo Jimusho
Kojimachi-Ku
Maru-No-Uchi, 3-Chome No. 6
Tokyo, Japan

Re: Case T. 77—Japanese Patent
No. 94,271

Dear Sirs:

We acknowledge receipt of your letter of June 21st, enclosing Power of Attorney in draft form.

We are pleased to send you herewith duly executed Power of Attorney document, which, we trust, will be in order.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAECEBEHN

CFK:JL
Enc.1

Exhibit 1189

Letterhead of

TITAN COMPANY, INC

ADDRESS FOR CORRESPONDENCE:
Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 29th October 1940

By Air-Mail

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U.S.A.

Dear Mr. Kaegebehn,

Patents in Spain and Japan

I beg to refer to your letter of October 1st.

As to Portugal, I beg to inform you that we have not at the time being any patents or patent applications in this country, which confirms the information shown by your records.

The Titan Company Inc. is not at the time being carrying any expenses for patents or patent applications in Spain and Japan. The costs of the maintenance of the patents in these countries as listed in your letter are,—as far as these patents are still maintained,—carried by the territorially interested companies.

According to our records we have been notified by the interested company of their desire to abandon the following of these patents:

Exhibit 1189

Case T. 43 Japan
" T. 47 Spain
" T. 80 "
" T. 82 "
" T. 117 "
" T. 129 "
" T. 136 Japan
" T. 136 Spain
" T. 150 "

and we have refrained from taking any steps from our side to their maintenance, we had already, prior to their abandonment by the associated company, relinquished our interest in the patents leaving the question of further maintenance as well as costs involved to the territorially interested company.

In cases T.176—T.178 the patents stand in the name of the Imperial Chemical Industries. The costs to the maintenance of these patents are paid by the exclusive licencee. In the case of the Japanese patents they are charged to the Titangesellschaft which we presume again charges them to Titan Kogyo.

Cases T.165, T.171, T.182 and T.184 Japan are being assigned to the Titangesellschaft.

The Japanese patents not included in the above are with Titangesellschaft's consent being maintained by Dr. Buchert/Kagaku Tokkyo Jimusho/ on behalf of the Titan Kogyo and assignments to that company have been executed and sent him in the cases where this was desired by the Titangesellschaft and Titan Kogyo. /As far as I am able to ascertain here, these were cases T.28, T.78 and T.150 Japan, this was effected previous to the understanding regarding

p.t.o.

reciprocal assignment of patent rights of the Titangesellschaft and Titan Company Inc./

As to case T.116 Spain, the maintenance has hitherto been taken care of by us on the understanding that costs should be paid by the Titangesellschaft as the patent was taken out on their request. The question whether they wish to maintain further or not this patent is not as yet clear, we have not therefore submitted a formal assignment for execution pending the settlement of this question.

With regard to cases T.217 and T.232 Japan, these seem to have been filed in the name of Titan Kogyo. I am endeavouring to check this matter and will write you again.

Hoping the above covers satisfactorily the points raised in your letter I am,

With kind regards,

Yours sincerely,

SIGURD ANDERSEN.

Sigurd Andersen

CC. Dr. G. Jebsen

Mr. Garesché

Mr. Ravnestad

Exhibit 1190

Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 17th December 1940

By air-mail.

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department,
111 Broadway,
NEW YORK U.S.A.

Dear Mr. Kaegebehn,

Spanish Patents
T. 116 No. 138.292

I received to-day copy of Messrs Elzaburu's letter to you dated the 5th of December.

As you will have noted from my letter of the 29th of October, we decided to abandon the Spanish Patent in Case T. 82/No. 124.715/. This decision was taken in 1936 and Messrs Elzaburu's records appear consequently to be in accordance with our records as far as this patent is concerned.

As to Patent No. 138.292 T.116, I would likewise refer to my letter of the 29th of October, according to which the question whether the Titangesellschaft wishes to maintain this patent is not as yet clear. I am still awaiting information regarding Titangesellschaft's decision and hope it will come to-hand before the term mentioned in Messrs Elzaburu's letter, namely, the 31st of December, and I will cable you when I receive it. I believe that we should not order any payment on this patent in the meantime.

Yours sincerely,

SIGURD ANDERSEN

Exhibit 1191

Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 28th December 1940

Messrs Elzaburu,
Barquillo 26,
MADRID

Dear Sirs,

Case T. 116 Spanish Patent No. 138.292

This case should be assigned to:
Tiganselischaft m. b. H.,
Leverkusen—I. G. Werk,
bei Köln a. Rh.,
Germany

and I would ask you to prepare and send to:
Titan Company Inc.
Attention: Mr. C. F. Kaegebehn,
111 Broadway,
New York

the necessary documents for such assignment with full particulars regarding the manner in which the documents should be executed, such as whether notarial and consular legalisations are necessary or not. Kindly note that in addition to the original documents two copies intended for our files should be forwarded to Mr. Kaegebehn.

Yours very truly,
Sigurd Andersen

Copy to Mr. Kaegebehn

P. S. For clearness sake we mention that correspondence regarding this and our other patent and trade mark matters should be continued with Mr. Kaegebehn in accordance with the existing arrangement.

Exhibit 1192 .

Letterhead of

TITAN COMPANY, INC.

Sigurd Andersen
Stora Nygatan 31
Stockholm.

Stockholm, the 28th December 1940

By air-mail

RECEIVED
NATIONAL LEAD CO.
JAN 27 1941
Patent Dept.

C. F. Kaegebehn Esq.,
National Lead Company,
Patent Department
111 Broadway,
NEW YORK, U. S. A.

Dear Mr. Kaegebehn,

T. 116 Spanish Patent No. 138.292

I was yesterday informed of T. G.'s decision to maintain the above patent and cabled you as follows:

"Elzaburus letter fifth my seventeenth december"
"Tege wishes maintain T116 Spain suggest you"
"cable before thirtyfirst december instructions pay-"
"ment third fourth annuities".

The cost of these annuities /1 tas. 134;—according to Elzaburu's letter of the 5th of December/ as well as other costs involved in the maintenance of this patent should, as you are aware, be charged the Titangesellschaft.

Exhibit 1192

According to Elzaburu's letter to you of the 5th of December the endorsement of the patent for compulsory licenses should be renewed. As I think you are aware, the owner of a Spanish patent law, within certain periods /I believe once a year/ file at the Patent Office a declaration to the effect that he is willing to give licences under the patent. The provisions of the Spanish patent law with regard to working being rather draconic our usual practice has been to file such declarations as there otherwise seems to be a great risk of the patent being declared void.

As you are aware, this patent comes under the understanding with the Titangesellschaft regarding reciprocal assignment of patent rights. As mentioned in my letter of the 29th of October we did not submit a formal assignment for execution because the question, whether the patent should be maintained further, was pending. As the question now has been settled I think that an assignment to the Titangesellschaft should be executed so that they can take necessary steps to have the assignment registered and I should be glad to receive copies of the documents for my files.

Thanking you in anticipation I am,

Yours sincerely,

/s/ SIGURD ANDERSEN

Sigurd Andersen

Encl.

3640

3596

Exhibit 1193

RCA RADIOGRAM

LC DECEMBER 30, 1940

ELZABURU
BARQUILLO 26
MADRID (SPAIN)

PLEASE MAKE PAYMENT THIRD FOURTH ANNUITIES SPANISH PATENT 138292 T116 AND ADVISE CHARGES

TITANCO KAEGEBEHN

Exhibit 1194

RCA RADIOGRAM

LC 2

December 30th, 1940

ANDERSEN
STORA NYGATAN 31
STOCKHOLM (SWEDEN)

AS PER YOUR CABLE HAVE GIVEN DESIRED INSTRUCTIONS ELZABURU STOP ASSUME YOU WILL ARRANGE REIMBURSEMENT ELZABURU DIRECTLY OR THROUGH TEGE

KAEGEBEHN

Exhibit 1195

Letterhead of

MESSRS. ELZABURU

LAF/JC

MADRID, 17th. January 1941

Titan Company, Inc.
attention of Mr. C.F.Kaegebehn.
New York. Our ref. RC/13434

Dear Sirs,

re: Case T. 116 Spanish Patent No. 138.292.

Following instructions received from Mr. Sigurd Andersen, of Stockholm, we beg to enclose a Cession form for signature. The signatures will have to be recognised by a Notary Public and that of the latter, legalized by the Spanish Consul. The interested parties residing in different places, a Notary recognition shall be needed for each signature.

We also send you two copies of the original document, as desired.

Kindly return the document to us when completed when we shall attend to the recordal of the Assignment.

Yours very truly,

ELZABURU

Exhibit 1198

February 18th, 1941

Messrs. Elzaburu
Barquillo 26
Madrid, Spain.

Re: Case T. 116—Spanish Patent No. 138.292

Gentlemen:—

We received your letter of January 17th, 1941, enclosing the assignment form for execution by this corporation, transferring the above identified patent from ourselves to Titangesellschaft m.b.H.

The document was duly executed on our behalf, notarized and legalized by the Spanish consul and has been forwarded this day to Titangesellschaft in Leverkusen, Germany. We have requested Titangesellschaft to forward the document directly to you after they have executed it.

Yours very truly,

TITAN COMPANY, INC.

CFK:JL
Enc.

c.c. Mr. S. Andersen
Mr. A. Ravnestad
Mr. C. F. Garesché

Exhibit 1197

Letterhead of

TITAN CO. A/S

Fredrikstad, May 5th, 1941.

HHE/HH No. 210.

National Lead Company,
Patent Department,
111 Broadway,
New York City. *Attention: Mr. Kaegebehn.*

Dear Sirs:—

T-116 Spanish Patent No. 138.292.

We received copies of your letters of February 18th, 1941 to Messrs. Elzaburu and to I.G. Patent Department from which we note that the assignment document transferring the above patent to Titangesellschaft has been executed and sent to I.G. Patent Department for recording the transfer.

With reference to our letter No. 163 of February 25th, 1941 we wish to advise you, for the sake of clearness, that we have now left the maintenance of this patent to Titangesellschaft. We regard this matter as being closed herewith, and we thank you very much for your assistance.

Yours very truly,

H. ECKHOFF

Exhibit 1198

October 21, 1940.

RI/HL—No 44 BY AIR MAIL

Dr. G. Jebsen
c/o National Lead Company
111, Broadway
New York, N.Y., U.S.A.

Dear Dr. Jebsen

FEES FOR TRADE MARKS—DIVIDENDS TITAN KOGYO

With further reference to your letter of September 30,* beg to inform you that the patent Department has in the meantime gone further into the matter and now informs me that Mr. Kaegebehn has probably had before him an old list of trade marks belonging to Titan Co. A/S.

These have, however, in the meantime all beeen transferred to Titan Kogyo—who in future pay the expenses themselves—with the exception of No. 256537, which still belongs to Titan Co. A/S. This will have to be renewed only in 1954.

Should, however, any expenses be incurred for patent work, we will have this matter in mind.

With kind regards,

Yours very truly,

sign. RAGNAR IUELL

Enclosed: 1 copy of this letter
for Mr. Kaegebehn.

*I requested payments for T Co Inc should be made with dividends received from T Kogyo blocked in Japan—if possible.

G.J.

Exhibit 1199

COPY

May 21st, 1941

I. G. Farbenindustrie A. G.
Patent Abteilung
Leverkusen I.G. Werk
Leverkusen bei Köln a/Rhein
Germany

Your Ref: Rechtsabteilung B

Re: Trade Mark "TITANOX" China

Gentlemen:—

We have received your letter of February 4th, 1941. You are correct in assuming that the first cable of November 1st, 1940, mentioned in our letter of December 5th, 1940, originated with Titan Co., Inc.—Fredrikstad.

Your letter of November 5th, 1940 has by this time been received by us and we are agreeable that both registrations in China, namely that with Chungking and the newly applied for one with Nanking, should be transferred to Titangesellschaft. In order that this transfer can be effected properly with respect to the Chungking registration, it was necessary for us to transfer it from the former Titanium Pigment Co., now no longer in existence, to National Lead Co. Thereafter it can be transferred to Titangesellschaft. We are not able to send you a photostatic copy of the registration with Chungking because the document has been forwarded to Chungking to record the transfer to National Lead Co. As regards the transfer of the Nanking registration, we recommend that the registration be completed and

Exhibit 1199

then a transfer of both the Chungking and Nanking registrations to T. G. be effected.

Yours very truly,

TITAN COMPANY, INC.

C. F. KAEGEBEHN

CFK:JL

c.c. Titan Co., Inc.
Fredrikstad

Mr. C. F. Gareschè

Mr. S. Andersen

Exhibit 1200

TRANSLATION

I. G. FARBENINDUSTRIE
LEVERKUSEN I. G. WERK

July 3rd, 1941

Titan Co, Inc.
c/o Mr. C. F. Kaegebehn
111 Broadway
New York, New York

Transfers to Titangesellschaft.

Gentlemen:—

We acknowledge with thanks receipt of your letter of May 16th, 1941, with which you sent us transfer (assignment) documents for Czechoslovakia in T. 171 and assignment document for Germany in cases T. 100, T. 107, T. 132, T. 53, T. 165, T. 162, T. 171, T. 179, T. 182, T. 184, T. 225, and T. 135 and T. 235.

We thank you for your pains in this matter.

Yours very truly,

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Translated by;
J. Lüer—Pat. Dept.
August 19th, 1941

3604a

Exhibit 1203

Telegramme "VIA COMMERCIAL"

LCO BLUMENFELD CHIMITERAR

PARIS

VKA/VL
DFP 410 NEW YORK 67 17

18 Juillet 31

ON AUGUST FIRST A NEW COMPANY WILL BE FORMED TO CONSOLIDATE COMMERCIAL PIGMENTS AND WHITE PIGMENT BUSINESS OF DUPONT COMPANY STOP SOLVENTS RETAINS STOCK INTEREST AND SHARE IN MANAGEMENT WHOLE SITUATION WILL BE STRENGTHENED CHASE SAILED YESTERDAY OLYMPIC AND WILL SEE YOU PARIS AS SOON AS POSSIBLE TO GIVE YOU DETAILED REPORT ON SITUATION STOP DISREGARD ALL RUMORS UNTIL YOU SEE CHASE
TICKNOR

Exhibit 1205

EXHIBIT
U.S. DIST COURT
1205 *id* S.D. OF N.Y.
JAN. 22, 1945

JB/JA

29 NOVEMBRE 1932

Monsieur Ch. RUPPRECHT

Krebs Pigments & Color Corporation

256 Vanderpool Street

NEWARKS, New-Jersey

Cher Monsieur Rupprecht,

Vous m'excuserez de revenir aujourd'hui seulement sur votre letter du 26 Septembre dont je vous remercie.

Comme vous, je ne voudrais pas qu'il ait le moindre malentendu entre votre societe et nous-memes.

Je considere donc de mon devois de vous preciser que, contrairement à ce que vous exposes, il see nous a jamais ets explique que les engagements anterieure de la Societe E.I. du Pont de Nemours ètaient de nature à empecher l'execution des accords dans le domaine technique qui existaient entre Commercial Pigments et le groupe de nos amis en Europe, et nous-memes, sauf eventuellement en ce qui concerne l'Angleterre, dent le cas devait faire l'objet d'un examen spécial.

Non-meme J'ai compris lors de ma visite chez vous en Septembre 1931 qu'il s'agissait, non pas de revoir le principle de l'accord, mais uniquement la forme la plus pratique d'assurer une collaboration technique aussi effective que possible, tout en offrant toutes les garanties desirables contre le danger l'informer des tiers.

Exhibit 1205

La situation de ma Societe se Trouve d'autant plus delicate que les accords qui nous lient avec nos amis en Europe sont tous anterieure a nos accords avec Commercial Pigments et que no amis ont mis a la disposition de Commercial Pigments, non seulement toute leur experience technique et tous les bravets qu'ils amaient pr mais egalement qu'ils ont contribue au developpement de I'usine de Baltimore par l'envoi d'un de leurs techniciens.

Vous voyez par cela meme que si on m'avait prevenu, comme vous le croyez, de cette situation, j'aurais immediatement fait toutes les reserves, car j'etais moi-meme lié par des engagements formels. et ??

Je suis persuadé que vous prendrez en consideration la situation que je vous expose et j'ajoute qu'il n'y a rien d'urgent mais que j'espere qu'a la prochaine occasion ou nous aurons le plaisir de nous rencontrer, nous trouverons une voie pratique qui nous permettra de voir la solution du problems en question.

Veuillez agréer, Cher Monsieur Rupprecht, l'expression de mes sentiments distingues.

Exhibit 1206

KREBS PIGMENT & COLOR CORPORATION
256 Vanderpool Street
NEWARK, NEW-JERSEY.

January 20th, 1933

Dr. Joseph Blumenfeld
Société du Produits Chimiques des Terres Rares
67 Rue de Prony
Paris 17e/France

Dear Dr. Blumenfeld,

I have your letter of November 29th, 1932 for which I thank you.

It is unfortunate that there should be any misunderstanding regarding our relations, as I was informed by Messrs Ticknor and Chase that they had fully explained the situation to you in Paris relative to the prior commitments of the Du Pont Company which required negotiation between the Krebs Corporation and yourself for any exchange of information. Such negotiation, as you know, was never concluded.

I sincerely regret any embarassment this situation may have caused you, and trust that some opportunity will conveniently present itself when we can meet and discuss the matter further.

Meanwhile, with my kindest personal regards and best wishes to you for a successful year in 1933,

I am

Yours very truly,

Exhibit 1207

PRODUCTION OF EUROPEAN COMPANIES
(and Titan Kogyo Kaisha Ltd.)
Metric Tons as TiO_2 Content

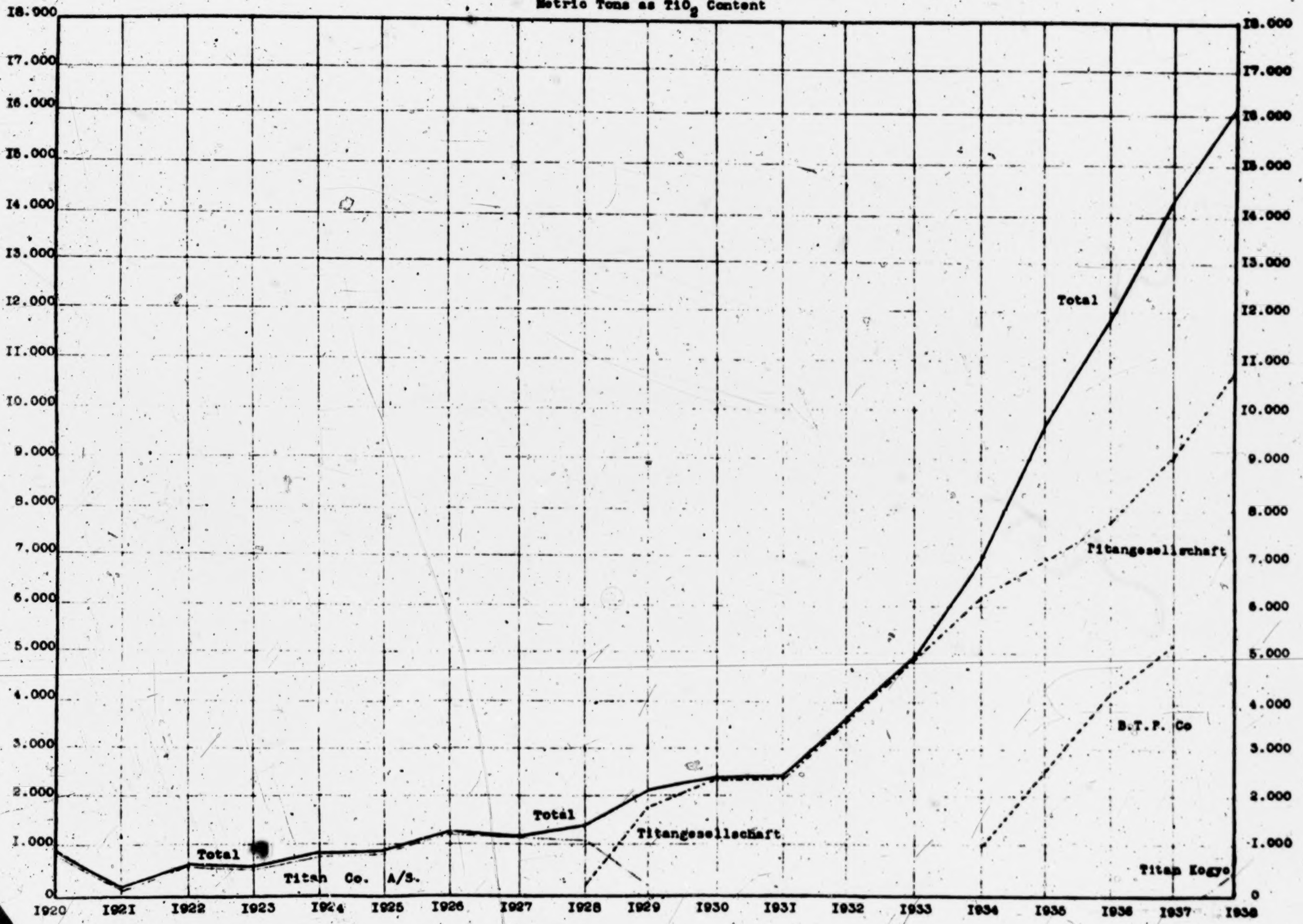

Exhibit 1208

November 4, 1927

Dr. G. Jebsen
Societe Industrielle du Titane
23 Rue Ballu, Paris, France

Dear Dr. Jebsen:

I have your letter of the 19th ultimo regarding the sale of Titanox and pure TiO2 in Europe; also your letter No. 6 of October 24th.

Arrangements will be made to ship five tons of Titanox to the Societe Industrielle du Titane at the first opportunity. As special barrels are used for export this shipment will have to go from St. Louis and cannot be delivered from the New York warehouse.

The question of mixing pure TiO2 with a small percentage of Blanc Fixe so as to avoid customs duty under the English Keys Industries Act has been referred to Mr. Thompson and Mr. Moses, and I will write you later regarding it.

I do not know whether Mr. Meredith will finally conclude to quote you a price of 6¢ per pound on Titanox for shipment to Europe, but think that he would be willing to do so at your request if the quantity required is important. The main problem, however, is involved in the selling price of the material in England.

The price at which Standard Xpigment is sold in England is slightly lower than the price of Titanox in the United States, and it will be difficult for us to explain to our customers here how we are able to supply American Titanox to paint grinders in England at a lower price than we supply it to our customers here. I am enclosing for your information copy of a letter I am writing today to

Mr. Thompson regarding an inquiry from the Nobel Industries, Ltd., which illustrates the point. The price paid is of no great moment when only trial shipments are concerned but becomes an important point when regular supplies are under consideration.

In this connection I might mention that Mr. Washburn stated to me a few days ago that he thought it quite possible for your people in Norway to make a pigment equal to Titanox without making any expensive changes in the factory equipment. I do not know whether he discussed this point with you, but if he did not I will be glad to ask him to give his views in more detail.

We have deferred dealing with this question of American shipments to England until we had Mr. Thompson's report of the trial shipment of five tons which went forward on the steamer American Shipper October 13th. We should have this report at an early date, however, and must therefore be prepared to deal with the problem in the near future.

Yours very truly,

Vice President

Exhibit 1209

Translated from German Minutes No. 1—1930.

Minutes from conference in Leverkusen re titanium matters. January 4, 6 and 7, 1930.

Present: Dir. Jebsen
" Kuhne
" Holm
" Brüggemann
" Beekmann
Dr. Raspe

1.) A change in the prices for Standard T. Standard A and Paste is not found right at the present state of the market. Rebates can in certain cases be allowed on the list prices, but the net proceeds from the sales should not be under RM. 66.

2.) With regard to sales expenses, another conference is to be held in the next few weeks.

3.) The modified final proposal for the publicity expenses for 1930 will be sent Dr. Jebsen from Frankfurt soonest possible.

4.) Dr. Jebsen mentions that he has discussed with the National Lead Co. the proposal regarding a 10% increase on the deliveries to Titan Co., subject to I.G. dropping the 10% increase on the raw material prices. This question, however, is not to be decided at present. It is desirable to await further developments.

5.) The I.G.'s proposal—which has already been discussed previously—to apply a rate of 15% as general expenses in connection with deliveries to T.G.m.b.H., was accepted by Dr. Jebsen on behalf of Titan Co. Inc. it being understood that this should be considered as a maximum rate. This reservation was accepted by the gentlemen of the I.G.

6.) With regard to South America, Dr. Jebsen mentioned that the question put forward by the gentlemen of the I.G. could not be decided at the present, in view of the option of the Titanium Pigment Co.

The Titan Co. is represented in some South American countries by branches of the I.G. and Dr. Jebsen declares himself ready subject to the approval of his Board of Directors, to transfer to the T.G.m.b.H. the profit realised by sales made through these representatives.

7.) Further, Dr. Jebsen declares that the Titan Co. Inc. is willing to let the T.G.m.b.H. take over Italy, according to the wish the I.G. Dir. Holm wishes to examine once more the sales possibilities in Italy before a decision is taken in this connection.

8.) Dr. Raspe is requested to prepare a detailed annual report regarding the factory operations of the Titan G.m.b.H.

9.) Dr. Jebsen proposes that tests be made with regard to the possibility of using Standard T as a paint for indoor use.

Exhibit. 1209

10.) Dr. Jebsen proposes that numbered minutes be made out, placed in a minute-book and signed each time. Dr. Raspe is requested to take care of this.

11.) Of the M. 100.000, taxes on the capital increase, M. 10.000—is to be written off for the year 1929.

12.) Dr. Jebsen requests that a record of all titanium patents of the Titan G.m.b.H. be prepared for the management. The patents which are being filed for inventions of the T.G.m.b.H.'s organization, are to be filed in the name of this company. It is to be examined under which names such patents are to be filed which are the result of cooperation with the Gentlemen of the I.G. Dr. Kuhne will examine this question specially.

13.) The amount of the royalty is to be fixed according to the exact percentage of contents.

14.) The monthly deliveries to the Titan Co. Inc. will not, as has been the case hitherto, be debited immediately, but debited, value 15th of the month.

(Sign.) Dr. Raspe (sign.) Dr. Jebsen

(Sign.) Dr. Brüggemann (sign.) Dr. Kühne

Exhibit 1210

August 15, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Since writing you on the 13th instant I have received from Mr. Washburn a copy of his letter to you of August 12th referring to the installation of an additional evaporator for the concentration of sodium sulphide solutions. This letter will no doubt be in your hands shortly after the arrival of mine.

I have also received from Mr. Washburn a copy of his letter to you of the 11th regarding the Mecklenburg and Blumenfeld patent applications. You will remember that while we were in London I handed to you a copy of a letter from Mr. Washburn to Mr. Moses on this subject.

Mr. Washburn has evidently been cleaning his desk for the same mail brings me a copy of his letter of August 12th to you in which he encloses a memorandum of his reply to a questionnaire prepared by Dr. Raspe which includes eighty-two questions. Certainly Dr. Raspe went at his job with typical German thoroughness, and I hope he got all the information he wanted.

Yours very truly,

Vice President

Exhibit 1211

Care of R. W. Greeff & Co. Ltd.
Thames House,
Queen St. Place.
London. E.C.4.

8th Sept. 1930.

Mr. EvansMcCarty,
Vice President,
The National Lead Company,
111, Broadway,
New York. U. S. A.

Dear Mr. McCarty,

Many thanks for your letters of the 5th, 8th, 13th and 20th as well as your cables of the 29th and 31st August.

Your information as to the future of Titanated Lithopone is most interesting, and I should much appreciate it if you will arrange for more detailed information to be sent to me by Mr. Hagar of his reports. Experience in the United States may or may not be applicable to this market. If, however, your conclusion also refers to Europe, where we have seen no Titanated Lithopone hitherto, it looks to me that a considerable argument in favour of consolidation with the Blumenfeld group has lost its basis. Pisart's interest for the Blumenfeld group may lessen considerably, and anyhow his facilities for creating a quick outlet for the production of a large size factory have diminished considerably.

Blumenfeld has very little chance to find somebody in France outside of Pisart, to finance him and if we go together with the Robinson group there is probably not much chance for Blumenfeld also in England outside of the I. C. I. —which position you know. To make an arrangement on the

lines suggested in July solely to keep Montecatini and Aussig within a certain limit seems to me rather too advantageous for Blumenfeld.

Dr. Kuhne is not very eager to arrange with Aussig now and from our various conversations with Burton it may be concluded that an arrangement as to sales anyhow can be reached with Montecatini, and presumably more easily obtainable after we have started to manufacture TiO2 in Leverkusen.

The 1500 tons suggested in July to be allocated to Montecatini might already be somewhat difficult to digest if it should be in the form of preferential sale.

Dupont's view is very interesting and, being the largest customer of the Commercial Pigment Company, it is comprehensible for Mr. Tickner to come to an arrangement.

As you know Lobstein had the visit of a representative from Dupont early this year who said that his firm intended to take up the manufacture of Titanium and Dr. Raspe told me on my last visit that when he was in the U. S. Dupont had been keen on getting permission to see the Titanium factory in Leverkusen.

Your cable as to MacArthur Irwin's decision is also very interesting.

I have no information re Laporte—it seems, though, that it is still less likely that they will take up the manufacture. They are not very well placed in Luton, neither for sulphuric acid nor ore supplies, and that they should start in another place seems improbable especially when we start in England. The most important matter for us is to enter the market with Pure TiO2.

Our offer to The Greenwich Linoleum Company of Standard "T" at £24. was not attractive as after experiment they found that even at that price the use of TiO2 at

£72 gave better results. Heaton tells me that the experiment undoubtedly was done with impartiality. He sent me a sample showing that the linoleum with TiO2 was of distinctly lighter tone.

Ravnerstad's work is proceeding with good results. I shall be very interested also to know when St. Louis will start again with TiO2 and we may expect lower prices from there.

Our office in Paris has heard nothing from Dr. Gardner up to August 30th. I wrote Mr. Henrikssen on receipt of your letter to arrange the necessary with Leverkusen for his visit.

Many thanks for your information as to Blumenfeld's possible negotiations with Pisart.

Please take this only as an expression of my thoughts as far as they have gone at present.

On Monday 15th I will meet Dr. Kuhne and Dr. Meyer in Zurich, Hotel Baurlac, and will write you an account as soon as possible thereafter.

I was in Norway 2-3 weeks, partly in Oslo—partly in Fredriksstad near Hankoe, with my wife and children. I had no time to go to Sogndal in view of my visit here. Dahl, Vogt and Beer send their best regards. Kiaers were absent.

The erection of the new plant in Sogndal is under way. The power contract is not concluded yet. There have been endless correspondence and conferences on this matter between Mr. Blom the lawyer and Lensehow on the one side and the small power company on the other side, of which we have had copies in Paris to comment on. Blom thought, though, that it now had reached its finish and expected an agreement to be concluded on the terms reached which seem

very satisfactory to us. The agreement is badly arranged and the language not well chosen so I expressed the hope that Mr. Blom should get the power company to agree to an improvement in that respect. Vogt has approved it, but Dahl was away and it will be sent to him later.

There are some difficulties with regard to claims for damages by sludge let into the river during the latest years, but Blom tells me it will not be important.

Lenschow and Moelbach expect to have the new plant ready in the first quarter of next year. With the present low sales and consumption of ilmenite in Leverkusen this year it is to be feared that the run of the new plant with full production will give us more ore next year then desired.

We can now obtain a freight rate from Raegefjord to New Orleans at 16/-per ton for 2-3000 ton steamers, and if some ore of the new production of 46/47% could be taken by St. Louis or Niagara Falls it will help.

Interesting in this connection is that Ravnerstad's experiments for the production of Pure TiO2 has given products without value by no addition of phosphoric acid.

It will be of much interest if I could have figures from St. Louis and Niagara Falls giving the actual recovery of TiO2 from sand ore. I enclose a copy of letter to Mr. Washburn for this purpose. In view of The National Lead Company's interests in Sogndal and the possibility of later supplies from similar deposits in the U. S. A. it seems to me to be of much interest to find the comparative value of these two ores.

I hope to leave here latest on Wednesday and will, if possible, call on Burton before.

Total sales of Titanium this year are at present 10% above last year. R. W. Greeff & Co. are, though, 12% be-

low last year whereas all the other countries show an increase, particularly France, where the increase is 45%. This last progress raises somewhat mixed feelings as we are selling there with a loss because of the duty.

With kindest regards to you and Mrs. McCarty.

Yours very truly,

(Sigd) E. Jebsen

P. S. You will note the information I have had over the telephone from Dr. Raspe as to his experience by copying the St. Louis method.

Exhibit 1212

Letterhead of

NATIONAL LEAD COMPANY

New York, May 17, 1933.

Mr. W. C. Beschorman,
c/o R. W. Greeff & Co., Ltd.
London, England.

Dear Mr. Beschorman—

Enclosed is confirmation of cablegram sent you as a night letter.

Mr. Meredith and Mr. Moses came up yesterday and stated if they could get a supply of TiO_2 from Leverkusen to cover requirements on the eastern seaboard, it would greatly facilitate the operation of the St. Louis Plant, enabling them to increase production of B-product. Their stock of B, which you and I thought was quite adequate when we considered it a couple of months ago, is also rapidly running down and they will be obliged to begin producing very soon.

They have stepped up the production of C, using two calciners, to close to 60 tons per day. This helps, but I was told yesterday that they are 500 tons behind on their orders for C, with the shortage increasing.

Our contract with Leverkusen provides for a price of self cost up to one half of production I believe. We are assuming the contract would now call for self cost and 10% plus. Even though the 10% might not apply under a strict construction, I think it desirable and more equitable to offer that price under the circumstances. I am told by Mr. Moses, that at this figure plus duty, we would have a

landed cost in New York just about equal to the cost of St. Louis product delivered here.

They are intending to repack and sell it under Titanium Pigment Co. labels. This was added to the message, thinking it might possibly enable Leverkusen to use a cheaper package. Mr. Meredith and Mr. Moses are quite anxious to have some shipments started promptly and would like to have the full 500 tons delivered speedily.

I understand Mr. Meredith replied to your cable regarding the purchase of 2500 tons of Ilmenite and made some objections to the price. They tell me the cost of this Norwegian Ilmenite will be about $2.50 per ton in excess of the Indian product. There may be some special reasons not known to them which influenced you to make this purchase but I wish that you had put it up to them first before closing. We should, I think, endeavor to maintain in their minds a sense of responsibility for the conduct of the business, and cause them to feel at all times that they are in control of these details.

Yours very truly,

F. M. CARTER
President

Exhibit 1212

WESTERN UNION CABLEGRAM

NLT BESCHORMAN UNIGREEFF.

HAVE LEVERKUSEN SHIP US HOBOKEN FIVE HUNDRED TONS PURE OXIDE PRICE SELF COST PLUS TEN PERCENT SHIP ALL AVAILABLE IMMEDIATELY BALANCE FOLLOW EARLIEST DATE WE INTEND REPACKING STOP HOW MUCH CAN THEY SUPPLY DURING NEXT FOUR MONTHS.

CARTER.

Exhibit 1213

TITAN COMPANY INC.

Minutes of a Special Meeting of the Board of Directors held December 19, 1939.

A Special Meeting of the Board of Directors of Titan Company Inc. was held at 111 Broadway, New York City, on Tuesday, December 19, 1939, at 2:30 o'clock P. M., pursuant to the following

Waiver of Notice

We the underesigned, being all the Directors of Titan Company Inc., do hereby waive any and all notice of a Special Meeting of the Board of Directors of said corporation, and of the time, place and purpose thereof, and do hereby designate and fix the 19th day of December, 1939, at 2:30 o'clock in the afternoon as the time, and No. 111 Broadway in the Borough of Manhattan of the City of New York as the place of said meeting, and do hereby consent that any and all business may be presented at said meeting that may be deemed appropriate by the Directors present thereat.

Dated December 19, 1939.

LEONARD T BEALE
Leonard T. Beale

CLAUDE F GARESCHÉ,
Claude F. Garesche

FLETCHER W ROCKWELL
Fletcher W. Rockwell

CHARLES SIMON
Charles Simon

Gustav Jebsen

Exhibit 1213

There were present Messrs. Beale, Garesche, Rockwell and Simon, being a majority of the Board and constituting a quorum for the transaction of business.

The meeting was called to order by Mr. Rockwell, President, and Mr. Cole, Secretary, kept the minutes.

On motion duly made and seconded the following resolution was unanimously adopted.

"RESOLVED, in furtherance of that certain License Agreement between Titan Co. A/S (predecessor in interest of this corporation) and Titangesellschaft m b. H., of Leverkusen, Germany, dated October 3/20, 1937, and pursuant to the recommendation of Dr. G. Jebsen, Vice President of this corporation, the officers of this corporation be and they hereby are authorized and empowered to execute and deliver in its name and behalf appropriate assignments to said Titangesellschaft of all patents and patent applications of this corporation, within the Licensed Field as defined in said Agreement, in countries now embraced within the territory of said Titangesellschaft as defined in said Agreement and subsequent amendments thereto, in consideration of the execution and delivery by said Titangesellschaft to this corporation of appropriate assignments of all patents and patent applications of said Titangesellschaft, within said Licensed Field, in countries embraced within the territory of this corporation as defined in said Agreement and subsequent amendments thereto, and upon the express understanding and condition that such reciprocal assignments shall in no way alter or limit the general intent and operating effect of

said Agreement or the several other rights and obligations of the respective parties thereto.

There being no further business the meeting then adjourned.

M. DOUGLAS COLE
Secretary

Exhibit 1214

Letterhead of

COMPANHIA INDUSTRIAL LIMITADA

São Paulo, 2nd December 1940

To
The Tam Zirconium & Titanium Products.
111 Broadway, New York City
U.S.A.

Gentlemen:—

We have seen your advertisement in the "Chemical & Metallurgical Engineering of September issue and by this motive we come to your presence.

By that advertisement we are sure that your important firm constructs industrial apparatus for the purification of zirconium and titanium ores.

We are in this moment thinking of installing a plant for the manufacture of white pigments, such as: white of titanium and lithopone to the basis of titanium and barium sulphate.

We desire therefore to know your process for the purification and transformation, beginning of the raw ore until the pure finished product.

If it is necessary we can send you a small quantity of natural barytes and titanium ore (Elemenita) with 40-50% of titanium.

We hope that you by the next mail give us all informations and literature if possible about his business, and we are dear gentlemen,

Very truly yours,

COMPANHIA INDUSTRIAL LIMITADA

F. Nargua

Exhibit 1215

December 6, 1940

Companhia Industrial Limitada
Sao Paulo, Brazil

Gentlemen:

Your letter of December 2nd, 1940, addressed to the Tam Zirconium & Titanium Products, has been referred to us for consideration and reply.

We note your interest in the purification of zirconium and titanium ores and the manufacture of titanium and lithopone pigments in your country.

First, let us correct an erroneous impression. We are not manufacturers of industrial apparatus for the purification of titanium and zirconium ores, nor for the manufacture of lithopone and titanium pigments. Our entire interest and operation is centered on the production of titanium pigments.

As regards production in Brazil, we think that this might be a very interesting venture providing you can be assured of a market for 10,000 short tons per annum as Titanium Dioxide. Since the Titanium Dioxide content of a Titanium Barium Pigment is 30%, this would mean about 33,000 short tons of this product per annum to make the venture a paying one. This statement is based upon our own experience and upon some knowledge of the experience of other manufacturers who are operating on a smaller scale than ourselves.

We note further your request for information regarding the process for manufacturing pigment beginning with raw ore and going through to the finished product. Since

the process is a very involved chemical one and since we have devoted many years and much expense to the perfecting of our operations, we naturally do not feel that we can gratuitously distribute such information. However, if you are seriously bent upon the production of titanium pigments in your country we will be very glad to discuss with you operation under a license granted to you by us, the terms of which would make available to you the information which you desire for a fair consideration.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. Hagar—Vice President.

Exhibit 1216.

COPY

TITAN COMPANY, INC.

June 5, 1941

Mr. C. F. Garesche
Building

COMMENTS TO MR. RUPPRECHT'S LETTER OF MAY 16, 1941

Dear Mr. Garesche:

Referring to the decision we took on the meeting of May 28, present—Mr. Rockwell, Mr. Garesche, Mr. Kaegebehn, and Dr. Jebsen—that we should cease to send patent applications to Titangesellschaft and other associated companies in German-held countries, during the duration of the unlimited national emergency, the proposal by Mr. Rupprecht is all right to us as far as associated companies in Germany and German-held countries are concerned.

However, nearer consideration seems advisable as regards the suggestion to refrain from licenses to Titan Co. Inc. under applications or patents to be had in these countries. It is clear that Titan Co. Inc. only after a most careful consideration will apply for the patents on inventions originating with them or National Lead Company in any of those countries under the present emergency, and the same considerations will be applicable to cases originating with DuPont. It is also most likely that applications for government licenses in such cases will be rejected. On the other hand, to make a blanket renunciation of our rights in this respect seems to go too far at present.

Exhibit 1216

May I suggest that we tell Mr. Rupprecht that we are in agreement with the above first mentioned part of this proposal, but would like to have the question of licenses to Titan Co. Inc. under patents in these countries a matter to be considered from time to time by DuPont and us in common, and that DuPont may rest assured that our wishes in such cases will be governed very much by similar considerations as their own.

Yours very truly,

G. JEBSEN

GJ:RK

Exhibit 1217

COPY

June 20, 1941.

Mr. C. H. Rupprecht, General Manager
Krebs Pigments Department,
E. I. duPont de Nemours & Co.,
Wilmington, Del.

Dear Mr. Rupprecht:

Thank you for your letter of June 11th.

With further reference to your letter of May 16th, a signed copy of which you have requested that we return to you indicating our formal release of obligations under Article V of our Titanium Agreement (as amended January 1, 1941) and in view of your letter of June 11th replying to mine of June 9th, we are enclosing our letter dated June 20th in duplicate which covers the situation a little more fully.

From the second paragraph of your letter of the 11th instant, we quote "—rights to any foreign associate—". We feel quite sure that this is merely an inadvertent error in dictation, as your letter of May 16th proposes "—any firm or any party associated with you in Germany, Italy or Japan, or any country occupied by these nations—"

Trusting that this method of handling is entirely satisfactory to you, I am

Yours very truly,

C. F. Garesché
Manager

cc Mr. Kaegebehn
Dr. Jebsen

Exhibit 1217

COPY

June 20, 1941.

E. I. DuPont de Nemours & Company,
Wilmington,
Delaware

Attention Mr. C. H. Rupprecht, General Manager
Krebs Pigments Department

Gentlemen:

We refer to your letter of May 16th and subsequent correspondence concerning our titanium pigments agreement (as amended Jan. 1, 1941) and particularly to Article V thereof which provides that you, after the lapse of a definite period of time, shall offer our foreign associates the opportunity to acquire a non-exclusive license under involved applications filed by, or on patents issued to you, in certain foreign countries.

In view of the present international emergency, we agree that until this emergency has passed and to the extent that the above Article may apply to any firm or any party associated with us in Germany, Italy or Japan, or in any country occupied by these nations, you discontinue the grant of further license rights to, as well as the exchange of applications or patents with such firms or parties, provided that you give Titan Company, Inc., during this period, the opportunities previously extended to the above mentioned associated firms or parties. Also, we assume that Titan Company, Inc., when the emergency period is over, will be enabled by you to grant sublicenses to our associates under any licenses Titan Company, Inc., has received during the

period of the emergency, provided, of course, that such sublicensing may be properly done under the government regulations and restrictions in effect after the emergency.

We further agree with your proposal that until the present emergency terminates, we will refrain from sending to such foreign associates copies of any United States patent applications or information thereon which you may file and subsequently submit to us in accordance with our agreement. It is understood that all other obligations of our agreement continue in full force and effect.

Yours very truly,

NATIONAL LEAD COMPANY-TITANIUM DIV.

Manager

Accepted:
E. I. DUPONT DE NEMOURS & COMPANY

Exhibit 1218

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

National Lead Company
111 Broadway
New York City, New York

September 17, 1941

Gentlemen:

We desire to refer you to our letter of May 16, 1941, in pursuance of which we mutually agreed to modify our Titanium Pigments Agreement, as amended January 1, 1941, particularly Article V thereof, to discontinue during the present emergency the grant of future license rights to or the exchange of patents or applications therefor with any firm or other party associated with you in Germany, Italy or Japan, or in any country occupied by these nations.

Since May 16th, various Presidential Proclamations have issued and Congressional Acts have been passed which exert a greater control over the transmission of patent applications or information appertaining thereto to countries outside of the United States generally, irrespective of whether the country is in the Axis or the occupied category. Hence, it now appears that our May 16th agreement is too restrictive in that it fails to fully comply with existing Governmental regulations, although, as I understand it, we have, in practice, fully complied with all regulations and restrictions.

Accordingly, and to record our full compliance with existing Governmental regulations, we propose until the present emergency terminates, and except in those instances where first we shall obtain a license to do so from the Gov-

ernment, that you refrain from sending to any of your foreign associates copies of any United States patent application or information concerning the same which we may file and submit to you in pursuance of our agreement.

It is understood that this modification to our aforesaid agreement shall not affect any of its remaining provisions and that all of the other obligations of the agreement continue to remain in full force and effect.

If the foregoing proposal meets with your approval, will you kindly indicate your acceptance thereof by executing and returning to us the enclosed duplicate original of this letter?

Very truly yours,

C. K. Rupprecht
GENERAL MANAGER.

Accepted Sept. 22, 1941
National Lead Company
By C. F. Garesché

Exhibit 1219

Copy—Mr. J. F. Daley

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

Newport, Delaware
June 9, 1932

Mr. Z Phelps
Newark—

Replying to your request of yesterday for information for representatives of the National Lead Company, our waste heat boilers each produce about 4300 pounds of steam per hour from gases at a temperature of about 2000°F.

For conveying barium sulphide solution, most economical service has been had from a five-ply water hose furnished by Sibley Hose and Rubber Company. Two and one-half inch hose is used mostly for pressure lines. There is in service now a test section of "Newtype Cord Suction Hose" furnished by Sibley Hose and Rubber Company which is proving very satisfactory for gravity flow lines where ordinary hoses collapse.

G. R. CANTWELL
G. R. Cantwell, Superintendent

WSS:M

3633

Exhibit 1220

June 19, 1933.

Krebs' Method for Determination of Iron in Titanium Oxide.

Mr. F. L. Kingsbury, St. Louis
W. F. Washburn

Dear Mr. Kingsbury:

Enclosed is a copy of the Krebs' method for the determination of iron in titanium oxide. I think it would be a good plan if you would try this out and compare the results with those obtained by the method used in St. Louis.

Yours very truly,

F Enc.

Exhibit 1220

Rm.1814

June 15, 33

KREBS' METHOD FOR DETERMINING IRON IN TITANIC OXIDE.

Mr. J. L. Turner, Research Laboratories, Bklyn., N.Y.
L. E. Barton

Dear Turner:

I am enclosing copy of Krebs' method for the determination of iron in titanic oxide, for comparison with the method we are now using.

This method of Krebs is the one referred to by our Sales Department in connection with trade calls on Lever Bros.

Very truly yours.

LEB:MCY

CC WFW
IDH

Exhibit 1221

Letterhead of

TITANIUM PIGMENT COMPANY, INC.

ST. LOUIS PLANT

SUBJECT Report on visit to Krebs Pigment & Color Co., Newark, N. J. July 1, 1932.

DATE July 9, 1932.

TO Mr. W. F. Washburn, Supt.

FROM Mr. H. L. Jungmann.

In the absence of Dr. J. E. Booge, the writer was received by Mr. M. L. Hanahan and an inspection made of their pigment physical testing laboratories. Mimeographed copies of their testing methods were obtained, as follows:

Physical Tests:

Color
Tinting Strength
Oil Absorption
Fineness
Texture
Hiding Power (Brush out method)

Chemical Tests:

Reaction
Moisture
Water Soluble Material

Paint Tests:

Paint Grind

(a) Rigidity Readings (Observation of the condition of the mix)

(b) The Mix (Time required for complete wetting)

(c) Consistency of the finished paint —(Determined with modified Stormer viscometer)

Briefly summing up their tests:

Color.

All color tests are made in a pale colored refined linseed oil paste very similar to our own method except for modifications due to the blue tone of lithopone pigments. The colors are compared to four standard samples, one containing no ultramarine blue and the other three varying degrees of blue intensity. These standards have been assigned brightness values and in judging unknown samples, both brightness and degree of bluing are taken into consideration.

Tinting Strength.

This is essentially the old DuPont test using ultramarine blue, a 15# weighted muller, a definite time and manner of mulling and comparing the paste on microscopic slides viewed through the glass and reporting differences from an arbitrarily established standard. Their method does not seem to possess any advantage over our own so far as accuracy is concerned and has the disadvantage of requiring considerably more time.

Oil Absorption.

This test is essentially the same as our own, that is the paste rub out method. They use considerably more pressure

and a longer time in the rub out and take a shorter end-point than we do, all of which of course tend to produce lower values. It was interesting to find that temperature and humidity play as large a part in their determinations as in our own.

Fineness.

This determination is made by the use of a 325 mesh screen and follows our own general procedure except that larger quantities of sample are used and that washing is done by a spray nozzle first instead of a tap water stream, followed by the usual light brushing.

Texture.

This test was very interesting and can well be adopted by ourselves particularly in relation to Pure Titanium Oxide in order to obtain some idea of the state of aggregates of the pigment below 44 microns, which is the average opening in a 325 mesh screen. They claim that aggregates as small as 8 microns can be seen by their method. This consists of working up a sample in a spar varnish (Hyperion, manufactured by DuPont deNemours & Co.) with a definite number of strokes of a stiff spatula, in order to approximate a single pass of a similar paint paste over a roller mill at a moderately tight setting. A wedge-shaped film is spread out over a glass plate and the dried film viewed with a beam of light parallel to the film so that the coarser particles stand out and cast tiny shadows along the film. An arbitrary set of standards which show a wide difference from good to poor are used for judging results.

Exhibit 1221

Hiding Power.

This is a practical brush out test similar to that of Gardner's. They have found that their paper charts having 70% brightness in the white background and 45% brightness in the gray strips are superior to Gardner's black and white linoleum charts. Gardner's charts represent extreme differences and it has been found that the white yellows considerably and the paints have a tendency to peel away, often carrying part of the surface after repeated tests. The Krebs paper charts are economical and can be used for individual tests and held for quite some time as records.

Reaction.

This test is simply one of titrating alkalinity using N/50 H_2SO_4. They do not made pH determinations.

Moisture.

This test is similar to our own except that 5°C. higher temperature (110°C.) is used and 3 hours drying time instead of two.

Water Soluble Material.

This determination is practically like our own.

Paint Grind Test.

The most essential part of this test is the consistency determination and is comparable of course to our present method except in the instruments of measurement and the fact that they use a finished paint for test.

At Mr. Hanahan's suggestion a very hurried inspection was made through the plant covering the making of zinc

Exhibit 1221

sulfate solution, black ash, leaching, precipitation, bluing, drying, calcining and packing. No milling was seen. Of particular interest was the calciner, the discharge end of which was only seen and though not operating, the air-tightness of the front end and the discharge into the slurry box were noted. The black ash roaster could only be seen from below, but the discharge was carried to leaching tanks which were very small and handled as separate batches. Bluing of the pigment was done in the wet way. Filters and driers for the pigment were combination units of the Filtration Engineers. In the packing department bags were filled by an enclosed auger-type screw and bags weighed automatically on a pneumatic weighing machine. Bags were gathered together and tied by wire on a Minneapolis Bag Tieing Machine. Though this department was not operating, it would seem that their packing and weighing could be done by less men than we employ for our packing, provided that the tonnage could be handled. In general the appearance of the entire plant was far inferior to our own.

Very truly yours,

H. L. JUNGMANN

HLJ:HWS

Exhibit 1222

COPY

August 4, 1932.

Mr. M. L. Hanahan,
c/o Krebs Pigment & Chemical Co.,
Newark, N. J.

Dear Mr. Hanahan:

In checking over your method for tinting strength determination, it has been observed under "Notes" that when a pigment of high tinting strength, such as Titanium Oxide, is determined that a special test is used. We would appreciate very much an outline of your method for this test any any comments on it that you care to make.

With kindest personal regards,

Very truly yours,

TITANIUM PIGMENT COMPANY, INC.

(Signed) H. L. JUNGMANN.

HLJ:HWS

Exhibit 1222

1. How much gypsum in C pigment kiln feed?

   5% maximum.

2. Procedure for slaking lime.

   The procedure followed is to run pebble lime and water simultaneously into a tank full of slaked lime slurry. The tank is maintained full with the production overflowing into a supply tank. In this way the slaking takes place in a concentrated lime slurry and conditions are favorable for complete conversion to calcium hydrate. A Richardson "Conveyometer" proportions the lime, and a water meter proportions the water. The two are adjusted so as to produce a slurry containing 17½% calcium oxide. The tank to which the materials are fed is a vigorously agitated (55 r.p.m. sweep) 8 x 8 tank.

3. Temperature of lime slurry to strike.

   This runs between 135 and 150°F.

4. Sizes of our C pigment Olivers.

   We know our washing capacity to be in excess of 60 tons of C pigment per 24 hours. We have three Olivers in our C pigment division—two for filtering and washing the anhydrite, and one for delivering the blend to the kiln. Following are the details of the filters used in this line up:

   (a) 9.5′ x 15′ Oliver for washing diluted strike slurry.

   (b) 11.5′ x 12′ Washing the repulp discharge from (a) above. The delivery from this filter runs 4 or 5 pH.

   (c) 8′ x 14′ This filter delivers the blend to the kiln.

5. Solubility of our uncalcined anhydrite.

The liquid phase in contact with our uncalcined anhydrite is saturated with calcium sulphate. That is, the amount of calcium sulphate in solution is as much as if the liquor were in contact with gypsum.

6. Is our uncalcined anhydrite soluble or insoluble?

Our anhydrite is what is termed insoluble anhydrite. That is, it does not easily change over to gypsum when in contact with water. However, its solubility in water is equal to that of gypsum. This is as expected since the anhydrite contains 3 or 4% gypsum.

7. Details of P. & L. water sensitivity test.

A copy of the specifications for this test is attached.

8. Details of paint grit test.

A copy of this test is also attached.

9. Details of consistency test.

There are three of these, and copies of the specifications for each are attached.

10. Reprints of R. H. Sawyer's Articles and Papers.

Copies of five of these are enclosed.

11. Details of 5 & 10 test on L. W.

This test is made by weighing out ten grams of the pigment in question and stirring up with 5 cc of distilled water. A good water dispersing pigment will make a free flowing slurry under these conditions.

Exhibit 1222

12. Water dispersion test.

This test supplements the 5 & 10 test mentioned above. In this test 50 grams of pigment are stirred for 15 minutes under a milk shake mixer with 500 cc of distilled water. The slurry is then made up to a liter with distilled water, shaken thoroughly and allowed to stand 4 hours. The top 25 cc are pipetted off and the solid content determined. A good water dispersing pigment should carry 85% in suspension by this test.

13. Details on grinding of LO.

Our Williams mill has an 8' separator. The vane settings are wide open for grinding LO. The thimble is set 17.5" below the top of the inner-cone. Grinding rate is approximately two tons an hour.

14. P_2O_5 in old and new M.K. ore.

The following table gives what results we have on P_2O_5 analysis.

	% P_2O_5 in Ore	% P_2O_5 in LW Pigment
Old	.69	.83
New	.22	.62

The above results are not very consistent in that the % P_2O_5 in the pigment does not parallel the % P_2O_5 in the ore. In this connection, it may be pointed out that we never ran 100% new M.K. during the past year. Since we had some of the old M.K. left, this was blended in and this may account for the rather high figure for P_2O_5 in the new M.K. pigment.

15. Samples

The following samples have been shipped direct to Mr Kingsbury:

(1) 1 lb. of FF from old M.K. ore.

(2) 1 lb. of FF representing approximately ⅔ new M.K. and ⅓ old M.K. ore.

(3) 1 lb. of FF with good paint grit.

(4) 1 lb. of FF with poor paint grit.

(5) 1 lb. of LO with medium good paint grit.

(6) 1 lb. of Lo with poor paint grit.

In connection with the samples sent to us from St. Louis for paint grit study, we found that the quantities received were too small. We will, therefore, find it necessary to arrange for another group at some future date. We are, however, sending the above as being representative of good and poor grit, respectively.

Exhibit 1222

WATER SENSITIVITY TEST FOR LO C PIGMENT

PRINCIPAL OF TEST: A measure of the degree of thickening caused by the addition of a water solution to a paint.

APPARATUS & MATERIAL:

Roller Mill
Paint Pots
Torsion Balance and Weights
High Speed Mixer
Modified Stormer Viscometer
Stop Watch
Spatula 6" blade x 1"
Pratt and Lambert #25 Mill White Liquid
Limed Rosin (Gloss Oil)
Cobalt Linoleate (Dryer)

PROCEDURE:

The pigment to be tested and the P. & L. #25 Mill White Liquid are weighed into a 1 quart paint pot in the following proportions:

292.0 g Titanox C
150.00 g P. & L. Liquid #25

The mixture is stirred with a spatula until the pigment is well wetted and a flowing paste produced. The paste transferred to a roller mill, ground with a medium tight setting, and collected in a tared 1 quart paint pot.

Exhibit 1222

398.0 grams of the paste is reduced with:

117.0 grams P. & L. Liquid # 25
9.0 " Limed Rosin Oil
1.8 " Dryer

Mix paint thoroughly with a spatula, and pour into two ½ pint cans. To *one* add 2 ml. of dilute sodium silicate solution.

Mix the sodium silicate into the paint very thoroughly with a speed stirrer and then with a spatula. Continue until thickening appears to be complete.

Determine consistency after fifteen minutes standing by making three consecutive readings (which must check). If there is progressive thickening allow the paint to stand an additional fifteen minute period. Stir with spatula and again determine the consistency.

The difference between the consistency of the ½ pint control paint and that of the sodium silicate treated paint gives a measure of the H_2O sensitivity.

NOTE:

Preparation of dilute sodium silicate solution.

Dilute four grams of Grasselli XX Grade sodium silicate to one hundred grams with distilled water and mix thoroughly. This dilute solution should be prepared fresh daily.

Exhibit 1222

PAINT GRIT

PRINCIPLE OF THE METHOD:

The paint grit of a pigment is determined by grinding the pigment in an enamel vehicle on a roller mill set at a definite roll clearance. The composition of the grinding paste is determined by the approximate consistency of the pigment being tested. The object is to obtain pastes of partically the same consistency in order to equalize the shearing stresses on the pigment aggregates. The ground paste is reduced to the proper pigment-binder ratio and the resulting enamel drawn down on a plain glass plate at a uniform film thickness equal to that of the roll clearance. After drying, the film is compared with arbitrary standards for size and number of gritty particles.

APPARATUS AND MATERIALS REQUIRED:

Roller Mill
Paint Pots, 1-pint size.
4 steel strips, 8" long, ½" wide, 0.0015" thick.
McCloskey 4-hr. white enamel varnish vehicle
Steel drawn-down knife, blade 3½" wide, edge machine planed.
Plate glass slides 6" x 4" and about ⅜" thick, beveled edges.
Drawn-down knife guide, comprising cross- piece 4" long to which are attached two steel strips 8" long ½" wide, 0.0015" thick so that a 3-inch space is left between them.
Standard slides, or standard lithopones from which these may be prepared.

Exhibit 1222

Formulation:

Grind:	*M.O.*	*L.O.*	*Reduction*	*M.O.*	*L.O.*
TiO_2	200 g.	200 g.	Base	220 g.	200 g.
McC Varnish	106 g.	80 g.	McC. Varnish	68 g.	86 g.
Ration P/V	1/.53	1/.4	Ratio P/V	1/1	1/1

Mixing:

Mix 200 g. TiO_2 and 106 g. McCloskey 4 hour White Enamel Liquid in CGM for 5 minutes after breakdown. (Some time after the breakdown the stirrer and can are scraped once with a spatula to mix any dry pigment that may not have gotten well mixed.) Record seconds to mix, seconds to cause breakdown, and the flow of the paste.

Grinding:

Grind on roller mill with rolls set at .0015"—room temperature—with no water circulating through the rolls. Return first part ground paste (one spatula stroke) to grinding rolls. Use all of the grind to make composite base for further reduction. Record seconds to grind paste, appearance of rolls, number and size of lumps in unground paste, flow of ground paste.

After standing 24 hours, drawdowns are made in the following manner:

A quantity of the well mixed paint is placed near one end of a plate glass slide and the drawdown knife guide placed on the slide so that the paint lies between the two parallel steel strips. The drawdown knife is placed vertically on the steel strips and pulled across the paint with a smooth uniform motion while resting on both strips, thus forming a film of a uniform thickness of 0.0015". The finished slide is placed face down in a dust-proof cabinet and allowed to

dry over night. It is then graded by comparison with semi-permanent standard slides prepared from paints containing different amounts of grit. These standards are numbered from 1 to 15, the 1 standard containing an extremely large amount of grit and the 15 standard containing the minimum amount found up to the present time, being practically free of gritty particles.

Exhibit 1222

OIL TYPE FLAT GRINDS — C PIGMENT CONSISTENCY TEST

PRINCIPAL OF TEST:

4/25/35. For determining mixing and consistency qualities of C pigment in a poor wetting vehicle.

APPARATUS AND MATERIAL:

Change Can Mixer
Roller Mill
Mixing Cans (½ gallon capacity)
Torsion Balance and Weights
Modified Stormer Viscometer
Stop watch
Gallon weight cup
Spatula 6" blade x 1"
Paint cans — 1 quart
" " — 1 pint double friction type
Mineral Spirits
Alinoco Oil (Bodied Linseed Oil)
Cobalt Linoleate
Lead Manganese Drier
Standard pigment

PROCEDURE:

Due to the great difference encountered between L.O. and H.O. C pigments in oil absorption, it was neceessary to develop two formulae in this test.

(a) For L.O. C pigment weigh 95 grams of oil, and 112 grams of Mineral Spirits into a ½ gallon mixing can.

Exhibit 1222

(b) For H.O. C pigment weigh 95 grams of oil, and 199 grams of Mineral Spirits into a ½ gallon mixing can.

To either of the above according to the quality being tested add 489 grams of pigment and mix the combination on the change can mixer. Observe the first sign of a slight flow in the forming paste, this being called the *break*. The elapsed time required to obtain this break is recorded in seconds. Continue mixing for 5 minutes after the break.

Following this transfer the paste to a roller mill.

Grind with a medium tight mill setting. Collect in a tared one quart paint can and reduce in the following proportions:

	L.O.	H.O.
Ground Base	650.0 grams	738.0 grams
Mineral Spirits	81.6 "	81.6 "
Manganese Drier	15.0 "	15.0 "
Cobalt Drier	1.4 "	1.4 "
Total	748.0 "	835.0 "

Stir with a spatula until the paint is smooth and uniform and fill a pint paint can (Double Friction Type) within ½" from the top. Determine immediate consistency at 80°F. ± 2°F. with the modified Stormer Viscometer. Then tightly seal the can with a lid to prevent oxidation or skinning. Re-examine paint in two days for consistency, being sure that the paint is well stirred and uniform. At the same time determine the gallon weight. The specified gallon weights are 13.00# for L.O., and 1200# for H.O. No adjustments are made.

Exhibit 1222

For every series of pigments examined, a standard is run along with them for control purposes. This pigment, is made up in the L.O. formula at all times.

RECORD AND TABULATION OF RESULTS:

(a) Break

(b) Immediate Consistency at 80°F.

(c) Two day "

(d) " " gallon weight

Exhibit 1222

CHINA WOOD-LINSED OIL GRINDS — CONSISTENCY TEST

PRINCIPLE OF TEST:

For determining mixing and consistency of C pigment in a good wetting vehicle.

APPARATUS AND MATERIAL:

Same as for Oil Type Flat except for the vehicles, which are:

(1) Acid refined linseed oil — ¾ acid number.

(2) China wood-linseed oil varnish — 50 gallon oil length containing about 20% limed rosin.

PROCEDURE:

The handling of this test is very similar to that for the Oil Type Flat test. Following are the base figures for C pigment:

	L.O.	H.O.
C pigment	313	313
Asbestine	167	167
Linseed Oil	24	24
China wood-Linseed Oil	175	175
Mineral Thinner	—	21
	679	700

This is mixed in the change can mixer by the same procedure as followed for Oil Type Flat mixing.

Following this, transfer the paste to a roller mill.

Grind with a medium tight mill setting. Collect in a tared one quart paint can and reduce in the following proportions:

	L.O.	H.O.
Base	679	700
Mineral Thinner	104	124
	783	824
Gallon Wt.	12.70	12.10

Determine the consistency exactly as in the case of the Oil Type Flat test.

Exhibit 1222

CHINAWOOD-SOYA BEAN OIL PAINT GRIND—C PIGMENT CONSISTENCY TEST

REFERENCE: Modification of lithopone procedure.

STATUS OF THE METHOD:

This test was originally developed for lithopone and has undergone several changes in use which have been chiefly in the nature of slight modification for improved reproducibility. The chief modifications in transfer to C pigment are:

1. Substitution of C pigment for lithopone on a volume basis, i. e., use of lower weight.
2. Modification of the base formula for H. O. C pigment to secure mixing.

APPARATUS AND MATERIALS:

Kent stone mill and mixer
Modified Stormer viscometer
Torsion balance and weights
Gallon weight cup
250 cc graduated cylinder
Stopwatch
Thermometer
Pint cans (friction top)
Spatulas, mixing cans
Refined barytes
Vehicle (see note)
Mineral Thinner

PROCEDURE:

Record temperature and humidity.

	L.O. C Pigment	H.O. C Pigment
Pigment	1652 g.	1652 g.
Barytes	475 g.	475 g.
Vehicle	520 g.	520 g.
(1) Mineral Thinner	—	145 cc
(2) Mineral Thinner	160 cc	200 cc
(3) Mineral Thinner	240 cc	100 cc

(1) Added before mixing

(2) Added after mixing but before grinding

(3) Added after grinding

The vehicle and, in the case of H.O. C pigment, the first unit of Mineral Thinner (145 c.c.) are placed in the mixer and the barytes added. The pigment is then added slowly, timing the operation with a stopwatch, so that all the pigment is added in four minutes. The watch is reset and mixing time taken from that point. After 2 minutes the mix is observed for *rigidity*. If mixing is complete so that the mass is a smooth paste, the rigidity rating is 10. If the mixing is nearly complete, the mass wet and sticky but not quite broken down, the rigidity rating might be 9. Lower rigidity ratings correspond to lesser degrees of completeness of mixing down to 0, which corresponds to dry mass which appears to have no vehicle in it. Mixing continues until the mass breaks down to a flowing paste. This point is fairly

definite. Time in minutes from completion of the pigment addition to this breakdown is called the mix. During this mixing period the operator must stand by and keep the pasty mass in motion and prevent it from climbing out of the mixer by careful and frequent use of the spatula.

After this breakdown the second unit of Mineral Thinner is added slowly and allowed to mix in thoroughly. The sides and bottom of the mixer must be scraped down during this operation to secure a uniform paste. The paste is then ground thru the stone mill (see note) taking care to scrape out all the paste from the mixer and pass it thru the mill.

The third unit of Mineral Thinner is added to the ground paste and the whole is thoroughly mixed. The gallon weight is taken at 79-81°F and, if higher than 15.30 Mineral Thinner is added on the basis of 1.0 c.c. for each .015# heavier than 15.28. This is well mixed in and the paint is poured into a pint can to within ½ inch of the top. The temperature is adjusted to 79-81°F. and immediate consistency is taken.

The can is then tightly closed and the paint is allowed to age two days. Temperature is adjusted to 79-81°F. and consistency is taken. The temperature is then adjusted to 79-81°F. and the gallon weight taken. If heavier than 15.30#, the paint is adjusted on the basis of 1 c.c. Mineral Thinner for each 0.02# heavier than 15.28. The gallon weight should be checked after this adjustment and, if still heavy, readjusted. Final gallon weight should be 15.28 ± 0.02. Consistency is then determined at 79-81°F.

NOTES:

(1) Vehicle. This consists of 76.25% China Wood-Soya bean oil mixture and 23.75% Mineral Thinner.

Exhibit 1222

(2) The clearance between stones in the stone mill grind affects final consistency. Adjust the stone clearance until the point of a 3# tapered spatula can just be inserted between the stones.

(3) Since the grinding base is not completely uniform, it is necessary to grind and collect all of it to avoid error.

Exhibit 1223

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

August 8th, 1932

Mr. W. F. Washburn,
Titanium Pigments Company,
St. Louis, Missouri

Dear Mr. Washburn:

We will appreciate it very much, if you will promptly advise us the temperature of the exit gas from your continuous calciners at your St. Louis plant.

There is some difference of opinion on this particular question between our people who recently visited your St. Louis plant and we would like to now get the benefit of your advice so that we can definitely clear up this item.

I called at your office on Thursday of last week at which time I had intended to ask you about the exit temperature of the calciners, however, I found you were away and not knowing how long you may remain in St. Louis, I am taking the liberty of writing you for this information.

With kindest personal regards, I am

Yours very truly,

KREBS PIGMENT & COLOR CORPORATION

Z. PHELPS

Z. PHELP, VICE PRESIDENT

ZP:KW

Exhibit 1224

August 9th, 1932.

Mr. Z. Phelps, Vice President,
Krebs Pigment & Color Corporation,
256 Vanderpool Street,
Newark, New Jersey.

Dear Mr. Phelps:

Upon receipt of your letter of August 8th, I had temperature measurements taken on each of our three calciners.

These measurements were made by introducing a pyrometer in the feed end of the calciner through the observation port.

The results were as follows:

No. 1 Calciner—225° C.
No. 2 Calciner—425° C.
No. 3 Calciner—325° C.

These readings are accurate within 10-15%.

In this connection I might add that the temperature of the exit gases from our calciners varies over a considerable range depending upon the load in the calciners, the dryness of the filter cake supplied and the physical properties of the pigment pulp.

With kindest personal regards, I remain,

Very truly yours,

TITANIUM PIGMENT COMPANY INC.

WFW-P.

3661

Exhibit 1225

TITANIUM PIGMENT COMPANY, INC.

ST. LOUIS PLANT

SUBJECT

DATE August 25, 1932.

TO Mr. W. F. Washburn, Superintendent.

FROM Mr. H. L. Jungmann.

Enclosed are copies of the Pigment Testing Methods of the Krebs Pigment & Chemical Company, obtained from Mr. M. L. Hanahan.

Very truly yours,

TITANIUM PIGMENT CO. INC.

H. L. JUNGMANN

HLJ:B

Exhibit 1225

COLOR

REFERENCES: Pamphlet "Improved Method of Testing Lithopones" by Dr. J. E. Booge, and H. E. Eastlack, October 1st, 1924.

STATUS OF THE METHOD: Since the above pamphlet was written several changes in the color test have been made. These have to do mainly with the number and type of standards and with the method of grading and recording results. The present test is in use at the Lithopone Plants at Newark, Philadelphia, and Grasselli. The time required for the test is now dependent on the number of rub-outs necessary to match a standard. When a match is obtained the first time, the time required is about five minutes.

PRINCIPLE OF THE METHOD: The color of a sample of lithopone is determined by comparison with a standard sample. The comparison is made with lithopone glycerin pastes thru a colorless glass slide.

APPARATUS AND MATERIALS REQUIRED:

Ground glass plate, 12" square or larger securely fastened to the table.
Colorless glass slides, 3" x 1½" x 1½" mm. thick.
Steel spatula, 3" x ½" blade of stainless steel.
Glycerin, C.P. water white.
Benzol or alcohol for cleaning plate.
Cotton waste, best grade, or cheesecloth.
Standard Lithopones as follows:

Exhibit 1225

0B, representatives of unblued 18A grade produced at Grasselli, N. J. Contains no ultramarine blue.

3B, contains a moderate quantity of ultramarine blue and represents a type of material produced at Grasselli, N. J.

5B, contains comparatively more ultramarine blue than 3B standard and represents most highly blued pigment produced at Grasselli, N. J.

6B, contains slightly more ultramarine blue than 5B and represents production at Newark and Phila.

The 0B, 3B and 5B standards were made from the same batch of lithopone and therefore had the same inherent brightness. For these, three this is rated as 14. 6B standard is rated as 13 in inherent brightness.

PROCEDURE: Clean the glass plate thoroughly with benzol, alcohol, or soap and water before the tests are started for the day.

A piece of cheesecloth and water may then be used after each test. Place about 5 gms. of the lithopone to be tested on the glass plate and pour about 1 to 2 cc's of the C. P. glycerin on to the plate beside the little heap of lithopone. With the spatula work a sufficient amount of lithopone into the glycerin to yield a smooth, fairly thick paste.

Prepare a similar paste from one of the standard lithopones and with the spatula place the two pastes side by side on a colorless glass slide. Care must be taken

to maintain a sharp line of demarcation between the two pastes,—at the same time, they must be brought into actual contact with each other. To obtain a good comparison, the line of contact between the two pastes should be at least an inch long.

The two pastes are then examined thru the glass and the color of the sample compared with that of the standard. In judging the color, both brightness and degree of bluing are taken into consideration. This is done as follows:

To determine the inherent brightness, the sample is first carefully blued up to match the 6B standard in degree of bluing. The 6B standard has been chosen as a non-selective white. Therefore, when unknown samples are matched with it in degree of bluing, an accurate judgment of inherent brightness can be made.

If the original sample does not match the 6B standard without additional bluing, the degree of bluing is judged by placing it beside one of the other three standards. If a perfect match against one of these standards is obtained, the sample is merely graded accordingly. If the degree of bluing falls between any two of these standards, the degree of bluing is estimated.

RECORDING OF RESULTS: If the sample matches the 6B standard in inherent brightness as well as in bluing, the sample is called 13:6B. If it matches in bluing but is either brighter or not as bright, it is graded accordingly dependent upon the degree of difference. The least perceptible degree in brightness is given one full point. Thus, if a sample were just perceptibly brighter than

the 13 standard, it would be graded 14. Larger differences are estimated accordingly.

If the degree of bluing is very slightly off from the 6B standard, but not sufficient to match one of the other standards, the degree of bluing is estimated against the 6B standard. A slight overbluing is graded 6.2B and a slight underbluing 5.8B, etc. If the degree of bluing matches one of the other standards, grading is made accordingly, or if it falls between two of the standards, the grading is estimated as already mentioned.

Examples:—12:6B would indicate a color matching the 13:6B standard in all respects. 13:6.2B would indicate a match in brightness but with very slight overbluing. 14:3B would indicate a perfect match for the 14:3B standard. 12:0B would indicate a color poorer in brightness than the 13 standard but matching the 0B standard in bluing.

Observers with considerable experience sometimes differ by as much as two points in their gradings of the same sample. Usually, however, agreement is much better. Any such differences may often be decreased on reexamination of the slide.

NOTES:

1. *Cleanliness*—Accurate color testing depends upon scrupulous cleanliness in all steps. The glass plate must be always thoroughly clean and the spatula kept polished, free from rust and preferably used for no other purpose.
2. *Standard Slides*—Slides of the standard samples may be prepared in advance sufficient for one or two

days needs. They should not be kept longer than this, however.

3. *Retention of Slides*—Glycerin paste slides may be kept for some time without changing in color. The hydroscopicity of the glycerin prevents indefinite retention but in a dry atmosphere a reference slide may be preserved for several weeks. A cabinet with shallow drawers is used in most of our laboratories for filing slides. These slides should be kept in a horizontal position to avoid running of the moist glycerin.

4. *Consistency of Pastes*—All pastes should be brought to as nearly the same consistency as possible and should be too thick to show any indication of flowing from a spatula. However, percentage of glycerin does not appreciably affect the color.

5. *Glycerin* vs. *Linseed Oil.*—Careful comparative tests have proven that if a sample matches a standard with glycerin, it will also match the standard with linseed oil. The oil has two disadvantages however. The pastes yellow (and dry) on standing. More serious, the consistency greatly affects the brightness, the thinner the paste the greater the brightness. Hence, for accurate color comparison the unknown and standard pastes should have exactly the same percentage of oil.

6. *Observation thru Glass*—If the slides are inspected on the paste side, an incorrect grading may result. This is due to differences in smoothness of the paste surfaces. A rough surface appears more deeply

tinted than a smooth surface and is given a lower grading. Observation thru the glass eliminates this influence. The slides should show practically no color when held between two pieces of cardboard and viewed edgewise.

7. *Bluing*—A small amount of blue may be mixed with glycerin to a thin paste and placed on the side of the glass plate. This paste may be used throughout the day's work for bluing the samples up to the standards. The bluing is accomplished by placing the standard on a glass slide and matching the sample to it by trial. After each trial test for the sample is scraped from the glass slide and more blue added. Care should be taken in scraping the sample from the glass slide so as not to carry any of the standard with it.

8. *Standards*—At present the four standards are not from the same batch of lithopone. The 6B standard has an inherently lower brightness than the other three. Later, however, standards will be supplied which have all been made from the same Lithopone.

9. *Brightness, Hue and Saturation:* The color of the lithopone is determined by three independent variables:

    1. Brightness or co-efficient of reflection.
    2. Hue or position of the color in the spectrum.
    3. Saturation or depth of tint.

A discussion of these will not be attemtped here. It is obvious, however, that the color or brightness

of a lithopone paste is a composite grading. It is a matter of judgment with the observer whether he is influenced more by brightness, by tint, or by depth of tint. Aside from the degree of blueness or yellowness which is taken care of by the present set of standards, an attempt is made to take into account other off-tint by detracting from the brightness grading. The color test nevertheless, contains considerable of the personal element.

10. *Tintometer Tests:* An effort has been made to put lithopone color grading more on a quantitative basis. Considerable work has been done toward this end with colormetric instruments, particularly by Dr. A. H. Pfund in co-operation with this laboratory. Altho some progress has been made (which has been described elsewhere by Dr. Pfund) and instruments have been developed which have proven of value in research work on improvement of lithopone color, they are not at present adapted to the routine examination of lithopone production. For these purposes careful testing by the method outlined above has proven quite satisfactory.

Reference: Luckiesh, M. "Color and its Applications" (D. Van Nostrand Co., 1915, pp. 69 to 73.
Nutting, P.G. "Outline of Applied Optics". pp. 94-97.

TINTING STRENGTH

REFERENCES: Pamphlet "Improved Methods of Testing Lithopone" by Dr. J. E. Booge and Dr. H. E. Eastlack, October, 1924.

Letter by Dr. H. H. Morris to Mr. G. D. Robinson, March 16, 1930.

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STATUS OF THE METHOD: Several changes have been made in the method since the above pamphlet was written. A new standard has been adopted which is graded 120% based on 100% for the old standard. The scale for addition of ultramarine blue to the new standard has been changed accordingly. Also, a standard mulling area has been prescribed. The present method is in use at the Lithopone Plants at Newark, Philadelphia and Krebs.

PRINCIPLE OF THE METHOD: The tinting strength is determined by comparing the amounts of ultramarine blue required to produce pastes of the same shade with equal weights of the lithopone to be tested and the standard sample. The tinting strength is proportional to the amounts of blue required and is expressed in terms of percentage to the old original standard.

APPARATUS AND MATERIALS REQUIRED:

Ground Glass Plate, 14" square or larger, the surface of which has been ground with a very fine emery powder, turpentine, and a few drops of linseed oil.

A 10" square of black paper is placed beneath the plate to guide the mulling area.

Luer 1 cc. hypodermic syringe or burette.

Weighted muller, weight 15 lbs. Ordinary glass muller 3" face, fitted with lead casting. (See Note 8).

Analytical balance and weights.

Aluminum weighing scoop.

Camel's hair brush.

Steel spatula, 3 x ½" tapered blade.

Microscopic slides, 3" x 1" of colorless glass.

Slide box or filing cabinet for slides.

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Acid refined linseed oil. Spencer Kellogg Pale Grinding. Acid number 12.7.

Ultramarine blue, BB Grade supplied by Ultramarine Co.

Standard Lithopone.

PROCEDURE: Weigh out accurately with the aluminum scoop 3.00 grams of the lithopone to be tested and .300 grams of ultramarine blue and transfer both to the ground glass plate. Add exactly 1.0 ccs. of linseed oil at 25° C. from the syringe or burette and work the mixture into a smooth paste with a spatula. Mull the paste for three minutes with the 15 lb. muller. The 10" square area should be adhered to. During the mulling the muller is given a rotary motion by the hand while pushing it across the plate keeping within the 10" square.

After one minute mulling scrape the paste off the muller and plate, mix, spread and mull for one minute. Repeat this after two minutes total mulling and mull again one minute more.

After the three minutes mulling (actual mulling time), collect the paste in the center of the plate with the spatula and mix well. Spread a small portion on a colorless microscope slide adjacent to a similar paste prepared from the standard sample as described below.

The two pastes should touch each other giving a sharp line of demarcation for about one-third of an inch. In putting the paste on the slide, as little pressure as possible should be used to avoid a streaky appearance. The pastes are observed thru the glass and not on the paste side.

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The strength of the sample is greater or less than standard according to whether the paste obtained appears brighter or darker respectively than that obtained from the standard (when equal amounts of blue are used). The method for obtaining the quantitative relationship is described below.

EXPRESSION OF RESULTS: Standard pastes are prepared in advance from the standard lithopone exactly as described above except that the amount of blue is varied in order to obtain pastes of different shades. Amounts of blue required to give the various percentage strengths with the present standard lithopone are given in the following table.

% Str. Represented	Grams of Blue used with 3.0 Gr. Standard Litho.
100	.3600
110	.3272
120	.3000
130	.2760
140	.2571
150	.2400
160	.2250
170	.2117
180	.2000
190	.1894
200	.1800
210	.1714

Note:—Unless extreme accuracy is desired, it is not necessary to vary the amount of oil with the different amounts of blue used.

If the test sample which has been made up with .3 grams of blue matches the 130 paste above, the ratio of the amounts of blue in the two pastes is $\frac{.3000}{.2760} = 1.084$

Therefore, the strength of the sample is 1.084 times 120 or 130. The amount of blue required to prepare a paste representing any desired strength can be calculated from the following formula:

$$.3000 \times \frac{120}{\text{strength desired}} = \text{Grams blue to be used with 3 grams standard.}$$

If the sample is found to be darker than the 130 paste but lighter than the 120 paste, its strength is estimated at 122, 124, 126, 128, etc. depending on whether it is judged to more closely match one or the other extreme or to come half-way between.

Duplicate strength tests on the same sample should agree to two points if the procedure is closely followed.

NOTES: 1. *Ultramarine Blue*—A fairly large supply (several pounds) should be obtained and reserved for use in making these strength tests. The BB Grade of the Ultramarine Co. is in use at present and has been satisfactory for this purpose. A small amount should be dried for several hours at 110° to 120° C. and kept in a dessicator over sulphuric acid except when in use.

2. *Ratio of Blue to Lithopone*—The choice of 10% of blue probably gives the maximum delicacy in the test. This is based on tests with the Pfund Colorimeter. With less blue there is a small percentage change in brightness

per unit difference in tinting strength, all pastes being high in brightness. The increase in the blue ratio from 1:10 to 1:5 is not harmful but with much higher percentages all the pastes are too dark. The above remarks apply when the strengths are in normal range for lithopone. When the strengths are much higher, for example, with titanium oxide, the amount of blue should be increased accordingly. We have devised a special test for such high strength pigments.

3. *Amount of Oil Used*—The color of the paste obtained varies with the amount of oil used becoming lighter in shade with more oil. The amount of oil must be actually measured and not judged by merely bringing all pastes to the same consistency. If the latter method were used the amount of oil would vary with the oil absorption. In rare cases with extremely high oil absorption lithopones it may be necessary to increase the amount of oil used. In such cases the paste should then be compared with a standard paste containing the same amount of oil.

4. *Effect of Mulling*—The three minute mulling period has been found to completely insure the uniformity of the paste. However, a slight difference may be obtained if the mulling area varies widely. The standard 10" square mulling area has been prescribed for this reason.

5. *Practical Aspect*—The tinting strength is a measure of (a) the amount of colored pigment required for tinting, and, (b) to some extent, hiding power. From the former consideration, a low tinting strength would be desirable. In the great majority of cases, however, the latter factor is much more important.

Regarding the connection between hiding power and strength no direct quantitative connection has been derived on theoretical grounds, altho both are influenced by such properties as refractive index and average particle size. In general, however, high tinting strength is accompanied by good hiding power and if measurements of the latter are corrected to a standard brightness a quantitative relation usually exists between them.

6. *Standard Lithopone*—Several years ago a change in standards was made. The general improvement in tinting strength of lithopone made it desirable to select a higher standard. The standard selected was rated 120% in comparison with the old standard. However, instead of calling the new standard 100% as was the case with the standard formerly it was allowed to retain its 120 grading and the scale for the amount of blue addition was changed accordingly. In this manner the gradings against the new standards were in effect still referred to the old 100% standard.

7. *Permanent Standards in Paste Form*—Standard pastes may be prepared in larger quantities and may be kept for a considerable time. About 20 g. of pigment is mulled 20 to 30 min. With the proper amount of blue and oil or about 150 g. or more are ground in a roller mill. The paste is kept in collapsible tubes and should be checked frequently against standard mulled paste. If the paste shows the least segregation of oil the tube is emptied, mixed well, and transferred to a fresh tube. Under no circumstances should segregated oil be discarded.

8. *Care of Muller*—Before a new muller is put in operation it should be proved with a slight bevel on the

edge to enable it to ride on top of the paste. If this is not done the muller will push the paste to the sides of the plate preventing efficient grinding. The bevelled edge is produced by tilting the muller very slightly and grinding with a rotating motion on the ground glass plate outside the marked square employing the same grinding mixture as used for the plate itself. The action of the muller is tested by actual mulling of a pigment. If the muller still pushes the paste to the sides of the plate the muller is given some more bevelling until it operates satisfactorily.

Both plate and muller should be kept in good condition by occasional grinding with fine emery.

OIL ABSORPTION

REFERENCES: Pamphlet "Improved Methods of Testing Lithopone" by Dr. J. E. Booge and Dr. H. E. Eastlack, October, 1924.

"Standard Methods of Testing Lithopone", Grasselli Chemical Co.

STATUS OF THE METHODS: During April, 1929 the Dupont Plant changed over from the old Dupont spatula oil absorption test to a slight modification of the standard Grasselli test. The two methods do not differ greatly and the following method is in some respects a combination of the two. The present test is in use at the Lithopone Plants at Newark, Philadelphia and Grasselli.

PRINCIPLE OF THE METHOD: The oil absorption of a Lithopone is defined as the ratio between the amounts of

oil required to produce pastes of the same consistency with equal weights of the sample to be tested and the standard sample.

It is found that when linseed oil (or poppy seed oil) is added slowly to a sample of Lithopone and worked in thoroughly with a spatula, a point is reached where the addition of a single drop of oil changes the mass from a comparatively dry, non-adherent state to a state in which all the particles adhere together and to the blade of the spatula.

This is taken as the endpoint. The amount of oil required to give the same endpoint with the standard lithopone is determined in a similar manner at the same temperature and the oil absorption is calculated as indicated above.

APPARATUS AND MATERIALS REQUIRED:

Smooth glass plate, 12" square or larger, fastened to table.

Analytical balance, weights, scoop, etc.

Two steel spatulas, 4" x ½", stiff blade.

Weighing pipette, Lunge type.

Linseed oil, acid refined, about 4 acid number.

Standard Lithopone.

PROCEDURE: Weigh out 5 grams of the Lithopone to be tested and transfer to the smooth top glass plate. Weigh the pipette filled with the linseed oil. Add 10 to 12 drops of the oil and work in over a period of 2 to 3 minutes. Then add 2 to 3 drops more oil and follow again by the working in process. Repeat this procedure adding one

drop of oil at a time until the pigment shows a tendency to stick to the spatula. The endpoint is reached when all of the pigment collects in a sticky mass and adheres to the spatula. Any sticking to the glass plate, however, indicates the addition of too much oil and the running over of the endpoint.

The oil-lithopone mixture throughout the entire test has a dry appearance until the endpoint is reached. At this time weigh the pipette and calculate the amount of oil used. The standard lithopone is then run in the same manner.

The oil absorption is calculated from the following formula:

$$\frac{W\text{-}1}{W\text{-}2} \times 11.4 = \text{oil absorption}$$

W-1 is the weight of oil used with the standard lithopone.

W-2 is the weight used with the sample to be tested.

The figure 11.4 is an arbitrary factor based on an old standard.

NOTES: The present test differs from the old Dupont test in several respects.

1. In the Dupont test the Lithopone-oil mixture is kept in a wet state throughout the test. This is accomplished by leaving out a part of the Lithopone and working it in gradually. In the present test the mixture is kept in a dry state, the oil being added to the entire sample.

The tests also differ slightly in the endpoint: In the Dupont test a wetter endjoint is used, the criterion being that the paste leave one quarter inch tail on the blade of a spatula when forced off by a jerking motion. Such a paste wets glass decidedly whereas the paste at the Grasselli endpoint does not wet glass.

It is the general opinion that the Grasselli endpoint is slightly sharper than the old Dupont endpoint.

Altho calculated in entirely different manners, the numerical results of the two tests seem to be identical except that a decimal point is used in the Grasselli figures. Thus, 100 oil absorption by the old Dupont test would correspond with 10.0 in the present test. This relationship appears to exist throughout the oil absorption range.

2. *Size of Sample:* The original Grasselli test calls for a 10 gram sample while in the old Dupont test only a 5 gram sample was used. The quantity for the present test was set at 5 grams for greater convenience in testing quenched pigment and other samples which require bolting.

3. *Measurement of Oil:* In the original Grasselli test the oil was measured volumetrically. The Dupont method of weighing the oil in a Lunge pipette was adopted as giving the greater accuracy.

4. *Duration of Test:* The spatula should be grasped with the hand in such a manner that a firm, even pressure may be exerted on the sample throughout the test. A standard rubbing time of 8½ minutes has been adopted. All

tests should be done in as near to this length of time as is possible. It is necessary to have most of the oil incorporated before the last two or three minutes of the test. This gives time for thoroughly incorporating the last bit of oil before the endpoint is reached.

5. *Rubbing Standards:* If a number of tests are to be run consecutively, it is sufficient to run on one standard. However, if the test period covers more than half a day, or includes changes in humidity or temperature, additional standards should be run as necessitated.

6. *Type of Oil:* At present a 4 acid number refined linseed oil furnished by the Spencer Kellogg Co. is used. However, the effect of variation of acid number is not definitely known and it is possible that the 12 acid number oil used in the strength test can also be used for the oil absorption test. An investigation to determine this is under way at the present time.

7. *Effect of Temperature:* At higher temperatures less oil is required to reach the endpoint. Hence it is necessary that the test be conducted in a place which is not subject to rapid fluctuations in temperature. When fluctuations in temperature do occur, the standard should be rerun as already mentioned above.

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REACTION

REFERENCES: Pamphlet "Improved Methods of Testing Lithopone", by Drs. J. E. Booge, and H. E. Eastlack, October, 1924. N. J. Zinc Co. U. S. Patent #1,446,637.

PRINCIPLE OF METHOD: The method consists of determination of the alkalinity of Lithopone by titration with N/50 H_2SO_4.

APPARATUS AND MATERIALS:

Soft drink mixer

800 cc beakers

N/50 H_2SO_4 solution

Methyl Orange indicator

Ten cc. burette with glass stop cock, graduated in 1/20 cc. intervals.

Alundum thimble RA #84

Lowy Automatic Pippette 100 cc.

PROCEDURE: 50 grams of Lithopone are mixed for five minutes in 250 cc. of redistilled water using a soft drink mixer. Let settle for one half hour.

a 100 cc. sample is then drawn off thru a clean alundum thimble into a 100 cc. automatic pipette and titrated with N/50 H_2SO_4, using methyl orange indicator.

A blank of pure redistilled water is run at the same time.

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RECORDING OF RESULTS: Results are recorded as "Blank" —"sample" in cc of N/50 H_2SO_4 used, e.g. 0.5 — 1.7.

NOTES:

The alkalinity determined by the above test does not represent the total alkaline material present in the Lithopone and presumably available for slow reaction with the vehicle. Some results on Lithopones showing initially slight, moderate and strong alkaline reactions are of interest.

One sample of each was shaken with cold water, another sample boiled with water five minutes. Each was titrated with phenolphthalein as the indicator. The neutralized slurries were allowed to stand 1, 2, 3, and 4 weeks, and the test repeated on the same sample at the end of each week.

The redevelopment of alkalinity is probably due to a reservoir of alkaline compounds very firmly held. Each .1% of alkali calculated as NaOH is equivalent to—and may lead to the formation of approximately .75% of soap.

Exhibit 1225

FINENESS

REFERENCES: Pamphlet "Improved Methods of Testing Lithopone" by Dr. J. E. Booge and Dr. H. E. Eastlack, October, 1924.

PRINCIPLE OF THE METHOD: The percentage of material which can be washed thru a #325 U. S. Standard sieve is determined. The method is similar to that of Gardner as given in Circular #148, Scientific Section, Paint & Varnish Manufacturers' Assn.

APPARATUS AND MATERIALS REQUIRED:

U. S. Standard Sieve #325, 6" diameter.
Analytical balance.
Weights and aluminum scoop.
Camel's Hair Brush (quill, medium).
Camel's Hair Brush (flat, ½" wide).
Electric oven, regulated at 110-115°C.
Spray Nozzle, Oliver Filter Co. (A. R. McO).

PROCEDURE: Weigh out 500 grams of Lithopone. Transfer a portion to screen both sides of which have been previously wet with water. Wash as much of the Lithopone thru the screen with the spray as is possible. Gradually transfer the remainder of the Lithopone to the screen and continue the washing. As the force of the spray is not always great enough to break down all of the lumps, the spray may be aided by brushing the pigment very slightly with a camel's hair brush. The washing is continued for about 2 minutes after the wash water becomes clear.

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After all the undersized material has been washed thru the screen, the sides and bottom of the screen are wiped dry with a towel and placed in an oven at 110° to 115°C for one half hour. It is then removed from the oven cooled and the residue brushed into a small tared aluminum scoop using the quill brush. The residue is weighed accurately and calculated in terms of percent material passing thru the screen.

NOTES: 1. *Standard Screen:* The screen used in this test should be made in accordance with the U. S. Bureau of Standards' specifications as follows: Sieve #325, opening .044 mm. or .0017". Wire diameter .036 mm. or .0014". The 6" diameter is recommended altho an 8" may be used if desired. Either size can be obtained from the Newark Wire Cloth Co., Newark, N. J. or W. S. Tyler & Co., Cleveland, O.

2. *Brushing:* Great care should be observed in brushing the pigment about not to damage the screen by contact with the metal parts of the brush nor to force large pigment particles thru the screen.

3. *Water as Wash Liquid:* With treated Lithopones which are not wetted readily by water it has been found necessary to moisten the sample with alcohol before spraying with water. This procedure greatly facilitates the passage of pigment thru the screen. In these cases the size of the sample may be reduced to 100 grams if desired.

The very valuable work of H. A. Gardner's laboratory already referred to indicated that Lithopone may contain particles loosely cemented together, possibly by

water soluble salts. The same indication along this line has also been obtained by our plants. Consequently, if the amount of material cemented together in this manner is to be determined, some organic liquid, such as mineral spirits, turpentine or kerosene should be substituted for the water.

However, for routine control tests, the water method above described answers adequately. Likewise, experience has proved that the loosely cemented aggregates very readily break down in the paint or rubber mill. Only the harder coarse particles not initially broken down in the wet grinding operation during the process of manufacture give trouble. These are much more refractory than the aggregates that are merely cemented together.

It is scarcely necessary to add that the results in this test indicate merely the proportion of very coarse material contained in the sample and throw no light on the fineness or particle size of the bulk of the Lithopone which passes thru the screen. Most of this is of an order of magnitude of less than one michrome, in other words, only less than 1/44, the diameter of the screen opening.

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TEXTURE

REFERENCES: Newark Practice. Letter by L. H. Bates to J. E. Booge, August 19, 1926.

STATUS OF THE METHOD: The texture test was developed a number of years ago to indicate the fineness of a pigment beyond that which is indicated by a 325 mesh screen. The aperatures in a 325 mesh screen are in the neighborhood of 44 microms square. The average Lithopone particles size is in the neighborhood of .5 microm. It is obvious that agglomerates containing many thousands of Lithopone particles can make their way thru the aperatures of such a screen. The smallest size of Lithopone aggregates which are visible to the naked eye at 25 cm. is in the neighborhood of 8 microms. It is also obvious, therefore, that aggregates between 8 and 44 microms in size would be visible if left unbroken and in a paint film. The present test, altho not quantitative, gives much more information than is afforded by the screen test. The earlier method consisted merely of comparing the samples to be tested with a single standard. Frequent improvements have been made in the past, however, and a number of types of Lithopones showing a wide variation in texture are on the market at the present time. As a result, the number of standards in the present test has increased to eight. The present test is in use at the Lithopone Plants at Phila., Newport and Newark.

PRINCIPLE OF THE METHOD: The texture of a pigment is determined by comparing a wedge shape paint film containing the pigment to be tested with similar films containing the standard pigments. The films are prepared

on plate glass slides and vary in thickness from .003" on one side to 0" thickness on the other side. In making the texture grading both the number and size of large particles is taken into consideration.

APPARATUS AND MATERIALS REQUIRED:

Smooth glass plate, 14" sq. or larger.

Hyperion Varnish—a spar varnish supplied by E. I. duPont de Nemours & Co., Phila.

Steel drawdown knife, blade 3½" wide, edge machine planed.

Steel tape, 8" long, ½" wide, .003" + or — .0002" in thickness.

Steel spatula, 6" x ½" tapered blade, flexible.

Hypodermic syringe, Luer type, 1½ cc. capacity.

Plate glass slides, 6" x 4" and about ⅜" thick, beveled edge.

Standard slides or standard Lithopones from which these may be prepared.

Microscope lamp, Spencer Lens Co. #394—400 watt bulb.

PROCEDURE: Weigh out 1.5 grams of the Lithopone to be tested and transfer to the smooth glass plate. Add 1.5 ccs. of Hyperion varnish from the hypodermic syringe and work the mixture into a smooth paste with the spatula. Give the paste 50 double strokes with the spatula, each stroke being about 12 inches in length. The strokes must be rapid and administered with firm pressure. Scrape the paste together in the center of the plate after each set of ten double strokes.

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Collect the paste and spread in a narrow line across one of the ends of the thoroughly clean texture slides about one inch from the end and leaving about one half inch on each side. Now place the steel tape along one edge of the slide just touching the edge. Draw the paste down by means of the drawdown knife resting one edge of the knife on the steel strip and the other edge of the glass. The resulting film should taper evenly from the thick to the thin side. The blade of the knife should be held vertical while the drawdown is being made and a very slight pressure exerted to keep it in contact with the tape and the glass.

The finished slide is now placed in a cabinet or other dust free place and allowed to dry from 20 to 30 min. When dried it is graded by comparison with the semi-permanent standards prepared for this purpose. The standard slides are given arbitrary gradings from 8 to 15, 8 being the poorest and 15 the best. The 15 texture is practically free from large coarse particles but still contains a very small quantity of "sand" which is just visible in the thin portion of the slide. This is better than any Lithopone on the market at the present time. The 8 standard represents about the poorest texture on the market.

NOTES: 1. *Cleanliness:* Unusual care should be exercised to eliminate dust, lint, etc. from the glass plate, glass slides and other equipment used in this test. Foreign material in the slides makes grinding very difficult. The slides during drying should be protected from atmospheric dust as well as possible.

2. *Retention of Slides:* The standard slides may be preserved for periods of several months if handled carefully. These should be kept in a specially prepared hinged and slotted box when not in use. Frequent handling tends to wear off and reduce the coarse particles in the films. It is, therefore, advisable to replace the standard slides occasionally.

3. *Time Required for Test:* After measuring out the Hyperion Varnish the test should be carried to completion as rapidly as possible. The Hyperion Varnish dries rapidly and if too much time is taken the final paste is too thick to give a satisfactory drawdown. This part of the test requires considerable experience and technique.

4. *Grading:* Observation of the finished slides is best accomplished by means of a powerful lamp. The Spencer Lens Co. #394 lamp has been found very satisfactory for this purpose. The slide is held so that the beam falls almost parallel with the slide. In this manner the coarse particles in the film stand out and cast tiny shadows along the film. In some cases a perfect match for the sample we tested is not found among the standard slides, altho the sample may still be obviously between 8 and 15 in texture. The reason for this is that several variables effect the appearance of the film. These are chiefly the size and number of coarse particles which correspond fairly well with that of a standard but these may be either larger or smaller than those in the standard. In such cases the sample can sometimes be matched in number of particles with one standard and in the size of particles with another and an average grading given.

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5. *Practical Aspect of Test:* The 50 double rubs have been found to correspond well with a single pass of a similar paint paste over a roller mill at a moderately tight setting. The test, therefore, probably parallels plant operation especially in the enamel field where roller mills are usually used.

6. *Standard Lithopones:* A set of the standard Lithopones from which the standard slides are made is being held in reserve by the Research Dept. at Newark. Since the slides prepared from these may vary somewhat with the operator, it is advisable that the standard sets of slides be obtained from the Research Lab. The standard Lithopones may be used, however, to cross-check a given operator against the standard set of slides.

Exhibit 1225

KREBS HIDING POWER CHART

Hiding power or opacity is a most important property of pigments from the standpoint of the paint manufacturer. The accurate determination of hiding power has been one of the most difficult tests confronting the purchase of pigments. Several different methods have been advocated but each has suffered in greater or less degree from the fact that they were not practical methods.

The Krebs Pigment & Color Corporation has developed a method for determining hiding power or opacity which practically eliminates the objections to previous methods and offers at the same time an accurate and practical method of determining this important property.

The attached charts serve as a basis. These charts are made from sized paper printed with a design which is approximately 70% brightness in the white and 45% brightness in the gray. This contrast represents the average surface to be painted. The chart is inexpensive and consequently can be used as a permanent record of hiding power. It has the very practical advantage of permitting comparisons to be made on dried films which of course represents the actual conditions of use of a paint.

The Krebs Pigments & Color Corporation will be glad to supply these charts gratis to the paint and pigment industry.

PRINCIPLE OF THE METHOD

The uncontrolled application of paints to any convenient surface is obviously an inaccurate method of determining hiding power. Judging wet paints or paints applied in very thick films to backgrounds of extreme black and white con-

trast does not duplicate actual painting conditions and cannot be regarded as a practical testing procedure.

The first step in an accurate hiding power test is the application of a controlled amount of paint to a definite area. When several paints have been similarly applied comparisons can safely be made.

The background chosen for this application should closely duplicate the average contrast of backgrounds to which paints are practically applied. This contrast is provided by the Krebs Hiding Power Chart. The application of paints to this background should be in films of a thickness which closely duplicates the average application of paint. With very contrastive backgrounds thicker films of paint are required than can be used in actual painting work.

The hiding power of wet films differs in many cases from the hiding power of dry films and consequently a practical test must be made on dry films.

The Krebs Hiding Power Charts being inexpensive can be used for one test only, the paint allowed to dry, the necessary comparisons made, and the Chart retained for reference if desired.

Types of Comparison

Hiding power and opacity comparisons can be made on several different bases. It may be desirable to compare the relative hiding power of several pigments pound for pound or dollar for dollar. It may be desirable to compare the hiding powers of several paints on an equal volume basis, on an equal weight basis, or an equal cost basis.

Any of these types of comparisons can be made by applying the required amount of pigment or paint to the Charts.

The amount of paint applied is best determined on a weight basis. This eliminates an error characteristic of many hiding power tests—namely, the application to the surface of amounts of paint which cannot logically be compared.

A common error in hiding power tests has been that the consistency of the paint had a marked effect on the amount applied. If paints of different consistencies are applied without weight or volume control, more of the thicker paint than of the thin paint is likely to be left on the surface and give the appearance of greater hiding power simply because of the presence of more paint.

Testing Procedure

Hiding Power of Pigments on an Equal Weight Basis

Probably the most interesting use of the Krebs Hiding Power Chart is for the comparison of pigments on an equal weight basis. To make this test the several pigments under consideration are each made up into a paint using exactly the same formulation in each case. The paints are then applied in such a manner that equal weights of each paint are applied to separate charts. After drying the relative hiding power of the several pigments can be determined by inspection of the charts.

In this, as well as in other hiding power tests in which these charts are used, it is necessary to carefully control the application of the paint.

If the following directions are closely observed satisfactory results should be obtained. The paint is well stirred. A brush is dipped into the paint and worked until it does not pick up or lose much paint in brushing out a normal coat. The paint to be used in the test is drawn into a small syringe which should hold about 7 cubic centimeters. The

brush and syringe are then weighed in a small can or beaker to within 0.1 gram. The paint is spread from the syringe over the surface of a Hiding Power Chart. The syringe is returned to the can or beaker and the paint brushed over the entire surface of the Hiding Power Chart, brushing in one direction then rotating the chart ¼ revolution and repeating until the brushing has been completed in four directions. This should give a uniform film on the surface of the chart. The chart is then placed in a protected spot to dry. The brush is returned to the can or beaker with the syringe and reweighed. The difference in weight between the original and final weighings gives the actual weight of paint applied to the chart.

Each paint is tested in a similar manner using a clean brush and syringe. With care it is possible to duplicate the weights of paint applied to each chart, which in turn insures the application of equal weights of pigment to each chart. Comparisons between the several charts will show accurately the relative hiding power of the pigments under test.

The dry paintouts should be compared by placing the charts side by side in uniform light.

Hiding Power of Pigments on an Equal Volume Basis

It is sometimes of interest to compare the hiding power of various pigments on a volume basis instead of a pound for pound basis. The various commonly used pigments vary from one another in specific gravity and consequently occupy various volumes per unit weight. For example, if one desires to compare the hiding power of lithopone with that of titanium dioxide on a volume for volume basis it will at once be noted that the specific gravity of lithopone (4.3) makes one pound occupy 0.02792 gals. whereas titanium

dioxide having a specific gravity of 3.94 occupies 0.03047 gals. per pound.

In order to use the Krebs Hiding Power Charts in comparing these two pigments on an equal volume basis it is first necessary to formulate paints such that equal volumes of pigment will be ground in the same volumes of vehicle. Equal volumes of the resulting paints applied to two of the charts will provide hiding power comparisons of the pigments on an equal volume basis.

The method of preparing the above paints may be described as follows: Let us suppose that the formula chosen requires 10 lbs. of lithopone per gal. of vehicle. This 10 lbs. of lithopone would occupy 0.2792 gals. (10 x 0.02792). In order to calculate the equivalent volume of titanium dioxide it is necessary to divide 0.2792 by the bulking value of TiO_2, i.e., 0.03047. The result of this division, 9.17, is the number of pounds of titanium dioxide which occupies the same volume as 10 lbs. of lithopone. A paint is then prepared containing 9.17 lbs. of titanium dioxide in one gallon of vehicle. These two paints applied to separate charts in equal volumes will give equal volumes of the two pigments on the surface of each chart.

For greater accuracy it is desirable that the amount of paint applied to the charts be determined by weight. Since the two paints under examination have different gallon weights it becomes necessary to calculate the weight of each paint which should be applied to yield equal volumes of pigment. This calculation can be made as follows:

Determine the gallon weight of each paint. The gallon weight of each paint divided by 8.33 (the weight of one

gallon of water) will give the specific gravity or weight of 1 cc. of the paint.

Experience has shown that about 7 ccs. of paint should be applied to each chart. The weight of 7 ccs. of each paint is readily determined by multiplying the weight of each cubic centimeter, as determined above, by 7. The result is the weight of paint which should be applied to each chart.

Comparisons of Paints or Pigments on Other Bases

Should it be required to determine the relative hiding power of paints at equal cost it is only necessary to formulate the desired paints at equal costs per gallon and then compare the hiding power when equal volumes of the paints have been applied to the charts. If it is desired to apply the paints on the weight basis the necessary calculations have been described previously.

A comparison of paints on an equal volume basis as sold in the can is readily made by applying equal volumes of paints to individual charts and comparing in the dry state as usual.

Comparisons of pigments on equal cost basis is carried out in a very similar manner to the comparison of pigments on an equal volume basis except that the paints are made up to carry pigments having an equal cost instead of an equal volume.

The user of these charts will no doubt discover many other interesting types of comparisons but the principles involved remain the same and the necessary calculations are comparatively simple. Should special problems arise where further information is desired inquiries can be addressed to the Krebs Pigment & Color Corporation, 256 Vanderpool St., Newark, N. J.

APPARATUS

The hiding power test using the Krebs charts requires the following apparatus:

Balance with a sensitivity of 0.05 grams with 200 grams load.

Small can or beaker.

Luer type syringe, 10 cc. capacity.

Several clean brushes 1½ in. width.

Exhibit 1225

MOISTURE

REFERENCES: The Newark Practice and "Improved Methods of Testing Lithopone" by Dr. Booge and Dr. H. E. Eastlack, 1924.

PRINCIPLE OF METHOD: The loss in weight at 110°C is determined.

APPARATUS: Analytical balance
Weighing bottles 60 mm in diameter x 30 mm high.
Electric oven — 110-115°C.
Dissicator.

PROCEDURE: Ten grams of Lithopone are weighed into a weighing dish, and placed in an electric oven at 110°C for 3 hours. The sample is then allowed to cool in a dissicator and is then reweighed.

CALCULATION OF RESULTS: The difference in weight x 10 equals percentage of moisture in the sample.

NOTES: 1. A drying time of at least three hours is necessary. If the oven is below 110°C the period should be extended.

Excessive moisture in Lithopone is generally recognized as a source of paint grinding troubles. As the moisture on the surface of the particles protects them from wetting by the vehicle, the mixing is often abnormal, e.g., the mass sets up to a putty like consistency. Likewise the paint after thinning tends to have a false body.

Exhibit 1225

WATER SOLUBLE MATERIAL

REFERENCES: Newark Practice. Pamphlet "Improved Methods of Testing Lithopone" by Dr. J. E. Booge and H. E. Eastlack, Oct. 1924.

PRINCIPLE OF THE METHOD: A weighed sample of Lithopone is agitated with distilled water, the sample filtered and washed and the filtrate evaporated to dryness in a weighed dish. The percentage of water soluble is calculated from the weights of the residue and original sample.

APPARATUS REQUIRED: Pyrex beakers—600 ml. Alundum thimble RA-#84, rubber stopper, 100 cc pipette. Silica evaporating dishes, 100 cc. capacity, malted milk stirrer, electric oven, regulated at 100-115° C.

PROCEDURE: Weigh 100 grams of Lithopone and transfer to a clean 600 cc beaker. Add 400 cc. of redistilled water and stir for five minutes with an electric malted milk stirrer. Pipette off 100 cc with suction, using an alundum thimble, RA-#84 with a Lowy's automatic Pipette.

Examine the liquor coming up into the pipette to make sure that it is perfectly clear. Unless the liquid is clear it should be returned to the original sample and refiltered.

Transfer the clear filtrate to a weighed silica dish and evaporate almost to dryness on a heat plate. Then place the dish in the electric oven overnight to complete evaporation.

Cool the dish in a dessicator to room temperature and reweigh. The increase in weight multiplied by 4 represents the percentage of water soluble material.

NOTES 1. *Time Required:* A considerable saving in time results if determinations are made on two or more samples at the same time.

2. *Overheating:* Too high temperature should be avoided after dryness is reached on account of the danger of decomposing unstable compounds which may be present. 110°C is satisfactory.

3. *Effect of High "Water Soluble":* Water Soluble classes with moisture as a source of paint grinding troubles. The extent of the effect varies with the vehicle used but experience has indicated that over 0.2% water soluble is likely to give trouble. This takes the form of thickening or livering of paint bases and paints.

ZINC OXIDE

REFERENCES: Newark Practice.

PRINCIPLE OF METHOD: The method is based on the fact that zinc oxide is soluble in dilute acetic acid while zinc sulfide is not. The acetic acid solution containing zinc oxide is titrated with a standard potassium ferrocyanide solution.

APPARATUS AND MATERIALS:

250 cc and 400 cc beakers
25 cc. and 50 cc. graduated cylinders
Concentrated HCL

Exhibit 1225

Spot plate
Stirring rods
Standard $K_4Fe(CN)_6$ solution
5% Uronium Acetate solution
Concentrated NH_4OH solution
5% Acetic Acid solution
Litmus Paper
Hot Water bath.
Whatman filter paper.

PROCEDURE: Place a 9 cm filter paper of rather hard quality such as Whatman #5 or #50 in the bottom of a 250 cc. beaker and add 10 g of Lithopone on top of the paper. The object of placing the paper in the beaker is to prevent bumping while boiling. Add 100 cc. of a 5% acetic acid solution and boil 5 min. Filter thru a 9 cm. Buechner funnel provided with a close filter paper. Refilter if necessary to get a clear filtrate. If a tin layer of medium fine asbestos fibre is spread over the paper clear filtration is facilitated. Wash well and transfer filtrate to a 400 cc. beaker. Add 7 g. Ammonium chloride (measured with a small crucible or crys) and 5 cc. conc. hydrochloric acid Heat to 80 or 90° C and titrate the hot solution with standard $K_4Fe(CN)_6$ solution stirring constantly while adding the standard solution. Test for an endpoint on a spot plate using a 5% Uranium Acetate solution. The potassium ferrocyanide should be added slowly and a test made after addition of each one half cc. of the standard solution. The endpoint is reached when a spot test with Uranium acetate shows a very faint brown color. When the endpoint is near a sudden change from greenish

to light yellow or white color can generally be observed. At this point add the standard two drops at the time.

CALCULATION OF RESULTS: (cc. of Ferrocyanide-blank) x (Factor for ZnO) x 10 = Percentage of ZnO. The blank is generally about .15 cc.

NOTES: 1. Standardization of $K_4Fe(CN)_6$ solution. Follow method given in "Scotts Standard Methods of Analysis".

2. The ZnO content usually varies between .05% and .5% depending on the method of manufacture and the purpose for which the Lithopone is intended.

11590 PAINT GRIND

PROCEDURE:

Weigh up on the torsion balance 475 grams of refined barytes (blanc fixe), 520 grams of V-11590 and 2270 grams of pigment. The barytes and the vehicle are put in the mixer and allowed to mix thoroughly. The pigment is then added to the mix slowly with a spatula the rate of addition being so timed that it will all be added in four (4) minutes. At the end of the four minute addition period, the stop-watch is reset and started again.

The pigment and vehicle are allowed to mix for two minutes; the rigidity reading is then made simply by observing the condition of the paste. If the pigment is a difficult one to mix it will sometimes climb out of the mixer which makes it necessary for the operator to stand by with a spatula and push it back into the mixer. With pigments

which mix easily this is an unnecessary precaution as they break down quickly to a smooth paste. This breaking down to a smooth paste has a more or less definite endpoint and is known as the "break". The number of minutes elapsed from the time the pigment is completely added to the break is called the "mix". After the break, 160 cc. of H-287 are added slowly to the paste and when this has been thoroughly incorporated the thinned paste is run thru the stone mills. While grinding paste the setting on the stones is kept as tight as possible. The entire amount of paste in the mixer is ground thru the mills, care being taken to scrape out all that adheres to the sides and bottom. This is done to eliminate an error which might arise from incomplete mixing, i.e.,—the paste beneath the rotating blades of the mixer, especially with thick pigments, is apt to contain more pigment than the paste mixing above it, as the blades do not scrape the bottom or sides. The mixer is therefore carefully scraped out after each mix and the entire amount put thru the mills. The ground paste is mixed thoroughly with a spatula and 1500 grams are weighed into a quart mixing can. 90 cc. of Mineral Thinner and 13 cc. of 2193 drier are then added. This constitutes the finished paint. It is mixed thoroughly and *when well mixed* the gallon weight is determined by means of the gallon weight cup. If the gallon weight is too high Mineral Thinner is added to it in accordance with the following chart:—

Gallon Weight	*CC Mineral Thinner to be added*
18.44	0
18.48	2.5
18.57	5.0
18.67	10.0
18.75	15.0

18.85	20.0
18.94	25.0
19.02	30.0
19.09	35.0
19.20	40.0

When the gallon weight has been adjusted the finished paint is poured into a pint can, filling the can to within ½ inch at the top. The remaining paint may be discarded. The can must be tightly closed so that no air can get to the paint, as this causes skin to form and is liable to thicken the paint abnormally. At the end of two days the can is opened, thoroughly *stirred*, and the gallon weight again adjusted as before except that a different thinning ratio is used.

The chart to be followed on two days thinning to gallon weight is as follows: —

Gallon Weight	*CC Mineral Thinner to be added*
18.44	0
18.48	1.5
18.57	3.0
18.67	6.0
18.75	9.0
18.85	12.0
18.94	15.0
19.02	18.0
19.09	21.0
19.20	24.0

After adding thinner as above to correct the gallon weight the paint should be well stirred and the gallon weight taken again. The allowable range is 18.42-18.46. If the gallon weight falls within the range it may be considered

O.K., however, if outside these limits it must be thinned again, following the chart as before.

When the gallon weight has been correctly adjusted the consistency of the final paint is determined on the viscometer in the usual manner.

All gallon weight determinations are made with the paint at 28°C.

RECORDING OF RESULTS:

There are three gradings taken on 11590 paint grinds, namely—

Rigidity
Mix
Consistency

The *rigidity* grading is made during the mixing operation and depends solely on the operator's judgment. A pigment which breaks down to a smooth paste at the end of the two minute mixing period is said to have *no* rigidity, and therefore graded *10*. If at the end of the mixing period it exhibits rigidness the operator may grade it 9, 8, 7, 4, 3, according to his judgment. And the arbitrary scale runs from 0-10.

The mix grading is the number of minutes it takes to break down to a smooth paste. In the case of a perfect mixing pigment it would be entirely broken down in 2 minutes, therefore, the mix grading would be 2. The grading is taken by means of a stop watch started at the completion of the four minutes allowed for pigment addition.

Consistency is run on the Viscometer, care being taken that the temperature of the paint is at 25°C., and well stirred up.

H-287—Mineral Thinner.

Exhibit 1225

CONSISTENCY TEST

PROCEDURE:

The paint to be tested is thoroughly stirred with the spatula. This has a dual function. It insures a uniform mix and prevents the determination of a false consistency due to improper breaking down of any artificial temporary body that may have been established. Such a practice is of particular importance in the case of flats or reactive formulas. Such mediums tend to develop a structure temporarily approximating the gel state. It is sometimes difficult to break these up except by prolonged agitation. Consistency may be adversely affected by failure to observe this precaution.

It is particularly recommended that this procedure be followed in consistency determinations in the 11590 medium. This vehicle is relatively non-reactive. It has a tendency, however, common to flats, to set up temporarily on storage. This condition yields to agitation.

The temperature is taken by complete immersion of the thermometer for a period of 30 sec. before readings are made. All samples are corrected to 23°C., this being the point selected for consistency determination. In cold weather the paints may be set near a steam coil to bring them up to temperature. In warm weather it is often necessary to use an ice bath to bring them down to temperature. A 1° variation is permissible but should be avoided if possible, especially in thick consistency paints.

Having the paint thoroughly mixed and at the correct temperature, the can is set on the small moveable platform on the viscometer. The set screw is loosened and the platform raised until the paddles are immersed in the paint

exactly to the indented lines on the blades. The platform is held in this position by means of a set screw.

The viscometer is set on the edge of a table so that the cord with the wire hook may run free of obstruction. Sufficient weights are hung on the cord to insure an even rotation of the wheel.

The time required for fifty rotations is noted by means of the small dial indication on the viscometer. This is clocked with a stop watch. This value is multiplied by two giving the time in seconds per hundred revolutions of the paddle.

The weights should be so adjusted that the number of seconds necessary for one hundred revolutions of the paddle fall between 26 and 36. Outside these limits the readings are not accurate. An arbitrary system designed to indicate a consistency range has been set up for use in conjunction with this operation. By referring to this chart the consistency of the paint is determined in units of thinness or thickness.

CARE OF VISCOMETER:

To insure constant efficient functioning of the instrument certain precautions must be taken. It must be kept clean at all times, all paint being removed from paddles and other removable parts. At least once a month the instrument should be completely taken apart, cleaned and oiled. At all times a 5 gram weight attached to the cord should be sufficient to induce motion of the wheel.

Exhibit 1226

Rm. 1823

October 3, 1932

Dr. G. W. Thompson, Chief Chemist
National Lead Company
Research Laboratories
Brooklyn, N. Y.

Dear Dr. Thompson:

Today, Mr. Phelps called me from Newark and asked my opinion as to where the seal ring should be installed on a calciner. He later turned the phone over to Mr. Hupt, as he apparently did not fully understand the engineering details of the calciner.

Mr. Hupt asked me whether the seal ring should be installed on the feed or on the discharge end of the calciner. I informed him that it should be on the discharge end, as a seal ring on the feed end was of doubtful value, and that a seal ring on both ends of the calciner was a little hazardous on account of the tendency of the calciner to move up and down.

Dr. G. W. Thompson, Chief Chemist

October 3, 1932

Mr. Hupt then asked me if I had designed the seal ring, or if Vulcan had. I told him that it was the result of a conference between Mr. Dickie and myself, Mr. Dickie doing practically all the work.

Later, Mr. Phelps called me again and told me that he had received bids on a new calciner 140' long, at a price

equivalent to .0455 cents and .0574 cents per pound. I told him that I considered anything below .05 cents a pound as a remarkably low price. I afterwards called him back and told him that our bid calls for .049 cents per pound, and that I considered it very low.

Yours very truly,

W. F. Washburn
Asst. General Manager

WFW:MCY

Exhibit 1227

Letterhead of

KREBS PIGMENT AND COLOR CORPORATION

November 3, 1932.

W. F. Washburn, Asst. General Mgr.,
Titanium Pigment Company, Inc.,
111 Broadway,
New York City, New York.

Dear Mr. Washburn:—

This will reply to your letter of October 27th, addressed to Mr. Phelps, who has been away from the office since the latter part of last week, and will express our appreciation of your suggestions.

In view of your possible interest in the Moore Filter, thought you would like to know how Mr. Evans is going ahead at Baltimore.

We have already been experimenting with Everdur bolts and installed them on some of the frames. Furthermore, we are constructing the main castings for our own design from Phosphor Bronze "C", which consists of 91.9% Cu, 7.8% Sn, and 0.3% P., using Everdur bolts and suspending the cast frames by monel strips. We have found that Phosphor Bronze is somewhat better than Everdur and castings of this material are just about as cheap. The bolts, however, are special, and expensive, which leads to the choice of Everdur bolts, with which we have already had some experience. The monel strips are used at the surface

of the water, as tests indicated monel resisted the surface effect best of all. Mr. Evans feels there may be some question as to using three metals, and possibly cause failure due to electrolysis, but this will be carefully watched.

If you will be interested in hearing how we come along, please call upon us and we will be glad to tell you of our experience.

Very truly yours,

H. RUPPRECHT,
PRESIDENT.

CHR:s

Exhibit 1228

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

November 28th, 1932

Mr. W. F. Washburn,
Titanium Pigments Company,
111 Broadway,
New York, N. Y.

Dear Mr. Washburn:

Sometime ago you inquired as to whether we had any information concerning the hydrolysis of cerium compounds. We have taken this up with our technical people and unfortunately the results of tests which have previously been made are not conclusive as to whether Cerium was precipitated along with the TiO2. This is particularly due to the difficulty in analyzing for small amounts of Cerium. Our technical people, however, looked over the literature on this subject and report as follows:

"We have looked into the literature briefly and find that ceric compounds hydrolyze in water to form basic compounds, but information has not as yet been uncovered concerning the influence of free acid on this hydrolysis. There is some indication that in the presence of free acid at concentrations within the range encountered in titanium liquors, the hydrolysis of ceric sulphate, for example, would not occur.

Exhibit 1228

"The behavior of ceric compounds is probably not to the point in the present connection, because it is not likely that the cerium would be present in the ceric form in the titanium liquor. Ceric cerium is reduced to the cerous condition by ferrous iron and therefore it follows that the cerium would be present in these liquors in the cerous form. We do not have any literature on the subject of hydrolysis of cerous compounds, but if it is fair to draw an analogy between the ease of hydrolysis of titanic titanium versus titanous titanium on the one hand, and cerous versus ceric cerium on the other hand, it would seem doubtful whether any appreciable hydrolysis of the cerium would occur in the titanium system, and on the basis of this reasoning one might expect to find that the raw pigment would not carry much cerium in terms of the amount present in the original titanium liquor."

I am sorry that we are unable to give you more definite information, however, this is all of the data which we have available.

Yours very truly,

KREBS PIGMENT & COLOR CORPORATION
Z. PHELPS
Z. PHELPS, Vice President

ZP:KW

Exhibit 1206a

Translated from French

September 18, 1933

Mr. Ch. Rupprecht
Krebs Pigment & Color Corporation
256 Vanderpool Street
New York, N. Y.

Dear Mr. Rupprecht:

To my great regret I am obliged to come back to the question of the exchange of technical information and patents because of the very confused situation which resulted due to the attitude taken by your company in denouncing the agreements which bound us with the Commercial Solvents Corporation.

In effect as it appears from our correspondence from the end of 1931 and the beginning of 1932, your department received at that time, all information in our possession relative to certain research and have filed four patent applications corresponding to those already filed by us in certain countries.

I insist upon those facts because at least one of these applications is a basic one opening an entirely new field of titanium rutile pigments. Without pre-judging the validity of the decision which your company has taken, I have to point out this particular situation and I will be very obliged if you will tell me how you intend to settle it.

Please accept the expression of my sentiments.

J. Blumenfeld

Exhibit 1206b

Translated from French

November 10, 1933

Mr. M. F. Chase
230 Park Avenue
New York

Dear Mr. Chase:

I am again forced to raise the question of the exchange of technical information with Krebs.

As you yourself recall, I had a conversation in your presence with Mr. Rupprecht on this subject. Mr. Rupprecht had assured me that he had encountered great difficulties with the du Pont Company, for a close collaboration, according to him, would be contrary to the principles of the du Pont Company. He told me that he was quite prepared to acquire some patents if the patents proved of interest to Krebs.

At that moment I did not have my files before me and I could not then discuss what had happened. Since I returned to Paris I have reviewed the whole files directly or indirectly, touching upon this question and in September I sent a letter to Mr. Rupprecht, of which you will find enclosed a copy. Mr. Rupprecht has answered my letter of which I also enclose a copy.

As you will see, the main argument of Mr. Rupprecht is found in the passage that I underlined in the copy which I enclose for you.

You will certainly agree with me as I answered Mr. Rupprecht, that that was not at all our conversation of August 18, 1931. This conversation covered several points and at that time, yourself, as well as Mr. Ticknor and myself, decided that it was a very important conversation, so

Exhibit 1206b

we decided to make a resume of this conversation of which certainly you have a copy and you will see on this copy that the first two paragraphs deal with the question of the exchange of technical information and patents and what is especially to be noted that the sense of this paragraph is just the opposite of that which Mr. Rupprecht stated in his letter.

On the other hand, it is as a consequence of this conversation that we decided that Mr. Rohden would go as soon as possible to the United States to place himself at the disposition of Krebs and so to insure technical collaboration, of which we spoke in the first paragraph, of the resume of the conversation of August 18.

I find myself now in a very disagreeable situation and before answering Mr. Rupprecht, in order to clear the matter, I thought it advisable to write to you and ask your counsel.

The attitude taken by Mr. Rupprecht has already put me in a very awkward situation with my friends who are working according to my process.

On the other hand I put great value on the patents covering rutile pigments that I consider as a basic patent and really I do not see the reason why I should put them at the disposal of Krebs if we receive nothing in exchange.

The manner in which Mr. Rupprecht has acted is more than objectionable and you will certainly agree with me that one cannot ask me to accept it.

I will then be very much obliged if you will give your attention to my letter and I await your response with the greatest interest.

Believe me, dear Mr. Chase, I send you my best wishes.

J. BLUMENFELD

Exhibit 122a

IMPERIAL CHEMICAL INDUSTRIES LIMITED

8th November, 1932

H. S. Tasker Esq.
Goodlass Wall and Lead Industries Limited
London House
3, New London Street
E.C.3

Dear Mr. Tasker:

I find it difficult to suggest a method by which the Brown & Klein patents can be dealt with before the new Company is formed and its Board is able to take a comprehensive view of the situation. My own influence in this matter will tend to decrease. Mr. Oliver Wilkins, who you may probably know by reputation as a man of very great pigment experience, will be our representative on the Board. I will send a copy of your letter to him immediately and discuss with him as soon as possible any suggestions which he might make. However, as any arrangement with Mr. Klein necessarily would be of a financial nature (e.g. an option payment) it would be necessary to carry the National Lead people with the British Associates. My suggestion is that the whole question should be discussed at the first Board meeting.

Undoubtedly the organization would be stronger for having the benefit of Mr. Klein's experience apart from the merits of his process.

With regard to the second proposal in your letter I am entirely in accord with the suggestion that the whole question of titanium ore supplies should be studied at an early

date, and in this connection Mr. R. S. Brown's knowledge will be invaluable. In this case again, however, I think it is for the Board of the new Company to build up its information and to form its own conclusion regarding the advisability of expanding at an early stage into the control of raw material supplies. My earlier suggestion that this might be considered was not put forward officially in any way, but merely as a suggestion of what might be done if circumstances should dictate.

In this connection you are probably aware that Dr. Jebsen is interested in ilmenite deposits in Norway so that he might not be very enthusiastic to proceed with an Empire scheme in the early stages. There is also another point to be considered. Would the Travancore Companies be more successful tied up to our Group than they would be when making sales to all titanium producers in a competitive manner? It may be that, in view of the DuPont interest in the other Travancore Company, any broad general move to consolidate the raw material position would have to await a more complete understanding between National Lead and DuPont.

I have just put down the above point to show that I personally have no definite ideas in my mind as to what should be done. The main objective is undoubtedly to get the most economical scheme possible for a manufacturing plant and I personally would not be in favour of adding unproductive capital to the Company until the vital necessity of so doing is apparent.

No doubt you have seen the announcement of National Titanium Pigments. I understand that their scheme is larger than we at first contemplated and I imagine that their capital expenses are being kept down to a very low figure.

Exhibit 122a

I hope to come along with Mr. Oliver Wilkins to the first Board meeting and it will be most interesting and satisfactory to discuss these matters with the immediate object of doing something.

Yours sincerely,

(Signed) L. J. BARLEY

P.S. I enclose an additional copy of this letter in case you sent a copy of yours to W.S.R. In that case, perhaps you would be good enough to send him my reply.

Exhibit 470

IN THE

District Court of the United States

FOR THE SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA *Plaintiff,* v. NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT NEMOURS & COMPANY, INC., *Defendants*	CIVIL No. 26-258

ANSWER OF NATIONAL LEAD COMPANY TO PLAINTIFF'S INTERROGATORIES

The defendant National Lead Company answers the plaintiff's interrogatories served September 28, 1944 as follows:

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

CHARLES F. KAEGEBEHN, being duly sworn, deposes and says that he is Manager of the Patent Department of National Lead Company and that he answers Interrogatory No. 1 as follows:

1. National Lead Company's subsidiary, Titanium Pigment Company, Inc., owned as assignee or had a right to use

as licensee, either exclusively or non-exclusively, the following United States or foreign patents or applications for letters patent relating to the manufacture or use of TiO_2 or TiO_2 composite pigments or products containing TiO_2, on or at any time prior to January 1, 1933:

I. U. S. Patents and Patent Applications

A. U. S. patents owned by Titanium Pigment Company, Inc., as assignee, on and prior to January 1, 1933:

Patent No.	*Date of Issue*	*Inventor*
1,080,718	Dec. 9, 1913	A. J. Rossi
1,080,721	Dec. 9, 1913	C. M. E. Schroeder
1,105,308	July 28, 1914	A. J. Rossi
1,106,406	Aug. 11, 1914	A. J. Rossi L. E. Barton
1,106,407	Aug. 11, 1914	A. J. Rossi L. E. Barton
1,106,408	Aug. 11, 1914	A. J. Rossi L. E. Barton
1,106,409	Aug. 11, 1914	A. J. Rossi L. E. Barton
1,106,410	Aug. 11, 1914	A. J. Rossi L. E. Barton
1,155,462	Oct. 5, 1915	L. E. Barton
1,166,547	Jan. 4, 1916	A. J. Rossi L. E. Barton
1,171,542	Feb. 15, 1916	A. J. Rossi L. E. Barton
1,179,394	Apr. 18, 1916	L. E. Barton
1,184,131	May 23, 1916	A. J. Rossi
1,189,229	July 4, 1916	L. E. Barton
1,196,029	Aug. 29, 1916	A. J. Rossi L. E. Barton
1,196,030	Aug. 29, 1916	A. J. Rossi L. E. Barton

Exhibit 470

Patent No.	*Date of Issue*	*Inventor*
1,196,031	Aug. 29, 1916	A. J. Rossi L. E. Barton
1,201,541	Oct. 17, 1916	L. E. Barton
1,205,144	Nov. 21, 1916	L. E. Barton
1,205,267	Nov. 21, 1916	A. J. Rossi C. M. E. Schroeder
1,205,268	Nov. 21, 1916	A. J. Rossi C. M. E. Schroeder
1,205,269	Nov. 21, 1916	A. J. Rossi C. M. E. Schroeder
1,206,796	Dec. 5, 1916	L. E. Barton
1,206,797	Dec. 5, 1916	L. E. Barton
1,206,798	Dec. 5, 1916	L. E. Barton
1,218,161	Mar. 6, 1917	L. E. Barton
1,223,356	Apr. 24, 1917	L. E. Barton
1,223,357	Apr. 24, 1917	L. E. Barton
1,223,358	Apr. 24, 1917	L. E. Barton
1,234,260	July 24, 1917	L. E. Barton
1,235,638	Aug. 7, 1917	L. E. Barton
1,236,367	Aug. 7, 1917	L. E. Barton
1,236,655	Aug. 14, 1917	L. E. Barton
1,240,405	Sept. 18, 1917	L. E. Barton
1,251,170	Dec. 25, 1917	L. E. Barton
1,272,855	July 16, 1918	A. J. Rossi
1,283,455	Nov. 5, 1918	L. E. Barton H. A. Gardner
1,286,916	Dec. 10, 1918	L. E. Barton H. A. Gardner
1,288,473	Dec. 24, 1918	L. E. Barton
1,313,874	Aug. 26, 1919	L. E. Barton
1,317,854	Oct. 7, 1919	L. E. Barton H. A. Gardner
1,322,518	Nov. 25, 1919	L. E. Barton
1,326,319	Dec. 30, 1919	L. E. Barton H. A. Gardner

Exhibit 470

Patent No.	*Date of Issue*	*Invertor*
1,338,473	Apr. 27, 1920	H. Wrigley H. Spence
1,348,843	Aug. 10, 1920	L. E. Barton
1,362,917	Dec. 21, 1920	L. E. Barton H. A. Gardner
1,365,882	Jan. 18, 1921	L. E. Barton H. A. Gardner
1,396,924	Nov. 15, 1921	H. H. Buckman
1,402,256	Jan. 3, 1922	H. H. Buckman
1,409,648	Mar. 14, 1922	L. E. Barton
1,410,056	Mar. 21, 1922	H. H. Buckman
1,411,839	Apr. 4, 1922	H. H. Buckman
1,429,841	Sept. 19, 1922	H. H. Buckman
1,436,164	Nov. 21, 1922	V. M. Goldschmidt
1,501,587	July 15, 1924	C. A. Doremus
1,680,316	Aug. 14, 1928	L. E. Barton L. W. Ryan
1,695,270	Dec. 18, 1928	L. E. Barton C. J. Kinzie
1,697,929	Jan. 8, 1929	L. W. Ryan
1,738,765	Dec. 10, 1929	F. Doerinckel L. Mehler
1,758,472	May 13, 1930	M. Schnetka
1,773,727	Aug. 26, 1930	P. Farup
1,820,987	Sept. 1, 1931	L. W. Ryan
1,820,988	Sept. 1, 1931	L. W. Ryan
1,831,852	Nov. 17, 1931	P. Farup
1,847,539	Mar. 1, 1932	A. H. Sabin
1,856,565	May 3, 1932	C. A. Klein R. S. Brown
1,889,027	Nov. 29, 1932	W. F. Washburn

B. U. S. patent applications owned by Titanium Pigment Company, Inc., as assignee on and prior to January 1, 1933:

Exhibit 470

Application Serial No.	*Date of Filing*	*Patent No. if any*	*Date of Issue*	*Applicant-Inventor*
115,106	June 10, 1926	Abandoned	July 9, 1929	
394,917	Sept. 24, 1929	1,906,729	May 2, 1933	W. F. Washburn et al.
394,918	Sept. 24, 1929	1,906,730	May 2, 1933	W. F. Washburn et al.
420,811	Jan. 14, 1930	Abandoned	Feb. 1933	
424,439	Jan. 29, 1930	Abandoned	Nov. 1932	
475,385	Aug. 14, 1930	Abandoned	Feb. 1935	
509,264	Jan. 16, 1931	Abandoned	Nov. 1932	
518,898	Feb. 27, 1931	Abandoned	Sept. 1934	
525,605	Mar. 26, 1931	Abandoned	Mar. 1933	
528,964	Apr. 9, 1931	Abandoned	Apr. 1933	
544,284	June 13, 1931	1,916,236	July 4, 1933	L. W. Ryan
555,529	Aug. 6, 1931	Abandoned	Jan. 1935	
569,264	Oct. 16, 1931	1,929,521	Oct. 10, 1935	L. W. Ryan et al.
572,439	Oct. 31, 1931	Abandoned	Feb. 1936	
576,198	Nov. 19, 1931	Abandoned	Nov. 9, 1932	
580,725	Dec. 12, 1931	Abandoned	Dec. 1932	
640,006	Oct. 28, 1932	Abandoned	June 1933	
640,007	Oct. 28, 1932	Abandoned	June 1933	
640,008	Oct. 28, 1932	Abandoned	Dec. 1935	
640,341	Oct. 29, 1932	1,969,061	Aug. 7, 1934	W. J. Cauwenberg
640,342	Oct. 29, 1932	Abandoned	Apr. 1934	
640,343	Oct. 29, 1932	1,957,528	May 8, 1934	W. J. Cauwenberg

Exhibit 470

C. U. S. patents exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. PATENTS OWNED BY TITAN COMPANY A/S

Patent No.	*Date of Issue*	*Inventor*
966,815	Aug. 9, 1910	P. Farup
1,087,575	Feb. 17, 1914	P. Farup
1,156,220	Oct. 12, 1915	P. Farup
1,276,644	Aug. 20, 1918	V. M. Goldschmidt
1,288,863	Dec. 24, 1918	M. Fladmark
1,317,164	Sept. 30, 1919	A. P. Jaeger
1,317,165	Sept. 30, 1919	A. P. Jaeger
1,325,561	Dec. 23, 1919	P. Farup
1,333,819	Mar. 16, 1920	G. Jebsen
1,333,849	Mar. 16, 1920	H. Olsen et al.
1,341,307	May 25, 1920	P. Farup
1,343,441	June 15, 1920	P. Farup
1,343,446	June 15, 1920	V. M Goldschmidt
1,343,447	June 15, 1920	V. M. Goldschmidt
1,343,468	June 15, 1920	R. Nielsen et al.
1,343,469	June 15, 1920	R. Nielsen et al.
1,348,129	July 27, 1920	V. M. Goldschmidt
1,360,737	Nov. 30, 1920	P. Farup
1,361,866	Dec. 14, 1920	G. Jebsen
1,361,867	Dec. 14, 1920	G. Jebsen
1,368,392	Feb. 15, 1921	P. Farup
1,389,191	Aug. 30, 1921	V. M. Goldschmidt
1,412,027	Apr. 4, 1922	W. F. Washburn
1,539,996	June 2, 1925	P. Farup
1,619,036	Mar. 1, 1927	A. J. Ravnestad
1,852,510	Apr. 5, 1932	P. Farup

2. PATENTS OWNED BY I. G. FARBENINDUSTRIE

Patent No.	*Date of Issue*	*Inventor*
1,813,649	July 7, 1931	P. Weise
1,816,388	July 28, 1931	A. Mittasch et al.

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Patent No.	*Date of Issue*	*Inventor*
1,849,153	Mar. 15, 1932	F. Raspe et al.
1,850,154	Mar. 22, 1932	F. Raspe et al.
1,850,286	Mar. 22, 1932	A. Mittasch et al.
1,878,013	Sept. 20, 1932	K. Staib
1,819,210	Dec. 13, 1932	H. Wolff
1,891,911	Dec. 27, 1932	J. Brode et al.

D. U. S. patent applications exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. PATENT APPLICATIONS OWNED BY TITAN COMPANY A/S

Application Serial No.	*Date of Filing*	*Patent No. if any*	*Date of Issue*	*Applicant-Inventor*
185,657	Apr. 21, 1927	1,919,425	July 25, 1933	P. Farup
185,659	Apr. 21, 1927	Abandoned	June 1932	
580,212	Dec. 10, 1931	Abandoned	Nov. 1932	

2. PATENT APPLICATIONS OWNED BY I. G. FARBINDUSTRIE

Application Serial No.	*Date of Filing*	*Patent No. if any*	*Date of Issue*	*Applicant-Inventor*
176,286	Mar. 17, 1927	Abandoned		
176,288	Mar. 17, 1927	Abandoned		
176,290	Mar. 17, 1927	Abandoned		
240,650	Dec. 16, 1927	Abandoned		
272,563	Apr. 28, 1928	Abandoned		
353,254	Apr. 6, 1929	Abandoned		
431,974	Feb. 27, 1930	Abandoned		
555,141	Aug. 4, 1931	Abandoned		
580,212	Dec. 10, 1931	Abandoned		
590,774	Feb. 3, 1932	2,068,294	Jan. 19, 1937	E. Korinth et al.

Exhibit 470

II. Foreign Patents and Patent Applications

A. Canadian patents owned by Titanium Pigment Company, Inc. as assignee on and prior to January 1, 1933:

Patent No.	*Date of Issue*
172,736	Oct. 24, 1916
178,261	July 17, 1917
178,262	July 17, 1917
178,263	July 17, 1917
179,281	Sept. 11, 1917
179,282	Sept. 11, 1917
179,283	Sept. 11, 1917
179,284	Sept. 11, 1917
182,752	Mar. 5, 1918
182,753	Mar. 5, 1918
191,178	June 24, 1919
191,179	June 24, 1919
191,180	June 24, 1919
191,181	June 24, 1919
231,297	May 22, 1923
242,164	Aug. 12, 1924
274,070	Sept. 20, 1927
280,396	May 22, 1928
285,502	Apr. 2, 1929
287,387	Dec. 19, 1929
288,502	Apr. 2, 1929
293,020	Sept. 10, 1929
294,177	Oct. 22, 1927
297,835	Feb. 25, 1931
299,992	May 6, 1930
314,890	Sept. 1, 1931
317,076	Nov. 10, 1931
317,077	Nov. 10, 1931

Exhibit 470

B. Canadian patents exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. PATENTS OWNED BY TITAN COMPANY A/S

Patent No.	*Date of Issue*
188,808	Feb. 25, 1919
201,703	July 6, 1920
201,704	July 6, 1920
Re. 221,526	July 25, 1922
201,705	July 6, 1920
201,706	July 6, 1920
201,707	July 6, 1920
201,708	July 6, 1920
201,709	July 6, 1920
201,710	July 6, 1920
201,711	July 6, 1920
201,712	July 6, 1920
201,713	July 6, 1920
201,714	July 6, 1920
201,715	July 6, 1920
201,716	July 6, 1920
201,717	July 6, 1920
201,718	July 6, 1920
201,719	July 6, 1920
225,981	Nov. 14, 1922
248,408	Mar. 31, 1925
296,929	Jan. 21, 1930
309,110	Mar. 3, 1931
320,439	Mar. 8. 1932

2. PATENTS OWNED BY TITAN CO. INC.

Patent No.	*Date of Issue*
328,339	Dec. 6, 1932

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3. PATENTS OWNED BY I. G. FARBENINDUSTRIE

Patent No.	*Date of Issue*
285,355	Dec. 4, 1928
301,199	June 17, 1930
301,200	June 17, 1930
314,219	Aug. 11, 1931

C. Canadian patent applications exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. PATENT APPLICATIONS OWNED BY TITAN COMPANY A/S

Serial No.	*Date of Filing*	*Patent No.*	*Date of Issue*
241,087	May 7, 1920	225,981	Nov. 14, 1922
384,569	Dec. 11, 1931	Abandoned	

2. PATENT APPLICATIONS OWNED BY I. G. FARBENINDUSTRIE

Application Serial No.	*Date of Filing*	*Patent No.*	*Date of Issue*
342,140	Oct. 8, 1928	Abandoned	
349,044	Apr. 8, 1929	Abandoned	
380,664	Aug. 26, 1931	Abandoned	
393,073	Sept. 29, 1932	339,670	Feb. 27, 1934

D. Newfoundland patents exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

Patent No.	*Date of Issue*
253	Nov. 28, 1917
258	Apr. 4, 1918

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Patent No.	*Date of Issue*
278	Nov. 11, 1918
283	Dec. 19, 1918
284	Dec. 18, 1918
285	Dec. 19, 1918
326	Feb. 14, 1920

E. Mexican patents exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

Patent No.	*Date of Issue*
19,396	Aug. 1, 1919

F. Brazilian patents owned by Titanium Pigment Company, Inc. on or prior to January 1, 1933:

Patent No.	*Date of Issue*
18,261	Mar. 11, 1930

G. Brazilian patents non-exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. By Titan Company A/S

Patent No.	*Date of Issue*
10,482	Aug. 31, 1917
10,483	Aug. 20, 1919
10,484	Aug. 20, 1919
12,009	June 20, 1921

H. Argentine patents owned by Titanium Pigment Company, Inc. on or prior to January 1, 1933:

Patent No.	*Date of Issue*
33,282	Apr. 8, 1930

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J. Argentine patents non-exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. By Titan Company A/S

Patent No.	*Date of Issue*
14,128	Dec. 28, 1917
14,477	Dec. 30, 1921
14,740	July 19, 1918
14,862	Aug. 20, 1918

K. Other foreign patents and patent applications owned by Titanium Pigment Co., Inc. on or prior to January 1, 1933:

1. *Great Britain*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
105,645	May 9, 1916
105,646	May 10, 1916
105,853	May 14, 1916
105,962	May 2, 1916
106,428	Nov. 22, 1916
106,584	Nov. 22, 1916
106,585	Nov. 22, 1916
108,693	June 15, 1916
108,805	Jan. 11, 1917
108,875	June 15, 1916
110,324	June 14, 1917
111,257	June 29, 1917
180,089	Feb. 28, 1921

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Patent No.	*Date of Issue*
206,809	Nov. 8, 1922
281,459	Nov. 9, 1926
288,569	Apr. 12, 1927
289,111	Nov. 17, 1926
308,723	Mar. 27, 1928
329,333	Nov. 12, 1928
364,112	Sept. 24, 1929
364,562	Sept. 24, 1929
370,088	Jan. 29, 1930
374,420	Jan. 14, 1930
387,720	Aug. 14, 1930
395,406	Jan. 16, 1931
399,183	Apr. 9, 1931
405,340	Aug. 6, 1931
408,215	Oct. 16, 1931
409,354	Oct. 31, 1931
410,749	Nov. 19, 1931
413,915	Oct. 29, 1932
415,602	Oct. 29, 1932
416,615	Oct. 28, 1932
417,699	Oct. 28, 1932
426,881	Oct. 28, 1932

b. Patent applications owned by Titanium Pigment Company, Inc. Ser. No. 28,948 of Nov. 16, 1926—Abandoned.

2. *France*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
481,721	May 11, 1916
481,722	May 11, 1916

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Patent No.	*Date of Issue*
482,699	Aug. 29, 1916
483,197	June 24, 1916
483,198	June 24, 1916
483,780	Dec. 12, 1916
483,781	Dec. 12, 1916
483,782	Dec. 12, 1916
485,975	May , 1917
533,866	Apr. 7, 1921
566,890	May 31, 1923
624,944	Nov. 22, 1926
624,945	Nov. 22, 1926
624,946	Nov. 22, 1926
652,357	Apr. 7, 1928
672,002	Mar. 25, 1929
672,003	Mar. 25, 1929
666,109	Dec. 20, 1928
704,044	Sept. 22, 1930
704,585	Sept. 22, 1930
709,953	Jan. 26, 1931
721,188	Aug. 10, 1931
722,035	Jan. 10, 1931
729,798	Jan. 15, 1932
732,219	Feb. 26, 1932
734,601	Apr. 4, 1932
740,890	Aug. 5, 1932
743,851	Oct. 10, 1932
744,617	Oct. 27, 1932
747,370	Dec. 10, 1932
748,714	Nov. 19, 1932

Exhibit 470

3. *Norway*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
28,673	
29,191	Mar. 2, 1918
29,194	Mar. 2, 1918
35,887	Mar. 18, 1921
40,481	June 5, 1923
45,513	Oct. 28, 1926
47,269	Nov. 26, 1928
47,530	Sept. 27, 1926
47,727	Mar. 26, 1929
47,728	Mar. 26, 1929
50,751	April 4, 1928
52,185	Sept. 18, 1930
52,186	Sept. 18, 1930
52,224	Jan. 8, 1931
52,225	Aug. 6, 1931
52,716	Jan. 23, 1931
53,171	Jan. 15, 1932
53,466	Oct. 11, 1932
55,058	Oct. 25, 1932

b. Patent applications owned by Titanium Pigment Company, Inc. Ser. No. 36,035 filed Sept. 27, 1926—Abandoned.

4. *Sweden*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
43,728	Prior to 1920
43,837	Prior to 1920

Patent No.	*Date of Issue*
44,896	Prior to 1920
45,386	Prior to 1920
45,387	Prior to 1920
46,581	Prior to 1920
56,548	Mar. 23, 1921
66,352	Nov. 8, 1926
70,868	Feb. 7, 1928

b. Patent applications owned by Titanium Pigment Company, Inc. Ser. No. 5,294/Dec. 7, 1928—Abandoned.

5. *Denmark*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
30,456	Oct. 4, 1922
41,799	Feb. 26, 1930

6. *Finland*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
13,998	Dec. 24, 1928

7. *Germany*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
399,690	Mar. 18, 1921
497,626	Nov. 17, 1926
516,314	Nov. 11, 1926
542,007	Mar. 16, 1929
542,341	Mar. 16, 1929
570,875	Jan. 28, 1931

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Patent No.	*Date of Issue*
571,387	Mar. 13, 1928
588,230	Sept. 23, 1930
588,446	Sept. 23, 1930
602,499	Sept. 23, 1930
604,311	Oct. 28, 1932
607,395	Aug. 2, 1931
610,117	Oct. 9, 1932

b. Patent applications owned by Titanium Pigment Company, Inc.

Ser. No. T. 32,629 filed Nov. 16, 1926—Abandoned
Ser. No. T. 36,018 filed Nov. 28, 1928—Abandoned
Ser. No. T. 93.30 filed Dec. 30, 1930—Abandoned
Ser. No. T. 40,042 filed Jan. 11, 1932—Abandoned
Ser. No. T. 40,295 filed Feb. —1932—Abandoned
Ser. No. T. 43,188 filed Oct. 25, 1933—

8. *Holland*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
11,137	Mar. 16, 1924
20,175	May 16, 1929
21,863	Apr. 17, 1930
23,311	Nov. 16, 1930
25,992	Dec. 16, 1931
27,331	June 16, 1932
29,514	Mar. 16, 1933

b. Patent applications owned by Titanium Pigment Company, Inc.

Ser. No. 44,144 filed Dec. 18, 1928—Abandoned
Ser. No. 35,168 filed Nov. 20, 1926—Abandoned

Exhibit 470

9. *Belgium*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
295,265	Mar. 30, 1921
337,705	Nov. 22, 1926
337,706	Nov. 22, 1926
337,707	Nov. 22, 1926
339,131	Nov. 22, 1926
350,408	Apr. 10, 1928
356,909	Dec. 26, 1928
359,277	Mar. 25, 1929
359,278	Mar. 25, 1929
373,617	Sept. 22, 1930
373,618	Sept. 22, 1930
376,414	Jan. 10, 1931
376,868	Jan. 27, 1931
381,873	Aug. 8, 1931
385,695	Jan. 15, 1932
387,571	Apr. 2, 1932
390,257	Aug. 5, 1932
391,522	Oct. 10, 1932
391,907	Oct. 27, 1932
392,999	Dec. 12, 1932

10. *Switzerland*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
139,175	Mar. 16, 1928
140,420	Dec. 13, 1928

Exhibit 470

11. *Italy*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
197,237	Mar. 31, 1921
254,774	Dec. 2, 1926
254,805	Dec. 9, 1926
255,007	Dec. 4, 1926
268,607	Apr. 11, 1928
278,860	Mar. 26, 1929
278,951	Mar. 26, 1929
280,791	Dec. 15, 1928
292,859	Sept. 23, 1930
295,579	Jan. 13, 1931,
296,005	Jan. 27, 1931
297,295	Sept. 23, 1930
307,945	Aug. 10, 1931
308,908	Aug. 5, 1932
309,791	Oct. 13, 1932
321,995	Dec. 10, 1932
473/249	

12. *Austria*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
91,173	July 15, 1922
111,241	June 15, 1928
113,110	Dec. 15, 1928
121,436	Apr. 15, 1929
123,793	Mar. 15, 1931

b. Patent applications owned by Titanium Pigment Company, Inc.

Ser. No. 72,540 filed Nov. 20, 1926—Abandoned

13. *Czechoslovakia*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
12,757	Dec. 15, 1923
28,664	Oct. 15, 1929
31,456	Oct. 15, 1929
34,295	July 15, 1930
36,167	Jan. 15, 1931
39,354	Dec. 15, 1931

b. Patent applications owned by Titanium Pigment Company, Inc.

Ser. No. P. 5,837 filed Nov. 22, 1926—Abandoned
Ser. No. 653 filed Jan. 28, 1929—Abandoned

14. *Poland*

a. Patent applications owned by Titanium Pigment Company, Inc.

Ser. No. 25,246 filed Dec. 22, 1928—Abandoned
Ser. No. 27,764 —Abandoned

15. *Hungary*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
85,218	Mar. 24, 1921

Exhibit 470

16. *Spain*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
77,912	July 11, 1921
106,364	Apr. 12, 1927
110,633	May 4, 1929
112,061	Mar. 27, 1928
112,062	Mar. 27, 1928
123,695	Sept. 5, 1931
123,746	Aug. 14, 1930

17. *Portugal*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
12,228	May 31, 1922
15,625	Aug. 12, 1929

18. *Irish Free State*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
10,696	Jan. 26, 1929
180,089	Feb. 28, 1921
206,809	Apr. 12, 1927
288,569	Apr. 12, 1927

19. *British India*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
7,165	July 4, 1921
15,361	Nov. 12, 1928

20. *Japan*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
45,241	Apr. 17, 1923
75,851	Dec. 9, 1927
94,271	Oct. 7, 1931
94,534	Oct. 9, 1931

b. Patent applications owned by Titanium Pigment Company, Inc.

Ser. No. 1,509 filed Feb. 8, 1929—Abandoned
Ser. No. 5-1929 filed Dec. 31, 1928—Abandoned

21. *Australia*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
225/31	Jan. 29, 1930
2,775	July 25, 1921
9,515	Oct. 16, 1931
12,371	Apr. 12, 1927
19,134	Mar. 27, 1928
19,766	Apr. 29, 1929
25,578	Mar. 27, 1928
29,173/30	Sept. 24, 1929
29,174/30	Sept. 24, 1929

22. *New Zealand*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
46,364	Aug. 9, 1921
60,291	Apr. 12, 1927
62,626	May 1, 1929
69,759	Oct. 16, 1931

Exhibit 470

23. *South Africa*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.	*Date of Issue*
671-21	July 8, 1921

CHARLES F. KAEGEBEHN

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

STATE OF NEW YORK
COUNTY OF NEW YORK } ss.:

JOHAN R. KNOFF, FRANKLIN L. KINGSBURY, and LOUIS E. BARTON, each being duly sworn, depose and say that said JOHAN R. KNOFF and said Franklin L. Kingsbury are research chemists of the Titanium Division of National Lead Company and that said Louis E. Barton is a director of Titanium Pigment Corporation, a subsidiary of National Lead Company, and that they answer Interrogatory No. 2 as follows:

2. The Titanium Pigment Company, Inc. on or prior to January 1, 1933 used the following United States or foreign patents or applications for Letters Patent in the manufacture of TiO_2 or TiO_2 composite pigments or products containing TiO_2:

Exhibit 470

1. United States Patents

A. Patents owned by Titanium Pigment Company, Inc.:

Patent No.
1,106,409
1,106,410
1,171,542
1,196,236
1,206,798
1,348,843
1,402,256
1,409,648
1,410,056
1,680,316
1,697,929
1,773,727
1,820,988
1,889,027
1,820,987

B. Patent applications owned by Titanium Pigment Company, Inc.:

(The following statement of use is made with respect only to those patent applications listed in answer to Interrogatory No. 1, Sec. I. B, which matured to letters patent.)

Application Serial No.	*Patent No.*
394,917	1,906,729
394,918	1,906,730
544,284	1,916,236

Exhibit 470

C. Patents exclusively licensed to Titanium Pigment Company, Inc.:

1. PATENTS OWNED BY TITAN COMPANY A/S

Patent No.
1,333,819
1,333,849
1,343,469
1,348,129
1,360,737
1,361,866
1,412,027

JOHAN R. KNOFF
FRANKLIN L. KINGSBURY
LOUIS E. BARTON

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

Exhibit 470

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

CHARLES F. KAEGEBEHN, being duly sworn, deposes and says that he answers Interrogatory No. 3 as follows:

3. National Lead Company now owns as assignee or has the right to use as licensee, either exclusively or non-exclusively, the following United States or foreign patents or applications for letters patent relating to the manufacture or use of TiO_2 or TiO_2 composite pigments or products containing TiO_2:

I. U. S. Patents and Patent Applications

A. U. S. patents now owned by National Lead Company as assignee:

Patent No.	*Date of Issue*	*Inventor*
1,680,316	Aug. 14, 1928	L. E. Barton et al.
1,695,270	Dec. 18, 1928	L. E. Barton et al.
1,697,929	Jan. 8, 1929	L. W. Ryan
1,738,765	Dec. 10, 1929	F. Doerinchel et al.
1,758,472	May 13, 1930	M. Schnetka
1,773,727	Aug. 26, 1930	P. Farup
1,820,987	Sept. 1, 1931	L. W. Ryan
1,820,988	Sept. 1, 1931	L. W. Ryan
1,831,852	Nov. 17, 1931	P. Farup
1,847,539	Mar. 1, 1932	A. H. Sabin
1,856,565	May 3, 1932	C. A. Klein et al
1,889,027	Nov. 29, 1932	W. F. Washburn
1,906,729	May 2, 1933	W. F. Washburn et al.
1,906,730	May 2, 1933	W. F. Washburn et al.
1,916,236	July 4, 1933	L. W. Ryan
1,929,521	Oct. 10, 1933	L. W. Ryan et al.
1,957,528	May 8, 1934	W. J. Cauwenberg

Exhibit 470

Patent No.	*Date of Issue*	*Inventor*
1,969,061	Aug. 7, 1934	W. J. Cauwenberg
2,034,923	Mar. 24, 1936	C. L. Schmidt
2,039,432	May 5, 1936	J. McCallum
2,055,222	Sept. 22, 1936	W. F. Washburn et al.
2,084,826	June 22, 1937	L. W. Ryan et al.
2,084,917	June 22, 1937	W. K. Nelson
2,084,918	June 22, 1937	W. K. Nelson
2,091,799	Aug. 31, 1937	P. Weise
2,098,278	Nov. 9, 1937	R. Dahlstrom et al
2,113,945	Apr. 12, 1938	W. W. Plechner et al.
2,113,946	Apr. 12, 1938	W. W. Plechner et al.
Re. 21,693		
2,130,560	Sept. 20, 1938	W. W. Plechner et al.
2,130,565	Sept. 20, 1938	C. L. Schmidt
2,132,491	Oct. 11, 1938	H. D. Mudford
2,133,251	Oct. 11, 1938	A. T. McCord
2,140,222	Dec. 13, 1938	H. Espenschied
2,148,283	Feb. 21, 1939	W. F. Washburn
2,154,130	Apr. 11, 1939	F. L. Kingsbury
2,166,082	July 11, 1939	W. F. Washburn et al.
2,167,626	Aug. 1, 1939	H. V. Alessandroni
2,167,627	Aug. 1, 1939	H. V. Alessandroni
2,167,628	Aug. 1, 1939	H. V. Alessandroni
2,170,800	Aug. 29, 1939	L. E. Barton
2,170,940	Aug. 29, 1939	R. Dahlstrom
2,176,875	Oct. 24, 1939	H. V. Alessandroni
2,176,876	Oct. 24, 1939	H. V. Alessandroni
2,176,877	Oct. 24, 1939	H. V. Alessandroni
2,184,938	Dec. 26, 1939	S. S. Cole
2,202,594	May 28, 1940	H. D. Mudford
2,211,828	Aug. 20, 1940	F. L. Kingsbury et al.
2,212,629	Aug. 27, 1940	H. V. Alessandroni
2,215,857	Sept. 24, 1940	W. W. Plechner et al.
2,215,866	Sept. 24, 1940	H. V. Alessandroni
2,222,385	Nov. 19, 1940	W. F. Washburn et al.
2,227,239	Dec. 31, 1940	H. A. Wieneke
2,234,681	Mar. 11, 1941	W. K. Nelson et al.
2,244,258	June 3, 1941	W. K. Nelson et al.

Exhibit 470

Patent No.	*Date of Issue*	*Inventor*
2,246,062	June 17, 1941	W. W. Plechner et al.
2,278,709	Apr. 7, 1942	W. H. Moran
2,280,795	Apr. 28, 1942	S. S. Cole et al.
2,285,485	June 9, 1942	J. Barksdale et al.
2,285,486	June 9, 1942	J. Barksdale et al.
2,285,894	June 9, 1942	A. O. Brooks
2,290,539	July 21, 1942	S. S. Cole
2,291,091	July 28, 1942	D. W. Robertson
2,291,082	July 28, 1942	J. M. Jarmus et al.
2,316,840	Apr. 20, 1943	S. S. Cole
2,316,841	Apr. 20, 1943	S. S. Cole
2,329,641	Sept. 14, 1943	W. G. Moran et al.
2,334,663	Nov. 16, 1943	J. B. Whitney
2,341,994	Feb. 15, 1944	F. L. Kingsbury et al.
2,344,265	Mar. 14, 1944	W. W. Plechner et al.
2,344,288	Mar. 14, 1944	R. Dahlstrom
2,344,319	Mar. 14, 1944	W. F. Meister
2,346,296	Apr. 11, 1944	H. Espenschied
2,346,320	Apr. 11, 1944	W. G. Moran
2,346,188	Apr. 11, 1944	D. W. Robertson
2,346,322	Apr. 11, 1944	W. K. Nelson

B. U. S. Patent applications now owned by National Lead Company as assignee:

Serial No.	*Filing Date*	*Applicant*
302,116	Oct. 31, 1939	D. W. Robertson et al.
364,986	Nov. 9, 1940	S. W. Martin
371,587	Dec. 24, 1940	R. Dahlstrom
391,098	Apr. 30, 1941	F. L. Kingsbury et al.
425,852	Jan. 7, 1942	F. L. Kingsbury et al.
440,982	Apr. 29, 1942	D. W. Robertson et al.
441,990	May 6, 1942	W. Grave et al.
453,300	Aug. 1, 1942	J. L. Turner et al.
454,185	Aug. 8, 1942	H. V. Alessandroni
454,187	Aug. 8, 1942	B. Freeman
454,191	Aug. 8, 1942	W. Y. Agnew
454,192	Aug. 8, 1942	W. Y. Agnew
454,193	Aug. 8, 1942	S. S. Cole et al.

Exhibit 470

Serial No.	*Filing Date*	*Applicant*
454,194	Aug. 8, 1942	W. Y. Agnew
457,971	Sept. 11, 1942	W. F. Meister
457,972	Sept. 11, 1942	S. S. Cole et al.
459,026	Sept. 19, 1942	C. W. Rau et al.
459,875	Sept. 25, 1942	J. Barksdale
489,576	June 3, 1943	F. L. Kingsbury et al.
497,368	Aug. 4, 1943	F. L. Kingsbury et al.
500,921	Sept. 2, 1943	W. Y. Agnew
505,082	Oct. 5, 1943	A. P. Honchar
526,130	Mar. 11, 1944	F. L. Kingsbury et al.
538,549	June 2, 1944	A. P. Honchar
539,332	June 8, 1944	J. M. O'Shaughnessy
539,375	June 8, 1944	W. Y. Agnew
546,903	July 27, 1944	J. Barksdale
555,902	Sept. 26, 1944	S. S. Cole et al.

C. U. S. patents now exclusively licensed to National Lead Company:

1. PATENTS OWNED BY TITAN COMPANY A/S

Patent No.	*Date of Issue*	*Inventor*
1,852,510	Apr. 5, 1932	P. Farup
1,919,425	July 25, 1933	P. Farup

2. PATENTS OWNED BY TITAN CO., INC.

Patent No.	*Date of Issue*	*Inventor*
2,055,221	Sept. 22, 1936	A. J. Ravnestad
2,111,460	Mar. 15, 1938	J. Rockstroh
2,121,215	June 21, 1938	P. Weise et al
2,130,554	Sept. 20, 1938	P. Lusseyran
2,139,686	Dec. 13, 1938	E. Lederle et al.
2,140,235	Dec. 13, 1938	E. Lederle et al.
2,140,236	Dec. 13, 1938	E. Lederle et al.
2,161,755	June 6, 1939	R. W. Ancrum
2,200,373	May 14, 1940	A. G. Oppegaard et al.

Exhibit 470

Patent No.	*Date of Issue*	*Inventor*
2,224,987	Dec. 17, 1940	F. Raspe et al.
2,242,320	May 20, 1941	G. F. New
2,246,030	June 17, 1941	R. W. Ancrum et al.
2,260,177	Oct. 21, 1941	H. Giese
2,303,305	Nov. 24, 1942	P. Tillmann et al.
2,303,306	Nov. 24, 1942	P. Tillmann et al.
2,303,307	Nov. 24, 1942	P. Tillmann et al.
2,339,793	Jan. 25, 1944	O. Moeklebust et al.
2,339,808	Jan. 25, 1944	A. J. Ravnestad et al.

3. PATENTS OWNED BY I. G. FARBENINDUSTRIE

Patent No.	*Date of Issue*	*Inventor*
1,813,649	July 7, 1931	P. Weise
1,816,388	July 28, 1931	A. Mittasch et al.
1,850,286	Mar. 22, 1932	A. Mittasch et al.
1,878,013	Sept. 20, 1932	K. Staib
1,891,210	Dec. 13, 1932	H. Wolff
1,891,911	Dec. 27, 1932	J. Brode et al.
1,995,580	Mar. 26, 1935	J. Rockstroh
2,068,294	Jan. 19, 1937	E. Korinth et al
2,118,916	May 31, 1938	J. Drucker
2,121,408	June 21, 1938	F. Raspe et al.
2,122,180	June 28, 1938	E. Lederle et al.
2,138,384	Nov. 29, 1938	G. Meder
2,144,577	Jan. 17, 1939	K. W. Petersen
2,158,520	May 16, 1939	O. Meyer
2,161,975	June 13, 1939	K. W. Petersen
2,187,821	Jan. 23, 1940	J. Nelles
2,280,223	Apr. 21, 1942	R. Dümpelmann et al.

4. PATENTS OWNED BY TITANGESELLSCHAFT

Patent No.	*Date of Issue*	*Inventor*
2,275,856	Mar. 10, 1942	E. Lederle

Exhibit 470

D. U. S. Patent Applications now exclusively licensed to National Lead Company:

1. PATENT APPLICATIONS OWNED BY TITAN CO., INC.

Serial No.	*Filing Date*	*Applicant*
439,077	Apr. 15, 1942	R. W. Ancrum
495,946	July 23, 1943	R. W. Ancrum
522,833	Feb. 17, 1943	R. W. Ancrum
522,845	Feb. 17, 1943	S. G. Tinsley

2. PATENT APPLICATIONS OWNED BY I. G. FARBENINDUSTRIE

Serial No.	*Filing Date*	*Applicant*
404,503	July 29, 1941	J. Heinen

E. U. S. patents now non-exclusively licensed by National Lead Company:

1. PATENTS OWNED BY E. I. DU PONT DE NEMOURS

Patent No.	*Date of Issue*	*Inventor*
1,649,496	Nov. 15, 1927	N. Sprecht
1,655,940	Jan. 10, 1928	J. D'Ans et al.
1,707,248	Apr. 2, 1929	J. Blumenfeld
1,707,257	Apr. 2, 1929	C. de Rohden
1,750,287	Mar. 11, 1930	N. Sprecht
1,758,528	May 13, 1930	A. Mecklenberg
Re. 18,790		
1,766,592	June 24, 1930	J. Blumenfeld

Exhibit 470

Patent No.	*Date of Issue*	*Inventor*
1,795,467	Mar. 10, 1931	J. Blumenfeld
Re. 18,854		
1,797,760	Mar. 24, 1931	C. de Rohden
1,827,691	Oct. 13, 1931	N. Sprecht
1,832,666	Nov. 17, 1931	N. Sprecht
1,845,633	Feb. 16, 1932	N. Sprecht
1,846,188	Feb. 23, 1932	C. de Rohden
1,851,487	Mar. 29, 1932	J. Blumenfeld
1,853,626	Apr. 12, 1932	K. Leuchs
Re. 19,594		
1,885,187	Nov. 1, 1932	C. de Rohden
1,885,921	Nov. 1, 1932	G. Kubin
1,885,934	Nov. 1, 1932	M. Meyer
1,892,693	Jan. 3, 1933	J. Blumenfeld
1,899,572	Feb. 28, 1933	P. Kubelka
1,899,573	Feb. 28, 1933	P. Kubelka
1,899,574	Feb. 28, 1933	P. Kubelka
1,902,203	Mar. 21, 1933	F. von Bichowsky
1,902,204	Mar. 21, 1933	F. von Bichowsky
1,915,393	June 27, 1933	F. von Bichowsky
1,922,816	Aug. 15, 1933	R. McKinney
1,931,380	Oct. 17, 1933	H. Haber
1,931,381	Oct. 17, 1933	H. Haber
1,937,037	Nov. 28, 1933	M. L. Hanahan
1,943,497	Jan. 16, 1934	F. von Bichowsky
1,975,339	Oct. 2, 1934	F. von Bichowsky
1,977,577	Oct. 16, 1934	C. C. Feagley
1,977,582	Oct. 16, 1934	M. L. Hanahan
2,006,342	July 2, 1935	J. E. Booge
2,018,955	Oct. 29, 1935	W. Heckert
2,026,862	Jan. 7, 1936	J. Blumenfeld
2,031,750	Feb. 25, 1936	F. von Bichowsky
2,044,941	June 23, 1936	M. L. Hanahan
2,044,942	June 23, 1936	W. Heckert
2,045,836	June 30, 1936	O. T. Coffelt
2,046,054	June 30, 1936	J. E. Booge
2,047,208	July 14, 1936	I. J. Krchma
2,049,504	Aug. 4, 1936	I. J. Krchma
2,062,133	Nov. 24, 1936	P. Kubelka

Exhibit 470

Patent No.	*Date of Issue*	*Inventor*
2,062,134	Nov. 24, 1936	P. Kubelka
2,062,137	Nov. 24, 1936	R. McKinney
Re. 21,427		
2,098,025	Nov. 2, 1937	J. E. Booge
2,098,026	Nov. 2, 1937	J. E. Booge
2,098,054	Nov. 2, 1937	F. H. McBerty
2,098,055	Nov. 2, 1937	F. H. McBerty
2,098,056	Nov. 2, 1937	F. H. McBerty
2,111,236	Mar. 15, 1938	R. W. Bale
2,111,788	Mar. 22, 1938	I. J. Krchma
2,112,966	Apr. 5, 1938	I. J. Krchma
2,113,380	Apr. 5, 1938	J. B. Nichols
2,125,340	Aug. 2, 1938	C. R. Hager
2,127,247	Aug. 16, 1938	D. H. Dawson
2,136,313	Nov. 8, 1938	G. D. Patterson
2,138,090	Nov. 29, 1938	O. T. Coffelt
2,138,118	Nov. 29, 1938	G. D. Patterson
2,149,329	Mar. 7, 1939	R. W. Bale
2,149,370	Mar. 7, 1939	C. E. Smith
2,150,235	Mar. 14, 1939	R. McKinney
2,150,236	Mar. 14, 1939	R. McKinney
2,151,331	Mar. 21, 1939	R. S. Roberts
2,151,339	Mar. 21, 1939	R. W. Sullivan
2,163,385	June 20, 1939	R. W. Sullivan
2,166,221	July 18, 1939	G. D. Patterson
2,166,257	July 18, 1939	J. Blumenfeld
2,177,250	Oct. 24, 1939	M. L. Hanahan
2,177,254	Oct. 24, 1939	W. W. Heckert
2,177,269	Oct. 24, 1939	R. W. Sullivan
2,180,961	Nov. 21, 1939	E. N. Kramer
2,183,365	Dec. 12, 1939	J. E. Booge
2,187,050	Jan. 16, 1940	G. D. Patterson
2,192,501	Mar. 5, 1940	R. McKinney
2,192,687	Mar. 5, 1940	R. L. McCleary
2,193,559	Mar. 12, 1940	J. L. Keats
2,193,563	Mar. 12, 1940	R. M. McKinney
2,197,953	Apr. 23, 1940	R. W. Sullivan
2,212,935	Aug. 27, 1940	M. L. Hanahan
2,213,542	Sept. 3, 1940	J. E. Booge

Exhibit 470

Patent No.	*Date of Issue*	*Inventor*
2,214,132	Sept. 10, 1940	C. R. Hager
2,214,815	Sept. 17, 1940	M. L. Hanahan
2,216,536	Oct. 1, 1940	W. H. Madson
2,216,879	Oct. 8, 1940	L. C. Eckels
2,216,889	Oct. 8, 1940	R. L. McCleary
2,218,655	Oct. 22, 1940	J. H. Peterson
2,218,704	Oct. 22, 1940	A. M. Erskine
2,219,129	Oct. 22, 1940	J. A. Geddes
2,220,952	Nov. 12, 1940	H. C. Brill
2,220,966	Nov. 12, 1940	I. J. Krchma
2,224,777	Dec. 10, 1940	J. E. Booge
2,226,142	Dec. 24, 1940	H. Schaumann
2,226,147	Dec. 24, 1940	J. B. Sutton
2,231,455	Feb. 11, 1941	H. H. Schaumann
2,231,456	Feb. 11, 1941	H. H. Schaumann
2,231,467	Feb. 11, 1941	M. L. Hanahan
2,231,468	Feb. 11, 1941	M. L. Hanahan
2,232,164	Feb. 11, 1941	H. K. Carter
2,232,168	Feb. 18, 1941	D. H. Dawson
2,232,723	Feb. 25, 1941	G. D. Patterson
2,233,358	Feb. 25, 1941	R. D. Nutting
2,237,764	Apr. 8, 1941	R. M. McKinney
2,253,551	Aug. 26, 1941	J. E. Booge
2,253,590	Aug. 26, 1941	R. W. Sullivan
2,253,595	Aug. 26, 1941	H. J. Wood
2,254,630	Sept. 2, 1941	R. W. Sullivan
2,257,278	Sept. 30, 1941	H. Schaumann
2,259,638	Oct. 21, 1941	W. Heckert
2,260,826	Oct. 28, 1941	J. E. Booge
2,260,871	Oct. 28, 1941	R. H. Sawyer
2,265,386	Dec. 9, 1941	F. H. McBerty
2,266,233	Dec. 16, 1941	R. L. McCleary
2,266,260	Dec. 16, 1941	J. H. Peterson
2,266,793	Dec. 23, 1941	C. F. Oppermann
2,269,139	Jan. 6, 1942	J. E. Booge
2,273,431	Feb. 17, 1942	J. E. Booge
2,274,521	Feb. 24, 1942	C. E. Berry
2,274,541	Feb. 24, 1942	M. G. Fontana et al.
2,280,590	Apr. 21, 1942	I. J. Krchma
2,280,619	Apr. 21, 1942	C. E. Berry

Exhibit 470

Patent No.	*Date of Issue*	*Inventor*
2,282,006	May 5, 1942	C. K. Sloan
2,282,303	May 12, 1942	J. O. Morrison
2,284,585	May 26, 1942	R. L. McCleary
2,284,772	June 2, 1942	G. R. Seidel
2,286,881	June 16, 1942	F. von Bichowsky
2,286,882	June 16, 1942	F. von Bichowsky
2,286,910	June 16, 1942	M. L. Hanahan
2,287,161	June 23, 1942	R. W. Ball
2,287,416	June 23, 1942	C. M. Dann
2,287,440	June 23, 1942	R. L. McCleary
2,293,861	Aug. 25, 1942	N. M. Stark
2,296,618	Sept. 22, 1942	M. L. Hanahan
2,296,636	Sept. 22, 1942	M. L. Hanahan
2,296,639	Sept. 22, 1942	M. L. Hanahan
2,301,412	Nov. 10, 1942	J. L. Keats et al.
2,304,110	Dec. 8, 1942	R. McKinney
2,305,368	Dec. 15, 1942	R. K. Whitten
2,307,048	Jan. 5, 1943	J. L. Keats
2,313,844	Mar. 16, 1943	R. W. Sullivan
2,321,490	June 8, 1943	J. L. Keats
2,319,824	May 25, 1943	C. M. Olson
2,326,592	Aug. 10, 1943	C. K. Wicker
2,331,496	Oct. 12, 1943	C. M. Olson
2,331,515	Oct. 12, 1943	R. W. Sullivan
2,337,162	Dec. 21, 1943	R. L. McCleary
2,337,215	Dec. 21, 1943	F. von Bichowsky
2,342,483	Feb. 22, 1944	C. M. Olson
2,345,980	Apr. 4, 1944	J. L. Keats
2,345,985	Apr. 4, 1944	R. McKinney
2,346,085	Apr. 4, 1944	R. H. Sawyer
2,346,091	Apr. 4, 1944	H. M. Stark
2,357,089	Aug. 29, 1944	W. H. Daiger et al.
2,357,101	Aug. 29, 1944	J. A. Geddes
2,358,167	Sept. 12, 1944	J. L. Keats

Exhibit 470

2. PATENTS OWNED BY INTERNATIONAL PULVERIZER CORP.

Patent No.	*Date of Issue*	*Inventor*
2,032,827	Mar. 3, 1936	N. H. Andrews
2,191,095	Feb. 20, 1940	A. C. Hobbie

3. PATENTS OWNED BY REDUCTION ENGINEERING CORP.

Patent No.	*Date of Issue*	*Inventor*
2,214,905	Sept. 17, 1940	C. H. Kidwell
2,219,011	Oct. 22, 1940	C. H. Kidwell
2,284,746	June 2, 1942	C. H. Kidwell

4. PATENTS OWNED BY LOUISVILLE DRYING MACHINERY CO.

Patent No.	*Date of Issue*	*Inventor*
2,090,177	Aug. 17, 1937	C. E. Bill

5. PATENTS OWNED BY OLIVER UNITED FILTERS, INC.

Patent No.	*Date of Issue*	*Inventor*
2,083,887	June 15, 1937	H. A. Weineke

6. PATENTS OWNED BY ABNER J. BARRETT

Patent No.	*Date of Issue*	*Inventor*
2,057,814	Oct. 20, 1936	A. J. Barrett

7. PATENTS OWNED BY I. G. FARBENINDUSTRIE

Patent No.	*Date of Issue*	*Inventor*
2,337,103	Dec. 21, 1943	W. Heimsoeth et al.

Exhibit 470

8. PATENTS OWNED BY HENRY A. GARDNER

Patent No.	*Date of Issue*	*Inventor*
2,037,322	Apr. 14, 1936	H. A. Gardner
2,037,323	Apr. 14, 1936	H. A. Gardner
2,155,539	Apr. 25, 1939	H. A. Gardner
2,172,505	Sept. 12, 1939	H. A. Gardner

F. U. S. Patent Applications now non-exclusively licensed to National Lead Company:

1. PATENT APPLICATIONS OWNED BY E. I. DU PONT DE NEMOURS

Serial No.	*Filing Date*	*Applicant*
302,850	Nov. 4, 1939	H. M. Stark
364,038	Nov. 2, 1940	J. E. Booge et al.
381,381	Mar. 1, 1941	R. M. McKinney
391,309	Apr. 30, 1941	H. Schaumann
391,313	Apr. 30, 1941	J. E. Booge
392,941	May 10, 1941	G. R. Seidel
408,071	Aug. 23, 1941	R. H. Sawyer
426,247	Jan. 9, 1942	C. M. Olson
426,248	Jan. 9, 1942	C. M. Olson et al.
426,249	Jan. 9, 1942	J. H. Peterson
426,250	Jan. 9, 1942	J. L. Keats et al.
426,251	Jan. 9, 1942	J. L. Keats
435,726	Mar. 21, 1942	J. H. Peterson
449,665	July 3, 1942	C. M. Olson
449,666	July 3, 1942	C. M. Olson
449,667	July 3, 1942	C. M. Olson
455,427	Aug. 20, 1942	F. H. McBerty
472,876	Jan. 19, 1943	C. M. Olson et al.
483,058	Apr. 14, 1943	L. F. Nerlinger
483,357	Apr. 16, 1943	I. J. Krchma
500,148	Aug. 26, 1943	J. L. Keats et al.
502,019	Sept. 11, 1943	R. M. McKinney
521,132	Feb. 4, 1944	J. E. Booge et al.

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Serial No.	*Filing Date*	*Applicant*
521,685	Feb. 9, 1944	J. H. Peterson
521,686	Feb. 9, 1944	J. H. Peterson
537,408	May 26, 1944	R. M. McAdam
537,409	May 26, 1944	R. M. McAdam
538,339	June 1, 1944	C. M. Olson
541,844	June 23, 1944	R. W. Sullivan
555,381	Oct. 5, 1944	R. L. McCleary

II. Foreign Patents and Patent Applications

A. Canadian patents now owned by National Lead Company as assignee:

Patent No.	*Date of Issue*
374,234	June 7, 1938
386,729	Feb. 6, 1940
399,516	Sept. 23, 1941

B. Brazilian patents and patent applications now non-exclusively licensed to National Lead Company:

1. Owned by Titan Co., Inc.

a. Patents owned by Titan Co., Inc.

Patent No.	*Date of Issue*
30,225	Nov. 28, 1942

b. Patent applications owned by Titan Co., Inc.

Ser. No. 28,082 filed Dec. 16, 1942

2. Owned by Titangesellschaft

a. Patents owned by Titangesellschaft

Patent No.	*Date of Issue*
23,136	Nov. 23, 1935
24,802	Sept. 9, 1937

b. Patent applications owned by Titangesellschaft

Ser. No. 20,555 filed Apr. 16, 1938

3. Owned by I. G. Farbenindustrie

a. Patents owned by I. G. Farbenindustrie

Patent No.	*Date of Issue*
23,170	Dec. 23, 1935

b. Patent applications owned by I. G. Farbenindustrie

Ser. No. 14,968 filed Mar. 9, 1935

C. Argentine patents and patent applications now non-exclusively licensed to National Lead Company:

1. Owned by Titangesellschaft

a. Patent applications owned by Titangesellschaft

Ser. No. 60,060 filed Apr. 8, 1938

2. Owned by I. G. Farbenindustrie

a. Patents owned by I. G. Farbenindustrie

Patent No.	*Date of Issue*
34,968	
42,278	Dec. 14, 1934
42,812	Apr. 24, 1935
46,022	Oct. 15, 1937

Exhibit 470

D. Chilian patents and patent applications now non-exclusively licensed to National Lead Company:

1. Owned by Titangesellschaft

a. Patent applications owned by Titangesellschaft

Ser. No. 87/38 filed Apr. 11, 1938

CHARLES F. KAEGEBEHN

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

Exhibit 470

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

ROY DAHLSTROM, being duly sworn, deposes and says that he is Assistant Director of Research and Technical Director of Plant Operations of the Titanium Division of National Lead Company and that he answers Interrogatory No. 4 as follows:

4. The answer to Interrogatory No. 4 is "Yes".

ROY DAHLSTROM

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

Exhibit 470

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

ROY DAHLSTROM, FRANKLIN L. KINGSBURY, and LOUIS E. BARTON, each being duly sworn, depose and say that they answer Interrogatories Nos. 5 and 6 as follows:

5. a. The patents or applications for letters patent which we are using or ever did use are as follows:

A. U. S. patents owned by National Lead Company

Patent No.
1,906,729
1,906,730
1,916,236
2,039,432
2,055,222
2,140,222
2,148,283
2,154,130
2,166,082
2,170,940
2,202,594
2,222,385
2,227,239
2,234,681
2,244,258
2,246,062
2,278,709
2,280,795
2,285,485
2,285,486
2,290,539

Exhibit 470

Patent No.
2,344,265
2,346,320
2,346,188
2,346,322
2,334,633

B. U. S. Patent applications owned by National Lead Company

Serial No.
364,986
425,852
505,082
538,549

C. U. S. patents exclusively licensed to National Lead Company

1. Patents owned by Titan Co. A/S

Patent No.
1,919,425

2. Patents owned by Titan Company, Inc.

Patent No.
2,121,215
2,140,236
2,161,755
2,224,987
2,260,177
2,303,305
2,303,306
2,303,307

Exhibit 470

3. Patents owned by I. G. Farbenindustrie

Patent No.
1,813,649

D. U. S. patents non-exclusively licensed to National Lead Company

1. Patents owned by E. I. du Pont de Nemours

Patent No.
1,707,248
1,795,467
Re. 18,854
1,851,487
1,885,921
1,892,693
1,937,037
2,044,941
2,046,054
2,047,208
2,111,788
2,150,235
2,151,339
2,163,385
2,187,050
2,192,501
2,214,815
2,218,704
2,220,952
2,224,777
2,232,168
2,253,595
2,254,630

Exhibit 470

Patent No.

2,259,638
2,280,590
2,296,636
2,296,639
2,305,368
2,342,483
2,357,089

2. Patents owned by International Pulverizer Corp.

Patent No.

2,032,827

3. Patents owned by Reduction Engineering Corp.

Patent No.

2,219,011
2,284,746

4. Patents owned by Louisville Drying Machinery Co.

Patent No.

2,090,177

5. Patents owned by Oliver United Filters, Inc.

Patent No.

2,083,887

6. Patents owned by Abner J. Barrett

Patent No.

2,057,814

Exhibit 470

7. Patents owned by Henry A. Gardner

Patent No.
2,037,322
2,037,323

E. U. S. patent applications now non-exclusively licensed to National Lead Co.

1. Patent applications owned by E. I. du Pont de Nemours

Serial No.
392,941
426,248
426,249
426,251
472,876
500,148

5. b. The answer to the second part of Question No. 5 is "some of them".

6. The use of patents or applications for letters patent which we own or under which we enjoy either exclusive or non-exclusive licenses terminated as follows:

A. U. S. patents owned by National Lead Company

Patent No.	*Approximate date of Termination of Use*
1,906,729	March 3, 1934
1,916,236.....	
2,039,432	November, 1933
2,154,130	April 19, 1937

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Patent No.	*Approximate date of Termination of Use*
2,170,940	October, 1938
2,234,681	March 21, 1939
2,244,258	March 21, 1939
2,246,062	September, 1937
2,346,188	November, 1941

B. U. S. patents non-exclusively licensed to National Lead Co.

1. Patents owned by E. I. du Pont de Nemours

Patent No.	*Approximate date of Termination of Use*
2,046,054	September, 1937
2,150,235	September, 1936
2,187,050	February, 1939
2,220,952	October 21, 1942
2,254,630	May 10, 1943
2,259,638	September, 1937

2. Patents owned by Louisville Drying Machinery Co.

Patent No.	*Approximate date of Termination of Use*
2,090,177	September, 1939

3. Patents owned by Abner J. Barrett

Patent No.	*Approximate date of Termination of Use*
2,057,814	May 10, 1940

Exhibit 470

4. Patents owned by Henry A. Gardner

Patent No.	*Approximate date of Termination of Use*
2,037,322	March 21, 1939
2,037,323	March 21, 1939

ROY DAHLSTROM

FRANKLIN L. KINGSBURY

LOUIS E. BARTON

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

Exhibit 470

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

CLAUDE F. GARESCHE, being duly sworn, deposes and says that he is Manager of the Titanium Division of National Lead Company and that he answers Interrogatory No. 7 as follows:

7. (a) The annual total production tonnage calculated as TiO_2 of Titanium Pigment Company from January 1, 1920 to June 30, 1944 was as follows:

1920	100*
1921	500*
1922	900*
1923	1001
1924	1142
1925	2386
1926	2304
1927	2342
1928	3485
1929	5510
1930	6284
1931	9767
1932	9729
1933	8445
1934	13264
1935	18483
1936	21215**

* Actual production figures not available. Above represent best estimate.
** Ten months to October 31, 1936.

(b) The annual total production tonnage calculated as TiO_2 of National Lead Company from January 1, 1920 to June 30, 1944 was as follows:

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1936	.....	4205***
1937	.....	28468
1938	.....	22789
1939	.....	38340
1940	.....	49984
1941	.....	64035
1942	.....	61621
1943	.....	61502
1944	Six Months to 6/30/44	37080

*** Months of November and December.

(c) The annual total production tonnage calculated as TiO_2 of Titan Company A/S from January 1, 1920 to June 30, 1944 cannot be supplied because, if any such figures are in existence, they are in Fredrikstad, Norway, and, therefore, not available.

CLAUDE F. GARESCHE

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

Exhibit 471

IN THE DISTRICT COURT OF THE UNITED STATES

FOR THE SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA, Plaintiff, v. NATIONAL LEAD COMPANY, TITAN COMPANY, INC., and E. I. DU PONT DE NEMOURS and COMPANY, INC., Defendants.	Civil No. 26-258

INTERROGATORIES TO THE DEFENDANT E. I. DU PONT DE NEMOURS & COMPANY

The United States of America submits the following interrogatories to the defendant E. I. du Pont de Nemours & Company in accordance with Rule 33 of the Federal Rules of Civil Procedure and requests the defendant named to answer said interrogatories as provided for in said Rule 33:

1. What United States or foreign patents or applications for letters patent, which relate in any way to the manufacture or use of TiO_2 or TiO_2 composite pigments, or products containing TiO_2, did your subsidiary, the Krebs Pigment & Color Corporation, own as assignee, or did it have a right to use as licensee, either exclusive or non-exclusive, on or at any time prior to January 1, 1933?

2. If your answer to Question No. 1 indicates that your subsidiary, the Krebs Pigment & Color Corporation, owned

or was licensed to use any United States or foreign patents or applications for letters patent, which of the patents or applications for letters patent were being used by your subsidiary, the Krebs Pigment & Color Corporation, on or prior to January 1, 1933, in the manufacture of TiO_2 or TiO_2 composite pigments or products containing TiO_2?

3. What United States or foreign patents or applications for letters patent which relate in any way to the manufacture or use of TiO_2 or TiO_2 composite pigments or products containing TiO_2 do you *now* own as assignee, or do you have a right to use as licensee, either exclusive or non-exclusive.

4. If your answer to Question No. 3 indicates that you own or have an interest in or are licensed to use any United States or foreign patents or applications for letters patent which relate in any way to the manufacture or use of TiO_2 or TiO_2 composite pigments or products containing TiO_2, have you ever used said patents or applications for letters patent in any phase of the conduct of your titanium business?

5. If your answer to Question No. 4 indicates that you are using or ever did use said patents or applications for letters patent in your titanium business, what are the numbers of said letters patent or applications for letters patent, and are you now using said patents or applications for letters patent?

6. If your answer to Questions Nos. 4 and 5 indicates that you used some of the patents or applications for letters patent which you owned or under which you enjoyed either

an exclusive or non-exclusive license but are not now using said patents or applications for letters patent, at what approximate time did such use terminate?

7. What was the annual total production tonnage calculated as TiO_2 of Commercial Pigments Corporation, Krebs Pigment & Color Corporation, and E. I. du Pont de Nemours & Company computed separately from January 1, 1928 to June 30, 1944?

.....

Attorney for Plaintiff.

PROOF OF SERVICE

A copy of the within interrogatory was served on the defendant by mailing a copy of the same to his attorneys, Cravath, Swaine & Moore, 15 Broad Street, New York, New York, on this .... day of September, 1944.

.....

Attorney for Plaintiff

Exhibit 472

IN THE

DISTRICT COURT OF THE UNITED STATES

FOR THE SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA, Plaintiff, v. NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, Defendants.	Civil No. 26-258

ANSWER TO INTERROGATORIES

Comes now E. I. du Pont de Nemours and Company, by James E. Booge, its Research Director, Pigments Division, and makes the following answers to interrogatories propounded to it in the above entitled case:

ANSWER TO INTERROGATORY No. 1:

(a) *U. S. Patents*

No.	Date
1,357,690	Nov. 2, 1920
1,489,183	Apr. 1, 1924
1,504,669	Aug. 12, 1924
1,504,670	Aug. 12, 1924
1,504,671	Aug. 12, 1924

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No.	Date
Re. 17,429	Sept. 10, 1929
Re. 17,430	Sept. 10, 1929
Re. 16,956	May 8, 1928
1,600,772	Sept. 21, 1926
1,600,773	Sept. 21, 1926
1,633,621	June 28, 1927
1,639,423	Aug. 16, 1927
1,649,496	Nov. 15, 1927
1,655,940	Jan. 10, 1928
1,707,248	Apr. 2, 1929
1,707,257	Apr. 2, 1929
1,709,999	Apr. 23, 1929
1,750,287	Mar. 11, 1930
1,766,592	June 24, 1930
1,797,760	Mar. 24, 1931
1,827,691	Oct. 13, 1931
1,832,666	Nov. 17, 1931
1,836,275	Dec. 15, 1931
1,845,633	Feb. 16, 1932
1,846,188	Feb. 23, 1932
1,851,487	Mar. 29, 1932
1,864,504	June 21, 1932
1,885,187	Nov. 1, 1932
1,885,921	Nov. 1, 1932
1,885,934	Nov. 1, 1932

(b) *U. S. Applications*

App. Serial No.	Filing Date	Name
2,233	Jan. 13, 1925	Blumenfeld, et al.
2,234	Jan. 13, 1925	Blumenfeld, et al.
129,865	Aug. 17, 1926	Specht

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App. Serial No.	Filing Date	Name
140,689	Oct. 9, 1926	O'Brien
247,466	Jan. 17, 1928	DeRohden
269,309	Apr. 11, 1928	D'Ans
317,487	Nov. 5, 1928	DeRohden
326,704	Dec. 17, 1928	DeRohden
452,810	May 15, 1930	Blumenfeld, et al.
452,811	May 15, 1930	Blumenfeld, et al.
531,945	Apr. 22, 1931	Hanahan
532,135	Apr. 22, 1931	Feagley
533,370	Apr. 27, 1931	McKinney
555,770	Aug. 7, 1931	Hanahan
561,026	Sept. 3, 1931	Haber, et al.
561,027	Sept. 3, 1931	Haber, et al.
592,656	Feb. 12, 1932	Kubelka
592,657	Feb. 12, 1932	Kubelka
592,658	Feb. 12, 1932	Kubelka
594,384	Feb. 20, 1932	Kubelka, et al.
Re. 604,861	Apr. 12, 1932	Mecklenberg
Re. 607,611	Apr. 26, 1932	Blumenfeld
617,577	June 16, 1932	Hanahan
688,655	Sept. 8, 1933	Kubelka, et al.

(c) *Foreign Patents and Applications:*

None.

Travancore Minerals Company, Ltd. of England owned a group of patents and applications known as the "Auer" patents and Krebs Pigment & Color Corporation was neither assignee of title thereto nor a licensee thereunder but, for a consideration of $3,500 paid in or about November 1932 to Travancore, such patents and patent application were held by Travancore

for the account of Krebs and were to be assigned or otherwise disposed of as Krebs might direct at any time in the future.

ANSWER TO INTERROGATORY No. 2:

(a) *U. S. Patents*

No.	Date
1,357,690	Nov. 2, 1920
1,489,183	Apr. 1, 1924
1,504,669	Aug. 12, 1924
1,600,772	Sept. 21, 1926
1,600,773	Sept. 21, 1926
1,633,621	June 28, 1927
1,707,248	Apr. 2, 1929
1,845,633	Feb. 16, 1932
1,851,487	Mar. 29, 1932
1,885,921	Nov. 1, 1932

(b) *U. S. Applications*

App. Serial No.	Filing Date	Name
2,233	Jan. 13, 1925	Blumenfeld, et al.
2,234	Jan. 13, 1925	Blumenfeld, et al.
247,466	Jan. 17, 1928	DeRohden
452,811	May 15, 1930	Blumenfeld, et al.
555,770	Aug. 7, 1931	Hanahan
Re. 604,861	Apr. 12, 1932	Mecklenberg
Re. 607,611	Apr. 26, 1932	Blumenfeld
617,577	June 16, 1932	Hanahan

(c) *Foreign Patents and Applications:*

None.

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ANSWER TO INTERROGATORY No. 3:

(a) *U. S. Patents*

No.	Date
1,649,496	Nov. 15, 1927
1,655,940	Jan. 10, 1928
1,680,316	Aug. 14, 1928
1,695,270	Dec. 18, 1928
1,697,929	Jan. 8, 1929
1,707,248	Apr. 2, 1929
1,707,257	Apr. 2, 1929
1,709,999	Apr. 23, 1929
1,738,765	Dec. 10, 1929
1,750,287	Mar. 11, 1930
Re.18,790	Apr. 4, 1933
Re.18,854	May 30, 1933
1,758,472	May 13, 1930
1,766,592	June 24, 1930
1,773,727	Aug. 26, 1930
1,797,760	Mar. 24, 1931
1,820,987	Sept. 1, 1931
1,820,988	Sept. 1, 1931
1,827,691	Oct. 13, 1931
1,831,852	Nov. 17, 1931
1,832,666	Nov. 17, 1931
1,836,275	Dec. 15, 1931
1,845,633	Feb. 16, 1932
1,846,188	Feb. 23, 1932
1,847,539	Mar. 1, 1932
1,851,487	Mar. 29, 1932
Re.19,594	May 28, 1935
1,852,510	Apr. 5, 1932
1,856,565	May 3, 1932

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No.	Date
1,864,504	June 21, 1932
1,885,187	Nov. 1, 1932
1,885,921	Nov. 1, 1932
1,885,934	Nov. 1, 1932
1,889,027	Nov. 29, 1932
1,892,693	Jan. 3, 1933
1,899,572	Feb. 28, 1933
1,899,573	Feb. 28, 1933
1,899,574	Feb. 28, 1933
1,902,203	Mar. 21, 1933
1,902,204	Mar. 21, 1933
1,906,729	May 2, 1933
1,906,730	May 2, 1933
1,915,393	June 27, 1933
1,916,236	July 4, 1933
1,919,425	July 25, 1933
1,922,816	Aug. 15, 1933
1,929,521	Oct. 10, 1933
1,931,380	Oct. 17, 1933
1,931,381	Oct. 17, 1933
1,937,037	Nov. 28, 1933
1,943,497	Jan. 16, 1934
1,957,528	May 8, 1934
1,969,061	Aug. 7, 1934
1,975,339	Oct. 2, 1934
1,977,577	Oct. 16, 1934
1,977,582	Oct. 16, 1934
2,006,342	July 2, 1935
2,018,955	Oct. 29, 1935
2,026,862	Jan. 7, 1936
2,031,750	Feb. 25, 1936
2,032,827	Mar. 3, 1936

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No.	Date
2,034,723	Mar. 24, 1936
2,039,432	May 5, 1936
2,044,941	June 23, 1936
2,044,942	June 23, 1936
2,045,836	June 30, 1936
2,046,054	June 30, 1936
2,047,208	July 14, 1936
2,049,504	Aug. 4, 1936
2,055,221	Sept. 22, 1936
2,055,222	Sept. 22, 1936
2,062,133	Nov. 24, 1936
2,062,134	Nov. 24, 1936
Re.21,427	Apr. 16, 1940
2,066,074	Dec. 29, 1936
2,084,826	June 22, 1937
2,084,917	June 22, 1937
2,084,918	June 22, 1937
2,091,799	Aug. 31, 1937
2,098,025	Nov. 2, 1937
2,098,026	Nov. 2, 1937
2,098,054	Nov. 2, 1937
2,098,055	Nov. 2, 1937
2,098,056	Nov. 2, 1937
2,098,278	Nov. 9, 1937
2,111,460	Mar. 15, 1938
2,111,788	Mar. 22, 1938
2,112,966	Apr. 5, 1938
2,113,380	Apr. 5, 1938
2,113,945	Apr. 12, 1938
Re.21,693	Jan. 14, 1941
2,117,860	May 17, 1938
2,118,916	May 31, 1938

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No.	Date
2,121,215	June 21, 1938
2,125,340	Aug. 2, 1938
2,125,342	Aug. 2, 1938
2,127,247	Aug. 16, 1938
2,130,554	Sept. 20, 1938
2,130,560	Sept. 20, 1938
2,130,565	Sept. 20, 1938
2,132,491	Oct. 11, 1938
2,133,251	Oct. 11, 1938
2,138,090	Nov. 29, 1938
2,138,118	Nov. 29, 1938
2,138,384	Dec. 8, 1938
2,139,686	Dec. 13, 1938
2,140,222	Dec. 13, 1938
2,140,236	Dec. 13, 1938
2,140,235	Dec. 13, 1938
2,144,577	Jan. 17, 1939
2,148,283	Feb. 21 1939
2,149,329	Mar. 7, 1939
2,149,370	Mar. 7, 1939
2,150,235	Mar. 14, 1939
2,150,236	Mar. 14, 1939
2,151,331	Mar. 21, 1939
2,151,339	Mar. 21, 1939
2,154,130	Apr. 11, 1939
2,159,055	May 23, 1939
2,161,755	June 6, 1939
2,161,975	June 13, 1939
2,163,385	June 20, 1939
2,166,082	July 11, 1939
2,166,221	July 18, 1939
2,166,257	July 18, 1939

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No.	Date
2,167,626	Aug. 1, 1939
2,167,627	Aug. 1, 1939
2,167,628	Aug. 1, 1939
2,170,800	Aug. 29, 1939
2,170,940	Aug. 29, 1939
2,176,875	Oct. 24, 1939
2,176,877	Oct. 24, 1939
2,177,250	Oct. 24, 1939
2,177,254	Oct. 24, 1939
2,177,269	Oct. 24, 1939
2,180,961	Nov. 21, 1939
2,183,365	Dec. 12, 1939
2,184,938	Dec. 26, 1939
2,187,050	Jan. 16, 1940
2,192,501	Mar. 5, 1940
2,192,687	Mar. 5, 1940
2,192,953	Mar. 12, 1940
2,192,954	Mar. 12, 1940
2,192,956	Mar. 12, 1940
2,193,559	Mar. 12, 1940
2,193,563	Mar. 12, 1940
2,197,953	Apr. 23, 1940
2,200,373	May 14, 1940
2,202,594	May 28, 1940
2,207,416	July 9, 1940
2,211,828	Aug. 20, 1940
2,212,629	Aug. 27, 1940
2,212,917	Aug. 27, 1940
2,212,935	Aug. 27, 1940
2,213,542	Sept. 3, 1940
2,214,132	Sept. 10, 1940
2,214,815	Sept. 17, 1940

Exhibit 472

No.	Date
2,215,857	Sept. 24, 1940
2,215,866	Sept. 24, 1940
2,216,536	Oct. 1, 1940
2,216,879	Oct. 8, 1940
2,216,889	Oct. 8, 1940
2,218,655	Oct. 22,1940
2,218,704	Oct. 22, 1940
2,219,129	Oct. 22, 1940
2,220,952	Nov. 12, 1940
2,220,966	Nov. 12, 1940
2,222,385	Nov. 19, 1940
2,224,727	Dec. 10, 1940
2,224,987	Dec. 17, 1940
2,226,142	Dec. 24, 1940
2,226,147	Dec. 24, 1940
2,227,239	Dec. 31, 1940
2,231,455	Feb. 11, 1941
2,231,456	Feb. 11, 1941
2,231,467	Feb. 11, 1941
2,231,468	Feb. 11, 1941
2,232,164	Feb. 18, 1941
2,232,168	Feb. 18, 1941
2,232,723	Feb. 25, 1941
2,233,358	Feb. 25, 1941
2,234,681	Mar. 11, 1941
2,237,764	Apr. 8, 1941
2,242,320	May 20, 1941
2,244,258	June 3, 1941
2,246,030	June 17, 1941
2,246,062	June 17, 1941
2,253,551	Aug. 26, 1941
2,253,590	Aug. 26, 1941

Exhibit 472

No.	Date
2,253,595	Aug. 26, 1941
2,254,630	Sept. 2, 1941
2,257,278	Sept. 30, 1941
2,259,638	Oct. 21, 1941
2,260,826	Oct. 28, 1941
2,260,871	Oct. 28, 1941
2,259,481	Oct. 21, 1941
2,259,482	Oct. 21, 1941
2,260,177	Oct. 21, 1941
2,265,386	Dec. 9, 1941
2,266,233	Dec. 16, 1941
2,266,260	Dec. 16, 1941
2,266,793	Dec. 23, 1941
2,269,139	Jan. 6, 1942
2,273,431	Feb. 17, 1942
2,274,521	Feb. 24, 1942
2,274,541	Feb. 24, 1942
2,275,856	Mar. 10, 1942
2,278,709	Apr. 7, 1942
2,280,590	Apr. 21, 1942
2,280,619	Apr. 21, 1942
2,280,795	Apr. 28, 1942
2,282,006	May 5, 1942
2,282,303	May 12, 1942
2,282,527	May 12, 1942
2,284,585	May 26, 1942
2,284,772	June 2, 1942
2,285,485	June 9, 1942
2,285,486	June 9, 1942
2,285,894	June 9, 1942

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No.	Date
2,286,881	June 16, 1942
2,286,882	June 16, 1942
2,286,910	June 16, 1942
2,287,161	June 23, 1942
2,287,416	June 23, 1942
2,287,440	June 23, 1942
2,290,539	July 21, 1942
2,291,082	July 28, 1942
2,291,091	July 28, 1942
2,293,861	Aug. 25, 1942
2,294,381	Sept. 1, 1942
2,294,394	Sept. 1, 1942
2,296,066	Sept. 15, 1942
2,296,618	Sept. 22, 1942
2,296,636	Sept. 22, 1942
2,296,637	Sept. 22, 1942
2,296,639	Sept. 22, 1942
2,301,412	Nov. 10, 1942
2,303,305	Nov. 24, 1942
2,303,306	Nov. 24, 1942
2,304,110	Dec. 8, 1942
2,305,368	Dec. 15, 1942
2,307,048	Jan. 5, 1943
2,313,844	Mar. 16, 1943
2,316,840	Apr. 20, 1943
2,316,841	Apr. 20, 1943
2,319,824	May 25, 1943
2,321,490	June 8, 1943
2,326,592	Aug. 10, 1943
2,329,641	Sept. 14, 1943
2,331,496	Oct. 12, 1943
2,331,515	Oct. 12, 1943

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No.	Date
2,334,663	Nov. 16, 1943
2,337,162	Dec. 21, 1943
2,337,215	Dec. 21, 1943
2,341,994	Feb. 15, 1944
2,342,483	Feb. 22, 1944
2,344,265	Mar. 14, 1944
2,344,288	Mar. 14, 1944
2,344,319	Mar. 14, 1944
2,345,980	Apr. 4, 1944
2,345,985	Apr. 4, 1944
2,346,085	Apr. 4, 1944
2,346,091	Apr. 4, 1944
2,346,188	Apr. 11, 1944
2,346,296	Apr. 11, 1944
2,346,320	Apr. 11, 1944
2,346,322	Apr. 11, 1944
2,357,089	Aug. 29, 1944
2,357,101	Aug. 29, 1944
2,358,167	Sept. 12, 1944

(b) *U. S. Applications*

App. Serial No.	Filing Date	Name
302,116	Oct. 31, 1939	D. W. Robertson, et al
302,850	Nov. 4, 1939	Henry M. Stark
364,038	Nov. 2, 1940	Booge & Stewart
364,986	Nov. 9, 1940	S. W. Martin
371,587	Dec. 24, 1940	R. Dahlstrom
376,288	Jan. 28, 1941	Fontana, Kidder and Kraus
381,381	Mar. 1, 1941	R. M. McKinney
391,098	Apr. 30, 1941	F. L. Kingsbury, et al.
391,313	Apr. 30, 1941	J. E. Booge
391,309	Apr. 30, 1941	H. H. Schaumann
392,941	May 10, 1941	G. R. Seidel

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App. Serial No.	Filing Date	Name
408,071	Aug. 23, 1941	R. H. Sawyer
425,852	Jan. 7, 1942	F. L. Kingsbury, et al
426,247	Jan. 9, 1942	C. M. Olson
426,248	Jan. 9, 1942	Olson & Booge
426,249	Jan. 9, 1942	J. H. Peterson
426,250	Jan. 9, 1942	Keats & Peterson
426,251	Jan. 9, 1942	J. L. Keats
435,726	Mar. 21, 1942	J. H. Peterson
440,982	Apr. 29, 1942	D. W. Robertson, et al
441,990	May 6, 1942	W. Grave, et al
449,665	July 3, 1942	C. M. Olson
449,666	July 3, 1942	C. M. Olson
449,667	July 3, 1942	C. M. Olson
453,300	Aug. 1, 1942	J. L. Turner, et al
454,185	Aug. 8, 1942	W. V. Alessandroni
454,187	Aug. 8, 1942	B. Freeman
454,191	Aug. 8, 1942	W. Y. Agnew
454,192	Aug. 8, 1942	W. Y. Agnew
454,193	Aug. 8, 1942	S. S. Cole, et al
454,194	Aug. 8, 1942	W. Y. Agnew
455,427	Aug. 20, 1942	F. M. McBerty
457,971	Sept. 11, 1942	W. F. Meister
457,972	Sept. 11, 1942	S. S. Cole, et al
459,026	Sept. 19, 1942	C. W. Rau, et al
459,875	Sept. 25, 1942	J. Barksdale
472,876	Jan. 19, 1943	Olson & Krchma
483,058	Apr. 14, 1943	L. F. Nerlinger
483,357	Apr. 16, 1943	I. J. Krchma
489,576	June 3, 1943	F. L. Kingsbury, et al
497,368	Aug. 4, 1943	F. L. Kingsbury, et al
500,148	Aug. 26, 1943	Keats & Stark
500,921	Sept. 2, 1943	W. Y. Agnew
502,019	Sept. 11, 1943	R. M. McKinney
505,082	Oct. 5, 1943	A. P. Honchar
521,132	Feb. 4, 1944	Booge & Seidel
521,685	Feb. 9, 1944	J. H. Peterson
521,686	Feb. 9, 1944	J. H. Peterson
526,130	Mar. 11, 1944	F. L. Kingsbury, et al
537,408	May 26, 1944	R. M. McAdam

Exhibit 472

App. Serial No.	Filing Date	Name
537,409	May 26, 1944	R. M. McAdam
538,339	June 1, 1944	C. M. Olson
538,549	June 2, 1944	A. P. Honchar
539,332	June 8, 1944	J. M. O'Shaughnessy
539,375	June 8, 1944	W. Y. Agnew
541,844	June 23, 1944	R. W. Sullivan
546,903	July 27, 1944	J. Barksdale
555,902	Sept. 26, 1944	S. S. Cole, et al
557,381	Oct. 5, 1944	R. L. McCleary

(c) *Foreign Patents and Applications:*

Country	Pat. No.	App. No.	Date
Canada	270,694		May 17, 1927
	294,148		Oct. 22, 1929
	295,259		Dec. 3, 1929
	302,793		Aug. 5, 1930
	364,796		Mar. 16, 1937
	374,540		June 21, 1938
	366,308		May 25, 1937
	366,309		May 25, 1937
	367,453		July 20, 1937
	369,627		Nov. 2, 1937
	377,396		Nov. 1, 1938
	378,406		Dec. 20, 1938
	378,933		Jan. 17, 1939
	390,014		July 16, 1940
	390,015		July 16, 1940
	390,016		July 16, 1940
	390,017		July 16, 1940
	390,812		Aug. 20, 1940
	398,999		Sept. 2, 1941
	399,319		Sept. 16, 1941
	401,782		Dec. 30, 1941
	401,798		Dec. 30, 1941
	401,832		Dec. 30, 1941
	406,197		July 21, 1942
	407,510		Sept. 22, 1942
	407,511		Sept. 22, 1942

Exhibit 472

Country	Pat. No.	App. No.	Date
Canada (Cont'd)	407,512		Sept. 22, 1942
	407,513		Sept. 22, 1942
	407,514		Sept. 22, 1942
	407,548		Sept. 22, 1942
	407,549		Sept. 22, 1942
	408,500		Nov. 10, 1942
	408,501		Nov. 10, 1942
	411,244		Mar. 23, 1943
	411,245		Mar. 23, 1943
	411,246		Mar. 23, 1943
	412,393		May 11, 1943
	415,165		Sept. 14, 1943
	415,166		Sept. 14, 1943
	417,195		Dec. 21, 1943
	418,851		Mar. 7, 1944
	418,852		Mar. 7, 1944
	418,853		Mar. 7, 1944
	418,854		Mar. 7, 1944
	418,855		Mar. 7, 1944
	418,856		Mar. 7, 1944
	420,203		May 16, 1944
	420,204		May 16, 1944
		462,320	Apr. 8, 1939
		470,010	Jan. 3, 1940
		473,928	May 18, 1940
		475,352	July 17, 1940
		475,353	July 17, 1940
		476,153	Aug. 20, 1940
		476,774	Sept. 19, 1940
		477,505	Oct. 22, 1940
		491,876	Apr. 22, 1942
		491,877	Apr. 22, 1942
		492,081	Apr. 29, 1942
		498,320	Dec. 17, 1942
		498,321	Dec. 17, 1942
		498,322	Dec. 17, 1942

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Country	Pat. No.	App. No.	Date
Gr. Britain	499,334		July 22, 1936
	500,012		
	508,530		
	515,293		Dec. 1, 1938
	517,913		
	519,785		
	525,472		Aug. 29, 1940
	530,877		June 21, 1939
	530,584		June 13, 1939
	534,538		Sept. 8, 1938
	558,285		Apr. 15, 1942
	560,050		June 26, 1942
	464,836		Apr. 26, 1937
		8782/42	June 26, 1942
		10895/42	Aug. 5, 1942
		13583/43	Aug. 20, 1943
		1824/43	Feb. 3, 1943
		1318/43	Jan. 26, 1943
		1319/43	Jan. 26, 1943
		Cert. of Filing #587	Jan. 12, 1943
		1320/43	Jan. 26, 1943
		3899/43	Mar. 10, 1943
		Br. App. corres. to Von Bichowsky U.S. Ser. No. 283,046, filed July 6, 1939	
Australia	104,175		Aug. 24, 1937
*Belgium	337,632		June 21, 1939
	431,429		Dec. 2, 1938
*France	844,855		
	846,975		
	850,881		
	856,691		Mar. 23, 1940

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Country	Pat. No.	App. No.	Date
*Germany	584,578		Mar. 15, 1929
	591,393		Mar. 13, 1931
		Ger. App. corres. to Booge U.S. Ser. No. 215,218	June 22, 1939
		Ger. App. corres. to Krchma U.S. Ser. No. 219,601	July 6, 1939
		Ger. App. corres to Heckert U.S. Ser. No. 19,168	Aug. 18, 1939
*Holland	50,404		Apr. 17, 1941
		Dutch App. corres. to McKinney U.S. Ser. No. 172,378	Oct. 11, 1938
		Dutch App. corres. to Booge U.S. Ser. No. 215,218	June 21, 1939
*Italy	374,795		June 16, 1939
	370,396		Apr. 15, 1939
*Japan	131,752		May 10, 1939
	131,755		May 10, 1939
	131,756		May 10, 1939
	135,159		May 29, 1940
	135,937		May 29, 1940
	140,046		Aug. 20, 1940
	140,764		Sept. 20, 1940
	141,888		Nov. 15, 1940
		Jap. App. corres. to Dawson, et al. U.S. Ser. No. 26,790	Aug. 5, 1938
		Jap. App. corres. to Whitten U.S. Ser. No. 166,943	Sept. 26, 1938

Exhibit 472

Country	Pat. No.	App. No.	Date
*Japan		Jap. App. corres. to Sullivan U.S. Ser. No. 166,564	Sept. 23, 1938
		Jap. App. corres. to McKinney U. S. Ser. No. 191,967	Feb. 23, 1939
		Jap. App. corres to Schaumann U. S. Ser. No. 228,403	Aug. 21, 1939
		Jap. App. corres. to Krchma U. S. Ser. No. 233,749	July 9, 1939

*The patents and applications indicated were owned by E. I. du Pont de Nemours and Company at the outbreak of war. The present status of such patents and patent applications cannot be determined. Presumably in most instances they have been expropriated by the enemy under retaliatory legislation or otherwise and it is very doubtful whether they can any longer be said to be owned by the company.

Exhibit 472

ANSWER TO INTERROGATORY No. 4:

Du Pont has used in the conduct of its titanium business some of the U. S. or foreign patents or applications listed in answer to interrogatory No. 3.

ANSWER TO INTERROGATORY No. 5:

(a) *U. S. Patents*

No.	Date
1,707,248	Apr. 2, 1929
Re. 18,790	Apr. 4, 1933
Re. 18,854	May 30, 1933
1,845,633	Feb. 16, 1932
1,851,487	Mar. 29, 1932
1,885,921	Nov. 1, 1932
1,889,027	Nov. 29, 1932
1,892,693	Jan. 3, 1933
1,937,037	Nov. 28, 1933
2,032,827	Mar. 3, 1936
2,044,941	June 23, 1936
2,046,054	June 30, 1936
2,047,208	July 14, 1936
2,062,134	Nov. 24, 1936
Re. 21,427	Apr. 16, 1940
2,111,788	Mar. 22, 1938
2,121,215	June 21, 1938
2,125,342	Aug. 2, 1938

Exhibit 472

No.	Date
2,148,283	Feb. 21, 1939
2,149,370	Mar. 7, 1939
2,150,235	Mar. 14, 1939
2,150,236	Mar. 14, 1939
2,151,339	Mar. 21, 1939
2,154,130	Apr. 11, 1939
2,161,755	June 6, 1939
2,163,385	June 20, 1939
2,166,082	July 11, 1939
2,180,961	Nov. 21, 1939
2,187,050	Jan. 16, 1940
2,192,501	Mar. 5, 1940
2,202,594	May 28, 1940
2,211,828	Aug. 20, 1940
2,212,935	Aug. 27, 1940
2,214,815	Sept. 17, 1940
2,216,536	Oct. 1, 1940
2,218,704	Oct. 22, 1940
2,220,952	Nov. 12, 1940
2,222,385	Nov. 19, 1940
2,224,777	Dec. 10, 1940
2,224,987	Dec. 17, 1940
2,226,142	Dec. 24, 1940
2,231,455	Feb. 11, 1941
2,231,456	Feb. 11, 1941
2,232,168	Feb. 18, 1941
2,246,062	June 17, 1941
2,253,551	Aug. 26, 1941
2,253,595	Aug. 26, 1941
2,254,630	Sept. 2, 1941
2,257,278	Sept. 30, 1941
2,259,638	Oct. 21, 1941
2,260,177	Oct. 21, 1941

Exhibit 472

No.	Date
2,273,431	Feb. 17, 1942
2,274,521	Feb. 24, 1942
2,278,709	Apr. 7, 1942
2,280,590	Apr. 21, 1942
2,280,619	Apr. 21, 1942
2,280,795	Apr. 28, 1942
2,284,585	May 26, 1942
2,305,368	Dec. 15, 1942
2,313,844	Mar. 16, 1943
2,341,994	Feb. 15, 1944
2,346,188	Apr. 11, 1944
2,346,320	Apr. 11, 1944
2,357,089	Aug. 29, 1944

(b) *U. S. Applications*

App. Serial No.	Filing Date	Name
364,986	Nov. 9, 1940	S. W. Martin
376,288	Jan. 28, 1941	Fontana, Kidder & Krauss
392,941	May 10, 1941	G. R. Seidel
426,247	Jan. 9, 1942	C. M. Olson
426,248	Jan. 9, 1942	Olson & Booge
426,249	Jan. 9, 1942	J. H. Peterson
455,427	Aug. 20, 1942	F. M. McBerty
472,876	Jan. 19, 1943	Olson & Krchma
483,357	Apr. 16, 1943	I. J. Krchma
489,576	June 3, 1943	F. L. Kingsbury, et al.
497,368	Aug. 4, 1943	F. L. Kingsbury, et al.
500,148	Aug. 26, 1943	Keats & Stark
505,082	Oct. 5, 1943	A. P. Honchar
521,132	Feb. 4, 1944	Booge & Seidel
537,409	May 26, 1944	R. M. McAdam
538,339	June 1, 1944	C. M. Olson
541,844	June 23, 1944	R. W. Sullivan

All of the foregoing patents and applications are now being used by du Pont except the following:

No.	Date
2,149,370	Mar. 7, 1939
2,150,236	Mar. 14, 1939
2,166,082	July 11, 1939
2,180,961	Nov. 21, 1939
2,187,050	Jan. 16, 1940
2,212,935	Aug. 27, 1940
2,232,168	Feb. 18, 1941
2,259,638	Oct. 21, 1941
2,273,431	Feb. 17, 1942
2,278,709	Apr. 7, 1942
2,280,590	Apr. 21, 1942

ANSWER TO INTERROGATORY No. 6:

The approximate time at which du Pont terminated its use of the patents and applications indicated in answer to interrogatory No. 5 and the involved patents and applications are as follows:

Pat. No.	Date When Use Was Discontinued
2,149,370	Jan. 1936
2,150,236	Sept. 1942
2,180,961	May 1940
2,187,050	June 1939
2,212,935	Jan. 1943
2,232,168	Aug. 1941
2,259,638	Oct. 1940
2,273,431	Dec. 1941
2,280,590	May 1940
2,166,082	Nov. 1936
2,278,709	May 1940

Exhibit 472

ANSWER TO INTERROGATORY No. 7:

The annual total production tonnage, calculated as TiO_2, of Krebs and du Pont, computed separately from January 1, 1928 to June 30, 1944, is as follows for the periods indicated:

(a) *Krebs Pigment & Color Corporation*

Period	Net Tons
5 Mos. 1931	825.4
1932	3,873.2
1933	5,511.0
1934	10,699.4
1935	20,027.8

(b) *E. I. du Pont de Nemours and Company*

Period	Net Tons
1936	25,185.9
1937	30,530.5
1938	27,633.6
1939	35,305.0
1940	42,354.9
1941	50,674.4
1942	44,383.1
1943	42,843.4
6 Mos. 1944	23,551.0

The information concerning production of Commercial Pigments cannot be found in available records or from other sources.

E. I. du PONT de NEMOURS AND COMPANY

By JAMES E. BOOGE
Research Director,
Pigments Division.

Exhibit 472

STATE OF DELAWARE
COUNTY OF NEW CASTLE } ss:

I, James E. Booge, being duly sworn, upon oath depose and say:

I am a Research Director, Pigments Division, of defendant, E. I. du Pont de Nemours and Company, and the person named in and who executed the foregoing. I have read over the foregoing answers to said interrogatories and am familiar therewith. Such answers are true, except that, where answers are made upon information and belief, the same are true to the best of my knowledge, information and belief.

JAMES E. BOOGE

SUBSCRIBED and sworn to before me this *20th* day of October, 1944.

ROBERT M. MCKINNEY
Notary Public

[NOTARIAL SEAL]

N. L. Exhibit 1

October 30, 1944

U.S. v. National Lead Company et al. (*Civil No. 26-258*)

The annexed statement concerning certain contracts was read today at the first confe ence of counsel (arranged by counsel for the Government as an informal pre-trial conference) with District Judge Rifkind, to whom the case has recently been assigned by Senior District Judge Knox for trial December 4. Counsel for the Government did not comment on the statement. The ribbon copy of the statement was left with Judge Rifkind and carbon copies were served on counsel for the Government and du Pont. Without commenting on the matter contained in the statement, Judge Rifkind directed that the statement be brought to his attention at the opening of the trial so that it might then be made part of the record.

B. M. Webster

N. L. Exhibit 1

IN THE

DISTRICT COURT OF THE UNITED STATES

FOR THE SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA, *Plaintiff*, *v.* NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS & COMPANY, INC., *Defendants.*	Civil No. 26-258

STATEMENT ON BEHALF OF NATIONAL LEAD COMPANY CONCERNING CERTAIN CONTRACTS REFERRED TO IN THE COMPLAINT

This conference, arranged by the Antitrust Division, offers the first opportunity we have had to inform the Court of certain actions taken and intended respecting contracts referred to in the complaint.

We initiated, and in February, March, and April 1943, had conversations with the Antitrust Division relating to a proposed consent decree. These were suggested by the Antitrust Division's investigation of the titanium pigments industry and antedated the indictment returned June 28, 1943. It was impossible to find a basis of agreement with the Antitrust Division and the conversations were terminated.

Thereafter the indictment (No. 114-455 in this District) was returned.

From before June 1943 to August 1944 we were in touch with representatives of the War and Navy Departments and had reason to believe that, owing to the war production of the company, the Services would not permit the case to be tried during the war. That this belief was well founded is attested by the fact that in about August 1944 the Secretary of War and the Secretary of the Navy did request the Attorney General to postpone the trial of the case because of probable serious interference with war production. This request was appealed to the President after his return from the Pacific war theatre, with the result that the Attorney General was sustained and authorized to proceed with the prosecution. Meanwhile, in the latter part of June 1944, the Antitrust Division had filed its civil complaint No. 26-258, alleging the same facts and causes of action as the indictment. Within a few days of the President's decision authorizing prosecution there was a conference with Judge Knox, by whom the civil case was set for trial before Judge Rifkind December 4. Trial of the indictment was put off indefinitely.

Following the consent decree discussions with the Antitrust Division in the spring of 1943, and believing that no case against the company would be tried during the war, there were conferences between us and the president of the company (Fletcher W. Rockwell) at which the Antitrust Division's objections to certain contracts were discussed and consideration was given to the position of the company in respect of performance of and compliance with the contracts pending trial. It was the position of the president that in view of the probable delay it would not be prudent,

and he did not desire, so far as it was practicable to avoid it, to permit the company to continue to operate in accordance with provisions which had been criticized by the Government; and we were instructed to protect the company against the possible charge that it had persisted in a course of action after the government's objections had been made known and, if possible, to take steps to revise the contracts in such a way as to meet the objections and at the same time avoid unnecessary sacrifice of the company's investments and other interests.

The basis of the Antitrust Division's criticism of the company, both in the indictment and in the complaint, is a contract made in 1920 between Titanium Pigment Company, Inc., and Titan Co. A/S, a Norwegian Company. This contract is referred to in Paragraph 40 of the complaint.

After the 1920 contract was made the Lead Company acquired all of Titanium Pigment Company and became the owner of 87% of the Norwegian company. This contract, containing certain restrictions objected to by the Antitrust Division, might have been terminated or relinquished in some way but for the fact that its terms had been carried over in part into contracts between the Lead Company and certain British companies and that in such British contracts certain provisions had been conditioned on the 1920 contract.

Because of the foregoing we concluded that we could best serve the Lead Company by formulating, and endeavoring to have the parties approve, a further agreement between the Lead Company and the British companies which would remove features of the British contracts criticized by the Antitrust Division and, in particular, provisions

based upon the existence and terms of the Norwegian contract of 1920. We are glad to report that substantial progress in this direction has been made and that we are prepared to submit now or at the opening of the trial in December a form of contract agreed to by our client and the British companies. We should add that, having achieved substantial agreement upon revision with the British, we have initiated similar discussions with the Canadians, to the end that we may avoid conduct and contractual arrangements heretofore criticized by the Antitrust Division.

The British contracts are mentioned in Paragraph 50 of the complaint. The Canadian contracts are referred to in Paragraph 72.

There are other contracts which contain terms based on the 1920 Norwegian contract but they are with German, French, and Japanese companies with whom we have no relations and which were terminated for all purposes by the war.

Consistent with the foregoing, we have thought that we should seek to terminate our clients' present contractual relations with the du Pont Company and substitute a simple form of contract under which the Lead Company and the du Pont Company would exchange merely non-exclusive licenses under existing titanium pigments patents. This has been discussed with the attorneys for du Pont, with the result that we hope soon to have ready for execution the new form of agreement.

We should add that on several occasions we have brought these matters to the attention of the Antitrust Division, describing in detail our intentions and steps taken The Antitrust Division has accepted our statements and

explanations without comment, except to say that the absence of comment should not be taken as approval.

October 30, 1944.

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N. L. Exhibit 2

APPENDIX

STATEMENT OF LOUIS E. BARTON

Abstracts of Patents

N. L. Exhibit 2

No. 1,106,406—dated August 11, 1914—Rossi and Barton

This was the first of the patents and covered a method for producing titanic oxide and the resulting titanic oxide product. The method consisted essentially in melting titaniferous ore together with an alkali and coke, treating the resultant melt with water to remove some of the soda salts, treating the remaining residue with acid so as to dissolve the titanium compounds and also the metallic iron constituent. The reaction between titanium, iron and acid is such as to produce a solution containing a titanous salt. Thereafter the bath is treated with suitable oxidizing agents and treated to precipitate a titanic compound. The titanic compound is then calcined to produce titanic oxide.

No. 1,106,407—dated August 11, 1914—Rossi and Barton

This is in some respects similar to the first patent except that the melt is so conducted as to temperature that the iron is concentrated and withdrawn largely in a metallic state. That portion of the melt remaining after withdrawing the iron is then treated with water to extract alkali salts. The residue then is treated with acid so diluted as to dissolve the remaining impurities, such as iron, without dissolving the titanic acid. The titanic acid is finally washed with water, dried and calcined to produce titanic oxide.

No. 1,106,408—dated August 11, 1914—Rossi and Barton

The process covered by this patent consists essentially in fusing titaniferous ore with alkali, causing the ores to decompose and their constituents to become more readily separable. The resulting melt is then treated with hot water to remove the alkali salts, and the residue is then

treated with acid to dissolve the iron and other impurities. The strength of the acid is so adjusted that it will not dissolve the appreciable amounts of titanic acid. The residue of titanic acid is washed with water, dried and calcined to produce titanic oxide.

No. 1,106,409—dated August 11, 1914—Rossi and Barton

This method comprises fusing titaniferous ores with alkali sulphide and the iron contained in such ores is converted into a more readily soluble form, namely, a ferro-sodium sulphide. The resulting melt is then treated with water to dissolve the alkali and iron compounds. The residue then remaining is treated with dilute acid to dissolve as far as possible the remaining impurities and leave a residue of titanic acid, which is then calcined to yield a substantially pure titanic oxide.

No. 1,106,410—dated August 11, 1914—Rossi and Barton

This consists of a process of fusing titaniferous ore with alkali sulphate and a reducing agent such as coke. The iron is converted into a more readily soluble form, such as ferro-sodium sulphide. The resulting melt is first treated with water to remove sodium and iron compounds and then the remaining residue is treated with acid to dissolve as far as possible the remaining impurities, leaving a residue of titanic acid which is calcined to yield titanic oxide.

No. 1,155,462—dated October 5, 1915 (reissued April 24, 1917, No. 14,289)—Barton

This patent covers a composite titanic oxide pigment and the method of producing same. The method consists essentially in treating a titanic sulphate solution by adding

a soluble salt such as calcium chloride capable of forming, by reaction, an insoluble sulphate and then digesting or heating the solution to precipitate titanic acid. The resulting precipitate is separated from the solution, dried and calcined to form a composite titanium pigment product.

No. 1,166,547—dated January 4, 1916—Rossi and Barton

This process consists essentially in melting a titaniferous ore with an alkaline compound and treating the resulting melt with hydrochloric acid so proportioned as to dissolve the alkali and iron compounds, then adding more water and finally separating the remaining residue of titanic acid from the dissolved impurities. The titanic acid thus separated is calcined to produce titanic oxide.

No. 1,171,542—dated February 15, 1916—Rossi and Barton

(Covering a process of concentrating titanic oxide and the resulting titanic oxide product.) The method consists essentially in melting titaniferous ores in the presence of an alkali sulphide or with a mixture of ore, sodium sulphate and carbon and treating the resulting melt with acid so diluted as to dissolve the iron and other impurities rather than the titanium compounds. The remaining undissolved residue is washed and dried and in that form is found to be particularly useful as a starting point in the manufacture of more highly refined titanium products.

No. 1,179,394—dated February 15, 1916—Barton

Covers a process of making titanium tetrachloride. A titanium material such as rutile or a titanium oxide concentrate produced by such methods as before described is mixed

with a carbonaceous material such as soft coal and then heated to form a cake or cinder containing highly dispersed particles of titanic oxide. The cinder is then treated with chlorine in an externally heated closed container to form and distill off titanium tetrachloride.

No. 1,189,229—dated July 4, 1916—Barton

This patent covers a titanic oxide product and method for its production. The method consists essentially in adding to a titanic sulphate solution a compound which by reaction will precipitate sulphate particles such as calcium chloride. The resulting sulphate precipitate is separated from the solution and the solution is then heated to precipitate titanic acid. The precipitated titanic acid is then separated, washed to free it from impurities, dried and calcined to produce the titanic oxide product.

No. 1,196,029—dated August 29, 1916—Rossi and Barton

Covering a process for heating titaniferous ore with a reducing agent, such as coke, until the titanic oxide has been reduced to titanous oxide, then dissolving the resulting titanous oxide in sulphuric acid and heating the solution after suitable dilution to precipitate the titanic compound, the precipitation being accelerated if necessary by addition of an oxidizing agent such as nitric acid. Under these conditions the titanic acid is associated with sulphuric anhydride and combined water in the form of a basic titanic sulphate.

No. 1,196,030—dated August 29, 1916—Rossi and Barton

Covering a process of preparing a titanium basic sulphate. A titaniferous material such as ilmenite or a titanic

oxide concentrate obtainable, for instance, according to the methods of patents 1,106,409 and 1,106,410 is heated with concentrated sulphuric acid. After reaction the resulting digestion mass is dissolved in water and separated from any undissolved residue. Ferric iron in solution is reduced to the ferrous state the reduction conveniently accomplished in an electrolytic cell, continued until a little of the titanium is in the titanous condition. The solution is then boiled to precipitate the titanium basic sulphate.

No. 1,196,031—dated August 29, 1916—Rossi and Barton

Referring to a basic titanic sulphate product such as is obtainable by the process last above described and also by means of other processes recorded in the specification. The basic titanic sulphate product is characterized as containing a preponderance of titanic oxide, less combined water than titanic oxide, and less sulphuric anhydride than combined water.

No. 1,201,541—dated October 17, 1916—Barton

The process covered by this patent consists essentially of melting the titaniferous ore in the presence of an alkali sulphide and treating the resulting melt with chlorine in the presence of water. The action of the chlorine is to oxidize and dissolve iron sulphide and this process has the advantage of oxidizing and dissolving the iron compound and the alkali sulphide constituents without the evolution of hydrogen sulphide gas.

No. 1,205,144—dated November 21, 1916—Barton

This covers the method of producing a composite titanic oxide precipitate consisting essentially of sulphate particles

coalesced with basic titanic sulphate. This patent also covers the product of this description. The method consists essentially of adding to a titanic sulphate solution a base which will form, by reaction with the solution, an insoluble sulphate and then heating the solution to precipitate basic titanic sulphate. The resulting precipitated product is filtered out, washed and dried, and then the dried product may be calcined to produce a composite titanic oxide pigment.

No. 1,206,796—dated December 5, 1916—Barton

This patent is an improvement upon the process developed by Dr. Rossi and Mr. Barton which dealt with the production of titanic acid products by melting titaniferous ore in alkali sulphide. The improvement consists of changing the temperature of furnace operation so that the essential chemical reactions take place without fusion.

No. 1,206,797—dated December 5, 1916—Barton

This is also an improvement patent which consists of treating the sulphide melt described in several of the former patents in a bath containing sulphurous acid whereby iron and other impurities are dissolved and the sulphide decomposed without formation of hydrogen sulphide gas.

No. 1,206,798—dated December 5, 1916—Barton

This is an improvement patent and is based upon the discovery that if sulphide melts are properly proportioned, and the furnace properly controlled, the melt can be separated into two layers, one containing the greater part of the titanic acid constituents and the other containing the greater part of the iron constituents. Thus by separating these two

layers a large part of the impurity which the titanic oxide in the original ore contained is mechanically separated.

No. 1,218,161—March 6, 1917—Barton

This patent covers a composite pigment comprising a composite titanium dioxide pigment, for example, titanium dioxide-barium sulphate composite pigment mixed with white lead, and paints containing this pigmentary mixture.

No. 1,223,356—dated April 24, 1917—Barton

This covers a titanic oxide product and the method for producing it. The method consists essentially in dissolving titanium tetrachloride in water, adding sulphuric acid and distilling the remaining hydrochloric acid formed by the resulting reaction, then calcining the final residual product to obtain the titanic oxide product.

No. 1,223,357—dated April 24, 1917—Barton

This covers composite titanic oxide pigments and the method of producing them. The method consists essentially in suspending particles of so-called "extender pigments" in a titanic sulphate solution, then electrolyzing the solution and heating the solution to precipitate upon and into coalescence with the suspended particles a basic titanic sulphate. The resulting composite precipitate is calcined to produce a composite titanic oxide pigment product.

No. 1,223,358—dated April 24, 1917—Barton

This covers the method of treating a titanic solution by electrolyzing it and meanwhile heating it to precipitate a titanium compound. The basic titanic sulphate may be calcined to produce a titanic oxide product.

N. L. Exhibit 2

No. 1,234,260—dated July 24, 1917—Barton

The patent discloses a method of making composite pigment which consists in adding an extender pigment as such to a titanium salt solution, either titanium chloride or titanium sulphate, or forming the extender, in situ, in the titanium sulphate solution. There is added an alkaline reacting agent, for instance, lime, to neutralize the titanium solution thereby precipitating orthotitanic acid upon the extender. The composite precipitate of extender particles and orthotitanic acid is then calcined to obtain the composite pigment.

No. 1,235,638—dated August 7, 1917—Barton

The patent discloses a method for making relatively pure titanic oxide. A titanium solution, for instance, a titanium sulphate or chloride solution, is placed in the cathode (negative) compartment of an electrolytic cell provided with a diaphragm which separates the cell into a cathode (negative) compartment and an anode (positive) compartment. A sulphuric acid solution is placed in the anode compartment. The titanium solution in the cathode compartment was maintained at a temperature of 95°C. whereupon basic titanic sulphate is precipitated in the cathode compartment. The basic titanic sulphate separated from the cathode compartment is calcined at temperatures of about 750°C.

No. 1,236,367—dated August 7, 1917—Barton and Gardner

This is a "use" patent and covers linoleum containing titanium pigments.

N. L. Exhibit 2

No. 1,236,655—dated August 14, 1917—Barton

The patent is directed specifically to the preparation of composite titanium dioxide-barium sulphate pigment. A titanium sulphate solution is treated with barium chloride whereby barium sulphate is formed, in situ. The mixture is then hasted to precipitate on the barium sulphate so formed, basic titanic sulphate which is precipitated along with the barium sulphate. The composite precipitated is washed, dried and calcined to obtain the titanium dioxide-barium sulphate composite pigment.

No. 1,240,405—dated September 18, 1917—Barton

This patent is a division of Patent No. 1,234,260 above summarized. Both of these patents stem from one application, Serial No. 40,639 filed July 19, 1915. This patent describes the same method of producing composite pigments as set forth in the companion patent, No. 1,234,260, but its claims cover specifically the method as applied to addition of previously formed extender pigment to a titanium solution followed by the addition of an alkaline agent to precipitate orthotitanic acid on the extender pigment. The resulting composite precipitate is washed, dried and calcined.

No. 1,251,170—dated December 25, 1917—Barton

The patent describes the preparation of pigments and paints containing titanium dioxide. Specifically it discloses the intimate, mechanical admixture of an extender pigment, for instance, barytes (barium sulphate) silica, gypsum, etc., with a titanic oxide pigment, either the relatively pure titanic oxide or a composite titanic oxide pigment. The patent further describes the incorporation of such mechanically mixed pigment with the vehicle to form a paint.

N. L. Exhibit 2

No. 1,283,455—dated November 5, 1918—Barton and Gardner

A "use" patent covering inks, particularly printing inks containing a titanic oxide pigment.

No. 1,286,916—dated December 10, 1918—Barton and Gardner

The patent discloses a method for making lake pigment by precipitating an organic coloring matter (Dye-stuff) on titanic oxide. The titanic oxide pigment, either the pure oxide or composite pigment is suspended in a solution of the organic dye which is stirred and maintained at a slightly elevated temperature to precipitate the organic coloring matter on the white titanic oxide pigment.

No. 1,288,473—dated December 24, 1918—Barton

The patent discloses a method for preparing a ternary composite titanic oxide pigment by adding an extender pigment such as barytes, silica, china clay, etc. to a titanium sulphate solution, and thereafter adding an agent such as calcium chloride, which will precipitate to a metal sulphate. The mixture is then boiled to precipitate titanic oxide upon the extender pigment and sulphate particles. This composite pigment was washed, dried and calcined.

No. 1,313,874—dated August 26, 1919—Barton

This patent covers a composite pigment consisting of zinc oxide admixed with titanic oxide-alkaline earth sulphate composite pigment.

N. L. Exhibit 2

No. 1,317,854—dated October 7, 1919—Barton and Gardner

This is a "use" patent covering pliable filled fabric goods such as shade cloth and table oil cloth filled with or coated with a composition containing a titanium pigment.

No. 1,322,518—dated February 27, 1917—Barton

This is a "use" patent and covers any kind of rubber goods having incorporated therewith a titanium compound, specifically titanic oxide.

No. 1,326,319—dated December 30, 1919—Barton and Gardner

This is a "use" patent covering rubber goods having incorporated therewith a composite titanic oxide-alkaline earth sulphate pigment. The patent also covers rubber goods having incorporated therewith titanic oxide together with other pigment fillers such as zinc oxide, lead oxide and carbon black. In either case vulcanization agents such as sulphur can also be incorporated.

No. 1,348,843—dated August 10, 1920—Barton

This patent follows the usual Rossi-Barton procedure for attacking an iron containing titaniferous material with an alkali sulphide to obtain a melt in which the titanium is in the form of sodium titanate and the iron in the form of sulphide compounds. The crushed melt is moistened with water and is oxidized, for example, by introducing air in order to convert the iron sulphide compounds into oxygen compounds of sulphur and iron. Thereafter the compounds so treated will leach with an acid solvent to dissolve the

iron and sulphur compounds but not the titanium compounds. The patent has seven method claims all drawn to the above described method of obtaining a titanic oxide concentrate.

No. 1,362,917—dated December 21, 1920—Barton and Gardner

This "use" patent covers glass containing titanic oxide and method of making same.

No. 1,365,882—January 18, 1921—Barton and Gardner

This is a "use" patent covering cellulose-derived plastics having incorporated therewith a titanic oxide containing pigment.

No. 1,409,648—dated March 14, 1922—Barton

This patent covers specifically the method of making titanium dioxide-barium sulphate composite pigment by adding to a titanium sulphate solution artificially prepared barium sulphate (blanc fixe), heating the solution to precipitate basic titanic sulphate on the blanc fixe, recovering the composite precipitate washing, drying and calcining it. Blanc fixe is previously prepared by reaction of solutions of sodium sulphate and barium sulphide.

No. 1,680,316—August 14, 1928—Barton and Ryan

This patent covers a composite titanic oxide-calcium sulphate pigment and process of making same. The calcium sulphate is prepared as a separate step or operation and is characterized by its structure, consisting of very fine crystals having ascicular or needle-like form. The calcium sul-

phate so prepared is added to a titanium sulphate solution which is then heated to precipitate the titanium. The composite precipitate is then separated, as by filtration, washed and calcined to form the composite pigment.

No. 1,695,270—December 18, 1928—Barton and Kinzie

This patent covers a method of preparing titanic sulphate solutions from any titaniferous ore, rutile or mixtures of titaniferous ores and rutile or other refractory titanium minerals. The process consists in heating the titanium ore with a mixture of concentrated sulphuric acid and an alkali sulphate, such as nitre cake. The mixture of reagents permits the heating or digestion to be conducted at a higher temperature than permissible in the case of sulphuric acid alone as the reagent and results in a higher recovery of soluble titanium sulphate when the mass resulting from digestion is dissolved in water. The solution is separated from any undissolved residue and is then ready for use in the preparation of titanium pigments.

N. L. Exhibit 3

DIGEST SUMMARY

U. S. Patents of Titanium Pigment Co. to inventors other than L. E. Barton listed in Schedule "A" of the Agreement of 1920.

1,080,718 December 9, 1913 A. J. Rossi

This patent describes a method of bleaching articles such as fabrics, fibers and the like by exposing the material to be bleached to the action of a solution containing titanous chloride and ferrous chloride. The bleaching solution is prepared by dissolving an alloy of iron and titanium in hydrochloric acid. The patent has six claims all drawn to the above described method of bleaching materials.

1,080,721 December 9, 1913 C. M. E. Schroeder

This patent may be considered an extension of patent No. 1,080,718 and also describes a method of bleaching material such as fabrics, fibers and the like. According to to the method of this patent, the material to be bleached is immersed in a bath containing metallic titanium and possibly also metallic iron, for instance as an alloy of titanium and iron together with an acid solvent, e.g. hydrochloric acid, for the titanium and iron, whereby the dissolution of titanium and iron, if present, as titanous and ferrous chlorides, proceeds simultaneously with the bleaching of the material. The ultimate solution obtained according to this method is, of course, the same solution described in patent No. 1,080,718. The difference in the two methods lies in that according to the patent No. 1,080,718, the bleaching

bath is previously, separately prepared before immersion of the article to be bleached. The patent has twelve claims all drawn to the above described method of bleaching materials.

1,105,308 July 28, 1914 A. J. Rossi

This patent is related to the two above described patents. It covers specifically a method of producing a bleaching solution. This method includes first dissolving an alloy of iron and titanium in which the titanium is less than 50% in hydrochloric acid, evaporating the solution under vacuum to throw out crystals of iron chloride and removing these crystals so that the solution will contain more titanous chloride than ferrous chloride, then filtering the solution to render it suitable for use as a bleaching agent. The patent has five claims all drawn to the above described method of producing bleaching solutions.

1,184,131 May 23, 1916 A. J. Rossi

This patent describes a method of making titanium oxide from ilmenite by smelting the ore with sodium bisulphate ($NaHSO_4$), boiling the resulting melt in water and continuously adding thereto sulphuric acid until the titanic oxide in the melt is dissolved. The solution is separated from insoluble residues and boiling continued with addition of water to maintain constant concentration until hydrated titanium oxide has been precipitated, which may be calcined if desired. The patent has two claims covering the above description for the method of producing titanic oxide.

N. L. Exhibit 3

1,205,267 November 21, 1916 A. J. Rossi and C. M. E. Schroeder

This patent covers paints containing titanic oxide (TiO_2) characterized, in some of the more specific claims, as white amorphous titanic oxide. The patent has nine product claims covering paint containing titanium dioxide. This patent was a basic "use" patent and as such protected the use of titanium dioxide in paints.

1,205,268 November 21, 1916 A. J. Rossi and C. M. E. Schroeder

This patent covers paints containing titanic oxide (TiO_2) and in addition white lead. The patent has six product claims covering broadly any paint in which both titanic oxide and white lead are constituents of the pigment portion thereof.

1,205,269 November 21, 1916 A. J. Rossi and C. M. E. Schroeder

This patent covers paint containing zinc oxide and titanic oxide. The patent has six claims all of which are product claims covering paints in which both zinc oxide and titanic oxide are constituents of the pigment portion thereof.

1,272,855 July 16, 1918 A. J. Rossi

This patent discloses the preparation of titanic oxide products by a method which includes adding to a titanium sulfate solution an organic material derived from vegetable or animal origin. The patentee claims that this addition accelerates the precipitation of titanium compounds on

boiling the solution and at the same time prevents precipitation of undesirable impurities such as iron. The method is said to be applicable for the preparation of either relatively pure titanic oxide or composite titanium pigment.

The patent has seven claims six of which are drawn to the method of precipitating titanium compounds in the titanium solution containing organic matter, and one covering titanic oxide, characterized as being a white, extremely soft, smooth powder containing constituents of organic origin.

C. F. KAEGEBEHN
Patent Department
National Lead Company
January 15, 1945

N. L. Exhibit 4

DIGEST SUMMARY

U. S. Patents of Titan Co. A/S
listed in Schedule "B" of the
Agreement of 1920.

966,815 August 9, 1910 P. Farup

The patent covers a method for producing a reddish colored pigment by subjecting iron containing titaniferous mineral to a roasting (about 500°C.) under oxidizing conditions, e.g. in the presence of air, and thereafter suspending the roasted material in water whereby the fine particles go into suspension. The fine particles may be recovered from the suspension by adding a soluble salt to the suspension which causes rapid precipitation of the extremely fine reddish brown powder. The patent has four claims all drawn to the above described process.

1,087,575 February 17, 1914 P. Farup

A method for producing yellow pigment by mixing a titaniferous ore with relatively large amounts of sulphuric acid, heating the mixture to about 900°C. whereby sulphates of the ore are formed and decomposed. The resulting yellow mass is pulverized and may be used as a yellow pigment. The patent has three process claims all drawn to the above described method.

1,156,220 October 11, 1915 P. Farup

A method for preparing titanium - oxygen compounds from ilmenite by heating the ilmenite with concentrated sulphuric acid. It is interesting to note that the proportions suggested by Farup are from one - two parts concentrated

sulphuric acid to one part ore. This might be less acid than theoretically required to combine all of the titanium dioxide in the ore. The solid digestion mass is then heated to about 600° whereby the titanic sulphate is said to decompose but not the iron sulphate. By leaching the heated mass with water, the iron sulphate is said to be removed and remains a concentrate of titanic acid. The patent contains seven process claims all drawn to the above described method of producing titanium - oxygen compounds.

T. 34
1,276,644 August 20, 1918 V. M. Goldschmidt

The patent discloses a method for clarifying liquids containing suspended solid particles. Titanium solutions obtained by treating ilmenite - sulphuric acid digestion masses with aqueous solvents containing suspended solid particles of unreacted ore and gangue. According to the process of this patent, colloidal sulphur is formed in situ in the solution. This colloidal sulphur is formed by introducing hydrogen sulphide into the solution which reacts with the ferric sulphate present to form colloidal sulphur which precipitates out, carrying with it the suspended solid matter. The patent has ten claims, which are process claims, all drawn to the above described method of freeing liquids from suspended particles.

T. 17
1,288,863 December 24, 1918 N. Fladmark

The patent covers a process for precipitating hydrated titanium oxide from concentrated titanium solutions by heating such solutions. While the process of this patent as just stated appears to be a relatively simple procedure, the

value of this teaching may be appreciated from the fact that prior thereto it was understood that high yields of said titanium hydrates could be precipitated only when working with dilute solutions. Rossi and Barton recommended the use of solutions having as little as 0.5-3.0% TiO_2. Fladmark showed that high yields of said products could be obtained when using solutions having as much as 80-300 grams TiO_2 per liter, which, assuming the solution to have a specific gravity of 1.4 would come roughly to from 6% to about 25% TiO_2. Obviously, the use of concentrated solutions brought about important economic advantages, particularly in the saving affected by eliminating the necessity of handling huge quantities of liquid. The patent has seven claims, which are process claims, all drawn to the above described method of precipitating a titanium hydrate.

T. 9.

1,317,164. September 30, 1919 A. P. Jaeger

This patent covers a pigment which consists of a mixture of uncalcined hydrated titanium oxide containing phosphoric acid compound and zinc white (zinc oxide). The pigment is prepared by mixing an uncalcined titanium hydrate containing phosphate with a zinc compound. The patent has six claims, one of which is drawn to the process covering the preparation of the pigment by mixing the titanium oxygen compound containing phosphorous with zinc white. Four product claims cover the resulting pigment, and one product claim covers a paint containing such pigment.

T. 10

1,317,165 September 30, 1919 A. P. Jaeger

The patent discloses a method for making a titanium pigment by an involved procedure, which includes mixing

a titanium oxygen compound, presumably previously prepared, with the salt of a metal the hydroxide of which is white, e.g. zinc or aluminum sulphate, with sulphuric acid. Heating this mixture until a reaction has taken place and a comparatively solid mass is formed. This mass is then ground with sodium chloride and again heated at temperatures between 200 and 700° C. whereby a sintering or smelting is effected. The sintered mass is then lixiviated with water to remove soluble salts and the residue dried and calcined as desired after which it is ready for use as a pigment. The patent has 16 claims of which ten cover the above described process and six cover the resulting pigment compositions.

T. 11
1,325,561 December 23, 1919 P. Farup

The patent covers a method of producing titanium oxygen compounds by treating an iron containing titaniferous material, e.g. ilmenite, with hydrochloric acid to dissolve out the iron compounds and obtain a residue containing titanium compounds. This residue is then dissolved with sulphuric acid from which titanium hydrates may be obtained by any "well known and convenient manner". This patent has eight claims all covering the above described method.

T. 1
1,333,819 March 16, 1920 G. Jebsen

This patent discloses the direct attack of iron containing titaniferous ores with sulphuric acid, using less acid than would be required to form normal salts with base forming materials present in the ores. For instance, it is recom-

mended to use as little as one part (92%) H_2SO_4, to one part of ore. The resulting mass is lixiviated with water according to the counter-current principle to obtain what is called "basic" solutions in which there is less acid material (sulphuric acid) than would be theoretically necessary to combine with the titanium present, calculated as TiO_2. The patent has 22 claims, 19 of which cover the method as above described including the steps of obtaining a hydrate from such basic solutions by boiling. Three claims cover the digestion mass obtained by the ore sulphuric acid reaction.

T. 15

1,333,849 March 16, 1920 H. Olsen and T. R. Förland

This patent covers a method for preparing solutions of titanium and iron salts in which all of the iron is in the reduced (ferrous) state and a small amount of titanium is in the reduced (titanous) state to insure against oxidation of the iron compounds during boiling, which produces the precipitate of titanium hydrates. Such reduced solution is prepared according to the patent from a solution in which some of the iron may be in oxidized (ferric) condition by reducing the solution. The reduction treatment, according to the patent, may be carried out by electrolysis. The patent has five claims, three of which are drawn to the above described method and two are product claims covering titanium solution in which all of the iron is in reduced condition and a small amount of titanium is also in a reduced condition.

N. L. Exhibit 4

T. 2
1,341,307 May 25, 1920 P. Farup

This patent covers a method for preparing titanium oxygen compounds by heating a titanium hydrate containing iron with sulphuric acid at temperatures between about 300 and 500°C. in the presence of sodium chloride to obtain a sintered product from which the free soluble constituents are removed by leaching leaving a residue of purified titanium oxygen compound. The patent has 13 claims nine of which are drawn to the above described method and four to the purified titanium oxygen compound obtained according to this method.

T. 32
1,343,441 June 13, 1920 P. Farup

This patent discloses a method for the manufacture of titanium dioxide which is based upon the use of a new type of titanium starting material, namely, a compound of titanium, carbon and nitrogen (titanium cyanonitride). This titanium nitrogen compound is formed by heating a titaniferous material at high temperatures in admixture with carbon and in the presence of nitrogen gas. If the titaniferous material contains iron, the iron compounds are reduced to metallic iron which is leached out with dilute acid, preferably hydrochloric acid, leaving a residue of the titanium-nitrogen compound. The patent discloses alternative methods for deriving titanium dioxide from this titanium nitrogen compound: (1) treating it with steam; (2) taking it up in sulphuric acid; precipitating a titanium hydrate from a sulphuric acid solution by heating. The patent then discloses the neutralization of the acid adhering to the precipitated titanium hydrate by treating it with a compound which

will form an insoluble sulphate, e.g. calcium hydroxide (lime) or barium hydroxide. The patent has 14 claims covering the method and variations thereof as described.

T. 22
1,343,446 June 15, 1920 V. M. Goldschmidt

This patent covers a colored pigment containing titanium and a method of preparing it. The titanium compound, hydrated titanium oxide, is admixed as desired with an extender pigment, calcium sulphate, which may be present as a result of neutralization. The sulphuric acid containing a titanium hydrate precipitated from sulphuric acid solutions is suspended in a solution of dye stuff where the dye is absorbed by the suspended pigment. The resulting product may be characterized as a lake pigment. This patent is directed to the use of uncalcined titanium hydrate as such or admixed with calcium sulphate. The patent has 14 claims, six of which are drawn to the method above described and eight of which are drawn to colored pigment product obtained therefrom.

T. 29
1,343,447 June 15, 1920 V. M. Goldschmidt

This patent is a companion patent to patent No. 1,343,-446 just above described. It covers, specifically, the process for making a composite pigment consisting of amorphous silicon dioxide and titanium dioxide by mixing amorphous silica with hydrated titanium oxide containing water and sulphuric acid and heating the mixture to expel water and sulphuric and to convert the titanium dioxide to crystalline form. The patent has eight claims, six of which are drawn to the process as above described and two to the products resulting therefrom.

N. L. Exhibit 4

T. 30

1,343,468	June 15, 1920	R. Nielsen and V. M. Goldschmidt

The patent discloses a method for preparing a composite pigment which contains titanium dioxide, iron oxides and insoluble sulphate, for instance calcium sulphate. A solution of iron and titanium sulphates is evaporated to dryness and to expel some sulphuric acid. Thereupon, a compound which forms an insoluble sulphate, the patent discloses the use of calcium compounds, is added to the mixture which is then heated to combine the remaining sulphate with the added calcium compound. The patent has 14 claims, nine of which are drawn to the above described process and five to the new pigmentary mixture.

T. 33

1,346,469	June 15, 1920	R. Neilsen and V. M. Goldschmidt

This patent is a companion patent to patent No. 1,346,-648. It discloses a method for making a composite pigment by adding a calcium compound which will form insoluble calcium sulphate, to hydrous titanium oxide containing adhering sulphuric acid and heating the mixture to combine the sulphuric acid with the calcium compound. The patent has eight claims, seven of which are drawn to the above described method and one to the resulting product.

T. 18

1,348,129	July 27, 1920	V. M. Goldschmidt

This patent covers the heating of hydrated titanium oxide at elevated temperatures until the material is converted

to crystalline condition. Goldschmidt characterized the condition as being crypto-crystalline, presumably meaning that the particles, as a result of the high temperature treatment, exhibit a crystalline interior structure and a smooth exterior surface. He suggests temperatures between 900°C. and 1000°C. The patent also describes adding to the hydrated titanium oxide, which will contain adhering sulphuric acid prior to heating, an alkaline earth compound to form an insoluble alkaline earth sulphate, e.g. calcium sulphate or barium sulphate, during the heating. This is the patent relied upon by Titan Co. A/S to cover the production of crystalline titanium dioxide pigments having optimum pigment properties. As has been previously noted, the Rossi-Barton process included a final heating treatment both in the preparation of the relatively pure oxide as well as the composite pigments, but those inventors characterized their titanium dioxide as being amorphous and recommended temperatures up to about 800°. It is, therefore, to be concluded that the products of Barton and Rossi did not possess the crystallinity and hence optimum pigment properties developed to the same degree as those obtained in the practice of the Goldschmidt patent. Inasmuch as this patent has claimed to cover composite pigments as well as the relatively pure titanium dioxide, some conflict might have arisen with the Barton-Rossi patents. It, however, could be said to be distinguished from the claims of those patents in that they contain titanium dioxide which had been converted to the crypto-crystalline condition. The resolution of such conflict would depend upon the exhaustive examination of the products resulting from the Goldschmidt patent as com-

pared with those by Barton and Rossi. Whether such comparison was ever made is not known to this writer.

The patent has 27 claims, 15 of which are drawn to the process as above described, including the preparation of products containing alkaline earth sulphate and 12 cover the resulting products.

T. 4

1,360,737 November 30, 1920 P. Farup

The patent covers a method for preparing a white titanium dioxide pigment of improved whiteness by mixing an impure titanium oxygen compound with sulphuric acid and some phosphate, for instance, phosphoric acid. After thorough mixing, sodium chloride is added and the whole heated to a high temperature whereby the mass is either sintered or melted. It is then allowed to cool and is crushed and leached with water. The residue is then described as titanium dioxide useful as a pigment. The patent has thirteen claims, eight of which cover the above described process and five the product resulting therefrom.

T. 8

1,368,392 February 15, 1921 P. Farup

This patent covers a method for improving weather resistant properties (chalk resistance) of titanium dioxide pigments by coating such pigments with a coating of a white metal oxide, for instance, an oxide of aluminum. The coating may be effected by suspending particles of the titanium pigment in a solution of a salt of a metal, the oxide of which is white and the hydrated oxide of the metal precipitated on the pigment particles by adding to the suspension an

alkaline precipitating agent. The resulting coated pigment particles are dried and are then ready for use. The patent has twelve claims nine of which are drawn to the above described process and three to products resulting therefrom.

T. 13A

1,361,866 December 14, 1920 G. Jebsen

The patent covers a method for eliminating the sulphuric acid which adheres to titanium hydrates precipitated from titanium sulphate solutions by treating such hydrates with a compound of a metal the sulphate of which is insoluble, e.g. compounds of calcium and barium, whereby a neutralized titanium hydrate containing calcium or barium sulphate is obtained, which in turn may be calcined to form a pigmentary material. The patent has eight claims, seven of which are drawn to the above described process and one to the product resulting therefrom.

T. 13B

1,361,867 December 14, 1920 G. Jebsen

This patent is a companion patent to patent No. 1,361,866 just above summarized. It covers a method for eliminating undesired sulphuric acid adhering to the titanium hydrates by treating with a compound which forms a water soluble sulphate, for example, an ammonium compound and then washing the resulting water soluble sulphate out of the titanium hydrate after the latter may be calcined to a pigment. The patent has six claims, five of which are drawn to the above described process and one to the resulting product.

N. L. Exhibit 4

T. 21B

1,436,164 November 21, 1922 V. M. Goldschmidt

The patent covers a method for the preparation of titanium pigments consisting of, or containing titanates. Such pigmentary compositions are formed by heating titanium oxygen compounds with oxides of metals, for instance, calcium oxide, lead oxide and the like, whereby these oxides react chemically with the titanium oxygen compounds to form titanates. There was no commercial exploitation of compositions consisting of titanates as described in this patent until National Lead Company developed an improved lead titanate pigment. A patent was obtained on the improved lead titanate product. This Goldschmidt patent has seven claims, three of which cover the above described process and four the compositions resulting therefrom.

T. 21A

1,389,191 August 30, 1931 V. M. Goldschmidt

This patent covers the production of blue or violet colored titanium dioxide pigments by heating titanium oxygen compounds at high temperatures (800-1000°C.) in admixture with a reducing agent, for instance, powdered carbon, whereby some of the tetravalent titanium in the titanium dioxide (TiO_2) is reduced to trivalent titanium in the form of an oxide (Ti_2O_3). The reduced titanium imparts the blue or violet color. The patent has fourteen claims, six of which are drawn to the above described process and eight to the products resulting therefrom.

T. 36

1,412,027 April 4, 1922 W. S. Washburn

This patent covers a method for improving color and texture of titanium dioxide pigments by calcining such

pigments in admixture with a small amount of a phosphate, for example, phosphoric acid or calcium phosphate. The process applied not only to the preparation of relatively pure titanium dioxide but to composite pigments as well. The patent has 22 claims, 14 of which cover the above described process and eight, products resulting therefrom.

C. F. Kaegebehn
Patent Department
National Lead Company
January 16, 1945

N. L. Exhibit 5

DIGEST SUMMARY

U. S. Patents Covering Inventions of National Lead Company made after 1920.

T. 28

1,680,316 August 14, 1928 L. E. Barton et al.

Method for the preparation of composite titanium dioxide pigments by adding calcium sulfate having acicular crystalline form to titanium sulfate solution and hydrolyzing the mixture.

T. 26

1,695,270 December 18, 1928 L. E. Barton et al.

The patent covers a method for treating titaniferous ores which includes heating said ores together with sulfuric acid and an alkaline metal sulfate below the fusion temperature, dissolving the reaction mass in water and obtaining titanic oxide by hydrolysis.

T. 27

1,697,929 January 8, 1929 L. W. Ryan

Method of forming potassium metatitanate by adding potassium hydroxide to titanium hydrate containing sulfuric acid and heating the mixture.

T. 54

1,738,765 December 10, 1929 F. Doerinchel et al

The process was invented by a chemist of the I. G. Farbenindustrie, who filed the original U. S. application, which was subsequently assigned to Titanium Pigment Co.

N. L. Exhibit 5

The patent covers the hydrolysis of a titanium solution containing a sulfur-oxygen reducing agent in an amount corresponding to the ferric iron and other oxidizing agents present in the solution.

T. 63

1,758,472 May 13, 1930 M. Schnetka

The invention was made by a chemist of the I. G. Farbenindustrie. The Titanium Pigment Co. requested filing of a corresponding U. S. application, which was originally filed by Titangesellschaft and subsequently transferred to National Lead Company.

The patent covers a process of carrying out the hydrolysis of a titanium sulfate solution containing hydroflouric acid or water soluble flouride.

T. 41

1,773,727 August 26, 1930 P. Farup

Method of hydrolyzing a titanium sulfate solution which consists of continuously adding to a titanium sulfate solution undergoing hydrolysis a titanium sulfate solution to restore the solution with respect to titanium.

T. 67

1,820,987 September 1, 1931 L. W. Ryan

This patent covers specifically the formation of titanium hydrate by pouring the titanium sulfate solution into a hot solution of organic acid.

T. 68

1,820,988 September 1, 1931 L. W. Ryan

This patent covers the preparation of titanium hydrate by pouring a titanium sulfate solution into hot water containing phosphoric acid and an organic acid.

N. L. Exhibit 5

T. 44

1,831,852 November 17, 1931 P. Farup

The patent covers an invention of Professor Farup employed by Titan Co. A/S, who decided that it would not file a corresponding application in the U. S. on its own behalf. The application was filed at the request of Titanium Pigment Co. and an assignment given thereto.

The patent covers a method for treating a titaniferous ore by heating it with a reducing agent to reduce the iron content to metallic state, and then treating the reducing material with strong sulfuric acid to dissolve the titanium compounds but not the iron compounds.

T. 69

1,847,539 March 1, 1932 A. H. Sabin

Mr. A. H. Sabin was a paint technologist employed by National Lead Company principally to attend conventions, and in other words, to further the sale of National Lead Company products through his very considerable contacts in the paint industry. His patent No. 1,847,539 covers a paint composition containing titanium pigment, dry oil and nitrocellulose.

T. 151

1,856,565 May 3, 1932 C. A. Klein et al.

This patent was acquired by National Lead Company by assignment of British Titan Products Co. British Titan Products Co. was interested to obtain rights under the corresponding British patent and under their agreements were obligated to endeavor to secure similar rights throughout the world for their associates. In this manner, the offer to

sell the U. S. Klein and Brown patent was made and accepted by National Lead Company.

The process covers the treatment of a titaniferous ore with a reducing agent and a barium compound, dissolution of the titanium values carrying along the barium. Thereafter heating the solution to obtain a composite TiO_2-$BaSO_4$ pigment.

T. 47

1,889,027 November 29, 1932 W. R. Washburn

This is the so-called "Tank" method, covering specifically the reaction between titaniferous ore and concentrated sulfuric acid, carried out by introducing water and/or steam and air in order to initiate the reaction and maintain it in aerated condition to obtain a porous, readily soluble digestion cake.

T. 77A

1,906,729 May 2, 1933 W. F. Washburn et al.

A method for forming either titanium dioxide or TiO_2-$CaSO_4$-$BaSO_4$ pigments by first forming calcium sulfate anhydrite by reaction of a lime slurry with concentrated sulfuric acid, admixing this with a titanium sulfate solution (if the ternary composite pigment is desired, barium sulfate is added to the solution) hydrolyzing the mixture and calcining the resultant product. If relatively pure TiO_2 is desired, the calcium sulfate is washed out prior to calcination.

T. 78

1,906,730 May 2, 1933 W. F. Washburn et al.

Method for the preparation of composite titanium dioxide-calcium sulfate pigment by first making calcium sul-

fate anhydrite from lime slurry and concentrated sulfuric acid, admixing this with a titanium sulfate solution and hydrolyzing the mixture.

T. 67

1,916,236 July 4, 1933 L. W. Ryan

This patent covers specifically the preparation of titanium hydrates by dissolving an organic acid in said solution, or phosphoric acid, or both, and then pouring the titanium sulfate solution into hot water.

T. 92

1,929,521 October 10, 1933 L. W. Ryan et al.

This patent covers a method for manufacturing an acid soluble alkali-metal titanate containing a minimum of alkali and corresponding to the formula M_2TiO_{11}, where M is an alkali metal.

This patent may be regarded as a culmination of the series of patents directed to the attack of ilmenite with an alkali salt prior to dissolution. In this patent it is suggested that the process is particularly applicable to attack of rutile as a source of raw material.

T. 104

1,957,528 May 8, 1934 W. J. Cauwenberg

The patent covers a method for nucleating a titanium sulfate solution by slowly adding thereto an alkaline reacting organic compound, i.e. an organic base capable of liberating ammonia.

N. L. Exhibit 5

T. 102

1,969,061 August 7, 1934 W. J. Cauwenberg

The patent covers a method for producing a yellow-green titanium pigment consisting essentially of cobalt titanate by heating together titanium oxide and a cobalt compound.

T. 114

2,034,923 March 24, 1936 C. L. Schmidt.

This patent covers the preparation of nuclei of the same character as described in the Dahlstrom patent No. 2,098,-278, but represents an improvement thereover in that the titanium sulfate solutions from which the nuclei are prepared are freed of iron.

T. 119

2,039,432 May 5, 1936 J. McCallum

This patent covers a process for making finely-divided calcium and barium sulfate. Barytes is fused with sodium chloride under reducing conditions to form a heavy slag which settles out of the melt. There are 24 process claims.

T. 84B

2,055,222 September 22, 1936 W. F. Washburn et al.

Method for the preparation of titanium pigments by adding calcium sulfate to a titanium sulfate solution and a small amount of an acid neutralizing agent, after which the solution is hydrolyzed. In order to prepare relatively pure TiO_2 the $CaSO_4$ may be washed out.

N. L. Exhibit 5

T. 101B

2,084,826 June 22, 1937 L. W. Ryan et al.

The patent covers a method for making a colored pigment containing titanium as lead titanate and iron oxide, by heating ilmenite with lead oxide.

The patent represents an attempt to prepare a pigment composition primarily designed for protecting metallic surfaces using materials produced by National Lead Company on the one hand, and the raw material useful for making titanium pigments.

T. 116

2,084,917 June 22, 1937 W. K. Nelson

This patent covers a method for dispersing titanium dioxide pigment by using as dispersing agents certain chlorides, for instance, aluminum chloride. The dispersing is effected by wet-milling of pigment in water in the presence of a dispersing agent.

This patent results from an investigation undertaken by Dr. Nelson to develop a wet-milling method which would not infringe the patents of the Krebs Company, particularly the U. S. patent 1,937,037 of Hanahan. It is my understanding that prior to the conclusion of the Agreement of January 1, 1933 between Krebs and Titanium Pigment Co., the relatively pure titanium dioxide being produced by Titanium Pigment Co. was inferior in quality to that being offered by Krebs. An important reason for its deficiency in pigment properties was the fact that the Krebs product was wet-milled, whereas, that of the Titanium Pigment Co. was not. This was understood to be due to that fact that the Krebs product had an alkaline

pH, whereas, the product made by Titanium Pigment Co. had an acid pH and it was considered impossible to wet-mill an acid pigment using the dispersing agents known at that time. Mr. Turner directed Dr. Nelson to investigate the possibilities of wet-milling the Titanium Pigment Co. product. Dr. Nelson found that certain chlorides, for example, aluminum chloride, would effectively permit the wet-milling of acid-type pigments then being produced by Titanium Pigment Company. The products experimentally produced by Dr. Nelson were tested by Mr. Robinson and pronounced in good quality.

T. 173
2,084,918 June 22, 1937 W. K. Nelson

The patent covers a method for preparing alcoholic dispersions of titanium pigments using certain chlorides, e.g. aluminum chloride, as dispersing agents.

T. 108
2,091,799 August 31, 1937 P. Weise

The patent originates with Titangesellschaft, being an invention of their chemist Dr. Weise. The prosecution of the application was originally handled by Messrs. Hutz & Joslin in collaboration with the Patent Department. However, during the course of the prosecution, upon the request of National Lead Company, the application was assigned to National Lead.

The process covers the hydrolysis of titanium solutions to which have been added small amounts of relatively insoluble colloidal titanium compound, e.g. titanium phosphate. The products obtained are said to have partly the crystalline structure of rutile.

N. L. Exhibit 5

T. 113
2,098,278 November 9, 1937 R. Dahlstrom et al.

The patent covers a method for preparing nuclei useful in the hydrolysis of a titanium sulfate solution, and the use of such nuclei in hydrolysis. Ortho-titanic acid is dissolved in sulfuric acid, the pH value adjusted to from about pH=1.0 to pH less than 2, after which the solution is heated to develop the nuclei in finite, macroscopic particles.

T. 162
2,113,945 April 12, 1938 W. W. Plechner et al.

T. 179B
2,113,946 April 12, 1938 W. W. Plechner et al.
Re.21,693

These patents cover a single inventive concept and should be considered together. They result from work done by Dr. Plechner at Columbia University in fulfillment of the requirements for the degree of Ph.D in Chemistry, work undertaken and carried out while in the employ of National Lead Company. Dr. Plechner and his professor Dr. A. W. Hixson, originally applied, at their own expense, for patents covering the patentable features of their work. During the pendency of the applications, these inventors offered to assign their invention and the applications covering them to the National Lead Company in consideration of reimbursement for expenses incurred up to that time. This offer was accepted and subsequent to the assignment, the Patent Department prosecuted the applications. In this connection, it must be pointed out that only one of the above-identified patents was in the form of an application at the time the assignment took place. That was the application from which

eventually patent No. 2,113,945, which had been filed in November, 1934, subsequent to the assignment of the application from which originated patent No. 2,113,946, was filed in November, 1936.

Patent No. 2,113,945 covers a method for hydrolyzing titanium chloride solutions by adding thereto certain compounds which yield in solution negative divalent ions which have the effect of coagulating the hydrous titanium oxide coming out of solution. This represented a discovery of considerable importance with respect to the hydrolysis of titanium chloride solutions. If such coagulating ions are not present, the hydrated titanium oxide coming out of solution is so extremely fine that subsequent filtration is virtually impossible, and in addition, the resulting pigments do not possess satisfactory pigment properties. The use of these coagulated ions produces an aggregated, easily filtrable precipitate, which on calcination, has improved pigment properties.

When the application upon which patent No. 2,113,945 was brought to the attention of the Patent Department, Dr. Plechner and Mr. Kaegebehn appreciated that this application was limited in scope. In other words, it did not appear to be the result of a complete investigation of the invention. This concept required the use of coagulating ions broadly in the hydrolysis of any titanium halide solution but was limited to the use of negative divalent coagulating ions of titanium chloride solutions. Dr. Plechner then developed the invention further to its true scope, namely, the use of negative polyvalent coagulating ions (covering both di- and tri- valent ions) in the hydrolysis of any titanium halide solution (including chloride, flouride, bromide, and iodide solutions). Both patents issued simultaneously and covered

a complete development with respect to the hydrolysis of a titanium halide solution. Shortly after the issue of patent No. 2,113,946, Sherwin-Williams filed a patent application in which were copied certain claims contained in patent No. 2,113,946 specific to the use of polyvalent coagulating ions in the hydrolysis of titanium flouride solutions. An interference was thereupon set up in the U. S. Patent Office between the Plechner patent and the Sherwin-Williams application. National Lead Company initiated negotiations for the purpose of effecting settlement for avoiding the expense and trouble of proceeding according to the Patent Office regulations. The basis for this settlement was that the parties would agree to exchange in the presence of council and technical experts, evidence as to their dates of conception and reduction to practice of the disputed features of the invention. The party having the earlier date was to take the patent. This was done. Sherwin-Williams was able to prove an earlier date; thereupon National Lead gave Sherwin-Williams a concession of priority for the disputed claims and an exclusive license under patent No. 2,113,946 to use the teachings of that patent in the hydrolysis of flouride solutions. The patent was subsequently reissued, deleting from it all claims specific to the hydrolysis of flouride solutions.

T. 164

2,130,560 September 20, 1938. W. W. Plechner et al.

This patent covers a method for dispersing TiO_2 in wax using certain dispersing agents called "polar—non-polar compounds", e.g. aluminum stearate, then adding a compound havir a higher degree of polarity, e.g. a polyhydric alcohol to retard settling of the titanium pigment. This

patent is strictly a "use" patent in that it covers a method for making dispersions of TiO_2—waxes, which may be useful in coating paper to obtain, for example, opaque wax paper.

T. 150

2,130,565 September 20, 1938 C. L. Schmidt

This patent covers a method for obtaining a porous crystalline readily soluble digestion cake by carrying out the reaction between titaniferous ore and sulfuric acid in the presence of a crystalline titanium sulfate, e.g. titanyl sulfate.

T. 175

2,132,491 October 11, 1938 H. D. Mudford

This patent covers artificial cellulosic bodies delustered with titanium dioxide pigments previously treated with a chromium compound.

National Lead Company derives its title to this patent by mesne assignment through Imperial Chemical Industries by virtue of their obligations under our so-called British Agreements. It is essentially a "use" patent covering the use of separately treated titanium dioxide in the manufacture of artificial silk. As such, it is of greater interest to the producers of artificial silk than to the manufacturers of titanium dioxide pigments. It is a companion patent to patent No. 2,202,594 which covers specifically the treatment of titanium dioxide pigments with chromium compounds to render them suitable for use in artificial silk. National Lead Company uses the process of that latter patent.

The problem solved by this patent is this: it was found that when titanium dioxide was used to deluster dyed artificial silk, the organic dye had a tendency to fade the color. Later an investigation revealed that this was the result of a chemical reaction between the dye-stuff and the titanium dioxide. It was found by Mudford that if the titanium dioxide was treated using a chromium compound, e.g. chromium hydrate, the tendency to accelerate fading of the dye-stuff was retarded.

T. 154B

2,133,251 October 11, 1938 A. T. McCord

This patent covers a method for clarifying acid liquor, e.g. ilmenite solutions by first adding thereto an organic colloid, e.g. glue, to remove particles of the suspended impurities, then adding a coagulating agent, e.g. tannic acid compound, to remove the suspended impurities together with residual organic matter and decomposed colloid.

T. 184

2,140,222 December 13, 1938 H. Espenschied

Preparation of pigment by mixing pigment forming materials containing reactive lead compound, heating said mixture to form lead titanate, to obtain a product of uniform particle size free from more than a trace of particles in excess of 5 microns.

T. 158

2,148,283 February 21, 1939 W. F. Washburn

A method for bleaching hydrous titanium oxide which consists in treating hydrous titanium oxide throughout the

washing and filtering operation with a reducing agent without adding any additional mineral acid.

T. 203

2,154,130 April 11, 1939 F. L. Kingsbury

This invention covers the method of attacking titaniferous ore in the presence of phosphoric acid as a wetting agent.

T. 171

2,166,082 July 11, 1939 W. F. Washburn et al.

A method of controlling the light-reflectance properties of TiO_2 having a blue-gray tone by calcining hydrous titanium oxide in the presence of one or more of eleven selected elements, particularly tungsten and molybdem.

T. 209

2,167,626 August 1, 1939 H. V. Alessandroni

T. 210

2,167,627 August 1, 1939 H. V. Alessandroni

T. 211

2,167,628 August 1, 1939 H. V. Alessandroni

These three patents result from an investigation made by Mr. Alessandroni with the possibility of using sphene as a source of raw material in the manufacture of titanium dioxide pigment. Sphene is naturally occurring titaniferous mineral which may be regarded as a calcium—titanium silicate as distinguished from ilmenite, which is commonly regarded as iron titanate. Mr. Alessandroni's work resulted in the development of methods for the production of either composite titanium dioxide pigments or relatively

pure titanium dioxide from sphene. These methods are covered in the three above-identified patents.

Patent No. 2,167,626 covers the method of attacking sphene with hydrochloric acid having a concentration of over 12% to obtain a solution of all of the soluble constituents of the sphene which include the calcium and titanium values of the sphene. The resulting solution is then treated with sulfuric acid which transforms the titanium into titanium sulfate and forms at the same time a precipitate of calcium sulfate. The solution may then be either hydrolyzed, in which case a composite pigment is formed, or the precipitated calcium sulfate may be removed prior to hydrolysis, which in this case produces relatively pure titanium dioxide.

Patent No. 2,167,627 covers the treatment of sphene with hydrochloric acid having strength not exceeding 12%, whereupon the calcium and other alkali-alkaline-earth metal constituents of the sphene are dissolved by leaving unattacked the titanium values which may subsequently be processed as desired to form titanium pigment.

Patent No. 2,167,628 covers a method for preparing either relatively pure titanium dioxide or a composite titanium dioxide—silica pigment. The sphene is attacked with hydrochloric acid of a strength in excess of 12%, whereupon it is subsequently completely dissolved leaving a residue of silica. By concentrating the resulting solution leaving the silica—followed by hydrolysis—a composite titanium dioxide—silica composite is obtained. If relatively pure titanium dioxide is desired, the silica is removed prior to concentration and hydrolysis.

N. L. Exhibit 5

T. 219
2,170,800 August 29, 1939 L. E. Barton

This patent covers a method of making a composite titanium dioxide-calcium carbonate pigment. A titanium dioxide-calcium sulfate composite pigment is exposed to the action of a hot aqueous solution of carbon, e.g. sodium carbonate, whereupon the sulfate portion of the calcium sulfate in the composite pigment goes into solution and is replaced by the carbonate portion of the solution. There is thus obtained a titanium dioxide-calcium carbonate pigment in which the calcium carbonate has the external crystalline form of the calcium carbonate. It is understood since calcium carbonate is more insoluble than calcium sulfate, that the resulting titanium dioxide-calcium carbonate composite pigment is more suited for the preparation of surface coating compositions for exterior use.

This invention was made by Mr. Barton after his retirement, in his own private laboratory, at Winsor, Connecticut. He offered this invention to the National Lead Company without request for additional payment beyond his regular compensation. His offer was accepted and the Patent Department of National Lead Company prepared, filed, and prosecuted the application to patent.

T. 182
2,170,940 August 29, 1939 R. Dahlstrom

A method for increasing the reflectance properties of white TiO_2 by exposing hydrous TiO_2 containing a trace of one or both of the elements tungsten and molybdenum to a reducing atmosphere during calcination and/or cooled in a reducing atmosphere after calcination.

T. 137		
2,176,875	October 24, 1939	H. V. Alessandroni
T. 137B		
2,176,876	October 24, 1939	H. V. Alessandroni
T. 137C		
2,176,877	October 24, 1939	H. V. Alessandroni
T. 229		
2,212,629	August 27, 1940	H. V. Alessandroni

These four patents cover the results of a systematic investigation undertaken to study methods of preparation of titanium dioxide-composite pigments by methods other than the so-called "co-precipitated" method, which has been National Lead Company's standard commercial process. Prior to Mr. Alessandroni, Dr. J. E. Booge of E. I. du Pont had discovered a method for the preparation of composite pigments having pigment properties substantially the same as those obtained from co-precipitation methods, by simply intimately mixing together titanium dioxide and composite pigments having a selected predetermined particle size. Dr. Booge's patent is patent No. 2,048,054, June 30, 1936, issued on an application filed October 30, 1934. Mr. Alessandroni's work was undertaken to determine whether it would be possible to prepare composite pigments having properties substantially the same as those obtained by co-precipitation methods, by some means which would not necessarily depend upon the selection of titanium dioxide and composite pigments of a predetermined particle size. The first application was filed August 24, 1935 and matured into patent No. 2,176,875. In the course of the prosecution of this application, again because of the technical requirements

of the U. S. Patent Office, two divisional applications were filed, which matured respectively into patents Nos. 2,176,876 and 2,176,877.

Patent No, 2,176,876 broadly describes the subject matters embodied in the two divisional patents.

Alessandroni's invention as described in patent No. 2,176,875, covers a method for preparing a suspension of a primary pigment material (TiO_2 or any other relatively high tinting strength pigment, e.g. zinc sulfide) then separately preparing a dispersion of the extender pigment material, mixing these two suspensions and co-flocculating the dispersed pigment particles which are thereupon not only more finely divided than in their original state due to having been dispersed, but are also intimately and uniformly mixed together as a result of having been co-flocculated together. The separate dispersion can be carried out using dispersing agents which when they come in contact with each other produce a coagulating effect, or the dispersing agents need not be "antipathetic", but co-flocculation of the mixed pigment particles from the mixed dispersions can be effected by means of a coagulating agent. All of these procedures are described in patent No. 2,176,875 but that patent covers specifically only the preparation of titanium dioxide composite pigments by means of dispersions prepared from dispersing agents not antipathetic to each other followed by the use of a coagulating agent. Although the patent contains a generic claim covering the broad inventive concept, patent No. 2,176,876 is specific to the preparation of zinc sulfide composite pigments using dispersing agents which are not antipathetic to each other, followed by the use of a coagulating agent. Patent No. 2,176,877 covers specifically the use of antipathetic dispersing agents for the preparation of either TiO_2—or ZnS—composite pigments.

Patent No. 2,212,629 was applied for in November, 1938, about a year prior to the issuance of Mr. Alessandroni's three above-described patents. In this patent, Mr. Alessandroni covers a method for making composite pigments by mixing together aggregated particles of a primary pigment and extender pigment, dispersing them in a single aqueous medium and thereafter co-flocculating the mixed dispersed pigment particles by means of a coagulating agent. That latter procedure represented the culmination of Mr. Alessandroni's progressive study of the preparation of composite pigments by what may be termed dispersion methods.

T. 206		
2,184,938	December 26, 1939	S. S. Cole
T. 205		
2,280,795	April 28, 1942	S. S. Cole et al.
T. 204		
2,290,539	July 21, 1942	S. S. Cole
T. 204B		
2,316,840	April 20, 1943	S. S. Cole
T. 204C		
2,316,841	April 20, 1943	S. S. Cole

These five patents, should be considered as a group for the purpose of this inquiry, since they cover separate features of a single inventive concept and illustrate how from such a single concept a group of patents may originate some of which cover commercial activities, while others do not.

The preparation of titanium dioxide of the rutile modification has constituted a hope of research in the industry

for considerable time because it was known that in this modification, titanium dioxide had a higher index of refration and would, therefore, be expected to possess clearly greater tinting strength and hiding power. It was known that when heated to sufficiently high temperatures, the anatase modification converted to the rutile modification, but such treatment resulted in impairment of the pigment properties. The converted product became aggrevated, hard and off-color. Under the direction of Dr. S. S. Cole of the Titanium Division, a systematic investigation of the possibilities of converting anatase to rutile without impairment of pigment properties was undertaken. Of the five above-listed patents, all represented the inter-related discoveries made during that investigation.

Dr. Cole first discovered that if a small amount of zinc oxide was mixed with titanium dioxide or hydrated titanium oxide of the anatase modification, and the mixture heated at temperatures up to about 1025°C., conversion of the anatase to rutile was accelerated and the product resulting therefrom had not suffered such impairment of pigment properties as would preclude its use as a pigment. This discovery in itself was naturally of great interest, but it was not necessarily the whole story. Still unknown were such factors as what effect impurities contained in the titanium dioxide would have on the coversion, and whether or not compounds other than zinc oxide existed which would also facilitate the conversion preparation more effectively of zinc oxide. Investigation of such factors were also undertaken by Dr. Cole. In this connection, he made other important discoveries, for instance, he found that there existed a group of chemical compounds classifiable within certain specific crystalline groups which facilitated the conversion of anatase to rutile, and he discovered that the presence of certain impurities, especially phosphate, tended to stabilize the anatase against conversion.

Upon analysis of the Patent Department of Dr. Cole's discovery, it was determined that he had made a broad fundamental discovery with respect to the conversion of anatase to rutile by means of what may be termed, accelerating agents, and that he had also discovered (using the word "discovery" in the patent sense) a means for stabilizing anatase against conversion to rutile. Three patent applications were simultaneously filed on August 7, 1937 to cover these discoveries.

The first of these applications to be allowed and to issue as a patent was No. 2,184,938 of December 6, 1939, covering the stabilization of anatase against conversion to rutile even when zinc oxide is present, by adding small amounts of phosphate. The second of these patents to issue was No. 2,280,795, covering the conversion of anatase to rutile by means of adding a small amount of zinc oxide of a compound of zinc resulting from the chemical combination of zinc oxide and titanium dioxide, i.e. zinc titanate. The third patent to issue was No. 2,290,539, covering broadly the use of converting agents classifiable within five different crystallographic groups: (1) the spinel group; (2) the corundum group; (3) the ilmenite group; (4) the sodium chloride group; (5) the phenacite group. Since zinc oxide forms with TiO_2 when heated together, a zinc titanate which is a compound having spinel crystalline characteristics, patent No. 2,290,539 is to be considered as dominating patent No. 2,280,795 and it may be clearly stated that if zinc oxide is used in the conversion of anatase to rutile as is the case commercially, the teachings of both patent No. 2,280,795 and No. 2,290,539 are used.

N. L. Exhibit 5

As just above pointed out, patent No. 2,290,539 covered the use of compounds within five different crystallographic groups in the conversion of anatase to rutile. According to technical patent usage, each group is considered a separate species and under the Rules of Practice of the Patent Office, it is not possible to individually cover in one patent more than three species, although they may be covered generically as a group. Accordingly, as a result of this Patent Office requirement, patent No. 2,290,539 covers generically the five crystallographic groups and individually the spinel, corundum, and ilmenite groups. In order to cover individually the sodium group and the phenacite group, two additional applications were filed as divisions of the broad or generic application. These matured into patents No. 2,316,840 and No. 2,316,841.

T. 176

2,202,594 May 28, 1940 H. D. Mudford

Process of improving TiO_2 for use in delustering rayon which consists in treating the TiO_2 with a water-soluble chromium compound before adding it to the spinning mass.

T. 212

2,211,828 August 20, 1940 F. L. Kingsbury et al.

This patent covers a method for preparing titanium dioxide pigments which includes adding to a titanium sulfate solution, small amounts of certain rare earth elements, e.g. cerium, yttrium, and lanthanum and hydrolyzing the solution. Products so obtained are found to contain enhanced tinting strength.

In the course of a study of the affect on pigment properties of titanium ores of various compositions, Mr. Kings-

bury and his co-worker Mr. Schmidt at the St. Louis plant, discovered that when a certain mineral called "monazite" was absent from ilmenite, the resulting products had inferior tinting strength. Ilmenite, as found in nature, is generally associated with monazite, and the titaniferous ore employed in pigment practice, usually contains some monazite. These investigators found that when the monazite was present, a superior product was obtained. They then added some monazite to ore which did not contain any and obtained products equal to those obtained from ore materially containing monazite. By further investigation, they found that the affect of the monazite was in a large measure due to its content of rare earth elements. These discoveries are described and covered in patent No. 2,211,828.

T. 172

2,215,857 September 24, 1940 W. W. Plechner et al.

This patent covers a method of preparing dispersions of titanium dioxide in alcohols, e.g. ethyl alcohol, and ketones, e.g. acetone, by using a tannic acid compound as a dispersing agent.

Although, the principal use of titanium dioxide is in surface coating compositions such as paints, where for the most part some vegetable oil or similar material constitutes the major part of the vehicle, this pigment has found use in many places where there is a requirement for a white pigment of high coloring power. For instance, in straight synthetic resin coating composition, the vehicle may consist only of a solution of resin in alcoholic or ketonic solvent. Aniline dye printing inks also use alcoholic or ketonic solutions of dye-stuffs as do many other industrial useful compositions, such as those in the manufacture of

artificial leather liquid shoe dressing, etc. In such compositions, the titanium dioxide unless dispersed, tends to settle out. By means of the invention covered by this patent, it is possible to prepare satisfactorily stabile suspensions of titanium dioxide pigments in alcohols or ketones.

T. 220
2,215,866 September 24, 1940 H. V. Alessandroni

This invention covers a method for preparing finely divided solvents of calcium and barium by dissolving the crude material of the solvent in a molten sodium chloride bath from which they are aspirated into a quenching bath of water as a fine spray. The water dissolves the sodium chloride solvent and the finely-divided and purified calcium or barium sulfates are recovered as solid particles.

This invention represents the final step in an investigation undertaken to determine whether it would be possible to prepare calcium and barium sulfates suitable for use in the preparation of titanium dioxide composite pigments from naturally occurring calcium or barium sulfates through what is known as the "salt fusion" method.

Prior to Mr. Alessandroni, Mr. Jean McCallum in patent No. 2,039,432 of May 5, 1936, owned by National Lead Company, had covered a means of preparing calcium sulfate and barium sulfate by the salt fusion method which included the use of a reducing agent in the molten mixture of calcium or barium sulfate and sodium chloride solvent in order to form a removable slag of impurities, whereupon the purified sulfate was recovered by pouring the melt into water. Prior to McCallum's invention, there had been suggested that the melt be forced, under pressure, through more or less small orifices in order to control the particles size of the sulfate.

Mr. Alessandroni discloses and covers the employment of aspirating means to obtain a fine spray of the melt and consequently a finely-divided calcium or barium sulfate.

T. 128
2,222,385 November 19, 1940 W. F. Washburn et al.

This invention covers the method of making anhydrite calcium sulfate by adding a slurry of calcium compound, e.g. CaO, $Ca(OH)_2$, $CaCO_3$ to concentrated sulfuric acid, while controlling concentrations of acid and lime slurry, rate of mixing and temperature of reaction.

T. 216
2,227,239 December 31, 1940 H. A. Wieneke

A rotary filter provided with a drag net functioning to distribute evenly the wash liquor over the surface of the material being filtered.

T. 2[illegible]
2,234,681 March 11, 1941 W. K. Nelson et al.

Titanium dioxide pigment having improved chalk resistance properties by coating the particles of such pigment with a basic titanium phthalate prepared by suspending the pigment particles in reaction solutions from which the phthalate is formed according to the method of Case T. 231.

T. 231
2,244,258 June 3, 1941 W. K. Nelson et al.

Method for the preparation of basic titanium phthalate by adding a water-soluble phthalate, e.g. sodium phthalate, to a titanium sulfate solution in which the mol ratio of

TiO_2 to H_2SO_4 is less than 2:1, the amount of phthalate being sufficient to furnish 1 mol phthalic acid for every 2 mols of TiO_2.

T. 218

2,246,062 June 17, 1941 W. W. Plechner et al.

Method for forming blended TiO_2-calcium sulfate pigment having improved oil absorption and "break" by dry-mixing calcium sulfate with TiO_2 and then subjecting the mixture to a pulverizing milling treatment in a mill of the ring roll type.

T. 247

2,278,709 April 7, 1942 W. H. Moran

Method for digestion of titaniferous ores. Titaniferous ores and strong sulfuric acid are reacted, the digestion cake dissolved in aqueous medium, the undissolved residues are separated from the resultant solution. The solution is hydrolyzed and a sufficient amount of the acid hydrolysis mother liquor is mixed with the digestion residues to form a free-flowing slurry and this slurry is admixed with another batch of ore and strong sulfuric acid, whereupon reaction is initiated.

T. 225

2,285,485 June 9, 1942 J. Barksdale et al.

This patent covers the preparation and use of nucleating sol of titanium tetrachloride from which a part of the active acidity has been neutralized by the addition of a neutralizing agent.

N. L. Exhibit 5

T. 246
2,285,486 June 9, 1942 J. Barksdale et al.

This patent covers the preparation and use of a nucleating sol of titanium tetrachloride containing added monovalent anions, for instance, as soluble chlorides.

T. 197
2,285,894 June 9, 1942 A. O. Brooks

This patent covers an improved filter septem supporting unit for rotary filters consisting essentially of a board strip having staggered recesses at the back.

T. 224
2,291,091 July 28, 1942 D. W. Robertson

This patent covers paste paint compositions, the pigment portion of which contains from about 1.0% to about 10% by weight of TiO_2 and the balance white lead, the vehicle portion contains an oil-soluble synthetic resin. In effect, this patent discloses and covers an improved paste white lead composition. In one sense it may be regarded as a "use" patent in that it discloses the use of titanium dioxide in the preparation of an improved paste white lead composition.

T. 239
2,291,082 July 28, 1942 J. M. Jarmus et al.

This patent covers a method for improving the resistance to chalking of titanium dioxide pigments and increasing the gloss of surface coating compositions containing such pigments by intimately associating with such pigments small amounts of organic compounds called

"phthalic acid esters", e.g. dimethyl- or diphenyl- phthalates. The invention covered in this patent may be considered as a culmination of a series of studies made by different individuals of the affect upon the properties of titanium pigments by associating with such pigments phthalic acid or compounds of phthalic acid. Dr. Henry A. Gardner, the eminent authority on surface coating compositions and materials useful in such compositions, Director of the Scientific Section of the American Paint and Varnish Manufacturer's Association, was among the first to discover that when certain phthalates, for instance titanium phthalate, was intimately associated with titanium dioxide pigments, the result was to improve the chalking resistance of the titanium dioxide pigments. His discoveries were disclosed and covered in patent No. 2,037,322 and No. 2,037,323 of April 14, 1936 under which National Lead Company was non-exclusively licensed. Investigation carried out by Dr. Nelson of the research laboratories of the Titanium Division lead to the preparation of an entirely new titanium phthalate, viz. basic titanium phthalate, which was found by Dr. Nelson to be also effective in increasing the chalking resistance of TiO_2. Mr. Jarmus' work during this investigation of effective phthalate was directed to a new group, namely, organic esters of phthalic acid.

T. 196

2,329,641 September 14, 1943 – W. G. Moran et al.

This patent covers a method for the continuous attack of titaniferous ore by concentrating sulfuric acid. The reaction mixture of ore and strong sulfuric acid is continuously fed upon a moving conveyor belt having interposed between the reaction mixture and the surface of the con-

veyor a carbonizable organic material, for instance, a layer of paper. The continuously moving conveyor belt carries the mixture through a heated zone where the reaction is initiated, thence out of the zone continuously discharging the reaction product. The layer of carbonizable paper prevents sticking of the reaction product to the surfaces of the conveyor.

T. 253

2,334,663 November 16, 1943 J. B. Whitney

This patent covers an improved dust seal for rotary kilns consisting essentially of two annular flat rings enclosing a gasket of fiber glass.

T. 260

2,341,994 February 15, 1944 F. L. Kingsbury et al.

This patent covers a method for lowering what is termed the "paint bodying tendency" of calcium sulfate pigments, including calcium sulfate itself and TiO_2-$CaSO_4$ composite pigments, by mixing the particles of such pigments with certain organic compounds called "aliphatic amines" containing at least 2 nitrogen atoms, e.g. triethylene tetramine.

Consistency of "body" of a paint composition is defined as its resistance to deformation of flow. This property is related to the brushing characteristics of a paint and its adherence as a non-flowing film when it is applied wet to a surface. Not all paint compositions prepared from pigments, or mixtures of pigments and vehicles, possess a desired consistency of body. In order to produce a desired body of consistency, the paint maker adds to the paint composition during its preparation, very small amounts, 1%

and less, of water or a soap solution. In connection with this means of increasing the body of paint compositions, it was observed that when calcium sulfate pigments were present in the compositions, erratic bodying results were obtained. In general, there was produced an excessive amount of body.

The Titanium Division undertook to study this problem and if possible, develop corrective methods therefor. It appeared that the bodying tendency, excessive or otherwise, of a calcium sulfate pigment was related to the sensitivity of that pigment to moisture. As it was extremely sensitive, it generally produced an excessive bodying. Mr. Kingsbury and his co-worker, Mr. Schultz, discovered that when calcium sulfate pigments were admixed with small amounts of the above-defined amine compounds, the bodying tendency of a calcium sulfate pigment was materially lowered. In other words, they discovered how a calcium sulfate pigment possessing excessive bodying tendency could be rendered useful for the preparation of bodied paint compositions.

T. 263

2,344,265 March 14, 1944 W. W. Plechner et al.

This patent covers a method for carrying out the hydrolysis of titanium sulfate solution by first dividing the solution into a major portion and a minor portion, hydrolyzing the major portion until the titanium values are partly precipitated, then mixing the minor portion with the partially hydrolyzed major portion and hydrolyzing the mixture until the titanium values have been substantially completely precipitated.

N. L. Exhibit 5

W-5

2,344,288 March 14, 1944 R. Dahlstrom

This patent covers a method for preparing titanium sulfate solutions by reacting titaniferous ore with strong sulfuric acid; dissolving the resulting digestion cake in an aqueous solution, separating this solution from undissolved residues, heating these residues in order to dehydrate them, and if desired, to reduce the content thereof to metallic state, admixing the heated residue with fresh ore and reacting the mixture with strong sulfuric acid.

In any process based upon the attack of titaniferous ore with strong sulfuric acid, the reaction which occurs does not render soluble all of the titanium content of the ore. Explaining this another way, it may be said that the reaction does not go to completion and that the yield of recovered titanium is less than 100%. The unattacked titanium values of the ore are to be found in the solid residues separated during the clarification of the titanium solution obtained by dissolving the digestion, or attack cake. In order to increase the recovery of titanium values, the possibility of returning this residue economically, to the process, was investigated by the Titanium Division. Various techniques for accomplishing this were investigated; returning the residue directly; reacting the residue with sulfuric acid and returning the reaction products to the process; heating the residues and returning the heated residues to the digestion reaction. This latter procedure is the basis for patent No. 2,344,288. It was found that when residues are heated prior to returning them to the process, various advantages accrue, e.g. the settling rate during subsequent dissolution is increased and the amount of ferric iron present in the solution is reduced.

N. L. Exhibit 5

W-21

2,344,319 March 14, 1944 W. F. Meister

This patent covers a method of purifying titanium tetrachloride by mixing a crude impure titanium tetrachloride with iron sulfate (ferrous sulfate heptahydrate), boiling the mixture under refluxing conditions and then distilling the purified titanium tetrachloride.

The invention covered in this patent results from a systematic investigation recently undertaken by the research laboratories of the Titanium Division directed to developing, or ascertaining, the essential conditions for a process for the preparation of titanium dioxide pigments using titanium chloride solutions in place of titanium sulfate solutions. As part of this work, the influence of the purity of the starting material, titanium tetrachloride, upon the pigment properties of the ultimately obtained titanium dioxide was studied. It was found that impurities contained in the titanium tetrachloride had a marked effect particularly on the color of the final titanium dioxide pigment. Accordingly, the research laboratory gave attention to the development of a method for purifying titanium tetrachloride. Mr. Meister developed one such method and it forms the basis for patent No. 2,344,319.

W-6

2,346,296 April 11, 1944 H. Espenschied

This patent covers the preparation of an improved pigmentary grade of calcium titanate (the chemical compound resulting from the combination of lime, CaO, and titanium dioxide, TiO_2), by calcining lime and titanium dioxide together with small amounts of silica, antimony oxide, and

magnesia. The improvement thereby obtained is with respect to increased brightness and stability against photosensitivity.

The pigmentary possibilities of various titanates, including those of calcium, barium, lead, magnesium, zinc, etc. have been known for a considerable length of time. V. M. Goldschmidt in his patent No. 1,436,164 of November 21, 1922, discloses the preparation and pigmentary usefulness of such titanates. However, with the exception of lead titanate, titanate pigments have not enjoyed any considerable commercial exploitation. Among the reasons for the lack of commercial interest may be mentioned that titanate pigments do not possess the high tinting strength of pure titanium oxide, and although, in general, they are more resistant to chalking than titanium dioxide, they nevertheless, possess a tendency to discolor when exposed to the actinic rays of the sunlight.

Several years prior to 1940, Dr. W. K. Nelson of the research staff of the Titanium Division of National Lead Company, investigated the pigment possibilities of various titanates including calcium titanate. He observed that calcium titanate made from lime and titanium dioxide has a poor greyish color and displays marked photosensitivity. While the use of purified starting materials gave some improvement, he found that it was not possible to prepare a calcium titanate having a satisfactory color tinting strength and photosensitive stability. In a sense, Dr. Nelson's work can be considered as an investigation of compounds disclosed earlier by Goldschmidt and a report on their pigment properties. Following the work of Dr. Nelson, Dr. H. Espenschied undertook the study of how the color tinting strength and photosensitivity and stability of calcium titanate could be improved. His study led to the discoveries

embodied in patent No. 2,346,296 of April 11, 1944. Calcium titanate prepared according to the method of this patent possesses superior color tinting strength and photosensitive stability over products prepared by prior art methods.

W-1

2,346,320 April 11, 1944 W. G. Moran

This patent covers a method for clarifying acid liquors, especially titanium sulfate solutions, by forming, in situ, an insoluble colloidal metal sulfide, e.g., antimony sulfide, then adding a coagulating colloid, e.g., glue.

T. 243B

2,346,188 April 11, 1944 D. W. Robertson

This patent covers a method for improving the chalk resistance of titanium pigments by coating the particles thereof with zirconium silicate resulting from the reaction between a soluble zirconium salt, e.g. zirconium chloride and an alkali metal silicate, e.g. sodium silicate.

W-2

2,346,322 April 11, 1944 W. K. Nelson

This patent covers a method for improving the chalk resistant properties of titanium dioxide pigments by coating particles of such pigments with an insoluble chromium-hydrate, an insoluble white metal silicate, preferably zirconium silicate and aluminum hydrate.

C. F. KAEGEBEHN
Patent Department
National Lead Company
January 16, 1945

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N. L. Exhibit 6

DIGEST SUMMARY

DuPont Patents Used by National Lead Co.

N. L. Exhibit 6

A—Patents:

Patent No.
1,707,248 April 2, 1929 J. Blumenfeld

Process for preparing titanium dioxide including the steps of: a) digestion of ilmenite with sulfuric; b) dissolution of digestion cake; c) removal of ferrous sulfate by crstallization; d) hydrolysis and e) concentration of sulfuric acid hydrolysis mother liquor.

Patent No.
1,796,467 March 10, 1931 J. Blumenfeld
(Re.18,854)

"Seeding hydrolysis" Nucler which favorably influence the hydrolysis of a titanium sulfate solution is formed by slowly adding a titanium sulfate solution to water, or to another titanium sulfate solution of lesser concentrate, after which hydrolysis is effected by boiling.

Patent No.
1,851,487 March 29, 1932 J. Blumenfeld

Nucleated hydrolysis. According to this patent the nuclei is a colloidal solution of titanium form external to the solution to be hydrolyzed to which it is then added and hydrolysis effected by heating the mixture.

Patent No.
1,885,921 November 1, 1932 G. Kubin

Method for reducing the oil absorption of titanium dioxide pigment by first wet milling said pigment; drying it and then dry grinding it.

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Patent No.
1,892,693 January 3, 1933 J. Blumenfeld et al

This patent covers the calcination of hydrous titanium oxide admixed with a small amount of an alkali metal compound, e.g. potassium sulfate whereby a soft textured, smooth pigment is obtained.

Patent No.
1,937,037 November 28, 1933 M. L. Hanahan

Method for improving the texture which comprises dispersing a titanium dioxide pigment in water by means of an alkaline-reacting dispersing agent, separating the dispersed finer particles from the settled coarser particles, and coagulating the finer particles.

Patent No.
2,044,941 June 23, 1936 M. L. Hanahan

Covers specifically the fine textured titanium dioxide obtained according to the method of patent No. 1,937,037, q.2.

T. 200
DK 1
Patent No.
2,046,054 June 30, 1936 J. E. Booge

"Blended" composite pigments prepared by intimately and uniformily mixing titanium dioxide with an extender both of which have predetermined fineness of particle size and uniformity of particle size distribution.

Patent No.
2,047,208 July 14, 1936 I. J. Krchma

Method for reducing titanium sulfate solutions by subjecting such solutions to the action of two metals, e.g. iron and tin in the form of tin-plate scrap.

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Patent No.
2,111,788 March 22, 1938 I. J. Krchma

Apparatus and method for removing colloidal impurities from titanium sulfate solutions. The method includes flowing the solution through a path having an increasing cross-section, introducing a flocculating agent, e.g. glue, into the flowing solution at a point close to where the cross-section of flow increases, allowing the treated solution to flow into a vessel in which the colloidal matter settles to the bottom and the clarified solution overflows at the top.

DK 29
Patent No.
2,150,235 March 14, 1939 R. M. McKinney

Method for controlling the oil absorption of titanium dioxide pigment by calcining hydrous titanium oxide in admixture with a phosphorous compound, e.g. alkali metal phosphate or phosphoric acid, and an alkali metal salt, e.g. potassium sulfate.

DK 15
Patent No.
2,151,339 March 21, 1939 R. W. Sullivan

Method for preparing anhydrite calcium sulfate useful in the preparation of composite titanium pigment by neutralizing strong sulfuric acid with an alkaline reacting calcium compound and heating the calcium sulfate so formed in an acid medium to effect dehydration of any hydrated calcium sulfate formed.

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DK 33
Patent No.
2,163,385 June 20, 1939 R. W. Sullivan

Preparation of anhydrite calcium sulfate by controlled "slaking" of lime to form a milk of lime containing between 12% and 20% CaO and reacting this milk of lime with sulfuric acid.

DK 20
Patent No.
2,187,050 January 16, 1940 G. D. Patterson

Treatment of titanium pigments with alumina by mixing a titanium pigment with a small amount of a freshly precipitated, washed, moist aluminum oxide.

DK 12
Patent No.
2,192,501 March 5, 1940 R. M. McKinney

Controlling the subordinate tint of a titanium dioxide pigment to obtain a bluish tint by cooling to 750° C after calcination in 3-5 seconds, or to obtain a yellowish tint by cooling to 750° C after calcination in 5-7½ seconds.

DK 43
Patent No.
2,214,815 September 17, 1940 M. L. Hanahan; et al.

Titanium pigments of low oil absorption by first subjecting same to a pulverizing type milling then to a disintegrating type milling.

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DK 32
Patent No.
2,218,704 October 22, 1940 A. M. Erskine

Titanium dioxide usual in the preparation of lithographic inks by coating particles of titanium dioxide with hydrous titanium oxide.

DK 45
Patent No.
2,220,952 November 12, 1940 H. C. Brill

Titanium pigments yielding paints of unimpaired gloss and flow properties which comprises admixing with a titanium pigment a small amount of a metal salt of a sulfonated aromatic petroleum, e.g. the barium salt.

DK 83
Patent No.
2,224,777 December 10, 1940 J. E. Booge

Titanium pigments having improved weather resistance by calcining hydrous titanium oxide in admixture with a small amount of an antimony-oxygen compound.

DK 87
Patent No.
2,232,168 February 18, 1941 D. H. Dawson

Titanium pigments having improved weather resistance coating the particles thereof with the hydrated oxides of chromium and aluminum.

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DK 63
Patent No.
2,253,595 August 26, 1941 H. J. Wood

Hydrolysis of titanium sulfate solutions by maintaining same in turbulent condition during nucleating by mechanical agitation, allowing the solution to remain quiescent until it becomes cream-colored, then agitating it to turbulence again for the remainder of the hydrolysis.

DK 49
Patent No.
2,254,630 September 2, 1941 R. W. Sullivan

Titanium pigments having improved gloss retention by coating the particles thereof with naphthenic acid and salts thereof, e.g. the calcium salt.

DK 60
Patent No.
2,259,638 October 21, 1941 W. W. Heckert

In the preparation of pigmentary useful anhydrite calcium sulfate by reaction of an alkaline calcium compound with strong sulphuric acid the hydration of the resultant calcium sulfated is retarded by having present during the reaction a small amount of a water-soluble protein, e.g. gelatin or glue.

DK 59
Patent No.
2,280,590 April 21, 1942 I. J. Krchma

Cyclical returning of digestion residues from clarification. A titanium sulfate solution is clarified by forming,

in situ, an insoluble metal sulfide, e.g. arsenic sulfide, the settled residues are returned to a digestion reaction of ilmenite and sulfuric whereby the arsenic is solubilized. The resultant solution contains the arsenic in solution which upon addition of a soluble sulfide forms insoluble arsenic sulfide which effects clarification. The cycle is then repeated.

DK 71
Patent No.
2,296,636 September 22, 1942 M. L. Hanahan

Titanium pigment having improved surface hiding power by coating the particles of such pigment with silica gel.

DK 72
Patent No.
2,296,639 September 22, 1942 M. L. Hanahan

Titanium pigment having improved surface hiding power and low water sensitivity by precipitating upon the particles of such pigment a metal silicate, e.g. calcium silicate, by means of a reaction between a water-soluble silicate, e.g. sodium silicate, and a soluble salt of a metal forming an insoluble silicate, e.g. calcium chloride.

DK 84
Patent No.
2,305,368 December 15, 1942 R. K. Whitten

Eliminating of chromium and vanadium impurities from hydrous titanium oxide by suspending such oxide in sulfuric acid and boiling the same. No more than 15% of the hydrous oxide should be dissolved. Thereafter the purified hydrous oxide is recovered and calcined.

N. L. Exhibit 6

DK 150
Patent No.
2,342,483 February 22, 1944 C. M. Olson

Method of producing titanium dioxide by hydrolyzing a titanium solution in the presence of both anatase yield-producing and rutile-inducing nuclei, separating the precipitated hydrate and calcining it to rutile TiO_2.

DK 134
Patent No.
2,357,089 August 29, 1944 W. H. Daiger

Coating titanium pigment with the silicate of a 4th Group metal, e.g. zirconium silicate by carrying out the reaction between a soluble salt of a 4th Group metal and a soluble silicate in the presence of particles of the titanium pigment in such manner that the pigment has acidic properties.

B—Patent Applications:

DK 135
Ser. No.
392,941 Filed May 10, 1941 G. R. Seidel

Improved weather resistant titanium pigments by coating particles with hydrous oxides of titanium and aluminum.

DK 141
Ser. No.
426,248 Filed January 9, 1942 C. M. Olson et al.

Rutile producing nuclei by treating hydrous titanium oxide derived from the neutralization of a titanium chloride at an elevated temperature first in an alkaline medium, then in an acidic medium.

N. L. Exhibit 6

DK 142
Ser. No.
426,249 Filed January 9, 1942 J. N. Patterson

A rutile pigment obtained by calcination in presence of alkali metal salt and a compound forming an oxide of the metals: aluminum, zinc, magnesium and beryllium.

DK 144
Ser. No.
426,251 Filed January 9, 1942 J. L. Keats.

Rutile by calcining anatase hydrate in admixture with a hydrated which yields rutile on calcination.

DK 152
Ser. No.
472,876 Filed January 19, 1943 C. M. Olson et al.

Preparation of pure "syfithetic" titanium chloride solution by adding calcium chloride to a titanium sulfate solution, separating the precipitated calcium sulfate, then adding barium chloride to precipitate residual sulfate remaining in solution.

DK 153
Ser. No.
483,058 Filed April 14, 1943 L. F. Nerlinger

White pigments with improved flat hiding power by admixing with same a minor amount of collodial bentonite.

C. F. Kaegebehn
National Lead Company
Patent Department
January 12, 1945

N. L. Exhibit 7

IN THE

DISTRICT COURT OF THE UNITED STATES

FOR THE SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA, *Plaintiff,* v. NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS & COMPANY, INC., *Defendants,*	Civil No. 26-258

ANSWER OF NATIONAL LEAD COMPANY TO PLAINTIFF'S INTERROGATORIES

The defendant National Lead Company answers the plaintiff's interrogatories served September 28, 1944 as follows:

STATE OF NEW YORK } ss.:
COUNTY OF NEW YORK }

CHARLES F. KAEGEBEHN, being duly sworn, deposes and says that he is Manager of the Patent Department of National Lead Company and that he answers Interrogatory No. 1 as follows:

1. National Lead Company's subsidiary, Titanium Pigment Company, Inc., owned as assignee or had a right to use as licensee, either exclusively or non-exclusively, the following United States or foreign patents or applications for letters patent relating to the manufacture or use of TiO_2 or TiO_2 composite pigments or products containing TiO_2, on or at any time prior to January 1, 1933:

I. U. S. Patents and Patent Applications.

A. U. S. patents owned by Titanium Pigment Company, Inc., as assignee, on and prior to January 1, 1933:

	Patent No.	Date of Issue	Inventor	
	1,080,718	Dec. 9, 1913	A. J. Rossi	*Reduced titanium (titanous) chloride as a bleaching agent*
	1,080,721	Dec. 9, 1913	C. M. E. Schroeder	
	1,105,308	July 28, 1914	A. J. Rossi	
	1,106,406	Aug. 11, 1914	A. J. Rossi L. E. Barton	*"Fusion" treatment ilmenite, caustic alkal. and reducing agent (carbon), fused together, melt trated to obtain concentrate of TiO_2*
	1,106,407	Aug. 11, 1914	A. J. Rossi L. E. Barton	
	1,106,408	Aug. 11, 1914	A. J. Rossi L. E. Barton	
*Used	1,106,409	Aug. 11, 1914	A. J. Rossi L. E. Barton	
*Used	1,106,410	Aug. 11, 1914	A. J. Rossi L. E. Barton	
	1,155,462	Oct. 5, 1915	L. E. Barton	*Composite, pigment—extender formed in situ*
	1,166,547	Jan. 4, 1916	A. J. Rossi L. E. Barton	*Fusion treatment of ilmenite*
Used	1,171,542	Feb. 15, 1916	A. J. Rossi L. E. Barton	
	1,179,394	Apr. 18, 1916	L. E. Barton	
	1,184,131	May 23, 1916	A. J. Rossi	*—Production of $TiCl_4$*
	1,189,229	July 4, 1916	L. E. Barton	*—Fusion treatment of ilmenite*
	1,196,029	Aug. 29, 1916	A. J. Rossi L. E. Barton	*Fusion treatment of ilmenite —processing of TiO_2 concentrate to pure TiO_2 pigment thru step of calcining "basic titanic sulfate"*
	1,196,030	Aug. 29, 1916	A. J. Rossi L. E. Barton	
	1,196,031	Aug. 29, 1916	A. J. Rossi L. E. Barton	
	1,201,541	Oct. 17, 1916	L. E. Barton	*—Fusion treatment of ilmenite*

"Used" means: commercially used

NOTE: Italic denotes handwriting on original exhibit.

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	Patent No.	Date of Issue	Inventor	
	1,205,144	Nov. 21, 1916	L. E. Barton	*Composite pigment—extender formed in situ*
"Use" Patent	1,205,267	Nov. 21, 1916	A. J. Rossi C. M. E. Schroeder	*Paint containing TiO_2*
"Use" Patent	1,205,268	Nov. 21, 1916	A. J. Rossi C. M. E. Schroeder	*Paint containing TiO_2 and white lead*
"Use" Patent	1,205,269	Nov. 21, 1916	A. J. Rossi C. M. E. Schroeder	*Paint containing TiO_2 and zinc oxide*
	1,206,796	Dec. 5, 1916	L. E. Barton	*Fusion treatment of ilmenite*
	1,206,797	Dec. 5, 1916	L. E. Barton	
Used	1,206,798	Dec. 5, 1916	L. E. Barton	
	1,218,161	Mar. 6, 1917	L. E. Barton	*Composite TiO_2-$BaSO_4$ pigment and paints containing same*
	1,223,356	Apr. 24, 1917	L. E. Barton	*—TiO_2 by dilution of TiO_2*
	1,223,357	Apr. 24, 1917	L. E. Barton	*Composite pigment—extender formed separately or in situ*
	1,223,358	Apr. 24, 1917	L. E. Barton	*Pure TiO_2 from dilute solution*
	1,234,260	July 24, 1917	L. E. Barton	*Composite pigment-extender formed separately or in situ*
	1,235,638	Aug. 7, 1917	L. E. Barton	*Pure TiO_2 from dilute solution by heat and electrolysis*
"Use" Patent	1,236,367	Aug. 7, 1917	L. E. Barton	*TiO_2 in linoleum*
	1,236,655	Aug. 14, 1917	L. E. Barton	*Composite TiO_2-$BaSO_4$ pigment $BaSO_4$ formed in situ*
	1,240,405	Sept. 18, 1917	L. E. Barton	*Composite pigment-extender formed separately or in situ*
	1,251,170	Dec. 25, 1917	L. E. Barton	*Composite pigments by mechanical mixing of TiO_2 + extender*
	1,272,855	July 16, 1918	A. J. Rossi	*Hydrolysis accelerated by organic matter*

	Patent No.	Date of Issue	Inventor	
"Use" Patent	1,283,455	Nov. 5, 1918	L. E. Barton H. A. Gardner	*TiO_2 in printing inks*
	1,286,916	Dec. 10, 1918	L. E. Barton H. A. Gardner	*Colored TiO_2 lake pigment*
	1,288,473	Dec. 24, 1918	L. E. Barton	*—Ternary composite TiO_2 pigment*
	1,313,874	Aug. 26, 1919	L. E. Barton	*—Composite TiO_2 Pigment plus ZnO*
"Use" Patent	1,317,854	Oct. 7, 1919	L. E. Barton H. A. Gardner	*Coated fabrics containing TiO_2*
"Use" Patent	1,322,518	Nov. 25, 1919	L. E. Barton	*—Rubber goods containing TiO_2*
"Use" Patent	1,326,319	Dec. 30, 1919	L. E. Barton H. A. Gardner	*Rubber goods containing composite TiO_2 pigment*
	1,338,473	Apr. 27, 1920	H. Wrigley H. Spence	*Oleum plus ilmenite—steam to start reaction—removal of iron sulfate by crystallization*
Used	1,348,843	Aug. 10, 1920	L. E. Barton	*—Fusion treatment of ilmenite*
"Use" Patent	1,362,917	Dec. 21, 1920	L. E. Barton H. A. Gardner	*Glass containing TiO_2*
	1,365,882	Jan. 18, 1921	L. E. Barton H. A. Gardner	*Cellulose plastic Containing TiO_2*
	1,396,924	Nov. 15, 1921	H. H. Buckman	*Composite TiO_2-$BaSO_4$ pigment*
Used	1,402,256	Jan. 3, 1922	H. H. Buckman	*Pressure digestion*
Used T. 25	1,409,648	Mar. 14, 1922	L. E. Barton	*Composite TiO_2-$BaSO_4$ pigment separately prepared extender*
Used	1,410,056	Mar. 21, 1922	H. H. Buckman	*Pressure digestion*
	1,411,839	Apr. 4, 1922	H. H. Buckman	*Composite pigment by heating together TiO_2 plus extender*
	1,429,841	Sept. 19, 1922	H. H. Buckman	*Pressure digestion*

N. L. Exhibit 7

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B. U. S. patent applications owned by Titanium Pigment Company, Inc., as assignee on and prior to January 1, 1933:

	Application Serial No.	Date of Filing	Patent No. if any	Date of Issue	Applicant-Inventor	
T. 28	115,106	June 10, 1926	Abandoned	July 9, 1929		
Used T. 77A	394,917	Sept. 24, 1929	1,906,729	May 2, 1933	W. F. Washburn et al.	*Composite TiO_2-$BaSO_4$ (anhydrite) pigment—pure TiO_2 by washing out $CaSO_4$; also TiO_2-$CaSO_4$-$BaSO_4$ composite*
Used T. 78	394,918	Sept. 24, 1929	1,906,730	May 2, 1933	W. F. Washburn et al.	
T. 79	420,811	Jan. 14, 1930	Abandoned	Feb. 1933		
T. 80	424,439	Jan. 29, 1930	Abandoned	Nov. 1932		
T. 81	475,385	Aug. 14, 1930	Abandoned	Feb. 1935		
T. 84A	509,264	Jan. 16, 1931	Abandoned	Nov. 1932		
T. 87	518,898	Feb. 27, 1931	Abandoned	Sept. 1934		
T. 88	525,605	Mar. 26, 1931	Abandoned	Mar. 1933		
T. 84B	528,964	Apr. 9, 1931	Abandoned	Apr. 1933		
Used T. 67	544,284	June 13, 1931	1,916,236	July 4, 1933	L. W. Ryan	*Pure TiO_2—solution poured into hot water, organic acid, H_3PO_4 present*
T. 93	555,529	Aug. 6, 1931	Abandoned	Jan. 1935		
T. 92	569,264	Oct. 16, 1931	1,929,521	Oct. 10, 1935	L. W. Ryan et al.	*Alkali Metal Titanate M_2TiO_3*
T. 90	572,439	Oct. 31, 1931	Abandoned	Feb. 1936		
T. 91	576,198	Nov. 19, 1931	Abandoned	Nov. 9, 1932		
T. 94	580,725	Dec. 12, 1931	Abandoned	Dec. 1932		
T. 99	640,006	Oct. 28, 1932	Abandoned	June 1933		
T. 100	640,007	Oct. 28, 1932	Abandoned	June 1933		
T. 101A	640,008	Oct. 28, 1932	Abandoned	Dec. 1935		
T. 102	640,341	Oct. 29, 1932	1,969,061	Aug. 7, 1934	W. J. Cauwenberg	*Cobalt titanate*
T. 103	640,342	Oct. 29, 1932	Abandoned	Apr. 1934		
T. 104	640,343	Oct. 29, 1932	1,957,528	May 8, 1934	W. J. Cauwenberg	*Hydrolysis of solutions containing amines*

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3902

C. U. S. patents exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. PATENTS OWNED BY TITAN COMPANY A/S

	Patent No.	Date of Issue	Inventor
	966,815	Aug. 9, 1910	P. Farup—*Red pigment by roasting ilmenite*
	1,087,575	Feb. 17, 1914	P. Farup *Yellow pigment by heating ilmenite with H_2SO_4*
	1,156,220	Oct. 12, 1915	P. Farup *Heating ilmenite with H_2SO_4 Leaching iron sulphate*
T. 34	1,276,644	Aug. 20, 1918	V. M. Goldschmidt—*Clarification with sulfur*
T. 17	1,288,863	Dec. 24, 1918	M. Fladmark—*Hydrolysis—boiling conc. solution*
T. 9	1,317,164	Sept. 30, 1919	A. P. Jaeger—*Uncalcined Ti-phosphate Zno pigment*
T. 10	1,317,165	Sept. 30, 1919	A. P. Jaeger—*Calcining in presence of salts*
T. 11	1,325,561	Dec. 23, 1919	P. Farup—*Leaching iron from ilmenite with HCl*
Used T. 1	1,333,819	Mar. 16, 1920	G. Jebsen—*Direct sulfuric acid attack*
Used T. 15	1,333,849	Mar. 16, 1920	H. Olsen et al.—*Controlled reduction of Ti solutions*
T. 2	1,341,307	May 25, 1920	P. Farup—*Calcining in presence of NaCl*
T. 32	1,343,441	June 15, 1920	P. Farup—*TiO_2 from Ti-nitrogen compounds*
T. 22	1,343,446	June 15, 1920	V. M. Goldschmidt—*Lake composite pigment*
T. 29	1,343,447	June 15, 1920	V. M. Goldschmidt—*Composite TiO_2—silica pigment*
T. 30	1,343,468	June 15, 1920	R. Nielsen et al.—*TiO_2—iron oxide—$CaSO_4$ pigment*
Used T. 33	1,343,469	June 15, 1920	R. Nielsen et al. *Neutralizing hydrate with calcium compounds*
Used T. 18	1,348,129	July 27, 1920	V. M. Goldschmidt—*Calcination patent*
Used T. 4	1,360,737	Nov. 30, 1920	P. Farup—*Calcination with H_3PO_4*
Used T. 13A	1,361,866	Dec. 14, 1920	G. Jebsen *Neutralizing with salt forming insoluble sulfate*
T. 13B	1,361,867	Dec. 14, 1920	G. Jebsen *Neutralizing with salt forming soluble sulfate*
T. 8	1,368,392	Feb. 15, 1921	P. Farup *TiO_2 coated with alumina*

	Patent No.	Date of Issue	Inventor
T. 21A	1,389,191	Aug. 30, 1921	V. M. Goldschmidt *Reduced violet-blue Ti pigments*
Used T. 36	1,412,027	Apr. 4, 1922	W. F. Washburn *Calcination with phosphate*
T. 37	1,539,996	June 2, 1925	P. Farup—*TiO_2 from Ti nitrogen compounds*
T. 40	1,619,036	Mar. 1, 1927	A. J. Ravnestad—*Alginate settling*
T. 43	1,852,510	Apr. 5, 1932	P. Farup—*Leaching Ti from ores with H_2SO_4 using sulfide reducing agent*

2. Patents owned by I. G. Farbenindustrie

	1,813,649	July 7, 1931	P. Weise—*Dehydration and decomposition of $FeSO_4$*
T. 144	1,816,388	July 28, 1931	A. Mittasch et al.—*TiO_2 by combustion of $TiCl_4$*
T. 65	1,849,153	Mar. 15, 1932	F. Raspe et al. *Highly concentrated Ti sulfate solutions*
T. 64	1,850,154	Mar. 22, 1932	F. Raspe et al.—*Solid titanium sulfates*
	1,850,286	Mar. 22, 1932	A. Mittasch et al. *TiO_2 by combustion of $TiCl_4$*
	1,878,013	Sept. 20, 1932	K. Staib—*Preparation of $TiCl_4$ by chlorination*
	1,891,210	Dec. 13, 1932	H. Wolff—*Colored titanate pigments*
	1,891,911	Dec. 27, 1932	J. Brode et al. *Digestion with titanous salt in the acid*

N. L. Exhibit 7

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D. U. S. Patent applications exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. PATENT APPLICATIONS OWNED BY TITAN COMPANY A/S

	Application Serial No.	Date of Filing	Patent No. if any	Date of Issue	Applicant-Inventor	
T. 42	185,657	Apr. 21, 1927	1,919,425	July 25, 1933	P. Farup	*Direct digestion of ilmenite with H_2SO_4 to form solution*
	185,659	Apr. 21, 1927	Abandoned	June 1932		
	580,212	Dec. 10, 1931	Abandoned	Nov. 1932		

2. PATENT APPLICATIONS OWNED BY I. G. FARBENINDUSTRIE

	Application Serial No.	Date of Filing	Patent No. if any	Date of Issue	Applicant-Inventor	
	176,286	Mar. 17, 1927	Abandoned			
	176,288	Mar. 17, 1927	Abandoned			
	176,290	Mar. 17, 1927	Abandoned			
	240,650	Dec. 16, 1927	Abandoned			
	272,563	Apr. 28, 1928	Abandoned			
	353,254	Apr. 6, 1929	Abandoned			
	431,974	Feb. 27, 1930	Abandoned			
	555,141	Aug. 4, 1931	Abandoned			
	580,212	Dec. 10, 1931	Abandoned			
T. 123	590,774	Feb 3, 1932	2,068,294	Jan. 19, 1937	E. Korinth et al.	*Colored Ti- pigments*

II. Foreign Patents and Patent Applications

A. Canadian patents owned by Titanium Pigment Company, Inc. as assignee on and prior to January 1, 1933:

Patent No.	Date of Issue
172,736	Oct. 24, 1916
178,261	July 17, 1917
178,262	July 17, 1917
178,263	July 17, 1917
179,281	Sept. 11, 1917
179,282	Sept. 11, 1917
179,283	Sept. 11, 1917
179,284	Sept. 11, 1917
182,752	Mar. 5, 1918
182,753	Mar. 5, 1918
191,178	June 24, 1919
191,179	June 24, 1919
191,180	June 24, 1919
191,181	June 24, 1919
231,297	May 22, 1923
242,164	Aug. 12, 1924
274,070	Sept. 20, 1927
280,396	May 22, 1928
285,502	Apr. 2, 1929
287,387	Dec. 19, 1929
288,502	Apr. 2, 1929
293,020	Sept. 10, 1929
294,177	Oct. 22, 1927
297,835	Feb. 25, 1931
299,992	May 6, 1930
314,890	Sept. 1, 1931
317,076	Nov. 10, 1931
317,077	Nov. 10, 1931

N. L. Exhibit 7

B. Canadian patents exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. PATENTS OWNED BY TITAN COMPANY A/S

	Patent No.	Date of Issue
T. 34	188,808	Feb. 25, 1919
T. 2	201,703	July 6, 1920
T. 4	201,704	July 6, 1920
	Re. 221,526	July 25, 1922
T. 8	201,705	July 6, 1920
T. 12	201,706	July 6, 1920
T. 9	201,707	July 6, 1920
T. 10	201,708	July 6, 1920
T. 1	201,709	July 6, 1920
T. 13 A. + B	201,710	July 6, 1920
T. 14	201,711	July 6, 1920
T. 18	201,712	July 6, 1920
T. 21	201,713	July 6, 1920
T. 22	201,714	July 6, 1920
T. 29	201,715	July 6, 1920
T. 17	201,716	July 6, 1920
T. 30	201,717	July 6, 1920
T. 15	201,718	July 6, 1920
T. 33	201,719	July 6, 1920
T. 36	225,981	Nov. 14, 1922
T. 37	248,408	Mar. 31, 1925
T. 46	296,929	Jan. 21, 1930
T. 42	309,110	Mar. 3, 1931
T. 43	320,439	Mar. 8, 1932

2. PATENTS OWNED BY TITAN CO. INC.

	Patent No.	Date of Issue
T. 82	328,339	Dec. 6, 1932

3. PATENTS OWNED BY I. G. FARBENINDUSTRIE

	Patent No.	Date of Issue
T. 62	285,355	Dec. 4, 1928
T. 64	301,199	June 17, 1930
T. 65	301,200	June 17, 1930
T. 55	314,219	Aug. 11, 1931

N. L. Exhibit 7

C. Canadian patent applications exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. PATENT APPLICATIONS OWNED BY TITAN COMPANY A/S

	Serial No.	Date of Filing	Patent No.	Date of Issue
T.36	241,087	May 7, 1920	225,981	Nov. 14, 1922
T.83	384,569	Dec. 11, 1931	Abandoned	

2. PATENT APPLICATIONS OWNED BY I. G. FARBENINDUSTRIE

	Application Serial No.	Date of Filing	Patent No.	Date of Issue
T.59	342,140	Oct. 8, 1928	Abandoned	
T.66	349,044	Apr. 8, 1929	Abandoned	
T.76B	380,664	Aug. 26, 1931	Abandoned	
T.98	393,073	Sept. 29, 1932	339,670	Feb. 27, 1934

D. Newfoundland patents exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

	Patent No.	Date of Issue
T. 13	253	Nov. 28, 1917
T. 1	258	Apr. 4, 1918
T. 17	278	Nov. 11, 1918
T. 15	283	Dec. 19, 1918
T. 18	284	Dec. 18, 1918
T. 19	285	Dec. 19, 1918
T. 34	326	Feb. 14, 1920

E. Mexican patents exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

	Patent No.	Date of Issue
T. 36	19,396	Aug. 1, 1919

F. Brazilian patents owned by Titanium Pigment Company, Inc. on or prior to January 1, 1933:

	Patent No.	Date of Issue
T. 69	18,261	Mar. 11, 1930

	Patent No.	Date of Issue	Inventor	
T. 21B	1,436,164	Nov. 21, 1922	V. M. Goldschmidt	*Titanate pigments*
T. 39	1,501,587	July 15, 1924	C. A. Doremus	*TiO_2 from hydrofluoric acid solutions*
Used T. 28	1,680,316	Aug. 14, 1928	L. E. Barton	*—Composite TiO_2-Acicular $CaSO_4$ pigment*
T. 26	1,695,270	Dec. 18, 1928	L. W. Ryan, L. E. Barton, C. J. Kinzie	*Fusion treatment of ilmenite*
Used T. 27	1,697,929	Jan. 8, 1929	L. W. Ryan	*—Potassium titanate*
T. 54	1,738,765	Dec. 10, 1929 (*I. G.*)	F. Doerinckel, L. Mehler	*Hydrolysis of solutions reduced with sulfur reducing agents*
T. 63	1,758,472	May 13, 1930 (*I. G.*)	M. Schnetka	*Hydrolysis of solutions containing fluorides*
Used T. 41	1,773,727	Aug. 26, 1930 (*A/S*)	P. Farup	*Continuous hydrolysis*
Used T. 67	1,820,987	Sept. 1, 1931	L. W. Ryan	*Pure TiO_2 — solution poured into hot water; organic acid, H_3PO_4 present*
Used T. 68	1,820,988	Sept. 1, 1931	L. W. Ryan	
T. 44	1,831,852	Nov. 17, 1931 (*A/S*)	P. Farup	*Dissolving TiO_2 from reduced ore*
"Use" Patent T. 69	1,847,539	Mar. 1, 1932	A. H. Sabin	*Nitrocellulose paint containing TiO_2*
T. 151	1,856,565	May 3, 1932	C. A. Klein, R. S. Brown	*TiO_2-$BaSO_4$ composite pigment*
Used T. 47	1,889,027	Nov. 29, 1932	W. F. Washburn	*—Tank digestion*

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G. Brazilian patents non-exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. By Titan Company A/S

	Patent No.	Date of Issue
T. 17	10,482	Aug. 31, 1917
T. 18	10,483	Aug. 20, 1919
T. 19	10,484	Aug. 20, 1919
T. 36	12,009	June 20, 1921

H. Argentine patents owned by Titanium Pigment Company, Inc. on or prior to January 1, 1933:

	Patent No.	Date of Issue
T. 69	33,282	Apr. 8, 1930

J. Argentine patents non-exclusively licensed to Titanium Pigment Company, Inc. on or prior to January 1, 1933:

1. By Titan Company A/S

	Patent No.	Date of Issue
T. 17	14,128	Dec. 28, 1917
T. 36	14,477	Dec. 30, 1921
T. 19	14,740	July 19, 1918
T. 18	14,862	Aug. 20, 1918

K. Other foreign patents and patent applications owned by Titanium Pigment Co., Inc. on or prior to January 1, 1933:

1. *Great Britain*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
U. S. P. 1,205,144	105,645	May 9, 1916
U. S. P. 1,106,409	105,646	May 10, 1916
U. S. P. 1,196,030	105,853	May 14, 1916
1,205,268		
U. S. P. 1,205,269	105,962	May 2, 1916
U. S. P. 1,206,798	106,428	Nov. 22, 1916
U. S. P. 1,206,797	106,584	Nov. 22, 1916
U. S. P. 1,206,796	106,585	Nov. 22, 1916
U. S. P. 1,189,229	108,693	June 15, 1916
1,206,269		
U. S. P. 1,218,161	108,805	Jan. 11, 1917

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Patent No.		Date of Issue
U. S. P. 1,234,260	108,875	June 15, 1916
U. S. P. 1,236,367	110,324	June 14, 1917
U. S. P. 1,326,319	111,257	June 29, 1917
T. 25	180,089	Feb. 28, 1921
T. 39	206,809	Nov. 8, 1922
T. 28	281,459	Nov. 9, 1926
T. 47	288,569	Apr. 12, 1927
T. 27	289,111	Nov. 17, 1926
T. 68	308,723	Mar. 27, 1928
T. 69	329,333	Nov. 12, 1928
T. 78	364,112	Sept. 24, 1929
T. 77A	364,562	Sept. 24, 1929
T. 80	370,088	Jan. 29, 1930
T. 79	374,420	Jan. 14, 1930
T. 81A	387,720	Aug. 14, 1930
T. 84A	395,406	Jan. 16, 1931
T. 84B	399,183	Apr. 9, 1931
T. 93	405,340	Aug. 6, 1931
T. 92	408,215	Oct. 16, 1931
T. 90	409,354	Oct. 31, 1931
T. 91	410,749	Nov. 19, 1931
T. 102	413,915	Oct. 29, 1932
T. 103	415,602	Oct. 29, 1932
T. 101A	416,615	Oct. 28, 1932
T. 100	417,699	Oct. 28, 1932
T. 99	426,881	Oct. 28, 1932

b. Patent applications owned by Titanium Pigment Company, Inc. Ser. No. 28,948 of Nov. 16, 1926—Abandoned.

2. *France*

a. Patents owned by Titanium Pigment Company, Inc.

Patent No.		Date of Issue
	481,721	May 11, 1916
U. S. P. 1,205,144	481,722	May 11, 1916
U. S. P. 1,196,030	482,699	Aug. 29, 1916
U. S. P. 1,189,229	483,197	June 24, 1916
U. S. P. 1,234,260	483,198	June 24, 1916
U. S. P. 1,206,796	483,780	Dec. 12, 1916

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	Patent No.	Date of Issue
U.S.P. 1,206,797	483,781	Dec. 12, 1916
U.S.P. 1,206,798	483,782	Dec. 12, 1916
U.S.P. 1,326,319	485,975	May , 1917
T. 25	533,866	Apr. 7, 1921
T. 39	566,890	May 31, 1923
T. 26	624,944	Nov. 22, 1926
T. 27	624,945	Nov. 22, 1926
T. 28	624,946	Nov. 22, 1926
T. 47	652,357	Apr. 7, 1928
T. 67	672,002	Mar. 25, 1929
T. 68	672,003	Mar. 25, 1929
T. 69	666,109	Dec. 20, 1928
T. 77A	704,044	Sept. 22, 1930
T. 78	704,585	Sept. 22, 1930
T. 80	709,953	Jan. 26, 1931
T. 81A	721,188	Aug. 10, 1931
T. 79	722,035	Jan. 10, 1931
T. 84A	729,798	Jan. 15, 1932
T. 87/88	732,219	Feb. 26, 1932
T. 84B	734,601	Apr. 4, 1932
T. 93	740,890	Aug. 5, 1932
T. 92	743,851	Oct. 10, 1932
T. 90	744,617	Oct. 27, 1932
T. 94	747,370	Dec. 10, 1932
T. 91	748,714	Nov. 19, 1932

3. *Norway*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
U.S.P. 1,206,798	28,673	
U.S.P. 1,236,367	29,191	Mar. 2, 1918
U.S.P. 1,206,796	29,194	Mar. 2, 1918
T. 25	35,887	Mar. 15, 1921
T. 39	40,481	June 5, 1923
T. 28	45,513	Oct. 28, 1926
T. 69	47,269	Nov. 26, 1928
T. 27	47,530	Sept. 27, 1926
T. 67	47,727	Mar. 26, 1929

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	Patent No.	Date of Issue
T. 68	47,728	Mar. 26, 1929
T. 47	50,751	April 4, 1928
T. 77A	52,185	Sept. 18, 1930
T. 78	52,186	Sept. 18, 1930
T. 79	52,224	Jan. 8, 1931
T. 81A	52,225	Aug. 6, 1931
T. 80	52,716	Jan. 23, 1931
T. 84A	53,171	Jan. 15, 1932
T. 92	53,466	Oct. 11, 1932
T. 90	55,058	Oct. 25, 1932

b. Patent applications owned by Titanium Pigment Company, Inc.
Ser. No. 36,035 filed Sept. 27, 1926—Abandoned.

4. *Sweden*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
U. S. P. 1,205,144	43,728	Prior to 1920
U. S. P. 1,206,798	43,837	Prior to 1920
U. S. P. 1,206,796	44,896	Prior to 1920
U. S. P. 1,189,229	45,386	Prior to 1920
U. S. P. 1,206,797	45,387	Prior to 1920
U. S. P. 1,234,260	46,581	Prior to 1920
T. 25	56,548	Mar. 23, 1921
T. 28	66,352	Nov. 8, 1926
T. 47	70,868	Feb. 7, 1928

b. Patent applications owned by Titanium Pigment Company, Inc.
T. 69 Ser. No. 5,294/Dec. 7, 1928—Abandoned.

5. *Denmark*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	30,456	Oct. 4, 1922
T. 69	41,799	Feb. 26, 1930

6. *Finland*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 69	13,998	Dec. 24, 1928

7. *Germany*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	399,690	Mar. 18, 1921
T. 27	497,626	Nov. 17, 1926
T. 28	516,314	Nov. 11, 1926
T. 67	542,007	Mar. 16, 1929
T. 68	542,341	Mar. 16, 1929
T. 80	570,875	Jan. 28, 1931
T. 47	571,387	Mar. 13, 1928
T. 78	588,230	Sept. 23, 1930
T. 77A	588,446	Sept. 23, 1930
T. 77B.	602,499	Sept. 23, 1930
T. 90	604,311	Oct. 28, 1932
T. 81A	607,395	Aug. 2, 1931
T. 92	610,117	Oct. 9, 1932

b. Patent applications owned by Titanium Pigment Company, Inc.

T. 26	Ser. No. T. 32,629 filed Nov. 16, 1926—Abandoned
T. 69	Ser. No. T. 36,018 filed Nov. 28, 1928—Abandoned
T. 79	Ser. No. T. 93.30 filed Dec. 30, 1930—Abandoned
T. 84A	Ser. No. T. 40,042 filed Jan. 11, 1932—Abandoned
T. 87/88	Ser. No. T. 40,295 filed Feb. 1932—Abandoned
T. 100	Ser. No. T. 43,188 filed Oct. 25, 1933—

8. *Holland*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	11,137	Mar. 16, 1924
T. 27	20,175	May 16, 1929
T. 28	21,863	Apr. 17, 1930
T. 47	23,311	Nov. 16, 1930
T. 67	25,992	Dec. 16, 1931
T. 68	27,331	June 16, 1932
T. 77a	29,514	Mar. 16, 1933

b. Patent applications owned by Titanium Pigment Company, Inc.

T. 69	Ser. No. 44,144 filed Dec. 18, 1928—Abandoned
T. 26	Ser. No. 35,168 filed Nov. 20, 1926—Abandoned

9. *Belgium*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	295,265	Mar. 30, 1921
T. 26	337,705	Nov. 22, 1926
T. 27	337,706	Nov. 22, 1926
T. 28	337,707	Nov. 22, 1926
T. 28	339,131	Nov. 22, 1926
T. 47	350,408	Apr. 10, 1928
T. 69	356,909	Dec. 26, 1928
T. 68	359,277	Mar. 25, 1929
T. 67	359,278	Mar. 25, 1929
T. 77a	373,617	Sept. 22, 1930
T. 78	373,618	Sept. 22, 1930
T. 79	376,414	Jan. 10, 1931
T. 80	376,868	Jan. 27, 1931
T. 81a	381,873	Aug. 8, 1931
T. 84a	385,695	Jan. 15, 1932
T. 84b	387,571	Apr. 2, 1932
T. 93	390,257	Aug. 5, 1932
T. 92	391,522	Oct. 10, 1932
T. 90	391,907	Oct. 27, 1932
	392,999	Dec. 12, 1932

10. *Switzerland*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 47	139,175	Mar. 16, 1928
T. 69	140,420	Dec. 13, 1928

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11. *Italy*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	197,237	Mar. 31, 1921
T. 26	254,774	Dec. 2, 1926
T. 28	254,805	Dec. 9, 1926
T. 27	255,007	Dec. 4, 1926
T. 47	268,607	Apr. 11, 1928
T. 68	278,869	Mar. 26, 1929
T. 67	278,951	Mar. 26, 1929
T. 69	280,791	Dec. 15, 1928
T. 77a	292,859	Sept. 23, 1930
T. 79	295,579	Jan. 13, 1931
T. 80	296,005	Jan. 27, 1931
T. 78	297,295	Sept. 23, 1930
T. 81a	307,945	Aug. 10, 1931
T. 93	308,908	Aug. 5, 1932
T. 92	309,791	Oct. 13, 1932
T. 94	321,995	Dec. 10, 1932
U. S. P:1,325,319	473/249	

12. *Austria*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	91,173	July 15, 1922
T. 28	111,241	June 15, 1928
T. 27	113,110	Dec. 15, 1928
T. 47	121,436	Apr. 15, 1929
T. 69	123,793	Mar. 15, 1931

b. Patent applications owned by Titanium Pigment Company, Inc.

Ser. No. 72,540 filed Nov. 20, 1926—Abandoned

N. L. Exhibit 7

13. *Czechoslovakia*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	12,757	Dec. 15, 1923
T. 28	28,664	Oct. 15, 1929
T. 27	31,456	Oct. 15, 1929
T. 67	34,295	July 15, 1930
T. 68	36,167	Jan. 15, 1931
T. 47	39,354	Dec. 15, 1931

b. Patent applications owned by Titanium Pigment Company, Inc.

T. 26 Ser. No. P. 5,837 filed Nov. 22, 1926—Abandoned
T. 69 Ser. No. 653 filed Jan. 28, 1929—Abandoned

14. *Poland*

a. Patent applications owned by Titanium Pigment Company, Inc.
Ser. No. 25,246 filed Dec. 22, 1928—Abandoned
Ser. No. 27,764 —Abandoned

15. *Hungary*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	85,218	Mar. 24, 1921

16. *Spain*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	77,912	July 11, 1921
T. 47	106,364	Apr. 12, 1927
T. 69	110,633	May 4, 1929
T. 67	112,061	Mar. 27, 1928
T. 68	112,062	Mar. 27, 1928
T. 80	123,695	Sept. 5, 1931
T. 81a	123,746	Aug. 14, 1930

17. *Portugal*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	12,228	May 31, 1922
T. 69	15,625	Aug. 12, 1929

18. *Irish Free State*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 69	10,696	Jan. 26, 1929
T. 25	180,089	Feb. 28, 1921
T. 39	206,809	Apr. 12, 1927
T. 47	288,569	Apr. 12, 1927

19. *British India*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	7,165	July 4, 1921
T. 69	15,361	Nov. 12, 1928

20. *Japan*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	45,241	Apr. 17, 1923
T. 28	75,851	Dec. 9, 1927
T. 77a	94,271	Oct. 7, 1931
T. 78	94,534	Oct. 9, 1931

b. Patent applications owned by Titanium Pigment Company, Inc.

T. 68	Ser. No. 1,509 filed Feb. 8, 1929—Abandoned
T. 69	Ser. No. 5-1929 filed Dec. 31, 1928—Abandoned

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21. *Australia*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 80	225/31	Jan. 29, 1930
T. 25	2,775	July 25, 1921
T. 92	9,515	Oct. 16, 1931
T. 47	12,371	Apr. 12, 1927
T. 67	19,134	Mar. 27, 1928
T. 69	19,766	Apr. 29, 1929
T. 68	25,578	Mar. 27, 1928
T. 77a	29,173/30	Sept. 24, 1929
T. 78	29,174/30	Sept. 24, 1929

22. *New Zealand*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	46,364	Aug. 9, 1921
T. 47	60,291	Apr. 12, 1927
T. 69	62,626	May 1, 1929
T. 92	69,759	Oct. 16, 1931

23. *South Africa*

a. Patents owned by Titanium Pigment Company, Inc.

	Patent No.	Date of Issue
T. 25	671-21	July 8, 1921

CHARLES F. KAEGEBEHN

Sworn to before me this
20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

N. L. Exhibit 7

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

JOHAN R. KNOFF, FRANKLIN L. KINGSBURY, and LOUIS E. BARTON, each being duly sworn, depose and say that said JOHAN R. KNOFF and said Franklin L. Kingsbury are research chemists of the Titanium Division of National Lead Company and that said Louis E. Barton is a director of Titanium Pigment Corporation, a subsidiary of National Lead Company, and that they answer Interrogatory No. 2 as follows:

2. The Titanium Pigment Company, Inc. on or prior to January 1, 1933 used the following United States or foreign patents or applications for Letters Patent in the manufacture of TiO_2 or TiO_2 composite pigments or products containing TiO_2:

I. United States Patents

A. Patents owned by Titanium Pigment Company, Inc.:

	Patent No.	
Where explanatory titles are not given they will be found in patents listed in answer to No. 1	1,106,409 1,106,410 1,171,542 1,196,236 1,206,798 1,348,843	*Fusion treatment of ilmenite*
	1,402,256	*Pressure digestion of ilmenite*
	1,409,648	*Composite pigment TiO_2-$BaSO_4$ pigment separately prepared extender*
	1,410,056	*Pressure digestion of ilmenite*
T. 28	1,680,316	*Composite TiO_2-acicular $CaSO_4$ pigment*
T. 27	1,697,929	*Potassium titanate*
T. 41	1,773,727	*Continuous hydrolysis*
T. 68	1,820,988	*Pure TiO_2—solution poured into hot water organic acid, H_3PO_4 present*
T. 47	1,889,027	*Tank digestion*
T. 67	1,820,987	*Pure TiO_2—solution poured into hot water organic, H_3PO_4 present*

N. L. Exhibit 7

B. Patent applications owned by Titanium Pigment Company, Inc.:

(The following statement of use is made with respect only to those patent applications listed in answer to Interrogatory No. 1, Sec. I. B, which matured to letters patent.)

	Application Serial No.	Patent No.
T. 77a	394,917	1,906,729
T. 78	394,918	1,906,730
T. 67	544,284	1,916,236

C. Patents exclusively licensed to Titanium Pigment Company, Inc.:

1. PATENTS OWNED BY TITAN COMPANY A/S

	Patent No.
T. 1	1,333,819
T. 15	1,333,849
T. 33	1,343,469
T. 18	1,348,129
T. 4	1,360,737
T. 13	1,361,866
T. 36	1,412,027

JOHAN R. KNOFF
FRANKLIN L. KINGSBURY
LOUIS E. BARTON

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

COUNTY OF NEW YORK }
STATE OF NEW YORK } ss.:

CHARLES F. KAEGEBEHN, being duly sworn, deposes and says that he answers Interrogatory No. 3 as follows:

3. National Lead Company now owns as assignee or has the right to use as licensee, either exclusively or non-exclusively, the following United States or foreign patents or applications for letters patent relating to the manufacture or use of TiO_2 or TiO_2 composite pigments or products containing TiO_2:

I. U. S. Patents and Patent Applications

A. U. S. patents now owned by National Lead Company as assignee:

	Patent No.	Date of Issue	Inventor	
T. 28	1,680,316	Aug. 14, 1928	L. E. Barton et al.	*Composite TiO_2—acicular $CaSO_4$ pigment*
T. 26	1,695,270	Dec. 18, 1928	L. E. Barton et al.	*Fusion treatment of ilmenite*
T. 27	1,697,929	Jan. 8, 1929	L. W. Ryan	*Potassium titanate*
T. 54	1,738,765	Dec. 10, 1929 (*I. G.*)	F. Doerinchel et al.	*Hydrolysis of solutions reduced with sulfur reducing agents*
T. 63	1,758,472	May 13, 1930 (*I. G.*)	M. Schnetka	*Hydrolysis of solutions containing fluorides*
T. 41	1,773,727	Aug. 26, 1930 (A/S)	P. Farup	*Continuous hydrolysis*
T. 67	1,820,987	Sept. 1, 1931	L. W. Ryan	*Pure TiO_2—solution poured into hot water; organic acid, H_3PO_4 present*
T. 68	1,820,988	Sept. 1, 1931	L. W. Ryan	
T. 44	1,831,852	Nov. 17, 1931 (*A/S*)	P. Farup	*Dissolving TiO_2 from reduced ore*

	Patent No.	Date of Issue	Inventor
"Use" Patent T. 69	1,847,539	Mar. 1, 1932	A. H. Sabin *Nitrocellulose paint containing TiO_2*
T. 151	1,856,565	May 3, 1932	C. A. Klein et al *composite TiO_2-$BaSO_4$ pigment*
T. 47	1,889,027	Nov. 29, 1932	W. F. Washburn—*Tank digestion*
†*Used T. 77a*	1,906,729	May 2, 1933	W. F. Washburn et al. *Composite TiO_2-$CaSO_4$ (anhydrite) pigment — pure TiO_2 by washing out $CaSO_4$; TiO_2-$CaSO_4$-$BaSO_4$ composite*
Used T. 78	1,906,730	May 2, 1933	W. F. Washburn et al.
†*Used T. 67*	1,916,236	July 4, 1933	L. W. Ryan—*Pure TiO_2—of 1,820,987-988 above*
T. 92	1,929,521	Oct. 10, 1933	L. W. Ryan et al. *Alkali metal titanate M_2TiO_3*
T. 104	1,957,528	May 8, 1934	W. J. Cauwenberg *Hydrolysis of solution containing amines*
T. 102	1,969,061	Aug. 7, 1934	W. J. Cauwenberg—*Cobalt titanate*
T. 114	2,034,923	Mar. 24, 1936	C. L. Schmidt *Nuclei precipitated from iron-free Ti solutions*
†*Used T. 119*	2,039,432	May 5, 1936	J. McCallum *Salt fusion preparation of $CaSO_4$ and $BaSO_4$*
Used T. 81B	2,055,222	Sept. 22, 1936	W. F. Washburn et al. *Hydrolysis using $CaSO_4$ anhydrite plus ortho nuclei*
T. 101B	2,084,826	June 22, 1937	L. W. Ryan et al.—*Leached ilmenite*
T. 116	2,084,917	June 22, 1937	W. K. Nelson—*Acidic ($AlCl_3$) dispersing in wet milling*
"Use" Patent T. 173	2,084,918	June 22, 1937	W. K. Nelson *Alcoholic dispersions of TiO_2*
T. 108	2,091,799	Aug. 31, 1937	(*T. G*) P. Weise *Hydrolysis in presence of Ti-phosphate*
T. 113	2,098,278	Nov. 9, 1937	R. Dahlstrom et al.—*Nuclei precipitated from Ti solutions*
T. 162	2,113,945	Apr. 12, 1938	W. W. Plechner et al.—*Rutile from chloride solution*
T. 179B	2,113,946 Re. 21,693	Apr. 12, 1938	W. W. Plechner et al.—*Rutile from halide solutions*
"Use" Patent T. 164	2,130,560	Sept. 20, 1938	W. W. Plechner et al.—*Wax dispersions of TiO_2*

†*Use discontinued—cf Answer to No. 6.*

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	Patent No.	Date of Issue	Inventor
T. 150	2,130,565	Sept. 20, 1938	C. L. Schmidt—*Readily soluble digestion cake*
"Use" Patent T. 175	2,132,491	Oct. 11, 1938 (*I.C.I.*)	H. D. Mudford—*Artificial silk delustered with chromium treated TiO_2*
T. 154B	2,133,251	Oct. 11, 1938	A. T. McCord—*Purification of acid liquors*
Used T. 184	2,140,222	Dec. 13, 1938	H. Espenschied—*Improved lead titanate pigment*
Used T. 158	2,148,283	Feb. 21, 1939	W. F. Washburn—*Bleaching hydrous TiO_2*
† *Used T. 203*	2,154,130	Apr. 11, 1939	F. L. Kingsbury—*Digestion in presence of H_3PO_4*
Used T. 171	2,166,082	July 11, 1939	W. F. Washburn et al.—*Control of color tone*
T. 209	2,167,626	Aug. 1, 1939	H. V. Alessandroni
T. 210	2,167,627	Aug. 1, 1939	H. V. Alessandroni — *Ti pigments from sphene*
T. 211	2,167,628	Aug. 1, 1939	H. V. Alessandroni
T. 219	2,170,800	Aug. 29, 1939	L. E. Barton—*TiO_2-$CaCO_3$ composite pigment*
† *Used T. 182*	2,170,940	Aug. 29, 1939	R. Dahlstrom—*Control of color tone*
T. 137	2,176,875	Oct. 24, 1939	H. V. Alessandroni
T. 137B	2,176,876	Oct. 24, 1939	H. V. Alessandroni
T. 137C	2,176,877	Oct. 24, 1939	H. V. Alessandroni
T. 206	2,184,938	Dec. 26, 1939	S. S. Cole
Used T. 176	2,202,594	May 28, 1940	H. D. Mudford
T. 212	2,211,828	Aug. 20, 1940	F. L. Kingsbury et al.
T. 229	2,212,629	Aug. 27, 1940	H. V. Alessandroni
"Use" Patent T. 172	2,215,857	Sept. 24, 1940	W. W. Plechner et al.
T. 220	2,215,866	Sept. 24, 1940	H. V. Alessandroni
Used T. 128	2,222,385	Nov. 19, 1940	W. F. Washburn et al.
Used T. 216	2,227,239	Dec. 31, 1940	H. A. Wiencke
† *Used T. 231B*	2,234,681	Mar. 11, 1941	W. K. Nelson et al.
† *Used T. 231*	2,244,258	June 3, 1941	W. K. Nelson et al.
† *Used T. 218*	2,246,062	June 17, 1941	W. W. Plechner et al.

† *Use discontinued—cf Answer to No. 6.*

	Patent No.	Date of Issue	Inventor	
Used T. 247	2,278,709	Apr. 7, 1942	W. H. Moran	
Used T. 205	2,280,795	Apr. 28, 1942	S. S. Cole et al.	
Used T. 225	2,285,485	June 9, 1942	J. Barksdale et al.	
Used T. 246	2,285,486	June 9, 1942	J. Barksdale et al.	
Used T. 197	2,285,894	June 9, 1942	A. O. Brooks	
Used T. 204	2,290,539	July 21, 1942	S. S. Cole	
T. 224	2,291,091	July 28, 1942	D. W. Robertson	
T. 239	2,291,082	July 28, 1942	J. M. Jarmus et al.	
T. 204B	2,316,840	Apr. 20, 1943	S. S. Cole	
T. 204C	2,316,841	Apr. 20, 1943	S. S. Cole	
T. 196	2,329,641	Sept. 14, 1943	W. G. Moran et al.	
Used T. 253	2,334,663	Nov. 16, 1943	J. B. Whitney	
T. 260	2,341,994	Feb. 15, 1944	F. L. Kingsbury et al.	
Used T. 263	2,344,265	Mar. 14, 1944	W. W. Plechner et al.	
W. 5	2,344,288	Mar. 14, 1944	R. Dahlstrom	
W. 21	2,344,319	Mar. 14, 1944	W. F. Meister	
W. 6	2,346,296	Apr. 11, 1944	H. Espenschied	
Used W. 1	2,346,320	Apr. 11, 1944	W. G. Moran	
† *Used T. 243B*	2,346,188	Apr. 11, 1944	D. W. Robertson	
Used W. 2	2,346,322	Apr. 11, 1944	W. K. Nelson	

B. U. S. Patent applications now owned by National Lead Company as assignee:

	Serial No.	Filing Date	Applicant
T. 243	302,116	Oct. 31, 1939	D. W. Robertson et al. *Silica coated Ti-pigments*
Used T. 195	364,986	Nov. 9, 1940	S. W. Martin—*Milling method*
T. 251	371,587	Dec. 24, 1940	R. Dahlstrom—*Stabilizing Ti-sulfate solutions*
Pat. No. 2,365,559 12/19/44 T. 259	391,098	Apr. 30, 1941	F. L. Kingsbury et al.—*Lowering "body" of $CaSO_4$ pigments*

† *Use discontinued—cf Answer to No. 6.*

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	Patent No.	Date of Issue	Inventor	
DK 17	2,113,380	Apr. 5, 1938	J. B. Nichols	
DK 10	2,125,340	Aug. 2, 1938	C. R. Hager	
DK 16	2,127,247	Aug. 16, 1938	D. H. Dawson	
	2,136,313	Nov. 8, 1938	G. D. Patterson	
	2,138,090	Nov. 29, 1938	O. T. Coffelt	
DK 23	2,138,118	Nov. 29, 1938	G. D. Patterson	
DK 50	2,149,329	Mar. 7, 1939	R. W. Bale	
DK 11	2,149,370	Mar. 7, 1939	C. E. Smith	
† *Used DK 29*	2,150,235	Mar. 14, 1939	R. McKinney	*Calcination with phosphate and alkali metal salt.*
DK 35	2,150,236	Mar. 14, 1939	R. McKinney	
—	2,151,331	Mar. 21, 1939	R. S. Roberts	
Used DK 15	2,151,339	Mar. 21, 1939	R. W. Sullivan	*Preparation of anhydrite post-reaction boiling*
Used DK 33	2,163,385	June 20, 1939	R. W. Sullivan	*Use of controlled lime slaking in making anhydrite*
DK 31	2,166,221	July 18, 1939	G. D. Patterson	
DK 24	2,166,257	July 18, 1939	J. Blumenfeld	
DK 26	2,177,250	Oct. 24, 1939	M. L. Hanahan	
DK 27	2,177,254	Oct. 24, 1939	W. W. Heckert	
DK 40	2,177,269	Oct. 24, 1939	R. W. Sullivan	
DK 58	2,180,961	Nov. 21, 1939	E. N. Kramer	
DK 46	2,183,365	Dec. 12, 1939	J. E. Booge	
† *Used DK 20*	2,187,050	Jan. 16, 1940	G. D. Patterson—*Alumina-gel Treatment*	
Used DK 12	2,192,501	Mar. 5, 1940	R. McKinney	*Controlled cooling for color tone control*
DK 38	2,192,687	Mar. 5, 1940	R. L. McCleary	
DK 80	2,193,559	Mar. 12, 1940	J. L. Keats	
DK 79	2,193,563	Mar. 12, 1940	R. M. McKinney	

† *Use discontinued—cf Answer to No. 6.*

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N. L. Exhibit 7

	Serial No.	Filing Date	Applicant
Used *W. 4*	425,852	Jan. 7, 1942	F. L. Kingsbury et al.—*Rutile composite pigments*
W. 9	440,982	Apr. 29, 1942	D. W. Robertson et al.—*X-ray protective rubber compositions containing lead titanate*
W. 10	441,990	May 6, 1942	W. Grafe et al.—*Basic Ti-chloride nuclei*
W. 13	453,300	Aug. 1, 1942	J. L. Turner et al.—*Cyclical rutile TiO_2 process*
W. 15	454,185	Aug. 8, 1942	H. V. Alessandroni—*Extraction of iron from ilmenite*
W. 16	454,187	Aug. 8, 1942	B. Freeman—*Cyclical extraction of ilmenite*
Abandoned *W. 17*	454,191	Aug. 8, 1942	W. Y. Agnew—*Separation of $TiCl_4$ from $FeCl_3$*
W. 18	454,192	Aug. 8, 1942	W. Y. Agnew—*Halogenation process*
W. 19	454,193	Aug. 8, 1942	S. S. Cole et al.—*Recovery of chlorine from gases*
W. 20	454,194	Aug. 8, 1942	W. Y. Agnew—*Cyclical electrolysis of $FeCl_3$*
W. 22	457,971	Sept. 11, 1942	W. F. Meister—*Purification of $TiCl_4$ ($NaOH$, Fe and H_2O)*
Abandoned *W. 23*	457,972	Sept. 11, 1942	S. S. Cole et al.—*Removal of chlorine from $TiCl_4$*
W. 24	459,026	Sept. 19, 1942	C. W. Rau et al.—*Reduction of Ti-sulfate solutions*
W. 25	459,875	Sept. 25, 1942	J. Barksdale—*Hydrolysis of Ti-chloride solutions*
T. 260B	489,576	June 3, 1943	F. L. Kingsbury et al.—*Lowering "body"—paints*
T. 260C	497,368	Aug 4, 1943	F. L. Kingsbury et al.—*Lowering "body"—pigments*
W. 29	500,921	Sept. 2, 1943	W. Y. Agnew *Condensation and separation of $TiCl_4$ and $FeCl_3$*
Used *W. 30*	505,082	Oct. 5, 1943	A. P. Honchar *Treatment with alkali metal salt zinc oxide, and alumina*
T. 260D	526,130	Mar. 11, 1944	F. L. Kingsbury—*Lowering "body"—paints*
Used *W. 31*	538,549	June 2, 1944	A. P. Honchar—*Rutile calcination with magnesia*
W. 32	539,332	June 8, 1944	J. M. O'Shaughnessy *Treatment of waste H_2SO_4 with FeS*
W. 17B	539,375	June 8, 1944	W. Y. Agnew—*Apparatus for separating $TiCl_4$ from $FeCl_3$*
W. 33	546,903	July 27, 1944	J. Barksdale—*Rutile nuclei from orthotitanic acid*
W. 23B	555,902	Sept. 26, 1944	S. S. Cole et al.—*Removal of chlorine from $TiCl_4$*

C. U. S. patents now exclusively licensed to National Lead Company:

1. PATENTS OWNED BY TITAN COMPANY A/S

	Patent No.	Date of Issue	Inventor	
T. 43	1,852,510	Apr. 5, 1932	P. Farup	*Leaching Ti from ores with H_2SO_4 using sulfide reducing agent*
Used T. 42	1,919,425	July 25, 1933	P. Farup	*Direct digestion of ilmenite with H_2SO_4 to form solution*

2. PATENTS OWNED BY TITAN CO., INC.

	Patent No.	Date of Issue	Inventor	
T. 82	2,055,221	Sept. 22, 1936	A. J. Ravnestad	*Hydrolysis using "ortho" nuclei*
T. 112	2,111,460	Mar. 15, 1938	J. Rockstroh	*Low temperatures for preparation of alkali metal titanates*
Used T. 125C	2,121,213	June 21, 1938	P. Weise et al.	*Water addition during hydrolysis*
"Use" Patent T. 136	2,130,554	Sept. 20, 1938	P. Lusseyran	*Wax dispersion of Ti pigments*
T. 115B	2,139,686	Dec. 13, 1938	E. Lederle et al.	*—Zinc-magnesium titanate pigments*
T. 115A	2,140,235	Dec. 13, 1938	E. Lederle et al.	*—Zinc titanate pigments*
Used T. 115C	2,140,236	Dec. 13, 1938	E. Lederle et al.	*—Titanates by coprecipitation*
Used T. 165	2,161,755	June 6, 1939	R. W. Ancrum	*Hydrolysis and calcination with antimony*
T. 217	2,200,373	May 14, 1940	A. G. Oppegaard et al.	*Calcination with columbium or tantalum*
Used T. 240	2,224,987	Dec. 17, 1940	F. Raspe et al.	*Calcination with antimony; coating with alumina*
T. 232	2,242,320	May 20, 1941	G. F. New	*—Chromium naphthenate treatment*
T. 208	2,246,030	June 17, 1941	R. W. Ancrum et al.	*—Basic chloride dispersion*
Used T. 242	2,260,177	Oct. 21, 1941	H. Giese	*—Alumina coating method*
Used T. 187	2,303,305	Nov. 24, 1942	P. Tillmann et al.	*—Rutiox nuclei*

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	Patent No.	Date of Issue	Inventor	
DK 73	2,233,358	Feb. 25, 1941	R. D. Nutting	
DK 55	2,237,764	Apr. 8, 1941	R. M. McKinney	
DK 54	2,253,551	Aug. 26, 1941	J. E. Booge	
DK 86	2,253,590	Aug. 26, 1941	R. W. Sullivan	
Used DK 63	2,253,595	Aug. 26, 1941	H. J. Wood	*—Agitation hydrolysis*
†*Used DK 49*	2,254,630	Sept. 2, 1941	R. W. Sullivan	*Treatment with naphthenic acid and salts thereof*
DK 99	2,257,278	Sept. 30, 1941	H. Schaumann	
†*Used DK 57*	2,259,638	Oct. 21, 1941	W. Heckert	*Anhydrite formation in presence of protein*
	2,260,826	Oct. 28, 1941	J. E. Booge	
DK 76	2,260,871	Oct. 28, 1941	R. H. Sawyer	
DK 88	2,265,386	Dec. 9, 1941	F. H. McBerty	
DK 115	2,266,233	Dec. 16, 1941	R. L. McCleary	
DK 105	2,266,260	Dec. 16, 1941	J. H. Peterson	
DK 74	2,266,793	Dec. 23, 1941	C. F. Oppermann	
DK 48	2,269,139	Jan. 6, 1942	J. E. Booge	
DK 52	2,273,431	Feb. 17, 1942	J. E. Booge	
DK 95	2,274,521	Feb. 24, 1942	C. E. Berry	
DK 109	2,274,541	Feb. 24, 1942	M. G. Fontana et al.	
Used DK 59	2,280,590	Apr. 21, 1942	I. J. Krchma	*Clarification and circulation of residues containing metal sulfide*
DK 62	2,280,619	Apr. 21, 1942	C. E. Berry	
DK 127	2,282,006	May 5, 1942	C. K. Sloan	
DK 126	2,282,303	May 12, 1942	J. O. Morrison	
DK 116	2,284,585	May 26, 1942	R. L. McCleary	
DK 121	2,284,772	June 2, 1942	G. R. Seidel	
DK 101	2,286,881	June 16, 1942	F. von Bichowsky	
DK 102	2,286,882	June 16, 1942	F. von Bichowsky	

†*Use discontinued—cf Answer to No. 6.*

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	Serial No.	Date of Filing	Inventor
Used T. 227	2,303,306	Nov. 24, 1942	P. Tillmann et al.—*Rutiox nuclei by dispersion*
Used T. 187F	2,303,307	Nov. 24, 1942	P. Tillmann et al.—*Rutiox nuclei—dilution in water*
Ferox	2,339,793	Jan. 25, 1944	O. Moeklebust et al.—*Concentration of minerals*
T. 250	2,339,808	Jan. 25, 1944	A. J. Ravnestad et al.—*Concentration of ilmenite*

3. Patents owned by I. G. Farbenindustrie

	Patent No.	Date of Issue	Inventor
Used	1,813,649	July 7, 1931	P. Weise—*Dehydration and decomposition of $FeSO_4$*
T. 144	1,816,388	July 28, 1931	A. Mittasch et al. } *TiO_2 by combustion of $TiCl_4$*
T. 144	1,850,286	Mar. 22, 1932	A. Mittasch et al. }
T. 145	1,878,013	Sept. 20, 1932	K. Staib—*Preparation of $TiCl_4$ by chlorination*
T. 146	1,891,210	Dec. 13, 1932	H. Wolff—*Colored titanate pigments*
T. 55	1,891,911	Dec. 27, 1932	J. Brode et al. *Digestion with titanous salt in the acid*
T. 98	1,995,580	Mar. 26, 1935	J. Rockstroh *Catalytic conversion of anatase to rutile*
T. 123	2,068,294	Jan. 19, 1937	E. Korinth et al.—*Colored Ti pigments*
T. 126	2,118,916	May 31, 1938	J. Drucker *Pressure treatment in lieu of calcination*
"Use" Patent T. 142	2,121,408	June 21, 1938	F. Raspe et al. *Artificial silk delustered with hydrous TiO_2*
T. 186	2,122,180	June 28, 1938	E. Lederle et al. *Synthetic spinels*
T. 170	2,138,384	Nov. 29, 1938	G. Meder—*Pigments of mixed crystals TiO_2-Ti_2O_3*
T. 120	2,144,577	Jan. 17, 1939	K. W. Petersen—*Treatment with fluorides*
T. 201	2,158,520	May 16, 1939	O. Meyer—*Titanium carbide*
T. 155	2,161,975	June 13, 1939	K. W. Petersen *Treatment with highly basic aluminum chloride*
T. 156	2,187,821	Jan. 23, 1940	J. Nelles—*Titanium alcoholates*
"Use" Patent T. 236	2,280,223	Apr. 21, 1942	R. Dümpelmann et al. *Welding rod coating containing TiO_2*
T. 65	1,849,153	Mar. 15, 1932	F. Raspe et al.—*Highly conc. $Ti(SO_4)_2$ solutions*
T. 64	1,850,154	Mar. 22, 1932	F. Raspe et al. *Solid titanium sulfates*

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4. PATENTS OWNED BY TITANGESELLSCHAFT

	Patent No.	Date of Issue	Inventor	
T. 157	2,275,856	Mar. 10, 1942	E. Lederle	*Conversion of anatase to rutile through zinc orthotitanate*

D. U. S. Patent Applications now exclusively licensed to National Lead Company:

1. PATENT APPLICATIONS OWNED BY TITAN CO., INC.

	Serial No.	Filing Date	Applicant	
T. 257	439,077	Apr. 15, 1942	R. W. Ancrum	*Rutile by calcination with antimony plus prolonged cooling*
W. 8	495,946	July 23, 1943	R. W. Ancrum	*Rutile by calcination with antimony plus zinc*
W. 28	522,833	Feb. 17, 1943	R. W. Ancrum	*Rutile by calcination with silicon*
"Use" Patent W. 27	522,845	Feb. 17, 1943	S. G. Tinsley	*Vitreous enamel containing TiO_2*

2. PATENT APPLICATIONS OWNED BY I. G. FARBENINDUSTRIE

	Serial No.	Filing Date	Applicant	
T. 256	404,503	July 29, 1941	J. Heinen	*TiO_2 by burning $TiCl_4$*

E. U. S. patents now non-exclusively licensed by National Lead Company:

1. PATENTS OWNED BY E. I. DU PONT DE NEMOURS

	Patent No.	Date of Issue	Inventor	
	1,649,496	Nov. 15, 1927	N. Sprecht	
	1,655,940	Jan. 10, 1928	J. D'Ans et al.	
Used	1,707,248	Apr. 2, 1929	J. Blumenfeld	*Concentration of hydrolysis mother liquor*

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	Patent No.	Date of Issue	Inventor	
	1,707,257	Apr. 2, 1929	C. de Rohden	
	1,750,287	Mar. 11, 1930	N. Sprecht	
	1,758,528	May 13, 1930	A. Mecklenberg	
	Re. 18,790			
	1,766,592	June 24, 1930	J. Blumenfeld	
Used	1,795,467	Mar. 10, 1931	J. Blumenfeld	*Seeding hydrolysis nuclei by mixing Ti solution with water*
Used	Re. 18,854			
	1,797,760	Mar. 24, 1931	C. de Rohden	
	1,827,691	Oct. 13, 1931	N. Sprecht	
	1,832,666	Nov. 17, 1931	N. Sprecht	
	1,845,633	Feb. 16, 1932	N. Sprecht	
	1,846,188	Feb. 23, 1932	C. de Rohden	
Used	1,851,487	Mar. 29, 1932	J. Blumenfeld	*Hydrolysis using separately prepared colloidal TiO_2*
	1,853,626	Apr. 12, 1932	K. Leuchs	
	Re. 19,594			
	1,885,187	Nov. 1, 1932	C. de Rohden	
Used	1,885,921	Nov. 1, 1932	G. Kubin	*Wet, folowed by dry milling*
	1,885,934	Nov. 1, 1932	M. Meyer	
Used	1,892,693	Jan. 3, 1933	J. Blumenfeld	*Calcination using alkali metal salt.*
	1,899,572	Feb. 28, 1933	P. Kubelka	
	1,899,573	Feb. 28, 1933	P. Kubelka	
	1,899,574	Feb. 28, 1933	P. Kubelka	
	1,902,203	Mar. 21, 1933	F. von Bichowsky	
	1,902,204	Mar. 21, 1933	F. von Bichowsky	
	1,915,393	June 27, 1933	F. von Bichowsky	
	1,922,816	Aug. 15, 1933	R. McKinney	
	1,931,380	Oct. 17, 1933	H. Haber	

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	Patent No.	Date of Issue	Inventor
	1,931,381	Oct. 17, 1933	H. Haber
Used	1,937,037	Nov. 28, 1933	M. L. Hanahan — *Dispersion with alkaline agent separation of fine particles*
	1,943,497	Jan. 16, 1934	F. von Bichowsky
	1,975,339	Oct. 2, 1934	F. von Bichowsky
	1,977,577	Oct. 16, 1934	C. C. Wegley
	1,977,582	Oct. 16, 1934	M. L. Hanahan
	2,006,342	July 2, 1935	J. E. Booge
	2,018,955	Oct. 29, 1935	W. Heckert
	2,026,862	Jan. 7, 1936	J. Blumenfeld
	2,031,750	Feb. 25, 1936	F. von Bichowsky
Used	2,044,941	June 23, 1936	M. L. Hanahan—*Product of No. 1,937,037, q.v.*
	2,044,942	June 23, 1936	W. Heckert
	2,045,836	June 30, 1936	O. T. Coffelt
† *Used T. 200*	2,046,054	June 30, 1936	J. E. Booge—*"Blended"—composite pigments*
Used	2,047,208	July 14, 1936	I. J. Krchma—*Reduction with two metals*
	2,049,504	Aug. 4, 1936	I. J. Krchma
	2,062,133	Nov. 24, 1936	P. Kubelka
	2,062,134	Nov. 24, 1936	P. Kubelka
T. 149; DK 1	2,062,137 Re. 21,427	Nov. 24, 1936	R. McKinney
DK 7	2,098,025	Nov. 2, 1937	J. E. Booge
DK 18	2,098,026	Nov. 2, 1937	J. E. Booge
DK 5	2,098,054	Nov. 2, 1937	F. H. McBerty
DK 6	2,098,055	Nov. 2, 1937	F. H. McBerty
—	2,098,056	Nov. 2, 1937	F. H. McBerty
DK 9	2,111,236	Mar. 15, 1938	R. W. Bale
Used	2,111,788	Mar. 22, 1938	I. J. Krchma—*Continuous clarification*
DK 8	2,112,966	Apr. 5, 1938	I. J. Krchma

† *Use discontinued—cf Answer to No. 6.*

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	Serial No.	Date of Filing	Applicant
Used DK 141	426,248	Jan. 9, 1942	C. M. Olson et al. *Rutile producing alkali then acid-treated nuclei*
Used DK 142	426,249	Jan. 9, 1942	J. H. Peterson — *Alkali metal salt and metal oxide calcination of rutile*
DK 143	426,250	Jan. 9, 1942	J. L. Keats et al.
Used DK 144	426,251	Jan. 9, 1942	J. L. Keats — *Anatase hydrate calcined with rutile hydrates*
DK 146	435,726	Mar. 21, 1942	J. H. Peterson
DK 147	449,665	July 3, 1942	C. M. Olson
DK 148	449,666	July 3, 1942	C. M. Olson
DK 149	449,667	July 3, 1942	C. M. Olson
DK 151	455,427	Aug. 20, 1942	F. H. McBerty
Used DK 152	472,876	Jan. 19, 1943	C. M. Olson et al. — *Treatment of Ti-sulfate solution with $CaCl_2$ then with $BaCl_2$*
Used DK 153	483,058	Apr. 14, 1943	L. F. Nerlinger *Colloidal bentonite treatment*
DK 154	483,357	Apr. 16, 1943	I. J. Krchma
DK 155	500,148	Aug. 26, 1943	J. L. Keats et al.
DK 156	502,019	Sept. 11, 1943	R. M. McKinney
DK 157	521,132	Feb. 4, 1944	J. E. Booge et al.
DK 158	521,685	Feb. 9, 1944	J. H. Peterson
DK 159	521,686	Feb. 9, 1944	J. H. Peterson
DK 160	537,408	May 26, 1944	R. M. McAdam
DK 161	537,409	May 26, 1944	R. M. McAdam
—	538,339	June 1, 1944	C. M. Olson
—	541,844	June 23, 1944	R. W. Sullivan
—	555,381	Oct. 5, 1944	R. L. McCleary

	Patent No.	Date of Issue	Inventor
DK 36	2,197,953	Apr. 23, 1940	R. W. Sullivan
DK 47	2,212,935	Aug. 27, 1940	M. L. Hanahan
DK 53	2,213,542	Sept. 3, 1940	J. E. Booge
DK 37	2,214,132	Sept. 10, 1940	C. R. Hager
Used DK 43	2,214,815	Sept. 17, 1940	M. L. Hanahan { *Pulverizing followed by disintegrating milling*
DK 19	2,216,536	Oct. 1, 1940	W. H. Madson
DK 44	2,216,879	Oct. 8, 1940	L. C. Eckels
DK 82	2,216,889	Oct. 8, 1940	R. L. McCleary
DK 51	2,218,655	Oct. 22, 1940	J. H. Peterson
Used DK 32	2,218,704	Oct. 22, 1940	A. M. Erskine { *Treatment of TiO_2 with hydrous titanium oxide*
DK 61	2,219,129	Oct. 22, 1940	J. A. Geddes
†*Used DK 45*	2,220,952	Nov. 12, 1940	H. C. Brill { *Treatment of Ti pigments with metal salt of aromatic sulfonated petroleum*
DK 56	2,220,966	Nov. 12, 1940	I. J. Krchma
Used DK 83	2,224,777	Dec. 10, 1940	J. E. Booge { *Calcination in admixture with antimony-oxygen compounds*
DK 60	2,226,142	Dec. 24, 1940	H. Schaumann
DK 108	2,226,147	Dec. 24, 1940	J. B. Sutton
DK 66	2,231,455	Feb. 11, 1941	H. H. Schaumann
DK 65	2,231,456	Feb. 11, 1941	H. H. Schaumann
DK 69	2,231,467	Feb. 11, 1941	M. L. Hanahan
DK 70	2,231,468	Feb. 11, 1941	M. L. Hanahan
DK 89	2,232,164	Feb. 11, 1941	H. K. Carter
Used DK 87	2,232,168	Feb. 18, 1941	D. H. Dawson { *Treatment with chromium and aluminum salts*
DK 30	2,232,723	Feb. 25, 1941	G. D. Patterson

†*Use discontinued—cf Answer to No. 6.*

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	Patent No.	Date of Issue	Inventor
DK 98	2,286,910	June 16, 1942	M. L. Hanahan
DK 111	2,287,161	June 23, 1942	R. W. Ball
DK 114	2,287,416	June 23, 1942	C. M. Dann
DK 81	2,287,440	June 23, 1942	R. L. McCleary
DK 120	2,293,861	Aug. 25, 1942	N. M. Stark
DK 75	2,296,618	Sept. 22, 1942	M. L. Hanahan
Used DK 71	2,296,636	Sept. 22, 1942	M. L. Hanahan—*Coating with silica-gel*
Used DK 72	2,296,639	Sept. 22, 1942	M. L. Hanahan—*Coating with silicate*
DK 94	2,301,412	Nov. 10, 1942	J. L. Keats et al.
DK 65	2,304,110	Dec. 8, 1942	R. McKinney
Used DK 84	2,305,368	Dec. 15, 1942	R. K. Whitten—*Removal of chromium and vanadian impurities*
DK 103	2,307,048	Jan. 5, 1943	J. L. Keats
DK—	2,313,844	Mar. 16, 1943	R. W. Sullivan
DK 107	2,321,490	June 8, 1943	J. L. Keats
DK 96	2,319,824	May 25, 1943	C. M. Olson
DK 117	2,326,592	Aug. 10, 1943	C. K. Wicker
DK 97	2,331,496	Oct. 12, 1943	C. M. Olson
DK 112	2,331,515	Oct. 12, 1943	R. W. Sullivan
DK 139	2,337,162	Dec. 21, 1943	R. L. McCleary
DK 90	2,337,215	Dec. 21, 1943	F. von Bichowsky
Used DK 150	2,342,483	Feb. 22, 1944	C. M. Olson—*Hydrolysis with yield and rutile nuclei*
DK 104	2,345,980	Apr. 4, 1944	J. L. Keats
DK 64	2,345,985	Apr. 4, 1944	R. McKinney
DK 145	2,346,085	Apr. 4, 1944	R. H. Sawyer
DK 136	2,346,091	Apr. 4, 1944	H. M. Stark
DK 119	2,294,381	Sept. 1, 1942	H. E. Burdick
DK 118	2,294,394	Sept. 1, 1942	A. M. Erskine
DK 122	2,296,066	Sept. 15, 1942	C. K. Sloan

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	Patent No.	Date of Issue	Inventor	
Used DK 134	2,357,089	Aug. 29, 1944	W. H. Daiger et al.	*Treatment with zirconium silicate*
DK 137	2,357,101	Aug. 29, 1944	J. A. Geddes	
DK 125	2,358,167	Sept. 12, 1944	J. L. Keats	

2. PATENTS OWNED BY INTERNATIONAL PULVERIZER CORP.

	Patent No.	Date of Issue	Inventor	
Used	2,032,827	Mar. 3, 1936	N. H. Andrews	*"Micronizer" patent*
	2,191,095	Feb. 20, 1940	A. C. Hobbie	

3. PATENTS OWNED BY REDUCTION ENGINEERING CORP.

	Patent No.	Date of Issue	Inventor	
	2,214,905	Sept. 17, 1940	C. H. Kidwell	
Used	2,219,011	Oct. 22, 1940	C. H. Kidwell	*"Jet" mill patents*
Used	2,284,746	June 2, 1942	C. H. Kidwell	

4. PATENTS OWNED BY LOUISVILLE DRYING MACHINERY CO.

	Patent No.	Date of Issue	Inventor	
†*Used T. 180*	2,090,177	Aug. 17, 1937	C. E. Bill	*—Improved Louisville Dryer*

5. PATENTS OWNED BY OLIVER UNITED FILTERS, INC.

	Patent No.	Date of Issue	Inventor	
Used	2,083,887	June 15, 1937	H. A. Weineke	*—Precoat filter patent*

6. PATENTS OWNED BY ABNER J. BARRETT

	Patent No.	Date of Issue	Inventor	
†*Used*	2,057,814	Oct. 20, 1936	A. J. Barrett	*—Septum for tube filters*

† *Use discontinued—cf Answer to No. 6.*

7. Patents owned by I. G. Farbenindustrie

	Patent No.	Date of Issue	Inventor	
T. 238	2,337,103	Dec. 21, 1943	W. Heimsoeth et al.	*Enamel containing TiO_2*

8. Patents owned by Henry A. Gardner

	Patent No.	Date of Issue	Inventor	
†*Used*	2,037,322	Apr. 14, 1936	H. A. Gardner	*Coating Ti pigments with phthalates*
†*Used*	2,037,323	Apr. 14, 1936	H. A. Gardner	
	2,155,539	Apr. 25, 1939	H. A. Gardner	
	2,172,505	Sept. 12, 1939	H. A. Gardner	

F. U. S. Patent Applications now non-exclusively licensed to National Lead Company:

1. Patent Applications owned by E. I. Du Pont De Nemours

	Serial No.	Date of Filing	Applicant	
DK 106	302,850	Nov. 4, 1939	H. M. Stark	
DK 124	364,038	Nov. 2, 1940	J. E. Booge et al.	
DK 130	381,381	Mar. 1, 1941	R. M. McKinney	
DK 132	391,309	Apr. 30, 1941	H. Schaumann	
DK 133	391,313	Apr. 30, 1941	J. E. Booge	
Used DK 135	392,941	May 10, 1941	G. R. Seide	*Treatment with hydrous oxides of titanium and aluminum*
DK 138	408,071	Aug. 23, 1941	R. H. Sawyer	
DK 140	426,247	Jan. 9, 1942	C. M. Olson	

† *Use discontinued—cf Answer to No. 6.*

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II. Foreign Patents and Patent Applications

A. Canadian patents now owned by National Lead Company as assignee:

	Patent No.	Date of Issue
T. 119	374,234	June 7, 1938
T. 154b	386,729	Feb. 6, 1940
T. 128	399,516	Sept. 23, 1941

B. Brazilian patents and patent applications now non-exclusively licensed to National Lead Company:

1. Owned by Titan Co., Inc.

a. Patents owned by Titan Co., Inc.

Patent No.	Date of Issue
30,225	Nov. 28, 1942

b. Patent applications owned by Titan Co., Inc.

Ser. No. 28,082 filed Dec. 16, 1942

2. Owned by Titangesellschaft

a. Patents owned by Titangesellschaft

	Patent No.	Date of Issue
T. 118	23,136	Nov. 23, 1935
T. 150	24,802	Sept. 9, 1937

b. Patent applications owned by Titangesellschaft

T. 187 Ser. No. 2055 filed Apr. 16, 1938

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3. Owned by I. G. Farbenindustrie

a. Patents owned by I. G. Farbenindustrie

Patent No.	Date of Issue
23,170	Dec. 23, 1935

b. Patent applications owned by I. G. Farbenindustrie

T. 126 Ser. No. 14,968 filed Mar. 9, 1935

C. Argentine patents and patent applications now non-exclusively licensed to National Lead Company:

1. Owned by Titangesellschaft

a. Patent applications owned by Titangesellschaft

Ser. No. 60,060 filed Apr. 8, 1938

2. Owned by I. G. Farbenindustrie

a. Patents owned by I. G. Farbenindustrie

Patent No.		Date of Issue
T. 171a	34,968	
T. 108	42,278	Dec. 14, 1934
T. 126	42,812	Apr. 24, 1935
T. 115	46,022	Oct. 15, 1937

D. Chilian patents and patent applications now non-exclusively licensed to National Lead Company:

1. Owned by Titangesellschaft

a. Patent applications owned by Titangesellschaft

T. 187 Ser. No. 87/38 filed Apr. 11, 1938

CHARLES F. KAEGEBEHN

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires Mareh 30, 1946

(NOTARIAL SEAL)

N. L. Exhibit 7

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

ROY DAHLSTROM, being duly sworn, deposes and says that he is Assistant Director of Research and Technical Director of Plant Operations of the Titanium Division of National Lead Company and that he answers Interrogatory No. 4 as follows:

4. The answer to Interrogatory No. 4 is "Yes".

ROY DAHLSTROM

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

ROY DAHLSTROM, FRANKLIN L. KINGSBURY, and LOUIS E. BARTON, each being duly sworn, depose and say that they answer Interrogatories Nos. 5 and 6 as follows:

5. a. The patents or applications for letters patent which we are using or ever did use are as follows:

N. L. Exhibit 7

A. U. S. patents owned by National Lead Company

		Patent No.	
Explanatory titles are given with patents listed in answer to No. 3	*T. 77a*	1,906,729	
	T. 78	1,906,730	
	T. 67	1,916,236	
	T. 119	2,039,432	
	T. 81b	2,055,222	
	T. 184	2,140,222	
	T. 158	2,148,283	
	T. 203	2,154,130	
	T. 171	2,166,082	
	T. 184	2,170,940	
	T. 176	2,202,594	
	T. 128	2,222,385	
	T. 216	2,227,239	
	T. 231B	2,234,681	
	T. 231	2,244,258	
	T. 218	2,246,062	
	T. 247	2,278,709	
	T. 205	2,280,795	
	T. 225	2,285,485	
	T. 246	2,285,486	*T. 197—2,285,894*
	T. 204	2,290,539	
	T. 263	2,344,265	
	W.-1	2,346,320	
	T. 243B	2,346,188	
	W.-2	2,346,322	
	T. 253	2,334,633	

B. U. S. patent applications owned by National Lead Company

	Serial No.
T. 195	364,986
W.-4	425,852
W-30	505,082
W-31	538,549

N. L. Exhibit 7

C. U. S. patents exclusively licensed to National Lead Company

1. Patents owned by Titan Co. A/S

	Patent No.
T. 42	1,919,425

2. Patents owned by Titan Company, Inc.

	Patent No.
T. 125C	2,121,215
T. 115C	2,140,236
T. 165	2,161,755
T. 240	2,224,987
T. 242	2,260,177
T. 187	2,303,305
T. 227	2,303,306
T. 187F	2,303,307

3. Patents owned by I. G. Farbenindustrie

Patent No.
1,813,649

D. U. S. patents non-exclusively licensed to National Lead Company

1. Patents owned by E. I. du Pont de Nemours

	Patent No.
	1,707,248
	1,795,467
	Re. 19,854
	1,851,487
	1,885,921
	1,892,693
	1,937,037
	2,044,941
T. 200	2,046,054
	2,047,208
	2,111,788

N. L. Exhibit 7

	Patent No.
DK 29	2,150,235
DK 15	2,151,339
DK 33	2,163,385
DK 20	2,187,050
DK 12	2,192,501
DK 43	2,214,815
DK 32	2,218,704
DK 45	2,220,952
DK 83	2,224,777
DK 87	2,232,168
DK 63	2,253,595
DK 49	2,254,630
DK 57	2,259,638
DK 59	2,280,590
DK 71	2,296,636
DK 72	2,296,639
DK 84	2,305,368
DK 150	2,342,483
DK 134	2,357,089

2. Patents owned by International Pulverizer Corp.

Patent No.
2,032,827

3. Patents owned by Reduction Engineering Corp.

Patent No.
2,219,011
2,284,746

4. Patents owned by Louisville Drying Machinery Co.

	Patent No.
T 180	2,090,177

5. Patents owned by Oliver United Filters, Inc.

Patent No.
2,083,887

6. Patents owned by Abner J. Barrett

Patent No.
2,057,814

7. Patents owned by Henry A. Gardner

Patent No.
2,037,322
2,037,323

E. U. S. patent applications now non-exclusively licensed to National Lead Co.

1. Patent applications owned by E. I. du Pont de Nemours

	Serial No.
DK 135	392,941
DK 141	426,248
DK 142	426,249
DK 144	426,251
DK 152	472,876
DK 153	500,148

5. b. The answer to the second part of Question No. 5 is "some of them".

6. The use of patents or applications for letters patent which we own or under which we enjoy either exclusive or non-exclusive licenses terminated as follows:

A. U. S. patents owned by National Lead Company

	Patent No.	Approximate date of Termination of Use
T. 77a	1,906,729	March 3, 1934
T. 67	1,916,236	
T. 119	2,039,432	November, 1933
T. 203	2,154,130	April 19, 1937
T. 182	2,170,940	October, 1938
T. 231B	2,234,681	March 21, 1939

N. L. Exhibit 7

	Patent No.	Approximate date of Termination of Use
T. 231	2,244,258	March 21, 1939
T. 218	2,246,062	September, 1937
T. 243B	2,346,188	November, 1941

B. U. S. patents non-exclusively licensed to National Lead Co.

1. Patents owned by E. I. du Pont de Nemours

	Patent No.	Approximate date of Termination of Use
T. 200	2,046,054	September, 1937
DK 29	2,150,235	September, 1936
DK 20	2,187,050	February, 1939
DK 45	2,220,952	October 21, 1942
DK 49	2,254,630	May 10, 1943
DK 57	2,259,638	September, 1937

2. Patents owned by Louisville Drying Machinery Co.

	Patent No.	Approximate date of Termination of Use
T. 180	2,090,177	September, 1939

3. Patents owned by Abner J. Barrett

Patent No.	Approximate date of Termination of Use
2,057,814	May 10, 1940

4. Patents owned by Henry A. Gardner

Patent No.	Approximate date of Termination of Use
2,037,322	March 21, 1939
2,037,323	March 21, 1939

ROY DAHLSTROM
FRANKLIN L. KINGSBURY
LOUIS E. BARTON

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

N. L. Exhibit 7

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

CLAUDE F. GA[illegible]CHE, being duly sworn, deposes and says that he is Manager of the Titanium Division of National Lead Company and that he answers Interrogatory No. 7 as follows:

7. (a) The annual total production tonnage calculated as TiO_2 of Titanium Pigment Company from January 1, 1920 to June 30, 1944 was as follows:

1920	100*
1921	500*
1922	900*
1923	1001
1924	1142
1925	2386
1926	2304
1927	2342
1928	3485
1929	5510
1930	6284
1931	9767
1932	9729
1933	8445
1934	13264
1935	18483
1936	21215**

*Actual production figures not available. Above represent best estimate.
**Ten months to October 31, 1936.

(b) The annual total production tonnage calculated as TiO_2 of National Lead Company from January 1, 1920 to June 30, 1944 was as follows:

1936	4205***
1937	28468
1938	22789
1939	38340
1940	49984
1941	64035
1942	61621
1943	61502
1944 Six Months to 6/30/44	37080

***Months of November and December.

N. L. Exhibit 7

(c) The annual total production tonnage calculated as TiO_2 of Titan Company A/S from January 1, 1920 to June 30, 1944 cannot be supplied because, if any such figures are in existence, they are in Fredrikstad, Norway, and, therefore, not available.

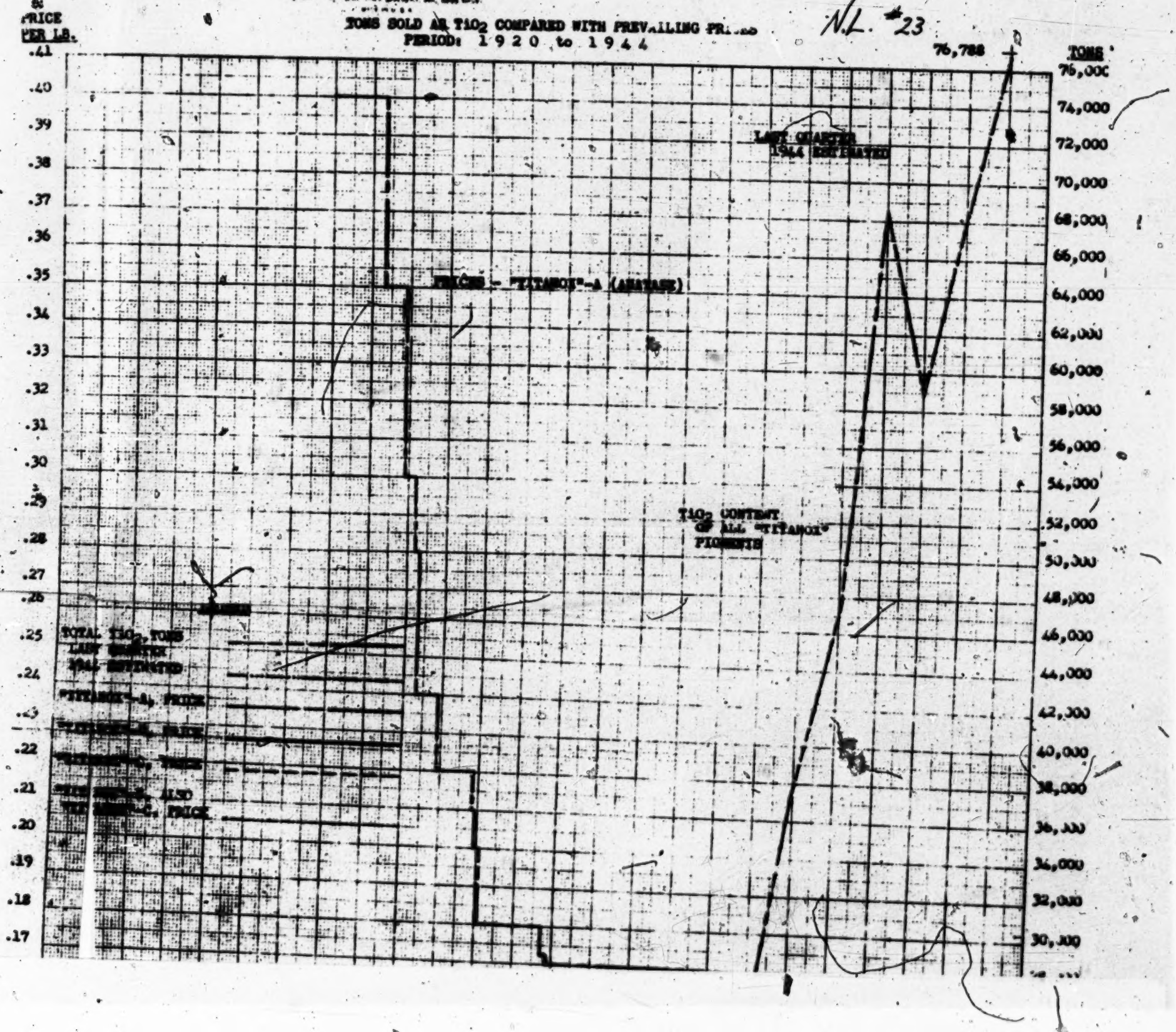
CLAUDE F. GARESCHE

Sworn to before me this 20th day of October, 1944.

OLGA ISABEL HORVATH
Notary Public, Nassau County
Nassau Co. Clk's No. 652
N. Y. Co. Clk's No. 104
Register's No. 59-H-6
Commission Expires March 30, 1946

(NOTARIAL SEAL)

N.L. #23


TONS SOLD AS TiO_2 COMPARED WITH PREVAILING PRICE
PERIOD: 1920 to 1944
¢ PRICE PER LB.
TONS
76,788
LAST QUARTER 1944 ESTIMATED
TONS - "TITANOX"-A (ANATASE)
TiO_2 CONTENT OF ALL "TITANOX" PIGMENTS
TOTAL TiO_2, TONS
LAST QUARTER 1944 ESTIMATED
"TITANOX"-A, PRICE
.41
.40
.39
.38
.37
.36
.35
.34
.33
.32
.31
.30
.29
.28
.27
.26
.25
.24
.23
.22
.21
.20
.19
.18
.17
76,000
74,000
72,000
70,000
68,000
66,000
64,000
62,000
60,000
58,000
56,000
54,000
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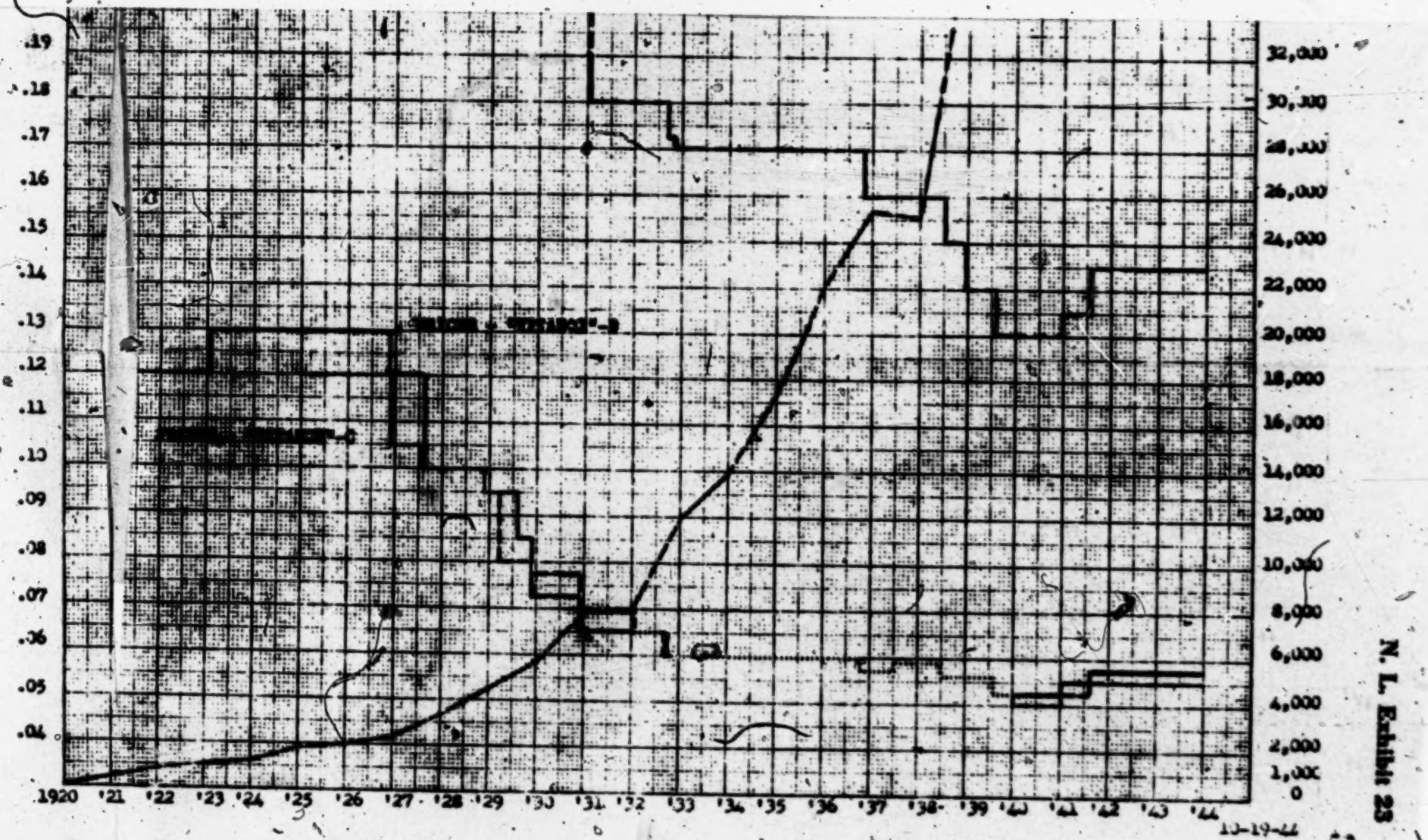


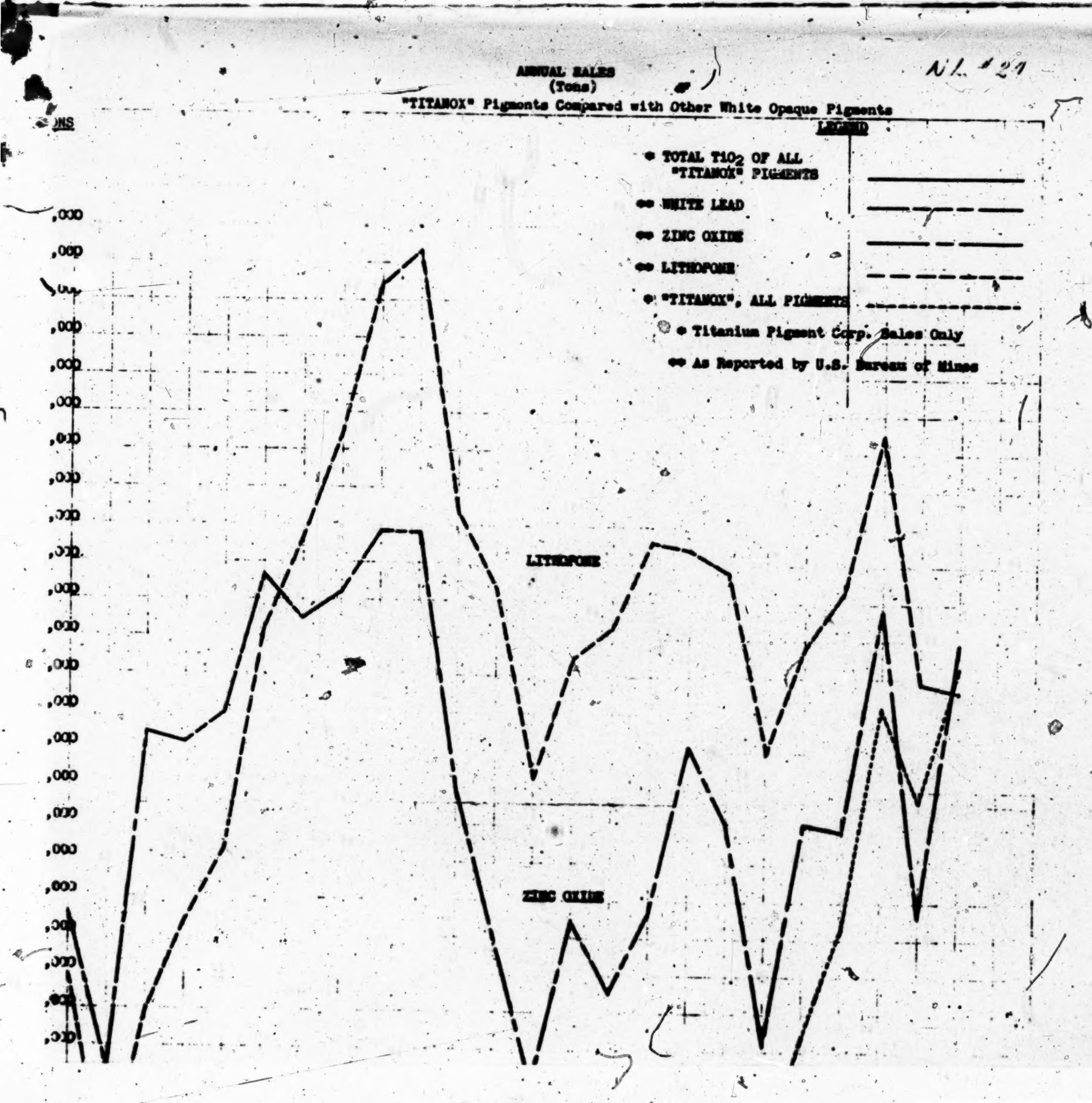
N. L. Exhibit 28

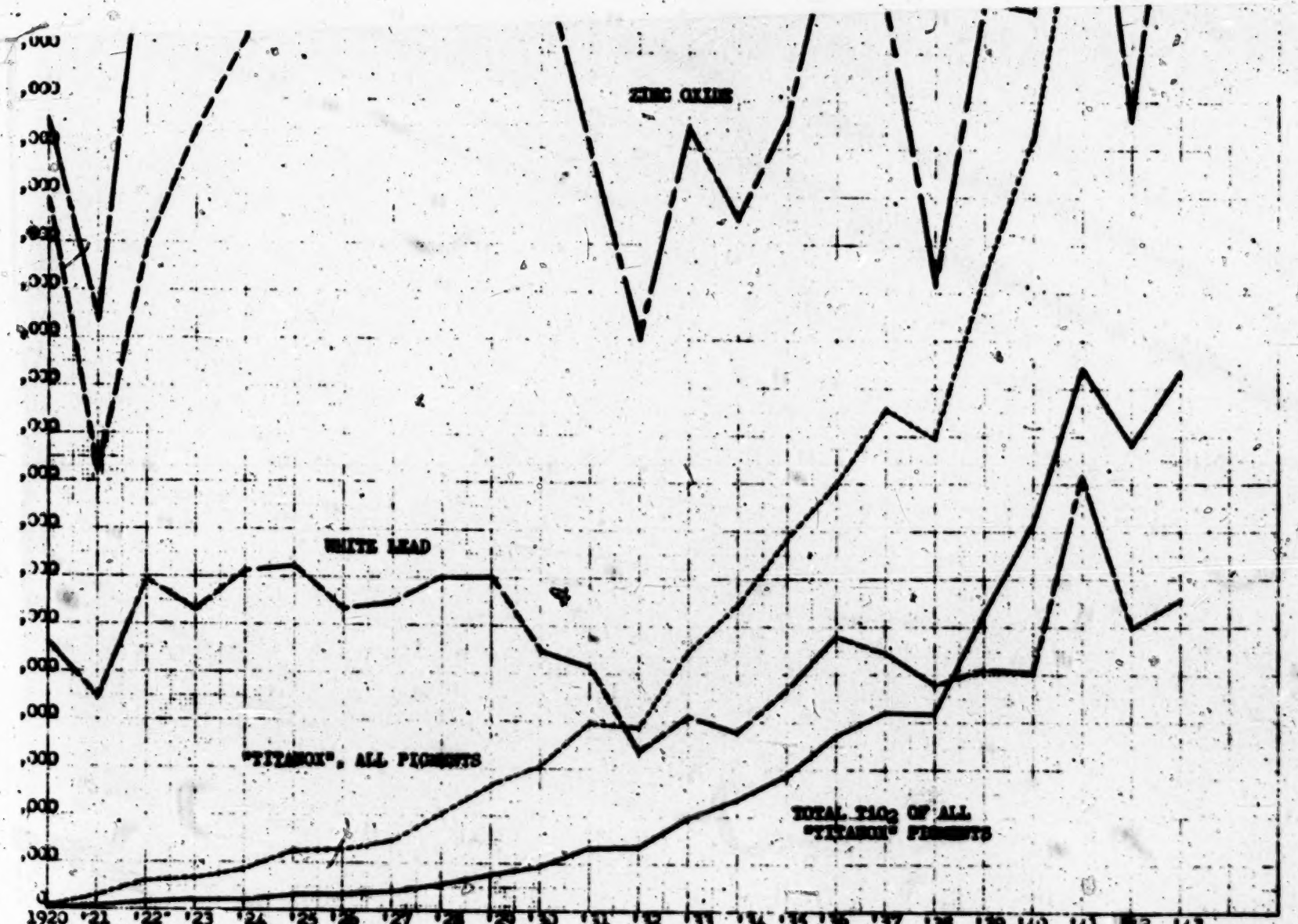
3948

NL-421

ANNUAL SALES
(Tons)

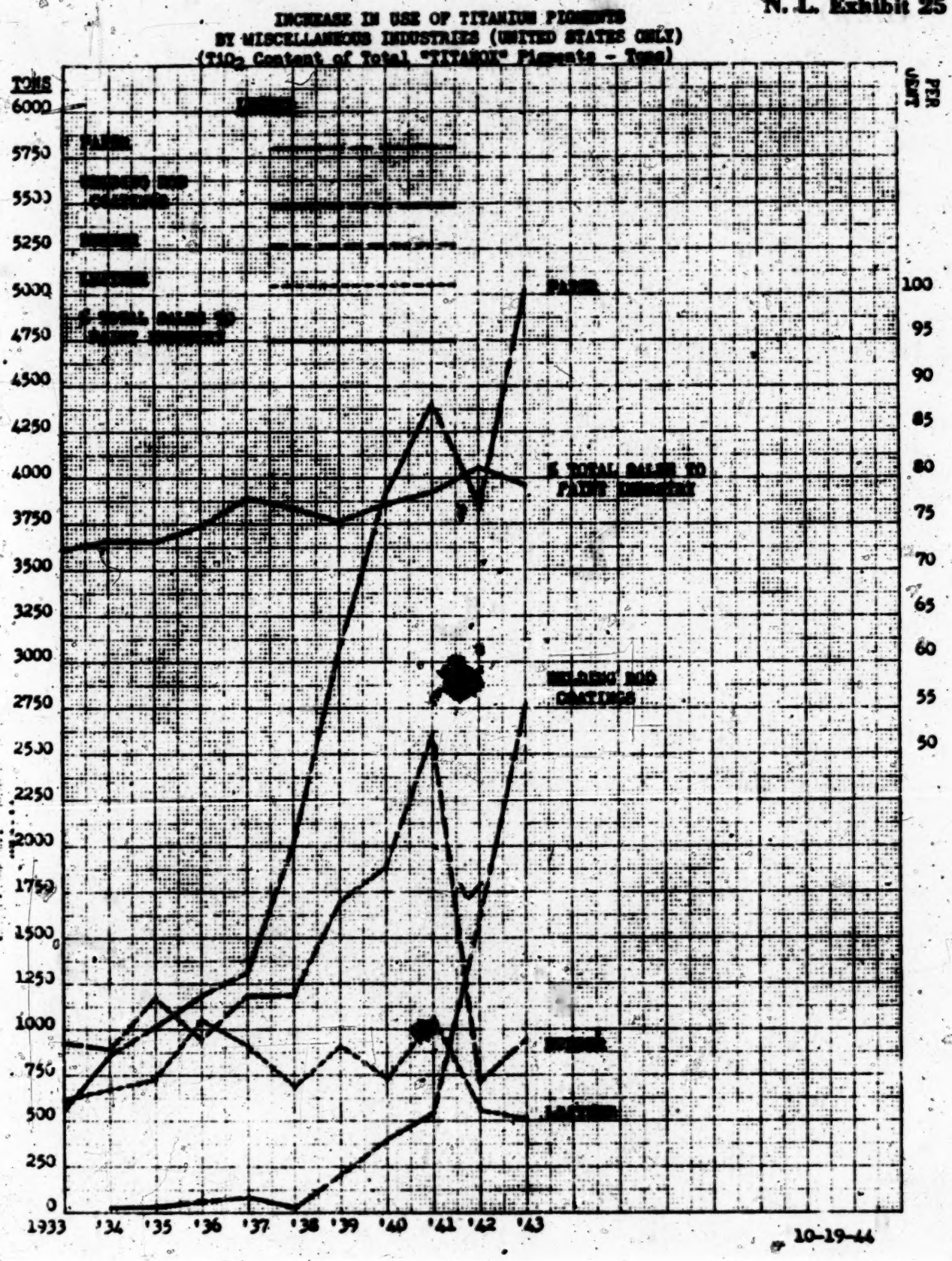
"TITANOX" Pigments Compared with Other White Opaque Pigments



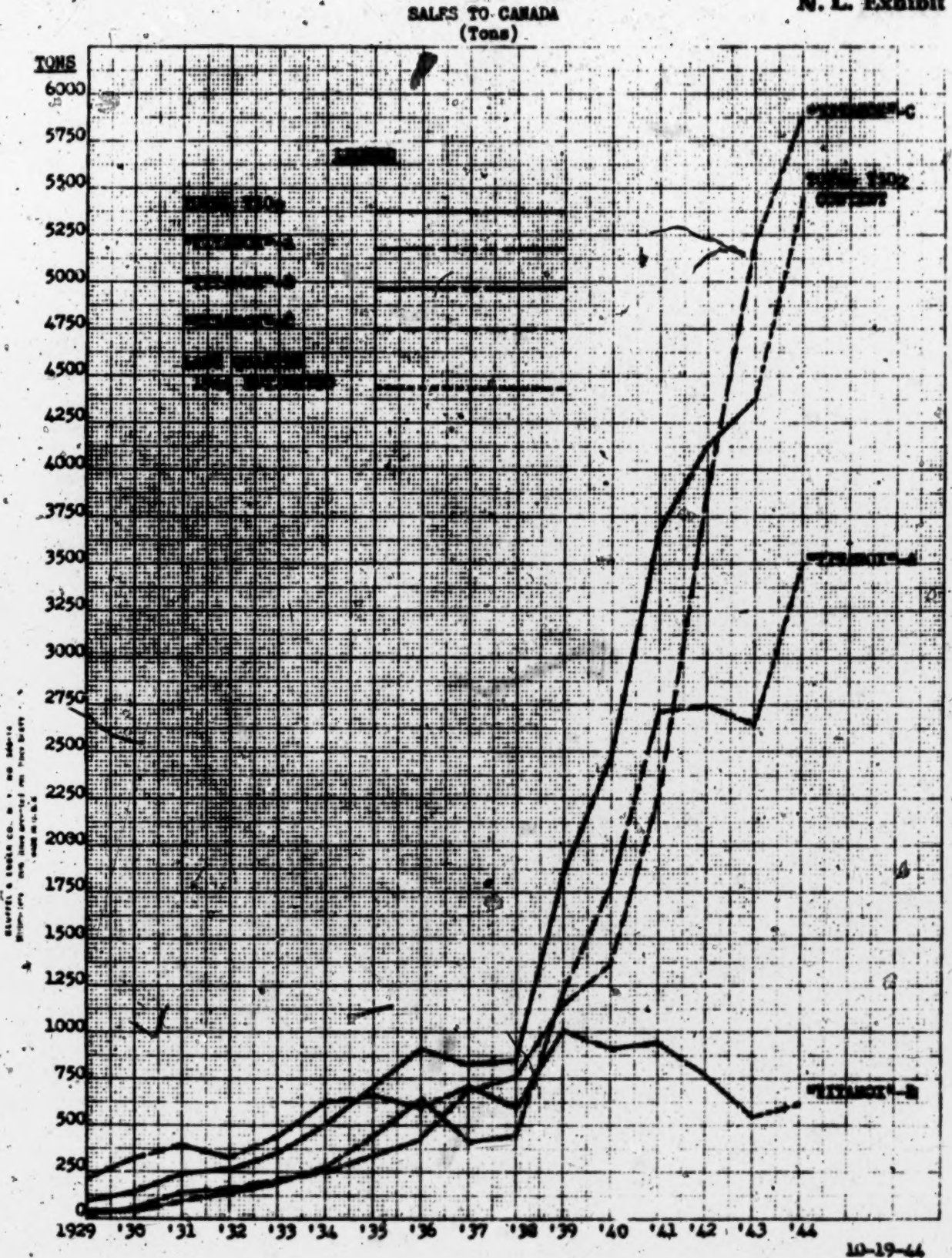

ZINC OXIDE
WHITE LEAD
"TITANOX", ALL PIGMENTS
TOTAL TiO2 OF ALL "TITANOX" PIGMENTS
1920 '21 '22 '23 '24 '25 '26 '27 '28 '29 '30 '31 '32 '33 '34 '35 '36 '37 '38 '39 '40 '41 '42 '43
10-19-44

3949

N. L. Exhibit 25



N. L. Exhibit 26



N. L. Exhibit 27

AIR MAIL

January 16, 1940

"TITANOX"-A NC

MR. D. W. EDGERLY

I. D. HAGAR

In this morning's mail we received from Krebs, an announcement card, postmarked Wilmington, January 15th, 6:30 P.M., in which they advised that effective January 15, 1940, Ti-Pure O is reduced 1¢ per pound.

We are following suit immediately, making our prices effective January 15th, and the schedule for "TITANOX"-A NC will be as follows:

Carloads	15¢ per pound
5 tons single delivery	15¼¢ per pound
Less than 5 tons to 1000 lbs.	15½¢ per pound
999 lbs. to 50 lbs.	15¾¢ per pound
Less than 50 lbs.	18¢ per pound

I notified you of this change by telegram and asked you to advise your salesmen promptly.

New price card notices are being prepared and the printer hopes to have them in our hands so that part can be mailed out tonight and the balance tomorrow morning.

The buff-colored price cards, effective January 2, 1940, will be superseded by these new announcements of which a supply will be sent to you in addition to the regular mailing to all customers.

This pigment moves in such small quantities that we imagine there will be little to contend with in the way of price adjustments, but should any of these arise, where some consideration seems advisable, either use your own judgment or communicate with me in regard thereto.

No other grades of "TITANOX" Pigments will be affected.

Yours very truly,

d

1

N. L. Exhibit 28

Minutes of a quarterly meeting of the Board of Directors of AMERICAN ZIRCONIUM CORPORATION, held at the offices of the Metal & Thermit Corporation, No. 120 Broadway, Borough of Manhattan, City of New York, on the 20th day of December, 1939, at 10:30 o'clock A.M.

PRESENT: Messrs. Adrian D. Joyce, Fletcher Rockwell, F. H. Hirschland, H.E. Rogers, W.J. O'Brien and F.W. Cohen.

The meeting was called to order by the President.

The minutes of the previous quarterly meeting of the Board of Directors held on the 4th day of October, 1939, copies of which were sent to each of the directors, were read and approved.

The royalty agreement dated January 1, 1935, with the Krebs Pigment & Color Corporation was brought up for discussion, there being brought to the Board's attention the substantial amount of royalties which had been paid under this agreement to Krebs Pigment & Color Corporation during the year 1938 and this year. Also in this connection, attention was brought to the marked decrease in the profits of the Corporation this year as compared with previous years; that a larger production seemed necessary to remedy the situation. After the views of the different members of the Board had been given, the following resolution was duly made, seconded and carried:

RESOLVED: That it was the consensus of opinion of the members of the Board that the provisions in the agreement between this Corporation and Krebs Pigment & Color Corporation, dated January 1, 1935 which limit the production of titanium oxide by this Corporation to certain specific quantities per year, particularly paragraphs 1 (a) and (b),

should be eliminated; that the President of the Corporation be and hereby is authorized and directed to confer with Krebs Pigment & Color Corporation and insist upon a modification of the agreement with that Corporation by the elimination therefrom of all limitation as to quantities of titanium oxide which may be produced, and further to take such steps as may be necessary to procure such elimination.

The matter of the purchase of a tow-boat and two barges was discussed, and on motion duly made, seconded and unanimously carried, it was

RESOLVED: That the officers of the Corporation be and hereby are authorized to purchase a tow-boat and two barges at the best price or prices obtainable.

The matter of the sale of two Tolhurst centrifuges, no longer needed, and which had been written off the books, was discussed.

Mr. O'Brien reported that active efforts had been made to sell them, but that the best offer received was $500.00. He also stated that the Chemical & Pigment Company, a division of The Glidden Company, was willing to purchase them for the sum of $525.00, and on motion duly made, seconded and carried, Mr. Joyce and Mr. O'Brien, not voting, it was

RESOLVED: That the officers of the Corporation are authorized and empowered to sell the two Tolhurst centrifuges for the sum of $525.00 to the Chemical & Pigment Company.

Mr. O'Brien reported that to recover titanium oxide in the acid at the acid recovery plant, it would be necessary to install additional equipment. The equipment necessary to

carry this out would consist of another vacuum crystalizer, cooling slurry tank, either another Bird machine or a filter, a Sharpless centrifuge, additional piping, etc., at an estimated cost of approximately $65,000.

The above matter was discussed, and upon the recommendation of Mr. O'Brien, it was on motion duly made, seconded and unanimously carried,

RESOLVED: That the officers are authorized and empowered to purchase a vacuum crystalizer, cooling slurry tank, either another Bird machine or a filter, a Sharpless centrifuge, additional piping, and other equipment incidental thereto, the total expenditure to be approximately $65,000.

The matter of declaring a dividend on the PREFERRED STOCK of the Corporation was discussed, and on motion duly made, seconded and unanimously carried, it was

RESOLVED: That out of the earnings of the Corporation there be and hereby is declared as the fourth quarterly dividend for the year 1939 on the PREFERRED STOCK of the Corporation, of one and three-quarter percent (1¾%) per share, payable December 31st, 1939, to stockholders of record as of this date.

The affairs of the Corporation generally were discussed. There being no further business, on motion, the meeting adjourned.

HUBERT E. ROGERS
Secretary.

N. L. Exhibit 28

Letterhead of

THE GLIDDEN COMPANY

November 6, 1939

Mr. C. F. Garesche, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Garesche:

We have been advised by the International Pulverizing Company that you have the sole rights for grinding titanium oxide with their micronizer. I would appreciate very much your advising me what arrangements we could make with your company to investigate this process further and, in the event we were interested, if arrangements could be made to take out a license.

Very truly yours,

W. J. O'BRIEN
Vice President

WJO'B-B

N. L. Exhibit 28

November 8, 1939

Mr. W. J. O'Brien, Vice President
The Glidden Company,
1396 Union Commerce Building,
Cleveland, Ohio

Dear Mr. O'Brien:—

In the absence of Mr. C. F. Garesché, who is at present away on an extended business trip, the writer takes the liberty to acknowledge your letter of November 6th on the subject of the International Pulverizing Company.

We anticipate that there will be no difficulty in working out arrangements whereby your company can investigate the process in which you are interested and go farther with respect to a license should that be desired.

However, we think it best that Mr. Garesché handle the details in this connection and, therefore, would like to suggest that the matter be held in abeyance until his return, which will be on or about November 27th.

We trust that this brief delay will not inconvenience you.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. HAGAR—General Sales Manager

d.

N. L. Exhibit 28

November 29, 1939

Mr. W. J. O'Brien, Vice President
The Glidden Company,
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. O'Brien:

With reference to your exchange of letters with Mr. Hagar during my absence, we have an exclusive license from the International Pulverizing Company for the use of their micronizer for grinding titanium dioxide.

It gives me pleasure to advise you that we will be very glad to give you full information regarding the operation and installation of this equipment. May I suggest that someone from your organization call upon Mr. F. J. Shirley, Superintendent at Sayreville, N. J., who will be pleased to furnish you with full details.

You appreciate, however, that we cannot permit your representatives to view the equipment in operation, for reasons which have been previously explained to you.

If you decide to make use of the equipment, we will be very pleased to arrange for a sub-license which will entail no expense to your company, except the payment of the same royalty for which we ourselves are obligated. Briefly, I might say, that we (in combination with our sub-licensees) agreed to pay 50 cents per ton on the first 4000 tons milled in any year, and that for all tonnage in excess of 4000, the royalty is 25 cents per net ton.

Yours very truly,

Manager

cc Mr. Turner
Mr. Shirley

N. L. Exhibit 28

Letterhead of

THE GLIDDEN COMPANY

September 23, 1940

Mr. C. F. Garesché, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Garesché:

Confirming my telephone conversation with you Friday, I would appreciate your forwarding to us a license arrangement permitting us to operate the micronizer mill on titanium oxide. It is my understanding that this license arrangement will be the same as Krebs' and that the minimum guarantee of 4,000 tons will be split equally between National Lead, Krebs and ourselves or that we will pay a royalty of 50 cents a ton on one-third of 4,000 tons of 1,333⅓ tons. On any tonnage produced above this the royalty will be 25 cents per ton as per Krebs' license.

All this is in accordance with our conversation Friday and I assume that you will mail the license to us in the near future. I have accordingly ordered the mill from Mr. Stackhouse.

In the near future I will want Mr. Rhodes to interview the proper party whom you designate to go further into the details of operation, collection, etc., which you very kindly agreed to.

With kind personal regards and best wishes, I am.

Yours very truly,

W. J. O'Brien
Vice-President.

WJO'B-B

N. L. Exhibit 28

Letterhead of

AMERICAN ZIRCONIUM CORPORATION

December 20, 1940

National Lead Company
Titanium Division
111 Broadway
New York City

Attention: Mr. C. F. Garesché, Manager

Gentlemen:

Mr. W. J. O'Brien has handed me the correspondence and license agreeement relating to patent 2,032,827 owned by International Pulverizing Corporation.

The license agreement submitted between National Lead Company and American Zirconium Corporation has been executed by American Zirconium Corporation and I am returning to you herewith a signed copy. I have dated this the 19th day of December, 1940 as the date of signing.

I understand that payment of royalty begins July 1, 1940 as indicated in paragraph 3 on page 3. Mr. O'Brien informs me that the Micronizer Reduction Mill is in the process of installation and will not be in operation until sometime next March or April. I assume that under the circumstances, American Zirconium Corporation will commence to report royalties just as soon as titanium dioxide has been treated in the mill.

N. L. Exhibit 28

We have your comments with respect to the first 4000 tons and the method of handling the royalties and your statements will be carried out. If there is anything further you want us to do in this connection, please let me know.

Very truly yours,

CLIFTON M. KOLB.
Assistant Secretary

CMKolb:rr
Enc.

N. L. Exhibit 28

Letterhead of

AMERICAN ZIRCONIUM CORPORATION

May 8, 1941.

Mr. Garesche,
National Lead Company,
111 Broadway,
New York,N.Y.

Dear Mr. Garesche:

In talking with our patent attorney, Mr. Charles Silver, he advises me there are some difficulties encountered in handling the exchange of information between our two companies relative to patent applications. In looking the agreement over I find that Article VI states:

> Each party hereto agrees, to the extent that its prior obligations to other licensors do not prevent, to cooperate with the other by imparting semi-annually to such other party full and accurate information in detail as to knowledge obtained by it in and applicable to the "licensed Field" since its last report hereunder, and to permit such other party to adopt, apply and use the same; *provided*, however, that neither party shall be obligated hereunder to impart or otherwise disclose to the other party, or to permit the other party to adopt, apply or use, any knowledge, information, method, process or apparatus acquired by it from any third party under or pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof.

N. L. Exhibit 28

I find further that we have been living up to this agreement in giving you copies of applications *two months after filing, as called for in Article VIII.* By receiving these applications at this early date you are fairly well informed as to what we are doing. However, I find that we have never received similar information from you, nor have we received a semi-annual report as to what work your laboratory has been doing in the licensed field.

Your company's failure to send this information has no doubt been an oversight, and we would very much appreciate receiving these reports at an early date.

Very truly yours,

W. J. O'BRIEN

Vice President

N. L. Exhibit 28

May 23, 1941

Mr. W. J. O'Brien, Vice President
American Zirconium Corporation,
6401 St. Helena Ave.,
St. Helena, Baltimore, Md.

Dear Mr. O'Brien:

Since receiving your letter of May 8, 1941, we have given the matter of exchange of technical information very careful consideration.

The purpose of specifying in Article VIII of the Agreement that you should send copies of your patent applications to us two months before filing is not in order to inform us of what you are doing, but is for the purpose of enabling us to forward the applications abroad to permit the filing of corresponding foreign applications as we may desire and as provided in Article VIII.

As far as I am able to ascertain, neither party to the agreement ever exchanged semi-annual reports covering its work within the Licensed Field. It appears that the reason for this was that we are so bound by prior obligations that it was virtually impossible to prepare such reports without including information which we had no right to give. The same problem exists today. Nevertheless, whenever we could, we have endeavored to inform you fully on whatever matters were of interest to you and which were strictly our own to give. For instance, you will recall that we furnished you blueprints and even the services of one of our engineers in connection with the installation of the Washburn tank. Another instance which might be mentioned is in connection with the use of the Micronizer, a development which

is our own and which we turned over to you with complete information concerning its use in processing titanium pigments.

We suggest as a way of meeting the obligations of Article VI that both companies prepare and submit semi-annual questionnaires to the other, covering points of particular interest to each party and that we exchange such questionnaires and answers. In this way we are sure all developments of particular interest, practiced by both parties would be disclosed to the other.

We should be glad to have your comments.

Yours very truly,

Manager,

cc Mr. Kaegebehn

N. L. Exhibit 28

[COPY]

NATIONAL LEAD CO.
111 Broadway
New York

June 5, 1941.

Mr. Hubert E. Rogers, Secretary
American Zirconium Corporation
52 Wall Street
New York City

Dear Mr. Rogers:

I wish to acknowledge receipt of copy of Minutes of Meeting of Board of Directors of American Zirconium Corporation held on May 9th, with copy of report from Mr. W. J. O'Brien, which you sent me. It was with regret I could not remain through the meeting but in view of the bank loans, money due Glidden for advances, etc., I asked that Mr. Joyce submit a plan for taking care of those loans. On May 15th Mr. Joyce wrote me presenting a recap of the figures, and recommended that arrangements be made to increase the capital of the American Zirconium Corporation by $750,000.

I have given the matter considerable attention and feel that on a production of 6,000 tons of TiO_2 per annum, with careful management and modified financing, a profit can be made.

Under the present operation there is provision for depreciation of $150,000 to $160,000 annually, and with adjustments in view of the present unsatisfactory conditions as follows:

N. L. Exhibit 28

Reduction of the management fee from $25,000 to $10,000 per annum,

Reduction of selling commission from 5% to 3%, and

Reduction of the interest on the 600,000 preferred shares from 7% to 4%,

there will be an annual saving of $63,000 which, together with the above mentioned depreciation, will release $223,000 per annum. If this is effected, it seems possible to meet the present financial difficulties.

As to changing the process to a rutile type pigment. The National Lead Company has not brought out a rutile TiO_2 pigment of high tinting strength but only a C pigment of high tinting strength containing the rutile crystal type. DuPont has marketed a rutile TiO_2 pigment but only to a very limited extent for which a premium is charged. This type of pigment has considerable interest but the situation in the titanium pigment industry is not such that it is advisable to hurry an appropriation of $300,000 for changes in the factory for such production. It is not clear from Mr. O'Brien's letter whether his estimate of $300,000 is sufficient to cover the changes necessary to turn the full production of the factory over to a rutile pigment as indicated or whether he expects for his purpose an additional expenditure of $650,000 will be necessary.

The Board should be provided with information concerning the following:

1. What process is to be used.
2. A full and well-prepared estimate as to the cost of the necessary changes for a definite tonnage (not a

"hurried estimate", to use Mr. O'Brien's own words).

3. An estimate of production costs of the new pigment.

We should also know definitely from where the ilmenite supply is to come, and if a domestic source, does the $15.00 a ton referred to in Mr. O'Brien's letter cover the full cost or will there be further costs to help defray the expense of equipment for mining and milling.

Dr. Hirschland and I have discussed this matter and I am sending him a copy of this letter. I think it would be helpful if Dr. Hirschland, you and I could meet to discuss the matter before the next Zirconium board meeting.

Very sincerely,

(Signed) Fletcher W. Rockwell

President

Copy to Dr. Hirschland

N. L. Exhibit 28

Minutes of a Special Meeting of the Board of Directors of AMERICAN ZIRCONIUM CORPORATION, held at the offices of the Metal & Thermit Corporation, No. 120 Broadway, in the Borough of Manhattan, City of New York, on the 25th day of June, 1941, at 2:00 o'clock P.M.

PRESENT: Messrs. Adrian D. Joyce, Fletcher Rockwell, F. H. Hirschland, H. E. Rogers, W. J. O'Brien, R. H. Horsburgh and Walton Smith.

The meeting was called to order by the President.

As copies of the minutes of the previous meeting of the Board of Directors held on the 9th day of May, 1941, were sent to each of the directors, and as no suggested amendments or corrections thereto were submitted, on motion the minutes of the meeting of the 9th day of May, 1941, as recorded were approved.

The President reported that the operations for the month of May resulted in a profit of $6,927.55.

The ilmenite situation was referred to and discussed at length. Mr. O'Brien, in answer to questions, stated that the supply on hand at the present rate of consumption would last until some time in December, but that he hoped an additional source of supply would be found, but he could not give definite assurance to the Board that an additional supply would at that time be on hand or available. He stated that efforts to procure a supply of domestic ore would continue to be made, otherwise he admitted the plant would have to shut down.

The matter relating to the entries made in the books, following the adjustment with the United States Treasury as to the value of patents allowed by it as the basis of depreciation of the patents was discussed, and on motion duly made, seconded and unanimously carried, it was

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RESOLVED: That as the entries made with respect to the write-down of the value of the patents was due to a misunderstanding of the resolution adopted at the meeting of the directors held on the 28th day of February, 1941, the entries made in the books with respect to the write-down of the value of the patents and their amortization based upon the reduced value fixed by the United States Treasury as the basis of depreciation for income tax purposes be and hereby are reversed and the Treasurer is hereby instructed to take the necessary steps accordingly.

The President referred to his letter to the directors dated May 15, 1941, regarding the need of additional capital, and asked for action thereon. The matter was discussed at considerable length. Reference was made to the fact that the plant has finally reached an assured production of between 500 and 600 tons of titanium oxide a month; that largely as a result, costs had been reduced and the operations produced the profit for the month of May referred to by the President; further that beginning July 1st, 1941 the price of titanium oxide would advance one cent a pound, which should add materially to such profit even though it was expected that labor costs would increase. Mr. Horsburgh, after making a rough estimate, stated that with additional capital of $300,000, the loan of the New York Trust Company and the advance of The Glidden Company of $100,000 would be paid off and that the other obligations could be met from the results of operations, unless others should occur which could not now be foreseen. Mr. Horsburgh was asked to prepare a budget setting forth the estimated income and the obligations, including those known and expected for equipment &c. not enumerated in the last monthly statement, which would have to be met between now and the end of the year. Mr.

O'Brien was asked to prepare a statement answering certain specific questions, asked him by Mr. Rockwell, as to what is being done to assure a supply of ilmenite, whether the use of domestic ores would affect, and the extent, the output of the plant and the cost of operations and necessitate the installation of additional equipment, and what he estimated the quality of domestic ores, which could be used, and also those asked by Dr. Hirschland. Both budget and statement to be sent to the directors as soon as prepared so that an answer could be made to the President's statement of the need for additional capital.

The President requested consideration by the stockholders as to whether they would loan to the Corporation the sum stated by Mr. Horsburgh needed to pay off the loans specified by him. The President also stated that The Glidden Company was prepared to purchase, at a price to be fixed, enough common stock of the Corporation to provide $300,000, provided the other stockholders do not desire to take their pro rata share, and asked that such be given consideration.

There being no further business presented, on motion, the meeting adjourned.

HUBERT E. ROGERS
Secretary.

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AMERICAN ZIRCONIUM CORPORATION

Mr. Fletcher Rockwell
National Lead Company
111 Broadway
New York City

September 8, 1941

Mr. Hubert E. Rogers
c/o Rogers & Condon
52 Wall Street
New York City

Dear Mr. Rogers:

This will confirm my telephone conversation with you this afternoon in which I asked you to call a Directors' Meeting on Friday, September 12 for the following purposes:

1. To discuss the proposition of the National Lead Company regarding the development of a supply of ilmenite in Essex County, New York, and decide whether the American Zirconium Corporation wishes to take a participation.

2. To discuss and arrange for adequate financing of the American Zirconium Corporation.

3. To discuss the plan of increasing the productive capacity of the American Zirconium Corporation to 9,000 tons per annum of titanium dioxide.

4. To discuss the matter of purchasing ilmenite for the manufacturing operations of the American Zirconium Corporation from The Glidden Company.

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As I explained to you over the telephone, I had a telephone call today from a representative of the OPM who insisted that the American Zirconium Corporation must have a Directors' Meeting and come to a decision regarding its participation in the National Lead Company proposition. The OPM representative stated that September 20 was the end of the time limit for the examination of the title and for the acceptance of the contract.

I wish also to explain that the Government authorities indicated that they are very anxious for the American Zirconium Corporation to increase their productive capacity to 9,000 tons per annum of titanium dioxide. I explained to the OPM that the Glidden stockholders are extremely anxious to increase the productive capacity to 9,000 tons but that the Directors representing the Metal & Thermit Corporation and the National Lead Company are reluctant to make the necessary additional investment in the stock of the American Zirconium Corporation to enable American Zirconium Corporation to properly carry out such plans. They have stated that they are doubtful of a supply of raw material, etc.

As I explained to you over the telephone, Mr. Herbert L. Rhodes, who owned the lease on the mining property in Caldwell County, North Carolina, notified our Mr. O'Brien under date of August 15 that owing to difficulties encountered it would be necessary to install additional equipment. On August 22 Mr. Rhodes wrote Mr. O'Brien as follows:

"In further reference to my letter to you of August 15, I would suggest that you consider the purchase of the lease that I now hold from Lloyd B. Williams for the mine in Caldwell County, North Carolina, also the purchase of the

mill and machinery that I have now on the property. I believe that in view of the difficulties in obtaining equipment and supplies especially by an individual of limited means, that both my interest and The Glidden Company's interest will be better served. In addition, I believe that it will be possible to put the equipment into production at an earlier date than is possible by working alone.

"I, of course, realize that there is a great deal of uncertainty in the possibility of developing any property due to the chaotic conditions of business at the present time. I also feel that there should be a great deal more exploration and development work than I am in any position or capacity to carry on at the present time. I would like to discuss with you a plan which would be fair and equitable to both The Glidden Company and myself at your convenience."

In view of these letters from Mr. Rhodes a conference was arranged with him and a plan was worked out under the terms of which The Glidden Company agreed to purchase the mining machinery and equipment and to take over the lease from Mr. Rhodes and to engage Mr. Rhodes as General Manager of the mining proposition. Inasmuch as The Glidden Company had already advanced $25,000 to Mr. Rhodes, this seemed to be the necessary thing to do in order to protect The Glidden Company's interests and to be in position to supply ilmenite to the American Zirconium Corporation in the event that corporation wished to purchase said ilmenite. This contract was negotiated September 3, 1941.

Mr. O'Brien arranged for our mining engineer to visit the property and to make an inspection, and also to go to Washington to consult with the Bureau of Mines in connection with the proper equipment that would be needed to adequately supply ilmenite that would be suitable for the

production of titanium dioxide. We are now proceeding in installing additional machinery and equipment, and according to the judgment of the technical men of The Glidden Company, that company will be able to start deliveries of ilmenite not later than December 1, 1941.

The Glidden Company is willing to supply ilmenite to the American Zirconium Corporation in a sufficient quantity to take care of its requirements for a 9,000 ton production; this ilmenite to be supplied at the market price, and it is important that the Directors of the American Zirconium Corporation decide whether they wish to purchase said ilmenite from The Glidden Company for the requirements of the American Zirconium Corporation, or whether they prefer to participate in the National Lead Company proposition. I understand that in the event it is decided to participate in the National Lead Company proposition that we cannot hope for adequate supplies of ilmenite from that source until approximately one year from the present date. This would mean that the American Zirconium Corporation would be out of business from December until ore was available from the National Lead Company property.

It is important that a decision be arrived at as to the purchase of ilmenite ore because in the event the American Zirconium Corporation does not desire to avail itself of the ore that will be available from North Carolina, then The Glidden Company would feel free to dispose of this ore in other quarters.

Yours very truly,

ADRIAN D. JOYCE
President.

ADJ-V

N. L. Exhibit 28

MEMORANDUM ON AMERICAN ZIRCONIUM CORP.

September 10, 1941

History

Zirconium was organized in 1935 to manufacture titanium pigments near Baltimore. At that time, The Glidden Co. paid $600,000 in cash for 6,000 shares of 7% cumulative preferred stock and received 5,000 shares (45%) of common as a bonus; Metal & Thermit Corp. received 5,000 shares (45%) of common in exchange for patents; National Lead Co. received 1,112 shares (10%) of common for a license to operate under certain patents; and Du Pont gave a license to Zirconium to use certain patents on a royalty basis.

The company called on its stockholders to supply more capital in 1937 and 1938 as follows:

	Shares of Common	*Amount Subscribed*	*%*
Glidden	1800	$90,000.	45
Metal & Thermit	1800	90,000.	45
N. L. Co.	400	20,000.	10
	4000	$200,000.	100

Dividends have not been paid to Glidden on the preferred stock for four quarters and, as a result, these shares now vote share for share with the common giving Glidden about 60% of the votes on all matters except the change of the charter or the by-laws of the corporation. This latter

change can be made only with the consent of the holders of 51% of the common stock.

PRESENT CAPITALIZATION

Issue	*Stockholder*	*No. of Shares*	*% of Total*	*Value Per Balance Sheet*	*Cash Subscribed*
7% Pfd.	Glidden	6,000	100	$ 600,000.	$600,000.
Common	Glidden	6,800	45	680,000.	90,000.
"	Metal & Thermit	6,800	45		90,000.
"	N. L. Co.	1,512	10	75,600.	20,000.
		21,112		$1,355,600.	$800,000.

NATIONAL LEAD CO. INVESTMENT IN ZIRCONIUM

National Lead Co. investment in the company consists of $20,000. in cash and a license to Zirconium to operate under certain patents. This license cannot be terminated prior to August 7, 1951 except upon the failure of performance by Zirconium of the terms of the license agreement. National Lead Co. has received cash dividends of $14,388 from its investment in this company.

RESULTS OF ZIRCONIUM OPERATIONS IN RECENT YEARS

	Net Profits Per Books
1937	$155,702
1938	130,760
1939	62,286
1940	92,323 Loss
1941—1st six months	$ 7368
July	15938 23,306

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PAYMENTS BY ZIRCONIUM TO GLIDDEN IN RECENT YEARS

	Total	Preferred Dividends	Common Dividends	5% Sales Commissions	Management Fee	10% of Com. Stock Profits
1937	$161,166	$ 42,000.	$37,530	$ 44,003	$ 25,000	$12,633
1938	141,834	42,000.	27,216	37,756	25,000	9,862
1939	120,519	42,000.		51,265	25,000	2,254
1940	96,254	21,000		50,254c	25,000	—
1941 (7 Mos.)	53,039			40,539	12,500	
Total	$572,812	$147,000	$64,746	$223,817	$112,500	$24,749

The 5% sales commission, the management fee, 25,000.00, and the 10% payment of common stock profits & operation of Plant are made to Glidden under the terms of a contract which cannot be terminated prior to December 18, 1943 and then only upon one year's prior written notice.

COMPARISON OF ZIRCONIUM AND TITANIUM DIVISION OPERATIONS

Zirconium percentage of operating profits to sales has been far smaller than that made by the Titanium Division. An analysis for 1941 indicates that this results largely from poor recoveries on TiO_2 content of ilmenite, much higher acid costs per ton, and from higher fixed charges, such as patent depreciation.

PRESENT PROPOSALS FOR FINANCING ZIRCONIUM

Zirconium officials are proposing that about 10,600 new shares of common be issued at $30. per share (estimated book value) to yield about $318,000. With this amount, a present bank loan of $275,000 due on Sept. 8, 1941 to New York Trust Co. can be paid off and the balance, along with

cash to be realized from operations and from liquidation of accounts receivable, can be used to meet proposed other requirements as shown below.

	Amount Required
Cost of changing over present equipment to handle new type of ilmenite.	50,000
Pilot plant to study rutile operation...	15,000
Machinery contracted for at July 31, 1941	63,000
Additional machinery required to increase capacity from 6000 tons to 9000 tons per annum	185,000
Current debt due to Glidden Co.	110,000
Total	$423,000

The requirements listed above do not include possible future needs for changing over to a rutile process (which has been estimated by Zirconium officials at $300,000, on a 6000 ton per annum production basis) nor cost of possible participation in the MacIntyre venture.

President Joyce says that government officials are anxious to have Zirconium increase its capacity from 6000 to 9000 tons and that he has advised the OPM that Glidden is anxious to do so but that Metal & Thermit and National Lead Co. are reluctant to make the necessary additional investment. He also says that permission has been obtained from Du Pont to make the increase from 6,000 to 9,000 tons. The Du Pont license agreement with Zirconium had

restricted its production to 6000 tons per annum prior to 1943.

Of the 10,688 shares proposed to be issued, 4,888 shares are presently authorized but corporate action will be necessary to authorize the remaining 5,800 shares.

ZIRCONIUM ILMENITE SUPPLY

Zirconium expects to obtain future ilmenite supplies either from the "Rhodes" mines in North Carolina (which is being financed by Glidden) or from the MacIntyre mines. It is estimated that ore delivered from North Carolina to Baltimore will cost about $16. per ton.

ZIRCONIUM PLANT INVESTMENT AT JULY 31, 1941

Plant Investment	$1,373,332
Depreciation Reserve	496,108
Net, per balance sheet	$ 877,224

N. L. Exhibit 28

[COPY]

Minutes of a Special Meeting of the BOARD OF DIRECTORS of NATIONAL LEAD COMPANY held at No. 111 Broadway, New York City, Thursday, September 11, 1941, at 2:00 P. M.

At the call of the President a Special Meeting of the Board of Directors was held at 111 Broadway, New York City, on Thursday, September 11, 1941, at 2:00 o'clock P. M.

PRESENT:	L. T. Beale	F. W. Rockwell
	W. V. Burley	Harold Rowe
	W. H. Croft	H. G. Sidford
	C. F. Garesche	Charles Simon
	W. F. Meredith	H. T. Warshow

PRESENT BY INVITATION: M. Douglas Cole
G. Jebsen

ABSENT:	E. F. Beale	Kendall Marsh
	C. A. Geatty	J. J. Morsman
	J. A. Taylor.	

The President, Fletcher W. Rockwell, acted as Chairman of the meeting and H. O. Bates acted as Secretary.

The President stated that he had called the Board together for its consideration of two matters, one with respect to the Company's interest in American Zirconium Corporation and the other with respect to an enlargement of the MacIntyre development by the addition of another milling unit to meet the Company's own requirements of ilmenite.

The Board was reminded that the Company held a 10% common stock interest in American Zirconium Corporation, and that by virture of such stock interest the Company had

since been represented on the Board of Directors of said corporation, the President himself being now that representative. He explained that the business of that corporation in recent years had not show the profit that was reasonably to be expected, that a substantial bank indebtedness existed which should be provided for and that a meeting of its Board had been called for the following day to consider the matter of new financing, the matter of participation in the Company's own Adirondack ilmenite development pursuant to the recent directive of the Office of Production Management or, as an alternate, the purchase of ilmenite from recently acquired North Carolina properties of The Glidden Company, contract manager of the corporation's operations, and the matter of proposed enlargement of the titanium pigment capacity of the corporation's plant from 6000 tons to 9000 tons annually. He requested the Board's instructions as to the position to be taken by him on these various questions at the Board Meeting referred to.

After thorough discussion it was the sense of the meeting that on account of the Company's interest in the Adirondack ilmenite development the President should refrain from voting on the question of participation in that development and also on the alternate question of the purchase of ilmenite from The Glidden Company. In the matter of new financing presently required and additional financing required for any expension of production capacity it was felt that the Company's representative should not oppose authorization of the issuance at a fair price of the 4888 shares of common stock now authorized but unissued and that it would be only proper for the Company to subscribe to its pro rata share thereof, but that as respects expansion of capacity at this time and any increase of the present author-

ized capital stock for that purpose it was felt that the important questions of ilmenite supply, delivery of plant equipment and, above all, the existing obstacles to profitable operation should first be satisfactorily settled before any such expansion would be justified. It was further felt that the Company should not refuse any reasonably fair offer for the purchase of its interest by other stockholders, should such an offer be made.

The meeting then took up the question of the expansion of mill capacity under the Adirondack ilmenite development, recommended by Mr. Garesche as desirable to provide a reserve capacity against possible shutdowns, transportation and labor difficulties and expansion of business, and after some discussion it was decided to postpone final consideration of that matter until the regular meeting of the Board scheduled for September 23, especially in view of the arrangements which had been made for an inspection of the properties by the Directors in the meantime.

There being no further business the meeting, upon motion, adjourned.

Secretary.

N. L. Exhibit 28

Minutes of a Special Meeting of the Board of Directors of the AMERICAN ZIRCONIUM CORPORATION, held at the offices of the Metal & Thermit Corporation, No. 120 Broadway, in the Borough of Manhattan, City of New York, on the 12th day of September 1941, at 2:00 o'clock P.M.

Present: Messrs. Adrian D. Joyce, Fletcher Rockwell, F. H. Hirschland, H. E. Rogers, W. J. O'Brien, R. H. Horsburgh and Walton Smith.

The meeting was called to order by the President.

The Secretary stated that the meeting was called at the request of the President, and presented notice of the meeting, also letter of the President dated September 8, 1941, requesting the call, and stated that the notice of the meeting, as well as a copy of the letter of the President referred to, would be attached to the minutes of the meeting.

The Secretary reported that a copy of the minutes of the Special Meeting of the Board held on July 31st last, together with a copy of his notes taken at the meeting had been sent to each director, and that he had received a letter from the President making certain changes in the notes referred to. That he had received no objections to the minutes of the meeting.

On motion duly made, seconded and unanimously carried, the minutes as recorded were approved. The Secretary was instructed to attach to the minutes of the meeting of July 31st, 1941, a copy of his notes and also a copy of the President's letter dated August 12th last, referred to.

A letter from the National Lead Company to the American Zirconium Corporation, dated September 10, 1941, setting out an amendment to the agreement of National Lead Company covering the right of the American Zirconium

Corporation to participate in National Lead Company's Adirondack titanium mining enterprise, was submitted by the President and read by the Secretary. The Secretary stated that a copy would be attached to the minutes.

The matter of the American Zirconium Corporation participating the National Lead Company's Adirondack titanium mining enterprise was discussed at length. In the course of the discussion, Mr. Rockwell stated that the amount which the American Zirconium Corporation would have to invest, if it participated in such enterprise, had been computed by the National Lead Company to be about $1,000,000. Mr. Rockwell further stated that the production and delivery of ilmenite from the mine was not likely to occur before July 1942. Also in connection with the discussion, reference was made by the President to the Yadkin Valley Ilmenite Deposit at Lenoir, North Carolina, which had formerly been referred to in the minutes as the so-called Rhodes mine, and in that connection the President read from a report which he had received from Edward L. Ralston, the Glidden Company's mining engineer, and also referred to a memorandum made by Mr. O'Brien, covering the cost of increasing the plant to 9,000 ton production. Reference was also made by the President to his letter of September 8, 1941, setting forth that The Glidden Company had purchased from Rhodes his interest in the project under a contract "negotiated on September 3, 1941", and also to his statement in the letter referred to, that The Glidden Company is willing to supply ilmenite (from this mine) to the American Zirconium Corporation in sufficient quantity (and suitable quality) to take care of its requirements for a 9,000 ton production; this ilmenite to be supplied at the market price. Reference was made that the

changes needed at the plant at Baltimore, to use the ilmenite from the Yadkin Valley Ilmenite Deposit might require an expenditure of possibly $50,000.

The President stated that it was to be understood that if a contract were made by the American Zirconium Corporation with The Glidden Company, for the ilmenite from the deposit referred to, it would contain a provision that if ilmenite could be procured from other sources at a lower price than the price under the contract, American Zirconium Corporation would be at liberty to purchase such other ilmenite.

The President recommended that American Zirconium Corporation purchase 10,000 tons of ilmenite from The Glidden Company, of suitable quality, for use by the American Zirconium Corporation at its plant at Baltimore, shipment to be made by The Glidden Company to the American Zirconium Corporation when the ilmenite becomes available from the project referred to on or about December 1st next, at $20 per long ton, delivered f.o.b. Baltimore, Maryland, and the President also recommended that the proposition from the National Lead Company regarding the participation of the American Zirconium Corporation in the National Lead Company's titanium mining enterprise, referred to, be declined.

On motion duly made, seconded and carried, it was

Resolved, That this Corporation do not avail itself of the offer of participation received by it from the National Lead Company, with respect to the National Lead Company's titanium mining enterprise, and it was

Further resolved: That the Secretary inform the National Lead Company of this action, and furnish it with a certified copy of this resolution.

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Mr. Rockwell desired to be recorded as not voting on the foregoing resolution.

On motion duly made, seconded and carried, it was

Resolved: Upon the recommendation of the President that in view of the Corporation's limited supply of ilmenite which will not carry its operations beyond December 15th next, necessitating a shut down of the plant unless a supply of ilmenite is provided at once and therefore the urgent necessity to procure its requirements at once, and in view of the inability of procuring the same elsewhere, the officers of the Corporation be and hereby are authorized and empowered to accept the offer of The Glidden Company to sell to this Corporation 10,000 tons of ilmenite of suitable quality for use by the American Zirconium Corporation at its plant at Baltimore, Maryland; shipment to be made when the ilmenite is available from the Yadkin Valley Ilmenite Deposit, on or about December 1st next, the price to be $20 per long ton, delivered at Baltimore, and to enter into a purchase agreement with The Glidden Company, pursuant to the terms herein stated.

Messrs. Joyce, Horsburgh, O'Brien and Rockwell wished to be recorded as not voting on the foregoing resolution.

The President referred to the matter of the production of objectionable gases in connection with the operations at the Baltimore plant, and to the decision of the Court holding that these gases created a nuisance, and directing that the nuisance be corrected and fixing a time within which this must be done. A discussion followed with respect to the matter and the possible necessity of installing additional equipment to comply with the Court's decision. Mr. O'Brien

stated that it might require an expenditure of approximately $50,000 to provide the necessary equipment to remedy the situation.

The matter of increasing the production of the plant at Baltimore to 9,000 tons, as well as the matter of financing, was discussed. A memorandum of the Treasurer dated September 10, 1941, a copy of which had been sent to each director, was referred to. (A copy is filed with the minutes of this meeting).

Dr. Hirschland stated in behalf of himself, Mr. Rogers and Mr. Smith, that they were prepared to approve the issuance of the 4888 shares of treasury stock and its offer for sale pro rata to stockholders at $30 per share. Mr. Rogers stated that he had understood from Mr. Joyce that if such were done, The Glidden Company would take such portion of these shares as were not taken by the other stockholders. Mr. Joyce stated that Mr. Rogers had misunderstood him. That his suggestion was that if the common shares of the Corporation were increased sufficiently so that at least 10,000 shares were available for sale, and offered for sale at $30 per share, The Glidden Company would take such portion as the other stockholders were entitled to take under their preemptive right of subscription, but did not take.

Dr. Hirschland stated that in his judgment, a sale of the 4888 shares of treasury stock at $30 per share would produce sufficient funds to care for the Company's present requirements. Mr. Joyce disagreed to this.

Mr. Horsburgh stated that the Corporation's note for $275,000 held by the New York Trust Company fell due on September 18th next, and that he positively refused to ask the New York Trust Company to renew it; further he objected to the Secretary making such request of the New York Trust Company.

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Dr. Hirschland stated that in view of the unsolved plant problems and the uncertainty as to the supply of ilmenite he was not prepared to approve, at this time, the increase of the plant to 9,000 ton production and the expenditure incident thereto.

There being no further business, on motion, the meeting adjourned.

HUBERT E. ROGERS
Secretary

N. L. Exhibit 28

COPY

OFFICE OF PRODUCTION MANAGEMENT
Social Security Building
Washington, D. C.

Office of
Donald M. Nelson
Director of Purchases

Fletcher W. Rockwell, President
The National Lead Company
111 Broadway
New York, New York

Dear Sir:

In view of the fact that it is desirable to cease importing ilmenite ore from India into this country, in order to release shipping space for other critical and strategic materials, it is the wish of this office to open up domestic production in this country to the point where all necessary titanium dioxide can be supplied from such sources.

Accordingly, there have been conferences between representatives of the Division of Purchases, Office of Production Management, and the manufacturers of titanium pigments, with a view to developing a program to accomplish this end. Based upon the information furnished at said conferences, we are issuing this directive to you.

We understand that you are planning to operate an open-cut mine in Essex County, New York, with a proposed estimated capacity of some 180,000 gross tons of concentrates per annum, estimated by you to be about 45% titanium dioxide, to supply your own requirements. This, we

understand, will come from the operation of three units. We also understand that each unit of the proposed mining operation has a capacity estimated at approximately 60,000 gross tons per annum of concentrates.

We feel that it is desirable in the interests of national defense and in the interests of increasing the amount of titanium dioxide available for civilian uses, for you to make ilmenite ore available to such other manufacturers of titanium pigments as may desire to obtain the same from you. We regard this as desirable because it is our understanding that the ore bodies in Essex County, New York, are among the largest in the United States, and will have the greatest commercial yield of pure titanium dioxide per ton of ore.

Accordingly, we direct you to offer, for reasonably prompt acceptance, each of the other producers of titanium pigments in the United States the right to participate in the said mining operations by purchasing their ilmenite requirements from you, to such extent as they may indicate, not exceeding, however, a total of approximately 180,000 tons per annum additional estimated capacity. You will make the ilmenite available either by setting up additional units or by allocating a portion of the output of one of your units, in order to supply their requirements.

We direct you to offer to supply such ore for a period of at least ten years at an over-all cost which shall include the cost of extraction and treatment of the ore, maintenance and repair of equipment (excluding depreciation), and transportation to railhead, plus a share of the cost of this development (as enlarged by acceptances of your said offer), and of overhead, proportionate to the share of total capacity allocated to each participating producer, plus a charge of 20¢ per ton of crude ore for depletion, and plus

reimbursement for any tax liability (not otherwise included in the costs of extraction or costs of development) which you shall incur by reason of the participation of such producer in this development, in excess of any offsetting reduction in your tax liability which is occasioned by its participation. We understand and appreciate that, to secure participation at this time, you will make no charge for profit, and that you cannot renew any offer on this basis subsequently. You will furnish to each such producer and to this Office all of your present detailed estimates of the costs involved. You appreciate, of course, that the Government reserves the right, in case it becomes necessary in the interest of national defense or for proper civilian supply during the existence of a national emergency, to allocate titanium dioxide to non-participating producers, and that the titanium dioxide furnished pursuant to any allocation program must be furnished at a fair price.

In order to avoid an undesirable increase in the price of raw materials going into paint, we direct you to charge your share of the cost of development against the price of titanium pigments over a period of not less than five years.

In your contracts with the participants, you will give each participant the same privileges with respect to the time of payment of his share of the cost of the development. You will also give each participant, not in default under its contract of participation, the right to suspend purchases of ore for such reasonable period or periods as he may desire, or to discontinue purchases entirely, upon six months' notice in writing. In the event of any suspension of purchases, each participant shall pay to you, in addition to any payments due on account of cost of development, his share of maintenance costs and his share of all appli-

cable taxes; provided, however, that in case you use any of the idle capacity during the period of any such suspension, you will cease to collect the maintenance cost and the share of applicable taxes allocable to the idle capacity so used by you, and provided further that, in the event that you reserve a right to pre-empt the idle capacity to your own use after a participant shall have given you notice of a suspension for an indefinite or lengthy period, you will agree to refund to such participant a portion of his share of the cost of development proportionate to the unexpired period of his contract to purchase ore. In the event of any discontinuance of purchases, you will continue to receive additional installments on account of the cost of development.

You will give each participant the right to investigate and audit your books of account relating to cost and you will keep such cost records as will adequately reflect the true costs of extraction and maintenance of equipment, in accordance with accepted accounting procedures. You will also permit an annual investigation or audit of your said books of account to be made by auditors selected by the Office of Production Management or by any agency succeeding to its functions or having similar duties during the period of existing national emergency and, in the event that such emergency should terminate prior to the end of the ten-year period, then, by auditors selected by the Department of Justice.

You will give each participant the right to cancel his commitment within thirty days after acceptance of your said offer, in the event that his investigation of your title to the said properties reveals defects or clouds which, in his opinion, constitute a risk which he does not care to assume.

N. L. Exhibit 28

We understand that you will make no warranty of title in your contracts with participants. We also understand that you are willing to make available to counsel or others designated by each participant all title searches, abstracts, and opinions of counsel with respect to title, which you may have.

Since your arrangements with the participants may include further provisions not inconsistent with the foregoing; you will submit to us for clearance, prior to final execution, all contracts between yourself and other participants relating to their participation in this mining operation.

For your information and files, we enclose herewith copies of the correspondence between the Honorable John Lord O'Brian, General Counsel of the Office of Production Management, and the Honorable Francis Biddle, Acting Attorney General of the United States, concerning this proposed mining operation.

We also enclose herewith for your information a list of other manufacturers of titanium pigments to whom your offer should be made.

Very truly yours,

D. M. NELSON

Donald H. Nelson
Director, Division of Purchases

Enclosures:

Copy of letter from
General Counsel, OPM
Copy of letter from
Acting Attorney General
List of manufacturers
of titanium pigments

N. L. Exhibit 28

COPY

Aug 7 1941

The Honorable

The Attorney General

My dear Mr. Attorney General:

I enclose herewith a copy of a memorandum addressed to Donald M. Nelson, Director, Division of Purchases, Office of Production Management, from James MacPherson, Chief, Equipment and Supplies Branch, Office of Production Management, concerning a request upon industry for specific collective action with respect to opening up a domestic supply of ilmenite, the ore from which titanium dioxide pigments are made. A decision to cease importation of this ore has rendered a domestic source of supply necessary.

I am forwarding this memorandum to you for clearance of the proposed program, in accordance with your letter, dated April 9, 1941.

In view of the necessity of filing your reply in several places, may I request that you be kind enough to reply in triplicate?

Sincerely yours,

(Sgd.) John Lord O'Brian
John Lord O'Brian
General Counsel

Enclosure:

Copy of memorandum

N. L. Exhibit 28

Letterhead of

OFFICE OF THE ATTORNEY GENERAL
Washington, D. C.

August 7, 1941

John Lord O'Brian, Esq.
General Counsel
Office of Production Management
Social Security Building
Washington, D. C.

Dear Sir:

I have your letter of August 7, 1941, together with the memorandum enclosed in it which is addressed to Donald M. Nelson, Director, Division of Purchases, Office of Production Management, from James MacPherson, Chief, Equipment and Supplies Branch, Office of Production Management, relating to a program for opening up a domestic supply of ilmenite, and copies of the letters which it is proposed to send to The National Lead Company and to other producers of titanium pigments.

I understand that this action will be undertaken at the request of the Office of Production Management and that the Office of Production Management deems this course of action a measure necessary for the national defense. In my view this program, if carried out in the manner described in your letter and in the documents which accompanied it, would not raise any questions under the Federal antitrust laws.

Sincerely yours,

FRANCIS BIDDLE
Acting Attorney General

N. L. Exhibit 28

COPY

OTHER MANUFACTURERS OF TITANIUM PIGMENTS

Titanium Pigment Corporation
New York, New York

E. I. Du Pont de Nemours & Co.
Wilmington, Delaware, through Krebs Pigment & Color Company Wilmington, Delaware

The Glidden Company
Cleveland, Ohio, Manager of American Zirconium Corporation

The Sherwin-Williams Company
Cleveland, Ohio

United Pigment & Color Company
Newark, New Jersey, through Virginia Chemical Corporation, Piney River, Virginia

N. L. Exhibit 28

COPY

NATIONAL LEAD CO.
111 BROADWAY
NEW YORK

August 14, 1941

Mr. Donald M. Nelson
Director, Division of Purchases
Office of Production Management
Washington, D. C.

Dear Sir:

Your recent directive letter, undated, with respect to the supply of ilmenite concentrates from our recently acquired properties in Essex County, New York, for the manufacture of titanium pigments, reached me last Monday morning, 11th inst., in an envelope postmarked Washington, Aug. 9, 6:30 P.M.

Your instructions in this matter are carefully noted and are being carried out as expeditiously as possible. In this connection we assume that the mention of "crude ore" in the seventh line of the sixth paragraph of your letter, as the basis of the depletion charge referred to, was an oversight and that "ilmenite concentrate" was intended; and that the mention of "titanium dioxide" in the third from last and next to last lines of the same paragraph, with reference to allocation, was a similar oversight and that "ilmenite concentrates" was intended.

We beg to submit herewith for your consideration two copies of our offering letter to other titanium pigment manu-

facturers and of the form of contract and other enclosures therein mentioned, which we trust you will find to be entirely in conformity with the letter and spirit of your directive and which we expect to mail today. You will note from the copy of contract that we have entirely eliminated any provision for the permanent preemption of idle equipment as originally contemplated.

Yours respectfully,

President

N. L. Exhibit 28

COPY

Also copy to Dr. F. H. Hirschland

August 14, 1941

The Glidden Company
Cleveland, Ohio

Att.: Mr. Adrian Joyce, President

Also to

Sherwin-Williams Company,
Cleveland, Ohio

Attention: Mr. George Martin, President

Gentlemen:—

As you already know, we are opening up and developing an ilmenite mine near Tahawus, Essex County, New York.

Pursuant to a directive from the Office of Production Management received by us on August 11th, of which we understand you have been directly informed in detail by that Office, we hereby offer to contract to supply you with the quantity of ilmenite you may desire for a period of ten years at the bare cost of production without profit to us, provided that you now underwrite a proportionate share of all the risks incident thereto, all as more fully to be embodied in a definitive contract. We enclose herewith a tentative draft of contract, which we believe is consistent with the directive issued to us by the Office of Production Management, and which sets forth in detail the terms of our offer. You will understand that this tentative draft of contract is subject to such modifications as may be suggested by our counsel with the approval of the Office of Production Management.

N. L. Exhibit 28

There is also enclosed a statement showing the estimated cost of providing for an annual capacity of about 180,000 long tons and the estimated additional cost of increasing the annual capacity to 240,000 long tons and to 300,000 long tons. If the requirements of a single purchasing company, or more than one in combination, do not total 60,000 tons, there will be a somewhat larger proportionate payment required to the extent that it is more costly to install capacity for less than that of a full 60,000 ton unit.

In order that the necessary mill expansion may be gotten underway before cold weather interferes too greatly, we are, with the approval of OPM, asking that you give us your decision before August 20th. Should you elect to accept our offer, we shall be pleased to permit you during a period of 30 days from your acceptance to make a careful investigation of the title to the lands upon which the development is located in order to acquaint yourself with the accompanying risks. If you decide that the risks involved are greater than you care to assume you may withdraw your offer at any time during the said 30 day period. You will, however, appreciate that we cannot place orders for equipment and materials which may be necessary to provide facilities for your requirements until the expiration of the 30 day period, or until such time during the 30 day period you inform us of your willingness to assume your proportionate share of the risks.

Please keep all information furnished herewith in strictest confidence.

Yours very truly,

C. F. GARESCHÉ
Manager.

Encs.

N. L. Exhibit 28

COPY

August 14, 1941

United Color and Pigment Corp.
Newark, N. J.

Attention Mr. J. Allegaert, President.

Gentlemen:—

As you already know, we are opening up and developing an ilmenite mine near Tahawus, Essex County, New York.

Pursuant to a directive from the Office of Production Management received by us on August 11th, of which we understand you have been directly informed in detail by that Office, we hereby offer to contract to supply you with the quantity of ilmenite you may desire for a period of ten year at the bare cost of production without profit to us, provided that you now underwrite a proportionate share of all the risks incident thereto, all as more fully to be embodied in a definitive contract. We enclose herewith a tentative draft of contract, which we believe is consistent with the directive issued to us by the Office of Production Management, and which sets forth in detail the terms of our offer. You will understand that this tentative draft of contract is subject to such modifications as may be suggested by our counsel with the approval of the Office of Production Management.

There is also enclosed a statement showing the estimated cost of providing for an annual capacity of about 180,000 long tons and the estimated additional cost of increasing the annual capacity to 240,000 long tons and to 300,000 long tons. If the requirements of a single purchas-

ing company, or more than one in combination, do not total 60,000 tons, there will be a somewhat larger proportionate payment required to the extent that it is more costly to install capacity for less than that of a full 60,000 ton unit.

In order that the necessary mill expansion may be gotten underway before cold weather interferes too greatly, we are, with the approval of OPM, asking that you give us your decision before August 20th. Should you elect to accept our offer, we shall be pleased to permit you during a period of 30 days from your acceptance to make a careful investigation of the title to the lands upon which the development is located in order to acquaint yourself with the accompanying risks. If you decide that the risks involved are greater than you care to assume you may withdraw your offer at any time during the said 30 day period. You will, however, appreciate that we cannot place orders for equipment and materials which may be necessary to provide facilities for your requirements until the expiration of the 30 day period, or until such time during the 30 day period you inform us of your willingness to assume your proportionate share of the risks.

Please keep all information furnished herewith in strictest confidence.

Yours very truly,

C. F. GARESCHÉ
Manager

Encs.

N. L. Exhibit 28

COPY

August 14, 1941

E. I. duPont de Nemours & Company,
Wilmington,
Delaware

Attention Mr. C. H. Rupprecht, General Manager Krebs Pigments Department

Gentlemen:

As you already know, we are opening up and developing an ilmenite mine near Tahawus, Essex County, New York.

Pursuant to a directive from the Office of Production Management received by us on August 11th, of which we understood you have been directly informed in detail by that Office, we hereby offer to contract to supply you with the quantity of ilmenite you may desire for a period of ten years at the bare cost of production without profit to us, provided that you now underwrite a proportionate share of all the risks incident thereto, all as more fully to be embodied in a definitive contract. We enclose herewith a tentative draft of contract, which be believe is consistent with the directive issued to us by the Office of Production Management, and which sets forth in detail the terms of our offer. You will understand that this tentative draft of contract is subject to such modifications as may be suggested by our counsel with the approval of the Office of Production Management.

There is also enclosed a statement showing the estimated cost of providing for an annual capacity of about 180,000 long tons and the estimated additional cost of increasing the annual capacity to 240,000 long tons and to 300,000 long tons. If the requirements of a single purchasing company,

or more than one in combination, do not total 60,000 tons, there will be a somewhat larger proportionate payment required to the extent that it is more costly to install capacity for less than that of a full 60,000 ton unit.

In order that the necessary mill expansion may be gotten underway before cold weather interferes too quickly, we are, with the approval of OPM, asking that you give us your decision before August 20th. Should you elect to accept our offer, we shall be pleased to permit you during a period of 30 days from your acceptance to make a careful investigation of the title to the lands upon which the development is located in order to acquaint yourself with the accompanying risks. If you decide that the risks involved are greater than you care to assume you may withdraw your offer at any time during the said 30-day period. You will, however, appreciate that we cannot place orders for equipment and materials which may be necessary to provide facilities for your requirements until the expiration of the 30-day period, or until such time during the 30-day period you inform us of your willingness to assume your proportionate share of the risks.

Please keep all information furnished herewith in strictest confidence.

Yours very truly,

C. F. GARESCHÉ
Manager

encs.

N. L. Exhibit 28

Letterhead of

OFFICE OF THE ATTORNEY GENERAL
Washington, D. C.

September 23, 1941

John Lord O'Brian, Esq.
General Counsel
Office of Production Management
Social Security Building
Washington, D. C.

Dear Sir:

I have your letter of September 22, 1941, together with the copy of the *proposed contract between National Lead Company and E. I. du Pont de Nemours & Company* which was enclosed in it. I understand that this contract conforms to the provisions set forth in a letter from Donald M. Nelson, copy of which was enclosed in your letter of August 7, 1941, to Attorney General Jackson, except that the National Lead Company has not reserved a right to pre-empt the capacity of the du Pont Company in the event of a suspension by du Pont of purchases, and that in consideration for this du Pont has agreed to pay its share of general maintenance and overhead expenses during the period of any operation except that in computing the prices to be paid for renewals of equipment du Pont will be given credit for the period of time during which such equipment is used by the National Lead Company.

I understand that in the opinion of the Office of Production Management this contract is a measure necessary for the national defense and that in your opinion the pro-

posed contract is in accordance with the spirit of the directive. In my view this proposed contract, if executed, will come within the antitrust law enforcement policy described in the letter which Attorney General Jackson sent you on April 29, 1941.

Sincerely yours,

FRANCIS BIDDLE
Attorney General

N. L. Exhibit 28

Minutes of a special meeting of the stockholders of AMERICAN ZIRCONIUM CORPORATION, held at the offices of Metal & Thermit Corporation, No. 120 Broadway, Borough of Manhattan, City of New York, on the 30th day of September, 1941, at 2:30 o'clock P.M.

Mr. Walton Smith was elected Chairman of the meeting and Mr. Hubert E. Rogers was elected Secretary thereof.

Proxies representing all the stock of the Corporation, i.e. 6,000 shares of Preferred Stock and 15,112 shares of Common Stock were presented and approved. The names of the shareholders, proxy and number of shares represented were as follows:

Stockholder	Proxy	Shares Preferred	Shares Common
The Glidden Company	Adrian Joyce	6,000	6,800
Metal & Thermit Corporation	F. H. Hirschland	—	6,800
National Lead Company	Douglas N. Cole	—	1,512

There were also present at said meeting, in addition to the above, Messrs. Hubert E. Rogers, Walton Smith and John F. Condon, Jr., representing Metal & Thermit Corporation; Messrs. R. H. Horsburgh and Clifton M. Kolb, representing The Glidden Company; and Mr. Fletcher Rockwell, representing National Lead Company.

The Chairman declared that proxies representing all of the stock of the Corporation, both Common and Preferred were present and represented.

The Secretary stated that the Board of Directors, at a meeting just held, had unanimously approved a Plan of

Reorganization of the Corporation which Plan was thereupon read to the meeting.

After discussion, on motion duly made and seconded, the following resolutions were unanimously adopted:

Resolved: That it is in the best interest of the Corporation and its stockholders that the Plan of Reorganization of the Corporation presented to the meeting be adopted as and for the Plan of Reorganization of the Corporation. and that the officers of the Corporation be and they hereby are authorized and directed to take all necessary steps and to perform all necessary acts that may be requisite with respect to the execution of any instruments approving the adoption of the Plan of Reorganization and necessary for the consummation thereof; and it was

Further resolved: That a copy of the Plan of Reorganization be made a part of the minutes of this meeting which Plan is as follows:

"AGREEMENT AND PLAN OF REORGANIZATION OF AMERICAN ZIRCONIUM CORPORATION

Agreement of Reorganization dated the 30th day of September, 1941, made by and between THE GLIDDEN COMPANY (hereinafter referred to as "Glidden"), METAL & THERMIT CORPORATION (hereinafter referred to as "M. & T.") and AMERICAN ZIRCONIUM CORPORATION (hereinafter referred to as "Zirconium")

WITNESSETH:

WHEREAS, Glidden is the owner of 6,000 shares of preferred stock and 6,800 shares of common stock

of American Zirconium Corporation; and M. & T. is the owner of 6,800 shares of the common stock of Zirconium; and

WHEREAS, Glidden manages the affairs of Zirconium pursuant to management and sales agreements and finds that the expansion of the operations of Zirconium is desirable and desires to acquire upwards of 80 per cent. of all the stock of Zirconium; and

WHEREAS, M & T is desirous of exchanging the shares of common stock of Zirconium owned by said corporation for common stock of Glidden,

NOW, THEREFORE, the parties agree as follows:

(1) Pursuant to this agreement Glidden will exchange 22,700 shares of common stock of Glidden for 6,800 shares of Common Stock of Zirconium owned by M. & T. and to cause good delivery of said 22,700 shares of Common stock of Glidden to be made to M. & T. simultaneously with the delivery to Glidden of the said 6,800 shares of Zirconium, owned by M. & T.

(2) Upon consummation of this plan of reorganization, Glidden will become the owner of more than 80 per cent. of the shares of common stock and all the shares of preferred stock of Zirconium.

(3) The Boards of Directors of the parties to this agreement have authorized and approved the consummation of the transactions herein set forth in this agreement.

N. L. Exhibit 28

(4) The directors and stockholders of Zirconium have authorized and approved the consummation of the transactions herein set forth in this agreement.

(5) The officers and directors of Zirconium elected pursuant to designation of M. & T. will resign upon the consummation of the transactions set forth herein.

(6) This agreement and plan shall be consummated at the office of the Metal & Thermit Corporation, on the 30th day of September, 1941.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be duly executed by their respective officers hereunto duly authorized and their respective corporate seals to be hereunto affixed and duly attested the day and year first above written.

THE GLIDDEN COMPANY

By (sgd) ADRIAN D. JOYCE
President

(SEAL) Attest:

(sgd) CLIFTON M. KOLB
Secretary

METAL & THERMIT CORPORATION

By (sgd) F. H. HIRSCHLAND
President

(SEAL) Attest:

(sgd) HUBERT E. ROGERS
Secretary

N. L. Exhibit 28

AMERICAN ZIRCONIUM CORPORATION

By (sgd) F. H. HIRSCHLAND
President.

Attest:

(SEAL) (sgd) HUBERT E. ROGERS"
Secretary

and it was

Further resolved: That the proposed agreement presented to the meeting, cancelling the guaranty made by Metal & Thermit Corporation under an agreement made by that Corporation with National Lead Company and American Zirconium Corporation be and the same is hereby approved, and the officers of the Corporation are authorized and directed to execute such agreement on behalf of American Zirconium Corporation; and it was

Further resolved: That the proposed agreement presented to the meeting cancelling the "Basic Agreement" dated December 18, 1933, between Metal & Thermit Corporation and The Glidden Company, with respect to the formation of American Zirconium Corporation, be and the same is hereby approved, and the officers of the Corporation are authorized and directed to execute such agreement on behalf of American Zirconium Corporation.

There being no further business, on motion the meeting adjourned.

HUBERT E. ROGERS
Secretary.

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N. L. Exhibit 28

Letterhead of

THE GLIDDEN COMPANY

October 1, 1941

Mr. Fletcher W. Rockwell, President
National Lead Company
111 Broadway
New York City

Dear Mr. Rockwell:

Referring to our meeting yesterday and our conversation at lunch, I told you that it is a matter of indifference to The Glidden Company as to whether your company carried out its arrangement made with Mr. Rogers of the Metal & Thermit Corporation, or whether you chose to cancel that arrangement.

My statement was correct insofar as its relation to the American Zirconium Corporation is concerned. I wish to call your attention, however, to the fact that our company is permitted to purchase its own stock where such stock is used for the acquisition of other properties, and upon Mr. Rogers' assurance that the National Lead Company was going to turn in its stock on the same basis as the Metal & Thermit Corporation, our company purchased slightly over 5,000 shares of The Glidden Company common stock to complete the transaction with your company. We now have this stock on hand. I assume you will be glad to take this stock off our hands for our company does not make it a practice to deal in its own stock.

N. L. Exhibit 28

In the rush of the meeting yesterday I neglected to thank you for the very good luncheon I enjoyed with Mr. Cole and yourself. I want you to know that I did appreciate your courtesy.

Yours very truly,

ADRIAN D. JOYCE
President.

ADJ-V

N. L. Exhibit 28

October 3, 1941

Mr. Adrian D. Joyce, President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. Joyce:

Mr. Rockwell left Wednesday for a short holiday at Ponte Vedra, to return Tuesday or Wednesday of next week, and your letter to him of the 1st was accordingly referred to me for acknowledgment, pending final reply by Mr. Rockwell upon his return.

I am very sorry that this question of any obligation on our part to take over the Glidden shares was not raised before, either during our conversation at luncheon or in the discussion of the general subject during the first part of the following meeting when you were present. Our final decision on the main question was reached, in consultation with our other officials, without notice of any such claim, as I explained to Mr. Horsburgh when he first mentioned the matter upon our return to the meeting and after your departure. I therefore think it most unfortunate that we should be asked to consider such an important question now, after we had supposed that the entire matter had been disposed of to the satisfaction of all concerned.

You will understand of course that I am only expressing my personal view and that Mr. Rockwell will answer your letter promptly upon his return.

Yours very truly,

(Signed) M. D. Cole
Assistant to the President

N. L. Exhibit 28

Letterhead of

THE GLIDDEN COMPANY

[Written in pencil under letterhead: Rec'd 10/7

Mr. Rockwell 1.15 P.M.

Please note. Pretty cagey as usual. He implies that he had heard nothing of our desire in the matter, through Rogers before our luncheon conversation—which I understand is not so. I can't imagine what he means by the last paragraph.

M. D. C.
10/7]

October 6, 1941

Mr. M. D. Gole
Assistant to the President
National Lead Company
111 Broadway
New York City

Dear Mr. Cole:

I am in receipt of your letter of the third and pleased to know that Mr. Rockwell will reply to my letter of the first upon his return from his holiday.

I am sorry that I did not think to bring up the matter of the Glidden shares at our conversation at luncheon, but truth to tell, I was so shocked to think that such an entirely extraneous matter as the changing of a definite contract should be brought up as the condition precedent to the carrying out

of a definite agreement, that naturally I did not think of all of the other matters involved.

I am pleased to have your asurance that Mr. Rogers and the other officers of the Metal & Thermit Corporation are satisfied with the disposition of the matter under discussion.

Yours very truly,

ADRIAN D. JOYCE
President.

ADJ-V.

N. L. Exhibit 28

October 9, 1941

Mr. Adrian D. Joyce, President
American Zirconium Corporation
1396 Union Trust Building
Cleveland, Ohio

Dear Sir:

I herewith resign as Director of American Zirconium Corporation, to take effect immediately.

Very truly yours,

(Signed) FLETCHER W. ROCKWELL
President

N. L. Exhibit 28

Letterhead of

AMERICAN ZIRCONIUM CORPORATION

October 13, 1941

Mr. Fletcher W. Rockwell, President
National Lead Company
111 Broadway
New York City

Dear Sir:

Referring to your letter of October 9 tendering your resignation as a Director of this Company, I desire to say that I presented your resignation at a meeting of the Board of Directors of American Zirconium Corporation and it was accepted effective immediately as per your wish.

Yours very truly,

AMERICAN ZIRCONIUM CORPORATION

ADRIAN D. JOYCE
President.

ADJ-V

N. L. Exhibit 28

October 9, 1941

Mr. Adrian D. Joyce, President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. Joyce:

Your letter of October 1st, already acknowledged by Mr. Cole, with reference to shares of The Glidden Company stated to have been purchased by it for exchange for our shares of American Zirconium Corporation, under the negotiations recently had between us, came to me as an unpleasant surprise, and I hope that on further consideration you will be glad to withdraw the request that we take over those shares.

The time to have raised this question was during the open discussion and consideration of the matter of our participation in the proposed exchange of shares, at the time of our meeting on the afternoon of September 30th, for which ample opportunity was offered. Aside from other considerations, the fact that it was not so raised and that our decision not to participate in the exchange, for the reasons then explained, was reached and announced without notice of any such claim, and with your express consent and approval, clearly precludes such a claim from recognition.

We are still prepared to go through with the exchange on the same terms, including that with respect to the License Agreement, which we consider only logical in the circumstances, viz., that both parties to that Agreement be released from future obligations thereunder.

Yours very truly,

(Signed) FLETCHER W. ROCKWELL

N. L. Exhibit 28

Letterhead of

THE GLIDDEN COMPANY

Cleveland, Ohio
October 13, 1941

Mr. Fletcher W. Rockwell, President
National Lead Company
111 Broadway
New York City

Dear Mr. Rockwell:

I am in receipt of your letter of October 9 and regret that apparently we do not see eye to eye as to our request that the National Lead Company take over the common shares of The Glidden Company which we purchased for the purpose of carrying out the agreement made with your Company and confirmed by Mr. Hubert Rogers.

In your letter you state that: "The time to have raised this question was during the open discussion and consideration of the matter of our participation in the proposed exchange of shares, at the time of our meeting on the afternoon of September 30th." I wish to call your attention, however, to the fact that when I left the Directors' meeting in order to catch my plane, both Mr. Cole and yourself were at your office conferring with your Board of Directors as to what would be your final decision regarding the matter of carrying out the stock exchange agreement. You will realize, therefore, that not until I knew of your final decision, could I bring to your attention the matter of any obligations incurred by your decision not to carry out the agreement mentioned above.

N. L. Exhibit 28

In the event you do not desire to purchase the common shares which we now hold in our Treasury, we are still prepared to go through with the exchange on the original basis. We cannot, however, consider any change in the License Agreement for as you well know, the value of the common shares of the American Zirconium Corporation is largely dependent on the License Agreements which we have with the Dupont Company and with your Company.

In the event you decide to carry out the original agreement, I will ask you to agree to an assignment of the License Agreement to The Glidden Company for the reason that the American Zirconium Corporation would then we liquidated.

Yours very truly,

ADRIAN D. JOYCE,
President.

ADJ-V

N. L. Exhibit 28

October 16, 1941

Mr. Adrian D. Joyce, President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. Joyce:

I have your letter of October 13th and am sorry that you still adhere to your original position in this matter.

I can not understand how you can consider that the proper time to introduce so important and fundamental a question as the purchase of 5000 Glidden shares was after and not before we had come to a decision on the main subject. Before leaving the meeting to consult our associates we had made very clear our own inclination not to participate in the exchange of shares unless the License situation were disposed of as we had specified.

As heretofore explained to you we would not feel justified in surrendering our Zirconium shares unless, as part consideration therefor, an agreement could be reached for the mutual release of future obligations under the License Agreement, as heretofore proposed. We have never suggested any modification of the License Agreement as to patents already issued or applied for, and I would point out to you that only to the extent of those patents can the license be regarded as a factor in the valuation of the Zirconium shares for the purposes of present exchange.

As any surrender of our Zirconium shares must thus be conditioned upon a satisfactory adjustment of the license position as above indicated, and as we seem to be stalled on that, it is unnecessary to consider at this time the matter of

our consent to an assignment to The Glidden Company, in the event of its acquisition of our Zirconium shares, of the Zirconium interest under the License Agreement, which I note you now introduce for the first time.

Yours very truly,

(Signed) FLETCHER W. ROCKWELL
President

VIA AIR MAIL

N. L. Exhibit 28

Letterhead of

THE GLIDDEN COMPANY

October 17, 1941

Mr. Fletcher W. Rockwell, President
National Lead Company
111 Broadway
New York City

Dear Mr. Rockwell:

I have your letter of October 16 and you apparently miss the main point of our contention which is this: You made a definite agreement, confirmed by Mr. Hubert Rogers, to make the exchange of shares. When this agreement was made it was not contingent upon any change in the License situation. In other words, your introduction of a proposition to change the License was after the arrangement had been consummated. When you found that our Company was not willing to consider the making of the License change a condition for the exchange of shares, you wished to withdraw from the agreement.

Now I am sure you will agree that as a matter of business ethics, when a party to an agreement wishes to withdraw from an agreement, the least he can do is to put the other party to the agreement in the same position he was before the agreement was made.

In the case under discussion, when Mr. Hubert Rogers informed me that the agreement with your Company and with Metal & Thermit Corporation was concluded, I found we did not have a sufficient number of shares to carry out the agreement and therefore purchased additional shares for this purpose. Based on the present market, these shares so purchased represent a loss of approximately $9,000. I

am sure that neither you, nor your Directors, wish to place this burden upon the Glidden Company. The loss was incurred through no fault of our own but merely in the furtherance of carrying out a definite agreement.

If it will embarrass your Company to make an outright purchase of these shares of The Glidden Company, will you be willing to give us an equal number of shares of the National Lead Company common stock in exchange for these Glidden shares? If you are willing to do this we could carry the National Lead Company shares in our Investment Account and could dispose of them when an opportunity offered.

In the second paragraph of your letter you write: "We have never suggested any modification of the License Agreement as to patents already issued or applied for and I would point out to you that only to the extent of those patents can the License be regarded as a factor in the valuation of the Zirconium shares for the purposes of present exchange."

I cannot agree with this statement, and this because our License Agreement reads in part as follows: "Titanium hereby gives and grants to Zirconium * * * * a non-exclusive right and license to make, use and/or sell, * * * * to the same extent that Titanium itself is free to make, use and/or sell the same, each and every invention, improvement or subject matter in the "Licensed Field" claimed in or covered by Letters Patent hereinabove enumerated and in or by any and all other Letters Patent now or hereafter owned by or otherwise at the disposal of Titanium."

If, in connection with this, you read the definition of the designation "Licensed Field" I am sure you will realize that the future obligation of Titanium to give to Zirconium the rights to use each and every invention, improvement, etc. made by Titanium, is of very great value and naturally

it was because of this value element that it was considered in fixing the value of the Zirconium shares.

I realize that even if The Glidden Company owned all of the shares of the American Zirconium Corporation that your Company could refuse to consent to an assignment to The Glidden Company, and this would necessitate the continuance of the American Zirconium Corporation as a definite corporate entity, but I cannot conceive that your Company would take such an attitude when its only effect would be to place an additional burden in connection with accounting, etc.

I would call your attention to the fact that regardless of what you finally decide to do in connection with your shares in the American Zirconium Corporation, that your Company has a definite obligation to the American Zirconium Corporation to assist in its development and future growth. The Glidden Company has contributed $200,000 for the payment of the bank loan, and I will appreciate it if your Company will send us your checks for $20,000 as your proportion of this obligation. We do not think that it will be wise to increase the capital stock at this particular time but American Zirconium Corporation is going ahead with plans for increasing the production to 9,000 tons and in due course you will be advised of the contribution we shall ask of your Company for this purpose.

I sincerely hope this matter can be settled on a friendly and amicable basis because it is my earnest desire to have our relations with all of our competitors in the field characterized by mutual friendliness.

Yours very truly,

ADRIAN D. JOYCE
President.

ADJ-V

N. L. Exhibit 28

Mr. Adrian D. Joyce, President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. Joyce:

I acknowledge receipt of your letter of the 17th inst. There appears to be no useful purpose to be served in continuing the correspondence with regard to our Zirconium shares. Our position has, I think, been made clear. There was no intention and no agreement on our part to sell those shares unless as a part of the transaction our future obligations under the License Agreement should be terminated. As you know, our original acquisition of Zirconium stock and the License Agreement were parts of one and the same transaction and we could not consider continuing the executory features of the License Agreement after disposing of the stock.

We had no reason to suppose that any purchase by your Company of its own shares was involved in our negotiations. If your Company purchased its own shares in anticipation of reaching an agreement with us that is, of course, to be regretted, but we accept no responsibility for the failure of the negotiations. I assume that the decline in the market price of your stock is merely temporary and that in the end your Company will suffer no actual loss on the shares. In any event, the purchase was on your own responsibility and we do not recognize any obligation in connection with it.

N. L. Exhibit 28

With regard to your suggestion that we now contribute to the amount required to pay off the bank loan and that we are under some obligation to do so I should be interested to learn the basis for this suggestion. We recognize no such obligation with respect to either the bank loan or the future development of the productive capacity of the Zirconium Corporation.

Yours very truly,

(Signed) FLETCHER W. ROCKWELL
President

VIA AIR MAIL

N. L. Exhibit 28

Letterhead of

THE GLIDDEN COMPANY

October 29, 1941

Mr. Fletcher W. Rockwell, President
National Lead Company
111 Broadway
New York City

Dear Mr. Rockwell:

I received your letter of October 23 and did not reply to it immediately because I desired to contact Mr. Hubert Rogers who conducted the negotiations with you for the exchange of your Zirconium shares for shares in The Gildden Company. I desired to find out from Mr. Rogers whether, in making the arrangements with you for the exchange of these shares, there were any strings attached and whether there was any agreement concerning a cancellation or termination of the License Agreement.

Mr. Rogers has told me that nothing was said about the License Agreement and that he had reported the arrangements to me exactly as they were made in all details. Mr. Rogers will either telephone you or talk to you about this so that you will be convinced that there is no misunderstanding on my part concerning the nature of this transaction.

In your letter you say: "There appears to be no useful purpose to be served in continuing the correspondence with regard to our Zirconium shares." I can assure you that I have no desire to continue the correspondence but I do want you to either carry out the trade as arranged with Mr. Rogers, or if you choose not to carry out that trade, then to

put our company back in the position that it was in before the trade was negotiated. I must say in all candor that our company will insist upon your taking definite action concerning the matter I have brought to your attention.

In the last paragraph of your letter you refer to that portion of my letter of the 17th where I wrote: "I would call your attention to the fact that regardless of what you finally decide to do in connection with your shares in the American Zirconium Corporation, that your Company has a definite obligation to the American Zirconium Corporation to assist in its development and future growth. The Glidden Company has contributed $200,000 for the payment of the bank loan, and I will appreciate it if your Company will send us your check for $20,000 as your proportion of this obligation," and you write as follows:

"With regard to your suggestion that we now contribute to the amount required to pay off the bank loan and that we are under some obligations to do so, I should be interested to learn the basis for this suggestion. We recognize no such obligation with respect to either the bank loan or the future development of the productive capacity of the Zirconium Corporation."

I am surprised that you should bring this question up because I well remember that at the time the Glidden representatives were asking for an increase in the capital stock of the company, your Company and the Metal & Thermit Corporation offered to loan your proportions of the necessary amount to reduce the bank loan. Now, I submit that your obligation is no less now that it was at that time and that if we do not increase the capital stock of the corporation that the stockholders should contribute their proportionate amount of the necessary funds. Aside from all this, you

have the same obligation as every other stockholder of a corporation has to do anything possible to help promote the corporation in which you are interested.

I think it is quite unnecessary for me to enlarge on this point because surely you are familiar with the obligations of stockholders as well as that of Directors and Officers.

In closing I wish to make clear to you that we stand ready to carry out the original agreement as arranged by Mr. Rogers. I also want to repeat that in the event your Company chooses not to carry out the agreement, then we ask to be put back to our original position without loss.

Yours truly,

ADRIAN D. JOYCE
President.

ADJ-V

N. L. Exhibit 28

COPY

November 14, 1941

Mr. J. L. Turner—Sayreville
C. F. Garesché

Dear Mr. Turner:

I am attaching hereto a copy of Mr. O'Brien's letter of October 30th together with the questionnaire mentioned.

I believe it would be well if you would undertake to compile the answers to those questions which may properly be answered by us. We must, of course, bear in mind that certain questions may not be answered by us in view of the fact that we are not free to give information regarding processes under which we are merely limited licensees.

Will you also give consideration to the advisability of our compiling a questionnaire to be answered by the American Zirconium Company.

Yours very truly,

cc Mr. Robertson
Mr. Turner

N. L. Exhibit 28

COPY

THE GLIDDEN COMPANY
1396 Union Commerce Bldg.
Cleveland, Ohio

October 30, 1941

Mr. C. F. Garesche, Manager
Titanium Division,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Garesche:

Referring to your letter of May 23 relative to technical information, I wish to advise that we are following your suggestion and are enclosing a questionnaire which we would appreciate greatly your filing out in detail, which I am sure your able organization can do. In the meantime, we would appreciate your forwarding us a questionnaire along similar lines, and I would be very happy indeed to have our technical men fill it out to the best of their ability.

I hope the above plan as suggested by you will overcome the difficulties we have had in the past in the free exchange of technical information.

With kind personal regards and best wishes, I am

Yours very truly,

(signed) W. J. O'Brien
Vice President

N. L. Exhibit 28

COPY

We submit the following questions:

1. Sulfate Process — Anatase TiO_2

   A. Grinding

      1. What should the fineness run on ground ore to obtain most efficient attack?

   B. Attack

      1. What is the optimum acid concentration to use?
      2. Should the acid and ore be agitated for any definite time before the attack is initiated with steam?
      3. Is any third agent added to the acid and ore before the attack?
      4. What is the most suitable quantity of air during the attack?
      5. At what temperature should the steam be cut off?
      6. How long should the attack be aged before dissolving?
      7. What % recovery should be expected on an average?

   C. Solution of Mass

      1. What is the best way of adding water to the mass?
      2. When should the scrap iron be added for reduction of the ferric iron?

3. What concentration should be maintained during solution and what should the final concentration be?
4. How much reduced TiO_2 should be present when attack is completely dissolved?
5. How much mother liquor is it advisable to use for the dissolution of each attack?
6. What is the optimum Factor of Acidity for these solutions?

D. Clarification

1. How is it best to add the hydrogen sulfide for coagulation and what quantity?
2. Is it better to add the glue before or after the hydrogen sulfide coagulation and what quantity is found necessary?
3. What should the clarity be before crystallization of the copperas?

E. Crystallization and Copperas Removal

1. What should be the maximum losses of TiO_2 on crystallization and removal of copperas?
2. What should the Fe-TiO_2 ratio run after crystallization?
3. How long should the residue be before concentrating the solution for hydrolysis?

F. Hydrolysis

1. What concentration (grams TiO_2 per liter) should the liquor be concentrated to before hydrolysis?

2. What should be the temperature of this solution when added to the water for the Blumenfeld Hydrolysis?
3. What should be the temperature of the water at the time of introduction?
4. What should be the relative volume of solution to water?
5. What should be the rate at which the solution is added to the water?
6. What should be the temperature when all the solution has been added?
7. How long should it take to bring the mixture to the BP after the introduction is complete?
8. How long should the solution be boiled to get optimum recovery
9. What should the average recovery be from hydrolysis

G. Filtration of Acid Cake

1. How long should the iron be after filtration of the acid cake is complete?
2. How is it best to remove last traces of iron?

H. Calcination.

1. What should the moisture be on the cake fed to the calciner?
2. How much and what is the best conditioning agent for calcination?
3. How high should the oxygen content of the calciner gases be maintained uring calcination?

4. Should the calcined pigment be cooled under any special conditions as it leaves the calciner?
5. How much and what form should antimony oxide be added to get optimum results on semi-chalking TiO_2?
6. What is the best method for making N. C. type chalk resisting TiO_2?

I. Grinding and Hydro-separation

1. What dispersing agent has been found most suitable for TiO_2?
2. What coagulating agent?
3. How should the aluminium hydroxide be deposited upon the TiO_2 to give maximum resistance to light?
4. How may the best texture be maintained without recourse to micronizing?

II. Rutile Process

A. Production of Chloride solution

1. What is the most suitable method for producing chloride liquors?
2. What is the best factor of acidity to use?

B. Hydrolysis of chloride solution

1. How much seeding solution (% TiO_2) is necessary for optimum results?
2. What concentration should the seed solution be before the formation of the seed?

3. At what temperature and for how long should the seed solution be heated to form the nuclei?
4. What is the best concentration to have after the seed has been added?
5. How long is it necessary to boil to get best yields?
6. What is a typical analysis for the chloride solution?
7. What are the best conditions to prevent peptization during the washing of the acid cake?
8.

C. Calcination

1. What salt and in what quantities is most suitable for conditioning?
2. How is it best to make non-chalking rutile TiO_2?
3. How may light sensitivity be avoided, what is its cause?

D. Other processes for making rutile

1. Has it been found advisable to use other acid such as nitric for rutile formation?

Maintenance Questions

1. Type of feeder used to charge acid cake into calciner.
   (a) What materials are used to prevent contamination of pigment and corrosion of machine from the acid gases?
   (b) What is the reasonable life of such equipment?

N. L. Exhibit 28

2. Specification of cloth used for filtration of the monohydrate of iron sulphate from acid solution, and at what temperature and concentration is this done?

(a) What life can be expected from this cloth?

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N. L. Exhibit 28

Letterhead of

AMERICAN ZIRCONIUM CORPORATION

November 28, 1941

The National Lead Company
111 Broadway
New York, N.Y.

A special meeting of the Common shareholders of American Zirconium Corporation will be held at the office of the Company, 1396 Union Commerce Building, Cleveland, Ohio, on Tuesday, December 9, 1941, at 10:30 o'clock, A.M., pursuant to action taken by the Board of Directors of American Zirconium Corporation at a special meeting held on November 28, 1941.

This special meeting of the Common shareholders of American Zirconium Corporation has been called for the purpose of considering and acting upon the following propositions:

1. Changing the fiscal year of the company from the calendar year to a fiscal year ending October 31.

2. Changing the stated value of the Common shares of the Company to provide a capital surplus sufficient to eliminate the profit and loss deficit and to reduce the net value of patents owned by the company to $14,709.34.

3. Increase the Common shares of the Company and authorize the sale of the same in an amount sufficient to provide adequate capital for the operations of the company.

N. L. Exhibit 28

4. Increase the capacity of the plant at St. Helena, Baltimore, Maryland to 9,000 tons of TitaniumDioxide per year.

5. The securing of adequate supplies of raw materials.

6. The expansion of the research department of the company.

CLIFTON M. KOLB
Secretary.

N. L. Exhibit 28

December 4, 1941

Memorandum for
Mr. Rockwell:

On the whole I think our tactical position would be better protected if we did not participate in this meeting by proxy or otherwise, by reason of our lack of information as to the exact effect of Proposal 2, our unwillingness to subscribe to any additional capital under Proposal 3 and the various uncertainties involved in the increase of plant capacity under Proposal 4. On the other hand I see no justification for our opposing any of the proposals.

M. D. Cole

N. L. Exhibit 28

NATIONAL LEAD COMPANY

111 Broadway, New York, N. Y.

The following is carbon copy of telegram sent this day

December 9, 1941

Mr. A. D. Joyce, President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Telephone call at four thirty failed to reach you at office Garesche will telephone in morning at ten

Fletcher W. Rockwell

93.

N. L. Exhibit 28

WESTERN UNION TELEGRAM

1941 DEC 10 AM 11 47

HU TWS PAID 5—CLEVELAND OHIO 10 1123A
FLETCHER W ROCKWELL, PRESIDENT
NATIONAL LEAD CO—
111 BROADWAY NYK—

YOUR MR. GARESCHE JUST TELEPHONED ME GIVING ME YOUR ENGINEERS REPORT ON OUR MINING OPERATIONS IN NORTH CAROLINA. HE STATES YOUR COMPANY WILL NOT LOAN US TWO THOUSAND TONS OF ILMENITE TO BE RETURNED NOT LATER THAN MAY FIRST UNLESS OUR COMPANY WILL CANCEL OUR CLAIM AGAINST YOUR C MPANY FOR LOSS ENTAILED BY REASON OF YOUR FAILING TO CARRY OUT AGREEMENT MADE WITH MR. ROGERS CONCERNING ZIRCONIUM CORPORATION AND UNLESS OUR COMPANY AGREES TO CHANGE OUR PRESENT ROYALTY AGREEMENT STOP. UNDER CIRCUMSTANCES WE ARE APPEALING TO WASHINGTON FOR PRIORITY ORDER FOR SUFFICIENT ILMENITE TO KEEP OUR PLANT IN OPERATION. IF YOUR COMPANY PERSISTS IN ITS ATTITUDE THE AMERICAN ZIRCONIUM CORPORATION OF WHICH YOUR COMPANY IS A STOCKHOLDER WILL BE FORCED TO CEASE PRODUCTION OF TITANIUM DIOXIDE AMOUNTING TO SIX HUNDRED TONS PER MONTH STOP. IN VIEW OF PRESENT WAR EMERGENCY I CANNOT

N. L. Exhibit 28

UNDERSTAND ATTITUDE OF YOUR COMPANY STOP. AM PREPARING FULL STATEMENT FOR SUBMISSION TO PROPER UNITED STATES GOVERNMENT AUTHORITIES—

ADRIAN D JOYCE.

N. L. Exhibit 28

Letterhead of

NATIONAL LEAD COMPANY

December 10, 1941

NIGHTLETTER

Adrian D. Joyce, President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Your telegram of today received Consider your request primarily in your own interest rather than that of public by reason of higher pigment recovery from given quantity ilmenite under our own treatment Our own ilmenite situation precarious Delay of ore production under your own program as now anticipated if actual raises serious doubts as to when any ore loan can be returned If such delay not actual you can yourself supply Zirconium requirements Under such circumstances can recognize no obligation to accommodate you during pendency of present dispute between us over Zirconium situation in which you have shown no concern for our reasonable interest Nature of that dispute and proposed solution are not fully or accurately stated in your telegram Will have no hesitation whatever in presenting our side of situation to government authorities

FLETCHER W. ROCKWELL

N. L. Exhibit 28

WESTERN UNION TELEGRAM

HU60 TWS PAID 3-CLEVELAND OHIO 11 1139A

1941 DEC 11 AM 11 50

FLETCHER W ROCKWELL, PRESIDENT
NATIONAL LEAD CO-
111 BROADWAY NYK-

YOUR TELEGRAM RECEIVED DUPONT HAS LOANED AMERICAN ZIRCONIUM FIVE HUNDRED TONS ILMENITE AND SHERWIN WILLIAMS HAS LOANED TWO HUNDRED TONS TO HELP PLANT OPERATIONS STOP WILL YOUR COMPANY LOAN US ONE THOUSAND TONS FOR IMMEDIATE SHIPMENT WITH UNDERSTANDING THAT OUR COMPANY WILL CANCEL CLAIM AGAINST YOUR COMPANY FOR LOSS ON GLIDDEN STOCK. PLEASE WIRE PROMPT REPLY-

ADRIAN D JOYCE.

N. L. Exhibit 28

Letterhead of

NATIONAL LEAD COMPANY

December 11, 1941

Adrian D. Joyce, President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Telegram of today received Glad to accommodate you with one thousand tons returnable not later than May first next upon the understanding stated Please wire shipping instructions stating preference as between Colachel fifty-four percent or Norwegian fortyfour percent

Fletcher W. Rockwell

N. L. Exhibit 28

WESTERN UNION TELEGRAM

HU157 TWS PAID 3-CLEVELAND OHIO 11 412P

1941 DEC 11 PM 4 31

FLETCHER W ROCKWELL, NATIONAL LEAD CO-
111 BROADWAY NYK-

MANY THANKS PLEASE SHIP ONE CAR PER DAY FOR FIVE DAYS STARTING TOMORROW AND THEN SHIP TWO CARS PER DAY UNTIL ENTIRE QUANTITY IS SHIPPED STOP WE PREFER COLACHEL FIFTY FOUR PERCENT ORE SHIP TO AMERICAN ZIRCONIUM CORPORATION ST. HELENA MARYLAND-

ADRIAN D JOYCE.

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N. L. Exhibit 28

Letterhead of

THE GLIDDEN COMPANY

December 11, 1941

Mr. Fletcher W. Rockwell, President
National Lead Company
111 Broadway
New York City

Dear Mr. Rockwell:

Referring to our exchange of telegrams today, I am very glad to know that we have arrived at an amicable understanding.

Concerning the shipping instructions, as I have stated in my telegram, we prefer Colachel 54% ilmenite and would like to have this material shipped one car each day for the next five days, and two cars thereafter until the entire quantity is shipped. The Sherwin-Williams Company and the Dupont Company have shipped in part of the material they have loaned us, and by having your shipments coming in as indicated, it will take care of our immediate requirements.

I confirm your understanding that we are to return this ilmenite not later than May 1st next.

Yours very truly,

ADRIAN D. JOYCE
President.

ADJ-V

N. L. Exhibit 28

Copy for Mr. Cole
Mr. Garesché
Mr. Williamson

December 12, 1941

Mr. Adrian D. Joyce, President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. Joyce:

I was very glad to receive your first telegram of December 11th reading as follows:

"Your telegram received. DuPont has loaned American Zirconium five hundred tons ilmenite and Sherwin-Williams has loaned two hundred tons to help keep plant operating Stop Will your Company loan us one thousand tons for immediate shipment with understanding that our Company will cancel claim against your Company for loss on Glidden stock Please wire prompt reply"

to which I replied the same day as follows:

"Telegram of today received. Glad to accommodate you with one thousand tons returnable not later than May first next upon the understanding stated. Please wire shipping instruetions stating preference as between Colachel fifty-four percent or Norwegian forty-four percent".

I also duly received your second telegram of the 11th covering necessary shipping instructions, and also, this

N. L. Exhibit 28

morning, your letter of yesterday confirming our understanding in the matter.

It is a satisfaction to me to have our dispute out of the way and have given instructions that ore shipments go forward as nearly as possible in accordance with your instructions. Indications are that we will not be able to get the first shipment off until Monday but will try to get two cars off that day.

Yours very truly,

(Signed) FLETCHER W. ROCKWELL
President

N. L. Exhibit 28

Letterhead of

THE GLIDDEN COMPANY

July 14, 1942

Mr. C. F. Garesche, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Garesche:

I am in receipt of your letter of July 10 relative to ilmenite and wish to advise you that a 5 pound sample was sent on July 12.

Relative to rate of shipments, we can ship between 3 to 4 carloads a week. I believe these cars will run somewhere between 40 to 50 tons. The material will run approximately somewhere between 50-53%, and I believe you will find it exceptionally high grade, being very low in vanadium, phosphorus and other impurities.

As to completing shipments by July 31, I am very much afraid that we will not be able to do so at this rate. We will therefore expect some leniency from you in regard to completing shipment by July 31. It is unfortunate that the installation of the large additional mill will not be completed for at least another two or three weeks.

We would appreciate hearing from Mr. Pfoutz as soon as possible as to sample so that we can start shipments promptly.

Trusting this arrangement will be satisfactory to you, I am

Yours very truly,

W. J. O'BRIEN
Vice-President.

WJO'B-B

N. L. Exhibit 28

July 24, 1942

Mr. W. J. O'Brien, Vice President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. O'Brien:

Your letter of July 14th is acknowledged and from it we note that you are planning to ship us between three and four carloads of ilmenite per week. We have today wired you to ship a five pound sample to our Director of Research, Mr. J. L. Turner, at Sayreville. The reason for this is that the St. Louis plant is reporting some difficulty in getting our usual quality of pigment from your ilmenite. The sample to Mr. Turner will be used for analysis to, if possible, determine what is causing the trouble.

As regards your request for permission to continue shipments after July 31st if you are not able to complete the return of our loaned tonnage on or before that date we do not feel that you should ask us to do this. We have loaned you costly ore which was purchased by us for the sake of insurance against pigment plant shut-downs during the period that we were getting our domestic ore development into production. We hope you will agree with us that we have been more than liberal in offering to accept as returned ore any shipments you can make on or before July 31st and that our request that you pay for any unshipped balance at the price we have billed it to you is properly in order.

Yours very truly

Manager

N. L. Exhibit 28

Re: American Zirconium Company—National Lead Company

The most important item in the relations between the National Lead Company and the American Zirconium Company, respectively, the Glidden Company, is the license agreement providing for exchange of licenses under patents —existing patents as well as future patents. This agreement lasts until the end of 1951. The agreement provides that it is not transferable except in the case of a transfer of the entire business of the American Zirconium Co. and in that case only with the National Lead Co.'s approval of the successor. When the National Lead Co. and Metal & Thermit Corp. sell their shares to the Glidden Co., this company becomes the owner of all the shares of the American Zirconium. The sale of the shares has been done because the cooperation between the companies has been unsatisfactory. For that reason it is logical that the National Lead Co. ceasing as a shareholder also wish to cease a cooperation as regards exchange of future licenses. Faced with such a proposal, Mr. Joyce will have to weigh in his mind the possibilities of the value of future licenses received from the National Lead Co. against the value of licenses which he grants. Normally, considering the organizations and the amount of money which the two companies spent on research work, it is to be expected that the National Lead Co. will produce considerably more technical developments than the American Zirconium-Glidden Co.

However, it happens sometimes that the research staff of a small organization has hit on a special development and overestimates the importance of this. In addition to this, Mr. Joyce's companies would be free to exploit these future developments in South America and Canada—and

abroad when the war is over. If Mr. Joyce, influenced by his research staff, has this opinion—well and good. If he has not, I do not think that any representative of the National Lead Co. will be able to influence him in this direction.

There is another aspect to the case which presumably must be in Mr. Joyce's mind, namely, the inconvenience and extra expenses involved by a continued operation of the American Zirconium Co. instead of a transfer of the whole business to the Glidden Co. According to Mr. Cole, the license agreement cannot be transferred without the National Lead Co.'s approval, even if the Glidden Co. has acquired all the shares of the American Zirconium Co.

The advantages of a dissolution of the American Zirconium weighed together with the advantages and disadvantages of losing future exchange of licenses with the National Lead Co. may be sufficient for Mr. Joyce to follow this course. However, he may wish to accomplish the transfer of the business to the Glidden Co. without losing the future exchange of licenses, in which case Mr. Joyce presumably first will see the deal regarding the shares being consummated without mentioning or taking up the question of the transfer of the business, respectively, the dissolution of the American Zirconium Co. The situation will, I believe, be particularly improved for Mr. Joyce if the share transaction as indicated by Mr. Rogers takes the form of a reconstruction dissolving the Zirconium Co. by exchange of shares of this company for Glidden shares to the purpose of saving taxes for the sellers. This seems to me to involve an acknowledgment and approval by the National Lead Co. of the Glidden Co. as successor.

If this idea has not been brought to the attention of Mr. Joyce, he may have in mind to dissolve the American

Zirconium Co. after having acquired all the shares and it seems to me that particularly if some time elapses during which the Zirconium Co. has operated under 100% ownership of the Glidden Co., it would be very difficult for the National Lead Co. to decline its approval of the Glidden Co. as successor.

Considering this situation, the course to follow by the National Lead Co. seems to me to be *now in connection with the sale of the shares* to inform Mr. Joyce (the Glidden Co.) that the National Lead Co. would like to see the license agreement terminated as regards future exchange of licenses on the grounds that the corporation as partners or shareholders in the enterprise has been a failure and the license agreement was made in connection with the creation of that partnership. This will put Joyce on notice that the National Lead Co. is not willing to accept the Glidden Co. as successors to the American Zirconium Co. as regards the license agreement with the following two advantages:

a. It will put the National Lead Co. in a better position at a later date to deny its approval of a transfer of the license agreement to Glidden in case it should come up.

b. Joyce may in view of this be more inclined to agree to terminate the license agreement now.

Sept. 29, 1941.

N. L. Exhibit 29

AGREEMENT made and entered into this 9th day of March, in the year One thousand nine hundred and forty-four by and between THE GLIDDEN COMPANY (hereinafter called "Glidden"), a corporation of the State of Ohio, AMERICAN ZIRCONIUM CORPORATION (hereinafter called "Zirconium"), a corporation of the State of Maryland, and NATIONAL LEAD COMPANY (hereinafter called "National"), a corporation of the State of New Jersey,

WITNESSETH:

WHEREAS certain agreements, hereinafter referred to, bearing date the 6th day of May, 1935, were entered into between Glidden, Zirconium, National, Titanium Pigment Company, Inc. and Metal & Thermit Corporation; and

WHEREAS National is the successor in interest to all the rights and obligations of Titanium Pigment Company, Inc. under said agreements; and

WHEREAS Glidden and Zirconium have proposed to National that the above mentioned agreements and each of them and all rights and obligations thereunder of the parties and their successors and assigns be terminated and cancelled and that National transfer to Glidden one thousand five hundred and twelve (1,512) shares of the common capital stock of Zirconium, being all of such stock owned by National;

NOW, THEREFORE, in consideration of the premises and of the sum of One Dollar ($1.00), lawful money of the United States, by each to the other in hand paid, and of

other good and valuable considerations, the receipt of which is hereby acknowledged, the parties herto do hereby agree with each other as follows:

I. The following agreements and all rights and obligations of the parties thereto, their successors and assigns, are hereby cancelled and terminated as of the date of this agreement:

(1) Agreement made the 6th day of May, 1935, by and between Titanium Pigment Company, Inc. and American Zirconium Corporation;

(2) Agreement made the 6th day of May, 1935, by and between National Lead Company and Titanium Pigment Company, Inc., of the one part, and The Glidden Company, Metal & Thermit Corporation, and American Zirconium Corporation, of the other part;

(3) Agreement made the 6th day of May, 1935, by and between Titanium Pigment Company, Inc., American Zirconium Corporation, The Glidden Company, and Metal & Thermit Corporation

II. National agrees to assign, transfer and deliver forthwith to Glidden or its nominee or nominees one thousand five hundred and twelve (1,512) shares of the common capital stock of Zirconium. Such delivery is to be made by delivery to Glidden or upon its order of certificates for said shares duly endorsed in blank or otherwise endorsed as Glidden may direct.

N. L. Exhibit 29

III. Nothing herein contained shall affect or limit in any manner any licenses or sub-licenses heretofore granted by Zirconium or by Titanium Pigment Company, Inc. or by National or by any sub-licensee, or any of them, under or pursuant to the provisions of Article VIII of the agreement referred to in subdivisions (1) of Article I hereof, or affect, limit, or impair in any manner the rights of any such licensee or sub-licensee under any such license or sub-license.

IV. National agrees to remise, release and forever discharge and does hereby remise, release and forever discharge Zirconium and Glidden and each of them, their and its successors and assigns, of and from all and all manner of action and actions, cause and causes of action, suits, debts, dues, sums of money, covenants, contracts, controversies, agreements, promises, trespasses, damages, claims and demands whatsoever, whether in law or in equity, which against said Zirconium and Glidden or either of them National ever had, now has or which National or its successors or assigns hereafter can, shall or may have for, upon or by reason of any matter, cause or thing whatever from the beginning of the world down to the date of these presents.

V. Glidden agrees to remise, release and forever discharge and does hereby remise, release and forever discharge National, its successors and assigns, of and from all and all manner of action and actions, cause and causes of action, suits, debts, dues, sums of money, covenants, contracts, controversies, agreements, promises, trespasses,

damages, claims and demands whatsoever, whether in law or in equity, which against said National Glidden ever had, now has or which Glidden or its successors or assigns hereafter can, shall or may have for, upon or by reason of any matter, cause or thing whatever from the beginning of the world down to the date of these presents.

VI. Zirconium agrees to remise, release and forever discharge and does hereby remise, release and forever discharge National, its successors and assigns, of and from all and all manner of action and actions, cause and causes of action, suits, debts, dues, sums of money, covenants, contracts, controversies, agreements, promises, trespasses, damages, claims and demands whatsoever, whether in law or in equity, which against said National Zirconium ever had, now has or which Zirconium or its successors or assigns hereafter can, shall or may have for, upon or by reason of any matter, cause or thing whatever from the beginning of the world down to the date of these presents.

VII. Nothing herein contained is intended to or shall alter or affect the rights or obligations of any party with respect to the ordinary open and current merchandise accounts between the parties or any of them.

IN WITNESS WHEREOF the parties hereto have caused these presents to be duly executed by their respective officers thereunto duly authorized, and their respective corporate

seals to be hereunto affixed and duly attested, the day and year first above written.

THE GLIDDEN COMPANY

By R. H. HORSBURGH
Executive Vice President

Attest:

CLIFTON M. KOLB
Secretary

(SEAL)

AMERICAN ZIRCONIUM CORPORATION

By R. H. HORSBURGH
Treasurer

Attest:

CLIFTON M. KOLB
Secretary

(SEAL)

NATIONAL LEAD COMPANY

By FLETCHER W. ROCKWELL
President

Attest:

JOHN B. HENRICH
Secretary

(SEAL)

N. L. Exhibit 30

THIS AGREEMENT made the day of 1944 BETWEEN IMPERIAL CHEMICAL INDUSTRIES LIMITED hereinafter called ICI, IMPERIAL SMELTING CORPORATION LIMITED hereinafter called ISC, GOODLASS WALL AND LEAD INDUSTRIES LIMITED hereinafter called Goodlass Wall, TITAN COMPANY, INC. hereinafter called Titaninc, BRITISH TITAN PRODUCTS LIMITED hereinafter called British Titan, and NATIONAL LEAD COMPANY hereinafter called National.

WITNESSETH:

WHEREAS by agreements made in February and March 1933 British Titan acquired certain rights with reference to the manufacture and sale of titanium compounds, and

WHEREAS British Titan is controlled by Titaninc, ICI, ISC and Goodlass Wall, and

WHEREAS Titaninc is owned 100% by National, and

WHEREAS the parties desire to make provision for development and expansion of the manufacture and sale of titanium compounds consistent with the laws to which each is subject;

NOW, THEREFORE, in consideration of the foregoing, and notwithstanding the terms of the 1933 agreements above referred to, the parties agree as follows:—

1. As used herein 'titanium compounds' means substances, materials, and compositions in which the element Titanium is contained to the extent of 2% or more in a chemically or physically combined state. (For example,

composite pigments such as 'TITANOX'-B and 'TITANOX'-C will be deemed titanium compounds. Simple mixtures will not be deemed to come within this definition. Also excluded are substances, materials or compositions which contain by weight more than 5 per cent of a metal other than Titanium in its purely metallic, i.e. chemically uncombined, state).

As used herein 'National' (where and to the extent the context permits) refers to or includes Titanine.

2. British Titan grants and agrees to grant (but subject always as hereafter provided) to National a non-exclusive royalty-free and whenever possible irrevocable license under all United States letters patent and applications for letters patent which British Titan now owns, may hereafter own, or under which it now possesses or may hereafter become possessed of the right to grant such licenses, solely for the purpose of the production of titanium compounds as hereinabove defined, with full rights to manufacture, use, and sell titanium compounds so produced, with the right to grant non-exclusive sublicenses thereunder but only to parties who shall grant to British Titan for the same purpose and with like rights non-exclusive, royalty-free, and whenever possible irrevocable licenses under any letters patent and applications for letters patent they may possess or acquire in countries within the British Empire and Commonwealth of Nations, except Canada and Newfoundland.

PROVIDED ALWAYS that this clause and the provisions therein contained shall not become operative or have any effect until such provisions shall have received the approval of the Competent Authority in Great Britain

pursuant to the Defense (Patents Trade Marks, etc.) Regulations 1941 or (whichever is the earlier) until such approval is no longer required by English Law.

3. National grants and agrees to grant to British Titan a non-exclusive, royalty-free, and whenever possible irrevocable license under all letters patent and applications for letters patent of countries within the British Empire and Commonwealth of Nations, except Canada and Newfoundland, which National now owns, may hereafter own, or under which it now possesses or may hereafter become possessed of the right to grant such licenses, solely for the purpose of the production of titanium compounds as hereinabove defined, with full rights to manufacture, use, and sell titanium compounds so produced, with the right to grant non-exclusive sublicenses thereunder but only to parties who shall grant to National for the same purpose and with like rights non-exclusive, royalty-free, and whenever possible irrevocable licenses under any United States letters patent and applications for letters patent they may possess or acquire.

PROVIDED ALWAYS that this clause and the provisions therein contained shall not become operative or have any effect until such provisions shall receive the approval of a competent authority in the United States pursuant to war time regulations or (whichever is the earlier) until such approval is no longer required by United States Law.

4. THE foregoing grants are made without restriction as to production, shipment, sale, or use of titanium com-

pounds, and nothing contained therein will be construed as or be applied or be claimed to effect a restraint of trade or commerce in titanium compounds within, from, or to the United States.

5. NEITHER the 1933 agreements above referred to nor the 1920 agreement (referred to in said 1933 agreements) between the Titanium Pigment Company Inc. and Titan Co. A/S will at any time preclude British Titan or National from manufacturing, selling, or using in, or from shipping from or to, any place in the world, titanium compounds or any products, finished or unfinished, or from otherwise fully exercising the grants herein made by British Titan and National.

6. IT is agreed between the parties hereto that the present holdings of 'A' shares in British Titan shall so soon as possible be rearranged so as to ensure that one-quarter of % of the issued 'A' shares in British Titan shall be held either by Titaninc or by National one-quarter by ICI one-quarter by ISC and one-quarter by Goodlass Wall and this rearrangement shall be carried out by means of the purchase of 'A' shares in British Titan from Titaninc or National by ICI ISC and Goodlass Wall respectively. The price to be paid for such shares shall be the price which the Auditors of British Titan shall determine to be the value of the Shares in accordance with the basis defined in Schedule I hereto, and in making that determination the Auditors of British Titan shall act as experts and their decision shall be final and binding on all parties.

7. THE right of National to nominate and from time to to time to remove and replace three directors of British

Titan is hereby cancelled, and National will refrain from taking any part in or exercising any influence in respect of deliberations or decisions of the board of directors or management of British Titan concerning any business of British Titan within, from or to the United States.

8. ALL restrictions on the disposition by National of its shares of British Titan contained in the 1933 agreements above referred to are hereby cancelled, and the Articles of Association of British Titan will be amended to remove therefrom all such restrictions. The parties hereto express their intention that in the event that National decides to dispose of any of its shares in British Titan, National will first offer such shares to the other parties in proportion to their holdings at the time of such offer.

9. NOTWITHSTANDING the 1933 and 1920 agreements above referred to or any other agreement, the parties are free to enter into agreements consistent with this agreement with any other company, firm, or individual anywhere in the world.

10. THIS agreement supersedes, in so far as inconsistent therewith, the 1933 agreements, and to the extent that any provision or provisions of the 1933 agreements are inconsistent herewith they are deemed to be hereby amended.

11. THE license agreement between Titaninc and British Titan made March 10, 1933 (entitled Scheduled Agreement No. 1 and attached to the principal agreement of February 16, 1933) is hereby cancelled.

12. THIS agreement shall be binding on controlled subsidiaries of the parties hereto.

13. THE rights of British Titan and National under paragraphs 2 and 3 hereof may be assigned but only in connection with the sale by British Titan or National of the whole of its business in manufacture and sale of titanium compounds.

14. NATIONAL may at any time terminate the agreement (referred to in the 1933 agreements) made July 30, 1920, between the Titanium Pigment Company Inc. and Titan Co. A/S and such termination shall not entitle any of the parties hereto to retire from the agreement of February 16, 1933, or otherwise make operative the provisions of paragraph 14 of said 1933 agreement.

15. THE agreements contained in paragraphs 2 and 3 hereof to grant licenses under patent rights hereafter acquired may be terminated:

(a) by British Titan or National at the end of any year by three (3) years' previous notice in writing delivered or mailed not later than January 1st of any year; or

(b) by National by notice given at any time pursuant to the order of the Court having jurisdiction of the pending Antitrust Proceedings in the United States; or

(c) by British Titan by notice given at any time pursuant to the order of the Competent Authority in Great Britain pursuant to the Defense (Patents Trade Marks, etc.) Regul .tions 1941

or pursuant to the order of any competent Court in Great Britain.

PROVIDED ALWAYS that the termination of those agreements pursuant to this clause shall not in any way prejudice or affect any licenses, sub-licenses or other rights that have previously to such termination been granted in pursuance of the said agreements or the rights of any licensee, sub-licensee or other grantee thereunder.

SCHEDULE I

VALUATION OF "A" SHARES

1. The basis of the valuation shall be the Company's Balance Sheet as at 31 December 1943 as adjusted by:

   (a) re-instatement of the value of Goodwill at £125,000

   (b) revaluation of the Fixed Assets as at 31st December 1943 by the Company's officials.

2. To the valuation as above computed, there shall be added a sum estimated by the Auditors as representing the profits, (after provision has been made for all taxes, interim dividend on 'A' shares, (if any), and the dividend accruing on the 125,000 'B' shares) arising between 1st January 1944 and the signing of this agreement.

N. L. Exhibit 31

AGREEMENT made this 20th day of October, 1944, by and between INTERNATIONAL PULVERIZING CORPORATION, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at Moorestown, New Jersey (hereinafter called the Licensor), and NATIONAL LEAD COMPANY, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at 111 Broadway, in the City and State of New York (hereinafter called the Licensee),

WITNESSETH:

WHEREAS the Licensor and the Licensee have heretofore entered into an Agreement dated April 10, 1939, (hereinafter referred to as "Agreement of April 10, 1939"), among other things granting to Licensee an exclusive license under United States Letters Patent No. 2032827, relating to equipment known as the "Micronizer Reduction Mill"; and

WHEREAS the parties hereto desire to modify and amend the said Agreement of April 10, 1939,

NOW, THEREFORE, in consideration of these premises and of the mutual terms and conditions herein contained, the Licensor and the Licensee mutually agree and covenant as follows:

I. Notwithstanding the provisions of said Agreement of April 10, 1939, it is understood and agreed that from and after the date of this Agreement the Licensee's license under said Agreement of April 10, 1939 shall be non-

exclusive and the Licensee shall have no right to grant sub-licenses to others under or pursuant to said Agreement of April 10, 1939.

II. That Article 3(a). of said Agreement of April 10, 1939 be amended and modified, effective as of the date of this Agreement, by substituting therefor the following:

> "3(a). Commencing the 1st day of July, 1944, the Licensee, and each of its Sub-Licensees hereunder, shall pay to the Licensor a royalty for the processing of all titanium pigments and titaniferous ores in said Micronizer Reduction Mills at 25¢ per ton of 2000 pounds on dry basis processed in any accounting year subsequent to said 1st day of July, 1944; said royalty shall be based on the aggregate tonnage processed by the Licensee and that of all other parties to whom licenses have been granted by Licensee pursuant to Article 1 hereof."

The obligations of the Licensee under each sub-license heretofore granted by it are hereby modified to correspond herewith.

III. That Licensee's obligation, as provided in Article 3(b). of said Agreement of April 10, 1939, to pay to Licensor a minimum royalty guarantee be cancelled, and said Article 3(b). be amended and modified, effective as of the date of this Agreement by substituting therefor the following:

> "3(b). Whenever after the 1st day of July, 1944 the Licensor shall notify the Licensee that it has granted a bona fide non-exclusive license to a

responsible party within the field of this Agreement, at a higher rate of royalty which in the aggregate will yield and does yield a return as great or greater than the yearly total dollar royalty payment of the Licensee and all other parties to whom licenses shall have been granted by the Licensee prior to the 1st day of July, 1944, pursuant to Article 1 hereof, then it is agreed that the Licensee and/or Sub-Licensees hereunder shall from the beginning of the next quarterly royalty period pay royalties in pursuance of Section 3(a). hereof at the same rate as that which may be specified in that other Agreement; and provided, further, that, in the event a non-exclusive license shall be granted at a royalty rate lower than that specified in Article 3(a). hereof, then the Licensee and Sub-Licensees hereunder shall from the beginning of the next quarterly royalty period be obligated only to pay royalties to Licensor at such lower rate."

IV. That Article 12 of said Agreement of April 10, 1939 be amended and modified, effective as of the date of this Agreement, to read as follows:

"The Licensor agrees to grant and hereby grants to Licensee and to Licensee's associate, Canadian Titanium Pigments, Ltd., and to each of them, a non-exclusive license for the processing of titanium pigments and titaniferous ores under Licensor's Canadian Letters Patent No. 359,089 upon the same terms and conditions as herein specified pertaining to the license granted to Licensee under Licensor's United States Letters Patent. For the

purpose of establishing a rate of royalty, Canadian Titanium Pigments, Ltd. shall be considered as another Sub-Licensee under Articles 1 and 3 hereof."

V. That, except as herein otherwise provided, all the terms and conditions of said Agreement of April 10, 1939 and of all sub-licenses granted pursuant thereto by the Licensee prior to July 1, 1944, are continued in full force and effect.

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed by their duly authorized officers, and their corporate seals to be affixed hereto the day and year aforesaid.

INTERNATIONAL PULVERIZING CORPORATION

By A. M. STACKHOUSE
Pres.

ATTEST:

(illegible)
Sec'y.

NATIONAL LEAD COMPANY

By FLETCHER W. ROCKWELL
Pres.

ATTEST:

H. O. BATES
Sec'y.

DIRECTORS

EDWARD F. BEALE
Philadelphia, Pa.

LEONARD T. BEALE
Philadelphia, Pa.

WILLIAM V. BURLEY
St. Louis, Mo.

WALTER P. CARROLL
Chicago, Ill.

WILLIAM H. CROFT
Chicago, Ill.

CLAUDE F. GARESCHE
Short Hills, N. J.

CHARLES A. GEATTY
Red Bank, N. J.

KENDALL MARSH
New York, N. Y.

JOSEPH A. MARTINO
Jamaica, N. Y.

JOSEPH J. MORSMAN
Chicago, Ill.

FLETCHER W. ROCKWELL
Greenwich, Conn.

HAROLD ROWE
Englewood, N. J.

CHARLES SIMON
Jamaica, N. Y.

JAMES A. TAYLOR
Toronto, Ont.

HERMAN T. WARSHOW
New York, N. Y.

EXECUTIVE COMMITTEE

FLETCHER W. ROCKWELL, Chairman

WILLIAM H. CROFT
C. F. GARESCHE
CHARLES A. GEATTY
HAROLD ROWE
CHARLES SIMON
H. T. WARSHOW

EXECUTIVE OFFICERS

President
FLETCHER W. ROCKWELL

Vice Presidents
WILLIAM V. BURLEY
WILLIAM H. CROFT
HAROLD ROWE
H. T. WARSHOW

Secretary
HENRY O. BATES

Assistant Secretary
JOHN B. HENRICH

Treasurer
CHARLES SIMON

Comptroller
H. T. WARSHOW

Assistant Treasurers
THOMAS KERFUT
J. J. MORSMAN, JR.

Assistant Comptrollers
J. A. MARTINO
H. C. WILDNER

General Counsel
ALEXANDER & GREEN, 120 Broadway, New York, N. Y.

Stock Transfer Agent
THE CHASE NATIONAL BANK
11 Broad St., New York, N. Y.

Registrar of Stock
BANKERS TRUST CO.
14 Wall St., New York, N. Y.

DEPARTMENTS

ADVERTISING.....WM. KNUST, Manager
ENGINEERING.....ANDREW MAYER, Chief Engineer
FLAXSEED.....J. A. JOHANSEN, Manager
INSURANCE.....HAMLIN & Co., Managers
MANUFACTURING.....F. J. SHIRLEY, Production Manager
METAL.....C. A. GEATTY, Manager
PURCHASES.....E. R. DONDORF, Manager
SALES.....H. J. IRVIN, Manager
PATENTS.....C. F. KAEGEBEHN, Manager
RESEARCH LABORATORIES.....ALEX STEWART, Director
TRAFFIC.....D. R. NORRIS, Manager

COMMITTEES

FLAXSEED AND LINSEED OIL COMMITTEE

H. T. WARSHOW, Chairman

J. A. JOHANSEN — J. L. REQUE — K. VETTEWINKEL
J. G. C. MCNAIR — J. J. MORSMAN, JR., Secretary — A. M. WILSON

MANUFACTURING COMMITTEE

F. J. SHIRLEY, Chairman

C. A. GEATTY — H. J. IRVIN — E. R. ROWLEY
ANDREW MAYER — J. F. DAVIS, Secretary — J. A. MARTINO

METAL SALES COMMITTEE

H. J. IRVIN, Chairman

G. E. BEHR — T. C. HOELZER — JAMES A. TAYLOR
W. P. CARROLL — H. W. HUNDLEY — W. I. WENTZ
C. A. GEATTY — J. PAUL KIRK — G. H. WORRALL
C. W. GESREGAN — J. A. MARTINO, Secretary

NEW PRODUCTS COMMITTEE

C. F. GARESCHE, Chairman

L. T. BEALE — C. A. GEATTY — GUSTAV JEBSEN — HAROLD ROWE
H. T. WARSHOW

OXIDE SALES COMMITTEE

D. A. MERSON, Chairman

W. P. CARROLL — J. W. GARDINER, JR. — J. P. KIRK
R. M. EVANS — A. B. TIBBETS, Secretary — H. J. WHITSON

RESEARCH AND DEVELOPMENT COMMITTEE

C. A. GEATTY, Chairman
R. L. HALLETT, Chief Chemist

GUSTAV JEBSEN — D. A. MERSON — ALEX STEWART — J. L. TURNER

WHITE LEAD SALES COMMITTEE

F. K. MCCARTHY, Chairman

E. E. BUSSE — R. J. FERREE — R. J. PETERS
J. L. CARUTH — W. H. LESSMAN — J. L. REQUE
J. H. GAERTNER — J. G. C. MCNAIR — HAROLD ROWE
J. W. GARDINER, JR. — W. R. MELVILLE — K. VETTEWINKEL
R. L. HALLETT — A. B. TIBBETS, Secretary — H. C. WILDNER

PENSION AND LIFE INSURANCE BOARD

H. T. WARSHOW, Chairman

W. V. BURLEY — C. A. GEATTY — CHARLES SIMON
H. O. BATES, Secretary

BRANCHES

NATIONAL LEAD COMPANY

ATLANTIC BRANCH, 111 Broadway, New York
J. G. C. McNAIR, C. W. GESREGAN } Managers

BALTIMORE BRANCH, 214 West Henrietta Street, Baltimore
H. F. FREIHERR, Manager

BUFFALO BRANCH, 116 Oak Street, Buffalo
W. R. MELVILLE, Manager

CHICAGO BRANCH, 900 West Eighteenth Street, Chicago
W. P. CARROLL, Manager
MILWAUKEE, WIS., 744 No. Fourth Street
DETROIT, MICH., 1627 W. Fort Street

CINCINNATI BRANCH, 659 Freeman Avenue, Cincinnati
H. W. HUNDLEY, Manager
LOUISVILLE, KY., 1320 Heyburn Building
ATLANTA, GA., Bishop Street

CLEVELAND BRANCH, 1213 W. Third Street, Cleveland
E. E. BUSSE, Manager

PACIFIC COAST BRANCH, 2240 Twenty-fourth Street, San Francisco
J. L. CARUTH, Manager
LOS ANGELES, CAL., 932 Wilson Street
SEATTLE, WASH., 973 John Street

ST. LOUIS BRANCH 722 Chestnut Street, St. Louis
W. V. BURLEY, Manager
DALLAS, TEX., 959 Terminal Street
KANSAS CITY, MO., 1406-1408 W. Thirteenth Street
NEW ORLEANS, LA., 516 Tchoupitoulas Street
OMAHA, NEB., 2810 A Street
ST. PAUL, MINN., 102 W. Fairfield Avenue

ST. LOUIS SMELTING & REFINING WORKS,
JEAN McCALLUM, Manager 722 Chestnut St., St. Louis

E. W. BLATCHFORD CO., BRANCH, 63 Park Row, New York
R. F. KIELICH, Manager

EVANS LEAD DIVISION, Charleston, W. Va.
R. M. EVANS, Manager
Manufacturers of Lead Oxides

JOHN T. LEWIS & BROS. CO.,
J. W. GARDINER, Jr., President Widener Bldg., So. Penn Sq., Philadelphia

MAGNUS METAL DIVISION, Chicago
W. H. CROFT, General Manager
Brass Founders

NATIONAL LEAD & OIL CO. OF PENNA.,
J. H. GAERTNER, 2nd Vice President 1376 River Ave., N.S. Pittsburgh

NATIONAL-BOSTON LEAD CO., 800 Albany Street, Boston
R. J. PETERS, President

NATIONAL LEAD CO. S. A. (ARGENTINA),
Avenida Presidente Roque Saenz Pena 567, Buenos Aires
M. L. SHOEMAKER, President

BAROID SALES DIVISION, 830 Ducommun St., Los Angeles
GEO. L. RATCLIFFE, General Manager
Oil Well Drilling Mud Service

TITANIUM DIVISION, 111 Broadway, New York
C. F. GARESCHE, Manager
Manufacturers of Titanium Oxide Pigments

DE LORE DIVISION, Carondelet, St. Louis
C. P. De LORE, Manager
Barium Sulphate and Calcium Sulphate Pigments

Corporations in which National Lead Company Is Interested Through Ownership of All or Part of the Capital Stock

AMERICAN BEARING CORPORATION, Indianapolis
PETER LAMBERTUS, President
Manufacturers of Precision Bearings

AMERICAN LEAD CORPORATION, Indianapolis
C. HAAN, Manager
Smelters of Secondary Metals

BAKER CASTOR OIL COMPANY, New York
KENDALL MARSH, President
Manufacturers of Castor Oil

CANADIAN TITANIUM PIGMENTS LIMITED, Montreal
L. W. HASLETT, President
Manufacturers of Titanium Oxide Pigments

EVANS LEAD CORPORATION, Charleston, W. Va.
R. M. EVANS, President
Distributors of Lead Oxides

HOYT METAL COMPANY OF GREAT BRITAIN, LTD., London
C. J. KNIGHT, Managing Director
Manufacturers of Anti-Friction Metals

MORRIS P. KIRK & SON, INC., Los Angeles
MORRIS P. KIRK, President
Manufacturers of Lead Alloys and Oxides

MAGNESIUM REDUCTION COMPANY, Luckey, Ohio
FLETCHER W. ROCKWELL, President
Producers of Metallic Magnesium

MAGNUS METAL CORPORATION, Chicago
W. H. CROFT, President
Brass Founders

MASTER METALS, INC., Cleveland
T. C. HOELZER, Manager
Smelters of Secondary Metals

ST. LOUIS SMELTING & REFINING COMPANY, St. Louis
FLETCHER W. ROCKWELL, President
Miners, Smelters and Refiners of Lead

THE CANADA METAL COMPANY, LTD., Toronto
JAMES A. TAYLOR, President
Toronto, Montreal, Winnipeg, Vancouver
Manufacturers of Lead Products, Brass and Bronze, Dross Smelters

THE EDNA BRASS MFG. CO., Cincinnati
Manufacturers of Locomotive Specialties

TITAN CO. A/S., Fredriksstad, Norway
DR. G. JEBSEN, Managing Director
Manufacturers of Titanium Oxide Pigments

TITAN COMPANY, INC., Wilmington, Del.
DR. G. JEBSEN, Vice President, New York
TITANGESELLSCHFT m. b. H., Leverkusen, Germany
SOCIETE INDUSTRIELLE DU TITANE, Paris, France
BRITISH TITAN PRODUCTS CO., LTD., London, England
Manufacturers and Distributors of Titanium Oxide Pigments

TITANIUM PIGMENT CORPORATION, New York
C. F. CARESCHE, President
Distributors of Titanium Oxide Pigments

Products Manufactured by National Lead Company and Affiliated Companies

PAINTERS' MATERIALS

White Lead, Dry, Paste, Paint
Colors, Dry and in Oil
Flatting and Lead Mixing Oils
Wall Primer
Liquid Drier
Red Lead, Dry, Paste, Paint
Linseed Oil, American and Calcutta, Raw, Boiled, Refined, Varnishmakers'
Titanium Pigments

ARCHITECTURAL MATERIALS

Lead Pipe
Glaziers' Lead
Solder
Antimonial Lead Products
Sheet Lead
Lead Sash Weights
Lead Traps and Bends
Cinch Expansion Bolts

ACID MANUFACTURING EQUIPMENT

Acid Pumps
Antimonial Lead Lined Valves
Antimonial Sheet Lead and Pipe
Tin Lined Valves and Fittings
Acid Concentrators
Antimonial Lead Lined Fittings
Chemical Lead Pipe
Chemical Sheet Lead
Special Tellurium Lead Lined Fittings

BEARING METALS

Babbit Metals
Precision Bearings
Pressure Die Castings
Satco Metal

PRINTERS' METALS

Linotype Metal
Monotype Metal
Impression Lead
Sterotype Metal
Electrotype Metal
Blatchford Sectional Base

LEAD OXIDES

Red Lead
Litharge
Orange Mineral
Glassmakers' Oxides
Colormakers' Oxides
Rubbermakers' Oxides
Varnishmakers' Oxides
Enamelmakers' Oxides
Potters' Oxides
Storage Battery Oxides

MISCELLANEOUS METAL PRODUCTS

Airplane Die Metal
Bar Lead
Antimonial Lead Products
Special Tellurium Lead Products and Castings
Block Tin Pipe
Tin Lined Pipe
Lead Wool
Lead Wire
Pewter and Britannia Metal
Tellurium Sheet Lead and Pipe

GENERAL PRODUCTS

Brown Sugar of Lead
White Sugar of Lead
Copperas
Zinc Sulphate
Zinc Chloride
Linseed Oil Cake and Meal
Castor Oil
Copper Sulphate
Sodium Sulphide
Oil Well Drilling Muds

N. L. Exhibit 33

"TITANOX" PIGMENT GRADES

and

PATENTS RELATED THERETO

C. F. Kaegebehn, Mgr.
Patent Department
National Lead Company
March 9, 1945

In connection with this statement of the patents which cover the various TITANOX pigment products (sometimes hereinafter called "grades") and methods of producing them, attention is directed to the following explanatory notes:

1.) The term "pure TiO_2" is used here as it is employed in the trade to distinguish from "composite" pigments. As so used it includes pigments which contain 95% or more TiO_2.

2.) Where it is indicated that a patent covers a certain product or its method of manufacture, or both, this does not mean that all of the claims of the patent apply, but that one or more of the claims do.

3.) Where a patent is indicated as covering both process and product, it means that the particular patent contains both process and product claims.

4.) Where it is indicated that a certain product is covered by more than one patent, this means that the several patents are interrelated through their product laims in one or more ways, for instance:

a) as generic to subgeneric;

b) as covering an invention which is combined with others in the product.

5.) Where it is indicated that one or more patents cover the process of manufacture of a certain product, this means that the process of manufacture is covered in one or more of its essential steps, but not necessarily all, by one or more of the process claims of each patent listed.

6.) Where it is indicated that a certain patent covers a plurality of products or processes of manufacture, this means that the particular patent has a general applicability to these several products or processes.

7.) Patents owned by Titan Co. Inc. and Titan Co. A/S are listed as if owned by National Lead Company.

TITANOX-A MO:

A pure TiO_2 (anatase) general purpose pigment useful where opacity, inertness, whiteness, and ready dispersion in various media are the principal requirements and high resistance to chalking is not important. The "MO" means medium oil absorption which is an expression indicative of the amount of linseed oil a given quantity of the pigment will absorb before forming a free-flowing mixture.

This product is covered by the following patents:

A. Owned by National Lead Company

2,166,082 of July 11, 1939—White TiO_2 Pigments having Controlled Color Tone

B. Owned by du Pont

2,044,941 of June 23, 1936—TiO_2 Pigments Free from Particles in Excess of 15 Microns

The process of manufacture is covered by the following patents:

N. L. Exhibit 33

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,121,215 of June 21, 1938
2,148,283 of Feb. 21, 1939
2,166,082 of July 11, 1939
2,278,709 of Apr. 7, 1942
2,346,320 of Apr. 11, 1944

B. Owned by du Pont

1,707,248 of Apr. 2, 1929
Re.18,854 of Mar. 10, 1931
1,892,693 of Jan. 3, 1933
1,937,037 of Nov. 28, 1933
2,047,208 of July 14, 1936
2,192,501 of Mar. 5, 1940
2,253,595 of Aug. 26, 1941
2,280,590 of Apr. 21, 1942
2,305,368 of Dec. 15, 1942

TITANOX-A LO:

This grade resembles in all respects TITANOX-A MO except for a lower oil absorption capacity.

All patents (product and process) which cover Tx-A MO also apply as to this grade. In addition, the process of manufacture of Tx-A LO includes steps covered by du Pont patents No. 1,885,921 and No. 2,214,815.

TITANOX-A No. 168 MO:

A pure TiO_2 (anatase) pigment whose qualities resemble the regular TITANOX-A (MO and LO) pigments

but No. 168 when incorporated in coatings possesses better color (whiteness), less tendency to color changes, and greater resistance to chalking.

This product is covered by the following patents:

A. Owned by National Lead Company

2,166,082 of July 11, 1939—White TiO_2 Pigments having Controlled Color Tone

B. Owned by du Pont

2,044,941 of June 23, 1936—TiO_2 Pigments Free from Particles in Excess of 15 Microns

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,121,215 of June 21, 1938
2,148,283 of Feb. 21, 1939
2,166,082 of July 11, 1939
2,260,177 of Oct. 21, 1941
2,278,709 of Apr. 7, 1942
2,346,320 of Apr. 11, 1944

B. Owned by du Pont

1,707,248 of Apr. 2, 1929
Re.18854 of Mar. 10, 1931

1,892,693 of Jan. 3, 1933
1,937,037 of Nov. 28, 1933
2,047,208 of July 14, 1936
2,192,501 of Mar. 5, 1940
2,253,595 of Aug. 26, 1941
2,280,590 of Apr. 21, 1942
2,305,368 of Dec. 15, 1942

TITANOX-A No. 168 LO:

This grade resembles in all respects TITANOX-A. No. 168 MO except for a lower oil absorption capacity.

All patents (product and process) which cover Tx-A No. 168 MO also apply as to this grade. In addition, the process of manufacture of Tx-A No. 168 LO includes steps covered by du Pont patents No. 1,885,921 and No. 2,214,815.

TITANOX-AA:

A pure TiO_2 (anatase) pigment possessing good color (whiteness), and high tinting strength but greatly improved chalk resistances as compared with the regular A's and the No. 168's. It is particularly useful in the formulation of enamels, for instance, automobile finishes where a high degree of chalk resistance is required.

This product is covered by the following patents:

A. Owned by National Lead Company

2,224,987 of Dec. 17, 1940—TiO_2 Pigments Associated with Antimony Compound and Alumina

N. L. Exhibit 33

B. Owned by du Pont

2,044,941 of June 23, 1936—TiO_2 Pigments Free from Particles in Excess of 15 Microns

2,224,777 of Dec. 10, 1940—TiO_2 Pigments Associated with Antimony Compounds

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,121,215 of June 21, 1938
2,161,755 of June 6, 1939
2,224,987 of Dec. 17, 1940
2,260,177 of Oct. 21, 1941
2,278,709 of Apr. 7, 1942
2,346,320 of Apr. 11, 1944

B. Owned by du Pont

1,707,248 of Apr. 2, 1929
Re.18,854 of Mar. 10, 1931
1,885,921 of Nov. 1, 1932
1,892,693 of Jan. 3, 1933
1,937,037 of Nov. 28, 1933
2,047,208 of July 14, 1936
2,192,511 of Mar. 5, 1940
2,224,777 of Dec. 10, 1940
2,253,595 of Aug. 26, 1941
2,280,590 of Apr. 21, 1942
2,305,368 of Dec. 15, 1942

N. L. Exhibit 33

TITANOX-A No. 24:

A pure TiO_2 (anatase) pigment which possesses even greater resistance to chalking but a slightly diminished brightness as compared with AA.

This product is covered by the following patents:

A. Owned by National Lead Company

2,202,594 of May 28, 1940—TiO_2 Pigment Associated with Antimony Compound

2,224,987 of Dec. 17, 1940—TiO_2 Pigment Associated with Antimony Compound and Alumina

2,346,322 of Apr. 11, 1944—TiO_2 Pigment Associated with Chromium Compound, White Metal Silicate and Alumina

B. Owned by du Pont

2,044,941 of June 23, 1936—TiO_2 Pigments Free from Particles in Excess of 15 Microns

2,218,704 of Oct. 22, 1940—TiO_2 Pigments Coated with Hydrous Titanium Oxide

2,224,777 of Dec. 10, 1940—TiO_2 Pigment Associated with Antimony Compound

2,232,168 of Feb. 18, 1941—TiO_2 Pigment Associated with Chromium Compound and Alumina

2,296,636 of Sept. 22, 1942—White Pigments Coated with Uncalcined Silica

2,296,639 of Sept. 22, 1942—White Pigments Coated with White Metal Silicate

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,121,215 of June 21, 1938
2,148,283 of Feb. 21, 1939
2,161,755 of June 6, 1939
2,202,594 of May 28, 1940
2,224,987 of Dec. 17, 1940
2,260,177 of Oct. 21, 1941
2,278,709 of Apr. 7, 1942
2,346,320 of Apr. 11, 1944
2,346,322 of Apr. 11, 1944

B. Owned by du Pont

1,707,248 of Apr. 2, 1929
Re.18,854 of Mar. 10, 1931
1,885,921 of Nov. 1, 1932

1,892,693 of Jan. 3, 1933
1,937,037 of Nov. 28, 1933
2,047,208 of July 14, 1936
2,192,501 of Mar. 5, 1940
2,218,704 of Oct. 22, 1940
2,224,777 of Dec. 10, 1940
2,232,168 of Feb. 18, 1941
2,253,595 of Aug. 26, 1941
2,280,590 of Apr. 21, 1942
2,296,636 of Sept. 22, 1942
2,296,639 of Sept. 22, 1942
2,305,368 of Dec. 15, 1942
2,357,089 of Aug. 29, 1944

TITANOX-A NC:

A pure TiO_2 (rutile) pigment which, although its color and tinting strength are not quite as good as the other A's, is practically non-chalking.

This product is covered by the following patents:

A. Owned by National Lead Company

2,166,082 of July 11, 1939—White TiO_2 Pigments having Controlled Color Tone

2,280,795 of Apr. 28, 1942—Rutile TiO_2 Pigments Associated with Zinc Compounds

2,290,539 of July 21, 1942—(Generic to 2,280,795)

N. L. Exhibit 33

B. Owned by du Pont

2,044,941 of June 23, 1936—TiO_2 Pigments Free from Particles in Excess of 15 Microns

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,121,215 of June 21, 1938
2,166,082 of July 11, 1939
2,278,709 of Apr. 7, 1942
2,280,795 of Apr. 28, 1942
2,290,539 of July 21, 1942

B. Owned by du Pont

1,707,248 of Apr. 2, 1929
Re.18,854 of Mar. 10, 1931
1,892,693 of Jan. 3, 1933
1,937,037 of Nov. 28, 1933
2,047,208 of July 14, 1936
2,253,595 of Aug. 26, 1941
2,305,368 of Dec. 15, 1942

TITANOX A-WD and TITANOX A-WDL:

Pure TiO_2 (anatase) special pigments which disperse more readily in water vehicles than other grades; Tx A-WDL permits a higher concentration of pigment in water pastes than does Tx A-WD.

N. L. Exhibit 33

This product is covered by the following patents:

A. Owned by National Lead Company

2,166,082 of July 11, 1939—White TiO_2 Pigments having Controlled Color Tone

B. Owned by du Pont

2,044,941 of June 23, 1936—TiO_2 Pigments Free from Particles in Excess of 15 Microns

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,121,215 of June 21, 1938
2,148,283 of Feb. 21, 1939
2,166,082 of July 11, 1939
2,278,709 of Apr. 7, 1942
2,346,320 of Apr. 11, 1944

B. Owned by du Pont

1,707,248 of Apr. 2, 1929
Re.18,854 of Mar. 10, 1931
1,885,921 of Nov. 1, 1932
1,892,693 of Jan. 3, 1933
1,937,037 of Nov. 28, 1933
2,047,208 of July 14, 1936
2,192,501 of Mar. 5, 1940

2,214,815 of Sept. 17, 1940
2,253,595 of Aug. 26, 1941
2,280,590 of Apr. 21, 1942
2,305,368 of Dec. 15, 1942

TITANOX-B-30:

A composite pigment containing 30% TiO_2 (anatase) and 70% barium sulfate which is a generally useful all-purpose pigment for ready mixed, and paste paints.

This product is covered by the following patents:

A. Owned by National Lead Company

—

B. Owned by du Pont

—

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,148,283 of Feb. 21, 1939

B. Owned by du Pont

2,047,208 of July 14, 1936
2,305,368 of Dec. 15, 1942

TITANOX-B-30AA:

In composition and other general properties, B-30AA resembles B-30 but possesses superior resistance to chalking in the order of the pure TITANOX-AA.

This product is covered by the following patents:

A. Owned by National Lead Company

2,224,987 of Dec. 17, 1940—TiO_2 Pigments Associated with Antimony Compound and Alumina

B. Owned by du Pont

2,224,777 of Dec. 10, 1940—TiO_2 Pigments Associated with Antimony Compound

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,148,283 of Feb. 21, 1939
2,161,755 of June 6, 1939
2,224,987 of Dec. 17, 1940

B. Owned by du Pont

2,047,208 of July 14, 1936
2,224,777 of Dec. 10, 1940
2,305,368 of Dec. 15, 1942

TITANOX-B-30WD

This grade resembles regular B-30 but is more readily dispersible in water vehicles.

This product is covered by the following patents:

A. Owned by National Lead Company

—

B. Owned by du Pont

—

N. L. Exhibit 33

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,148,283 of Feb. 21, 1939

B. Owned by du Pont

2,047,208 of July 14, 1936
2,214,815 of Sept. 17, 1940
2,305,368 of Dec. 15, 1942

TITANOX-C:

A composite pigment containing 30% TiO_2 (anatase) and 70% calcium sulfate especially useful in the preparation of interior finishes either gloss or flat.

This product is covered by the following patents:

A. Owned by National Lead Company

1,906,730 of May 2, 1933—Composite TiO_2—Anhydrite Calcium Sulfate Pigment

2,166,082 of July 11, 1939—White TiO_2 Pigments having Controlled Color Tone

2,222,385 of Nov. 19, 1940—Synthetic Pigmentary Anhydrite Calcium Sulfate used in "C" grades

B. Owned by du Pont

—

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,773,727 of Aug. 26, 1930
1,889,027 of Nov. 29, 1932
1,906,730 of May 2, 1933
2,055,222 of Sept. 22, 1936
2,166,082 of July 11, 1939
2,222,385 of Nov. 19, 1940
2,344,265 of Mar. 14, 1944

B. Owned by du Pont

1,851,487 of Mar. 29, 1932
2,151,339 of Mar. 21, 1939
2,163,385 of June 20, 1939

TITANOX-CX:

In composition and other general properties CX resembles regular C but is characterized by being more easily wet by, and dispersible in vehicles than C.

All patents (product and process) which cover Tx-C also apply as to this grade. In addition, the process of manufacture includes a pulverization treatment which is attained through the employment of methods covered in patents No. 2,219,011 and No. 2,284,746, owned by Reduction Engineering Co., or in No. 2,032,827 owned by International Pulverizer Corp., all of which are licensed to National Lead Company.

N. L. Exhibit 33

TITANOX-RC-HT:

A recently developed composite pigment consisting of 30% TiO_2 (rutile) and 70% calcium sulfate possessing the highest tinting strength of any composite pigment so far produced commercially. It has universal application in interior architectural finishes, either flat or gloss.

This product is covered by the following patents:

A. Owned by National Lead Company

1,906,730 of May 2, 1933—Composite TiO_2—Anhydrite Calcium Sulfate Pigment

2,166,082 of July 11, 1939—White TiO_2 Pigments having Controlled Color Tone

2,222,385 of Nov. 19, 1940—Synthetic Pigmentary Anhydrite Calcium Sulfate used in "C" grades

B. Owned by du Pont

—

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,773,727 of Aug. 26, 1930
1,889,027 of Nov. 29, 1932
1,906,730 of May 2, 1933

2,055,222 of Sept. 22, 1936
2,166,082 of July 11, 1939
2,222,385 of Nov. 19, 1940
2,344,265 of Mar. 14, 1944

B. Owned by du Pont

1,851,487 of Mar. 29, 1932
2,151,339 of Mar. 21, 1939
2,163,385 of June 20, 1939

In addition to the patents listed above this grade is covered by process and product claims of recently issued patents, details of which are withheld for competitive reasons.

TITANOX-RC-HTX:

In composition and other general properties RC-HTX resembles regular RC-HT but is characterized by being more easily wet by and dispersible in vehicles.

All patents (product and process) which cover Tx-RCHT also apply as to this grade, including those withheld for competitive reasons. In addition, the process of manufacture includes a pulverization treatment which is attained through the employment of methods covered in patents No. 2,219,011 and No. 2,284,746 owned by Reduction Engineering Co., or in No. 2,032,827 owned by International Pulverizer Corp., all of which are licensed to National Lead Company.

TITANOX-RC:

A recently developed composite pigment consisting of 30% TiO_2 (rutile) and 70% calcium sulfate possessing

greater chalk resistance than RC-HT. It is especially recommended for outside finishes.

All patents (product and process) which cover Tx-RC-HT also apply as to this grade, including those withheld for competitive reasons.

TITANOX-L:

In composition, TITANOX-L consists of about 93% lead titanate ($PbTiO_3$) and about 7% lead sulfate. It has a very pale yellow color. Because of its high resistance to chalking and erosion, it is especially suited for use in protective finishes, for instance, for metal.

This product is covered by the following patents:

A. Owned by National Lead Company

2,140,222 of Dec. 13, 1938—Improved Lead Titanate Pigment

B. Owned by du Pont

—

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

2,140,222 of Dec. 13, 1938

B. Owned by du Pont

—

One of the raw materials for the preparation of this product is uncalcined hydrous titanium oxide. Hence, all

patents previously listed as covering the preparation of hydrous titanium oxide also apply to this grade.

TITANOX- RA 10 MO:

A recently developed pure TiO_2 (rutile) general purpose pigment useful where opacity, inertness, whiteness, and ready dispersion in various media are the principal requirements and high resistance to chalking is not important, having 20%—40% higher tinting strength than the anatase pure TiO_2 pigments.

This product is covered by the following patents:

A. Owned by National Lead Company

—

B. Owned by du Pont

2,044,941 of June 23, 1936—TiO_2 Pigments Free from Particles in Excess of 15 Microns

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,148,283 of Feb. 21, 1939
2,346,320 of Apr. 11, 1940

B. Owned by du Pont

1,707,248 of Apr. 2, 1929
1,937,037 of Nov. 28, 1933

2,047,208 of July 14, 1936
2,214,815 of Sept. 17, 1940
2,280,590 of Apr. 21, 1942
2,305,368 of Dec. 15, 1942

In addition to the patents listed above this grade is covered by process and product claims of issued patents, details of which are withheld for competitive reasons.

TITANOX-RA 10 LO:

This grade resembles in all respects TITANOX-RA 10 MO except for a lower oil absorption capacity.

All patents (product and process) which cover Tx-RA 10 MO also apply as to this grade, including those withheld for competitive reasons. In addition, the process of manufacture of Tx-RA 10 LO includes steps covered by du Pont patents No. 1,885,921 and No. 2,214,815.

TITANOX-RA:

A recently developed pure TiO_2 (rutile) general purpose pigment, having 20%-40% higher tinting strength than the antase pure TiO_2 pigments and possessing greater resistance to chalking that TITANOX-RA 10 MO.

This product is covered by the following patents:

A. Owned by National Lead Company

—

B. Owned by du Pont

2,044,941 of June 23, 1936—TiO_2 Pigments Free from Particles in Excess of 15 Microns

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,148,283 of Feb. 21, 1939
2,346,320 of Apr. 11, 1940

B. Owned by du Pont

1,707,248 of Apr. 2, 1929
1,937,037 of Nov. 28, 1933
2,047,208 of July 14, 1936
2,280,590 of Apr. 21, 1942
2,305,368 of Dec. 15, 1942

In addition to the patents listed above this grade is covered by process and product claims of issued patents, details of which are withheld for competitive reasons.

TITANOX-RANC:

A recently developed pure TiO_2 (rutile) pigment with good color (whiteness), having 20%—40% higher tinting strength than the pure anatase TiO_2 pigments and being practically non-chalking.

This product is covered by the following patents:

A. Owned by National Lead Company

—

B. Owned by du Pont

2,044,941 of June 23, 1936—TiO_2 Pigments Free from Particles in Excess of 15 Microns

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,148,283 of Feb. 21, 1939
2,346,320 of Apr. 11, 1940

B. Owned by du Pont

1,707,248 of Apr. 2, 1929
1,885,921 of Nov. 1, 1932
1,885,921 of Nov. 1, 1932
1,937,037 of Nov. 28, 1933
2,047,208 of July 14, 1936
2,192,501 of Mar. 5, 1940
2,214,815 of Sept. 17, 1940
2,280,590 of Apr. 21, 1942
2,305,368 of Dec. 15, 1942

In addition to the patents listed above, this grade is covered by process and product claims of issued patents, details of which are withheld for competitive reasons.

TITANOX-RA WD:

A recently developed pure TiO_2 (rutile) special pigment which disperses more readily in water vehicles than the other rutile grades, having 20%—40% higher tinting strength than the pure anatase TiO_2 grades.

This product is covered by the following patents:

A. Owned by National Lead Company

—

B. Owned by du Pont

2,044,941 of June 23, 1936—TiO_2 Pigments Free from Particles in Excess of 15 Microns.

The process of manufacture is covered by the following patents:

A. Owned by National Lead Company

1,889,027 of Nov. 29, 1932
1,919,425 of July 25, 1933
2,148,283 of Feb. 21, 1939
2,346,320 of Apr. 18, 1940

B. Owned by du Pont

1,707,248 of Apr. 2, 1929
1,937,037 of Nov. 28, 1933
2,047,208 of July 14, 1936
2,192,501 of Mar. 5, 1940
2,214,815 of Sept. 17, 1940
2,280,590 of Apr. 21, 1942
2,305,368 of Dec. 15, 1942

In addition to the patents listed above, this grade is covered by process and product claims of issued patents, details of which are withheld for competitive reasons.

APPARATUS PATENTS:

In noting above patents which apply to the various grades of TITANOX pigments with two exceptions (Tx-CX

and Tx-RC HTX) only patents the claims of which were directed either to processes or products, or both, have been included. However, National Lead Company owns certain patents the claims of which cover apparatus used in the manufacture of its titanium dioxide pigments as well as the methods of operation involved in the use of such apparatus. National Lead Company is also licensed under other patents covering apparatus and methods. Below is given a statement of these patents together with an indication of the various grades of TITANOX pigments in the manufacture of which they apply:

A. Owned by National Lead Company

1.) 2,227,239 of Dec. 31, 1940—An improved rotary filtering device, employed in the washing of all grades.

2.) 2,285,894 of June 9, 1942—An improved filter septum for use on rotary filters, employed on filters used in washing all grades.

3.) 2,334,663 of Nov. 16, 1943—An improved dust seal for rotary furnaces, used on furnaces in which all grades are calcined.

B. Owned by du Pont

1.) 2,111,788 of Mar. 22, 1938—An improved settling tank, used in the manufacture of all TITANOX-A's, Tx-ANC, and all Tx-RA's.

C. Owned by Oliver United Filters, Inc.

1.) 2,083,887 of June 15, 1937—An improved rotary filter used in the washing of all grades.

D. Owned by International Pulverizer Corp., Inc.

1.) 2,032,827 of Mar. 3, 1936—An improved pulverizing and classifying apparatus used in the manufacture of TITANOX-A WD, WDL, LO, 168 LO, No. 24, AA, ANC, RANC, RA, RA 10 LO, CX and RC HTX.

E. Owned by Reduction Engineering Corp.

1.) 2,219,011 of Oct. 22, 1940

2.) 2,284,746 of June 2, 1942

Both patents cover an apparatus and method of pulverizing and classifying which are used interchangeably with the International Pulverizing Corp. patent No. 2,032,827 in the manufacture of TITANOX-A WD, WDL, LO, 168 LO, No. 24, AA, ANC, RANC, RA, RA 10 LO, CX and RC HTX.

Prepared by
C. F. Kaegebehn, Manager
Patent Department
National Lead Company

March 9, 1945

N L EXHIBIT 34

Foreign Trade and Industrial Organization

by

IMRIE DE VEGH

(A Memorandum Prepared at the Request of Counsel for National Lead Company Containing the Substance of Dr. de Vegh's Testimony in *United States* v. *National Lead Company et al.*, Civil No. 26-258, in the District Court of the United States for the Southern District of New York)

FEBRUARY, 1945

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FOREIGN TRADE AND INDUSTRIAL ORGANIZATION

The following memorandum will survey first the organization of industry in Great Britain; second, the organization of industry in Germany; third, the foreign exchange problems of the interwar period; fourth, the nature of competition in manufacturing; and lastly, the effect of all these factors on American business operations abroad.

I. The Organization of British Industry

1. Prior to the First World War

Several good sources of information exist regarding the organization of British industry prior to the First World War.

J. H. Clapham's "An Economic History of Modern Britain" (Macmillan, N. Y., University Press, Cambridge, England, 1938) is the standard work on its subject. Part III of this work, dealing with the period 1837-1914 (with an Epilogue 1914-1929), is especially valuable for an understanding of modern industrial developmen in the United Kingdom. Its approach is, however, primarily historical-descriptive.

Specifically as regards the beginnings of the concentration movement in modern British industry, the pioneering work is H. W. Macrosty's "Trust Movement in British Industry" (London, 1907). The same author's "Trusts and the State" (London, 1901), and D. H. Macgregor's "Industrial Combination" (London, 1906), though more theoretical, are also interesting. Among American sources the "Report of the Industrial Commission on Industrial Combinations in Europe", prepared by J. W. Jenks, Washington, D. C., 1901, is still worth consulting.

The best historical descriptive treatise on British industrial organization prior to 1914 is Hermann Levy's "Monopoly and Competition", published in London in 1911. The following description is largely based on the material of Professors Clapham and Levy.

English industrial organization has gone through transformations that were at times extreme but are now in part forgotten. Industrial capitalism in England was cradled in monopoly, not in competition. The system of monopolies was from the beginning the expression of a definite royal policy, pursued with ever growing eagerness, in spite of statutory opposition from the days of Queen Elizabeth, and so successfully developed under the Stuarts that, in almost every important trade, national monopolies arose. Opposition to this policy came from the most diverse quarters. As monopolies steadily increased, the various strains of opposition met in a single movement which succeeded in extirpating, after a comparatively short but exceptionally effective existence, the monopoly system. The main center of the anti-monopoly movement was the House of Commons. This opposition was so successful that, so far as our knowledge of industrial England in the eighteenth century goes, national monopoly based on legal privilege no longer existed, at that time, in any industry. Adam Smith knew only colonial trade monopolies and a few town monopolies.

In addition to colonial and foreign trade, substantial monopolist combinations existed in English mining at times. The most famous is the Newcastle Coal Vend which lasted with certain interruptions from 1771 to 1844. It rested on its ability to supply coal to the London market by coastwise shipping more economically than competing

coal mining areas. Similar combinations existed in tin mining and copper mining. English manufacturing industry was, however, by and large competitive during most of the nineteenth century.

"During the eighteenth, and still more in the first half of the nineteenth century—that epoch of unexampled industrial development—the industries of England present a picture of increasing production, rapid increase in the number of single undertakings and, in each separate area of production, the keenest competition between the various manufacturers only giving way occasionally and under pressure of certain exceptional conditions to a monopolist organization." (Levy, p. 169)

". . . The classical economists' doctrine, that competition was equally to the interest of the consumer and of the producer, had been regarded as an invariable truth, not because it was in any way correct, but because for a long time it was borne out by existing facts. . . ." (Levy, p. 172)

All authorities agree that an aggressive spirit of competition pervaded British industry during the middle of the nineteenth century. The repeal of the Corn Law in 1846 assured cheap food for the workers. The abandonment of the Navigation Act assured relatively cheap ocean freights. The essential fact of being the first in the field of manufacturing by a wide margin, both in point of time and in costs, made free competition and the greatest possible freedom of trade eminently desirable to British manufacturers.

". . . as the subjective conditions of monopoly have obviously existed in spite of the doctrine of individualism,

we can only conclude that the external essentials of monopolist control were not as fully developed in England as in other countries, and that even at present they are in part lacking. . . ." (Levy, pp. 177-8)

These deficiencies in monopolistic foundations Levy attributes first of all to a poverty in scarce mineral resources. He points out that when English coal, tin, and copper were in a position to benefit from monopolistic forms of organization these industries were monopolistically organized.

With respect to the fabricating industries, Levy points out that the establishment of free trade, *i. e.*, the disappearance of a protective tariff and of import prohibitions was a sufficient explanation of the non-existence of cartels and trusts in a large section of British industry. To the extent that the purpose of combination is to raise prices there is no advantage to be derived from combination if an increase of the price over prevailing levels will bring in additional imports. In other words, where the costs of British industry were so high that imports were competitive, only cost-reducing combinations and mergers were possible.

The deterrent effects of a tariff with respect to industrial combination are easy to over-rate. A tariff is merely the equivalent of an exceptionally high freight rate. In many cases, where English costs were sufficiently low, actual freights were sufficient to protect English producers from competing imports. Wherever the gap between English costs and delivered import prices was wide enough, there was an opportunity within that gap for industrial combination aimed at raising prices.

The fact that British industry developed competitively during most of the nineteenth century was partly due to

England's leadership in the industrial revolution. At that time English costs of industrial production were the lowest in the world. Once, however, a large number of firms came into being in each major industry, their very existence became a deterrent to combinations. The good-will of each one of them was a valuable asset which it was afraid to lose in a merger. Cartel agreements, on the other hand, are notoriously more difficult to negotiate among specialized competitors, each one of whom claims to have specialties slightly different from those of the others, than they are among producers of homogeneous staples.

Lastly, owing in part to free trade and to the resultant lesser need for vertical combination, the size of undertakings in England has been traditionally smaller than in Germany or the United States. ". . . In a country where protective duties and monopolies of raw goods hinder the manufacturer of finished goods from obtaining supplies of materials, and where at the same time it is impossible for the finishing manufacturer to make the consumer pay directly for the monopolist higher price of material, an intimate connection with raw production and half manufacture is unavoidable. . . ." (Levy, pp. 200-201) In England the exact opposite was the case.

Even so, by the late nineteenth century the combination movement progressed considerably in England and was highly successful in a number of industries. Robert Liefmann in a study made in 1897 (Die Unternehmerverbände) listed forty international cartels in which German companies participated, twenty-two of which were formed in combination with British enterprises. Moreover, as the competitive advantages of large size became more apparent, and especially as the financial success of monopolies resulting from the combination of a few powerful firms became

obvious, a large number of huge industrial mergers took place. The control of the market exercised by the merged enterprises was further strengthened in many cases by cartel agreements with the companies that remained outside the merger.

Levy discusses fifteen major English cartels and trusts existing in 1911 (Portland cement, steel, industrial alcohol, wall paper, cables, salt, fine cotton spinners, sewing cotton, bleaching and dyeing, calico printing, locomotives, whiskey, rails, soda, and tobacco). His survey did not aim in any way at comprehensiveness, and only included the largest and most important economic concentrations of which he had knowledge.

It is worth noting that even in that most competitive and subsequently sickest of British industries, coal mining, a national monopoly was proposed as early as 1893. This was Sir George Eliot's proposal, discussed in Clapham, Volume II, p. 220. It was followed in 1896 by D. A. Thomas's remarkable proposal to cartelize the coal industry. D. A. Thomas, later Lord Rhondda, was a member of Parliament and a Welsh coal mine owner. He published in Cardiff in 1896 "Some Notes on the Present Situation of the Coal Trade . . . with a Plan for the Prevention of Undue Competition and for Maintaining Prices at a Remunerative Level." (Clapham, Volume III, p. 271)

World famous instances of the evolution of concentration can be found in banking (cf. W. F. Crick and J. E. Wadsworth: "One Hundred Years of Joint Stock Banking", London, 1936; J. Sykes: "The Amalgamation Movement in British Banking, 1825-1924", London, 1926), in soap manufacture (Lever Bros.—see Clapham, Volume III, passim), petroleum refining and distribution (Royal Dutch-

Shell-Mexican Eagle, see Clapham, Volume III, pp. 275-6). The cartel movement penetrated many minor industries as well, and to such an extent that Clapham, looking back in 1938, could write (Volume III, p. 316): "The trade without an association of some kind was by 1914 rare."

2. The First World War and Its Aftermath

The basic source of information regarding industrial combination in England immediately after the First World War is the "Report of the Committee on Trusts", issued in 1919. The Committee was appointed in February 1918 by the Ministry of Reconstruction. After a year's study it published a report which is fundamental to the knowledge and understanding of the effects of the First World War on the industrial structure of Great Britain. The following quotations are from its report. (Cd. 9236, H. M. Stationery Office, 1919)

"We find that there is at the present time in every important branch of industry in the United Kingdom an increasing tendency to the formation of Trade Associations and Combinations, having for their purpose the restriction of competition and the control of prices.

"Many of the organisations which have been brought to our notice have been created in the last few years, and by far the greater part of them appear to have come into existence since the end of the nineteenth century. For reasons which we shall presently discuss, there has been a great increase in the creation of trade associations during the period of the war." (p. 2)

"Many of these Associations appear to have been created as a result of a temporary depression in their trades. One witness stated as his opinion that it was 'seldom that

an association came into being until a trade was faced with all-round disaster if it did not combine.'

"There was considerable evidence before us that the growth and power of these Associations has been greatly strengthened during the period of the war, and that this result appears to have come about primarily from the novel circumstances of war, under which the Government, acting through the Ministry of Munitions or other Departments, found it necessary sometimes to consult the most informed opinion in a trade, and sometimes to ration material through an organisation representative of the trade. Unassociated firms which found themselves not consulted by the Government were thus led to join existing Associations, or in some cases to form representative groups for the purpose of advising the Government on matters concerning the trade.

"There appears to be no doubt that a large number of definite Trade Associations have been formed during the war which may certainly be expected to control and regulate prices and the conditions of industry in the same manner as the pre-war Associations were already doing, and it is also probable that the habit of co-operation and discussion on matters of common concern, which has been the result of the formation of purely advisory groups of manufacturers or distributors for the purposes of the war will lead to a transformation of at least a part of such advisory groups into definite Trade Associations as soon as Government control over trade or industry is withdrawn. The advisory committees will disappear, but will reappear in the form of new Trade Associations." (p. 4)

". . . But we are satisfied that Trade Associations and Combines are rapidly increasing in this country, and may within no distant period exercise a paramount control over all important branches of the British trade." (p. 11)

The Report of the Committee as well as its recommendations were unanimous. The four "liberal" members of the Committee, Mr. Ernest Bevin, Mr. J. A. Hobson, Mr. W. H. Watkins, and Mr. Sidney Webb wrote an Addendum, which begins as follows:

"We have signed the above Report because we find nothing to disagree with in its recommendations; but we feel that it does not adequately express the gravity of the situation, . . ." (p. 13)

It continues in part as follows: "The fact is that Free Competition no longer governs the business world. . . ." (p. 13)

"We do not suggest that any action should be taken to prevent or obstruct combination or association in capitalist enterprise. Apart from the experience that no such interference can be made effective, we have to recognize that association and combination in production and distribution are steps in the greater efficiency, the increased economy, and the better organization of industry. We regard this evolution as both inevitable and desirable. It is, however, plain that the change from competitive rivalry to combination calls for corresponding developments to secure for the community, both safeguards against the evils of monopoly, and at least a large share of the economic benefits of the better organization of industry which it promotes." (p. 13)

The Secretary of the Committee was Mr. John Hilton who submitted "A Study of Trade Organisations and Combinations in the United Kingdom" (pp. 15-30) which was also attached to the Report. This study is more analytical than descriptive, but a brief section is devoted to the extent

and significance of combinations. The following passages are derived from this section:

". . . Associations concerned with the regulation of price or output, or both, are to be found in almost every branch of British industry. Their number cannot be computed, for many are not registered either as companies or trade unions, and some are purposely carried on as secretly as possible. It may be taken, however, that there are considerably more than five hundred associations, all exerting a substantial influence on the course of industry and price, in being at the present time in the United Kingdom. The most painstaking enquiry yet undertaken into combination in any section of British industry is that made in respect of building materials, and the conclusion there reached was that 25 per cent. of the materials that go to the building of an average house are subject to full control and 33 per cent. are partially controlled. If particular industries in which combination has made most headway be taken it transpires that in innumerable lines of manufacture anything from 80 to 100 per cent. of the whole national output of the articles concerned is either in the hands of one dominant consolidation or of manufacturers grouped together for purposes of concerted price and other control in a trade association. It would, however, be fallacious to take these latter as typical of the whole range of industry. There are many industries, trades, and services, great as well as small, in which combination has made hardly any headway, and competition is still the determining factor in the fixing of price. The shipbuilding industry may be quoted as a case in point. . . ." (p. 20)

"*Influence of War Conditions on Combination.*—Moreover, there can be no question that the whole trend of industry and commerce is towards combination. 'The movement,

indeed, is inevitable, for what machinery and invention have done in the past for production, this disposition of smaller bodies to consolidate in larger units is doing for administration.' Within recent years the number of trade associations in this country has increased enormously, and, under the influence of war conditions, not only have numbers of existing listless bodies been galvanised into greater activity and enterprise, and the membership of others been increased, but many new associations have been formed, some at the instance of the Government Departments, since it was found easier to deal with a group than with separate firms. Still more, the necessity for fixing the prices of many articles and materials required by the State during the war and the need for rationing materials has compelled the Government to call representative conferences of manufacturers in many industries, and to impose on them duties which have entailed frequent consultations and meetings, and when people who, before the war, were competitors have been thus compelled to meet and discuss common arrangements, it is inevitable that they should discover the advantages of working in concert and establish relations which will make for concerted working for the future. Again, the war period has been marked by a remarkable increase in the number of amalgamations. One effect of the excess profits tax has been to encourage the buying up of unprofitable businesses by highly profitable concerns, for such purchases were in effect paid for by monies which would otherwise have gone in excess profits duty to the Revenue. Another war influence making for the extension of combination after the war is the enormous development of standardisation and repetition manufacture. The lessons learnt in this connection during the war will not be lost in the change back from war to peace production, but their application to peace production will necessitate collaboration among

the various firms composing the particular branch of industry, and collaboration for specific purposes prepares the ground for combination for the regulating of trade." (p. 20)

There are also attached to the Report "Notes as to the Law Relating to Combinations" by Sir John Macdonell (p. 31); a "Report Presented to the Committee on Trusts on Combinations in Building Material Trades" (p. 35); and a "Memorandum on Industrial Combinations" presented by Mr. Percy Ashley. (p. 38)

This last memorandum is largely factual. It mentions a very large number of existing combinations for the regulation of trade, and attempts a simple classification.

3. The First Interwar Decade: 1920-1930

Information with respect to privately sponsored mergers of large enterprises is plentiful in the files of periodicals like The Economist. Clapham, op. cit., in an Epilogue gives a brief summary and interpretation from the angle of the economic historian which is useful. The standard work on the subject is Patrick Fitzgerald's "Industrial Combination in England", London, 1927. A revised edition of Levy's book (1927) brought some of his material up to date. An increasing number of Parliamentary Committee reports on various industries,—especially the important reports of the Committee on Industry and Trade, also known as the Balfour Committee,—and legislative intervention in many instances, shed a great deal of additional light on the concentration movement. With respect to the coal and cotton industries in particular, Temporary National Economic Committee Monograph No. 40 provides easily accessible information.

The strong statements of the Royal Commission on Trusts indicate the progress of cartelization and trustification of England during the crucial decade of the First World War. The requirements of the war economy promoted the concentration of industry, for which conditions were propitious anyway. While after the war the purposes of the wartime combinations disappeared, the institutional changes remained. The big companies continued to grow bigger and the small companies continued to strive for agreements with competitors and for mergers in order not to go under in the competitive struggle.

This latter factor became of considerable importance after 1921, when England failed to recover from the post-war slump with the rest of the world, and chronic unemployment appeared for the first time as an identified malady of modern industry.

It is only too often forgotten that the real purpose of many mergers and cartels is defensive. The defensive advantages of large size, and especially of diversified assets are, after all, obvious. Similarly, in times of stagnation, agreements to regulate competition are chiefly valuable as defensive measures.

The transitional difficulties of the post-war period provided a powerful incentive for defensive measures on the part of industry. Many mergers and cartels were aimed not so much at raising prices and gouging consumers in times of boom, as they were aimed at diversifying risks and/or controlling markets more successfully in times of depression. This was especially the case with many combinations in British industry, which was pervaded by a justified feeling that it was losing out in the international competitive race with the more modern industries of the

United States, Germany, Japan, and even of the smaller European industrial countries like Belgium, Sweden, and Switzerland.

Whatever the specific causes, the results were the same. A large further growth of concentration in British industry occurred during the 1920s. Many enormous mergers took place, *e. g.*, in the steel industry and in chemicals. Sometimes these mergers were government-sponsored, *e. g.* in communications (Cables and Wireless, Ltd.) and in railroads (pursuant to the Railway Act of 1921). Imperial Airways, Ltd., the airline monopoly, was also a government-sponsored merger, pursuant to a Report of the Civil Air Transport Subsidies Committee of 1923.

In the field of chemicals, to quote Clapham, Vol. III, pp. 535-6, ". . . The greatest of the new amalgamations, Imperial Chemical Industries, already had a half-public character, built up as it was with the good wishes and, so far as its inherited function of making the country independent of fine imported dyestuffs went the help, of the State. . . ." (Under the Dyestuffs Import Regulations Act of 1920 dyestuff imports became subject to special license—see "Trade Regulations & Commercial Policy of the United Kingdom", National Institute of Economic and Social Research, Cambridge, 1943, pp. 132, 266; also: Frederic Benham: "Great Britain under Protection", New York, Macmillan, 1941.)

In 1926 a Royal Commission on the Coal Industry recommended amalgamation as a cure for the ills of the coal industry. (Cd. 2600.) The Coal Mines Act of 1930 put a Coal Mines Reorganization Commission in operation, which was, however, not conspicuously successful (Hermann Levy: "The New Industrial System", London, 1936, p. 187).

The great mergers in banking continued apace, resulting eventually in a virtual merging of the entire general commercial banking system of Great Britain in five large institutions. (See Report of the Treasury Committee on Bank Amalgamations, 1918; J. Sykes: op. cit.; Clapham: op. cit., Volume III, pp. 537-8; Crick and Wadsworth: op. cit.) Both the mergers and cooperation between the merged institutions developed with the unofficial sanction of the Bank of England and the British Treasury.

The first government-sponsored cartel appeared in 1922, when the notorious Stevenson plan for the control of rubber production was put into operation.

A brand new, subsidized beet sugar manufacturing industry was established in 1925 by special legislative enactment (British Sugar Subsidy Act of 1925).

By 1926 the Liberal Party was thoroughly alarmed with respect to its political future by the challenge to orthodox liberalism inherent in post-war developments. It appointed a committee to study the situation, including W. T. Layton, the editor of The Economist, Lloyd George, H. D. Henderson, Philip Kerr (subsequently Lord Lothian), J. M. Keynes, Sir Herbert Samuel, Sir John Simon, R. H. Brand, D. H. Robertson, Sir Josiah Stamp, and others less well known in the United States. These men constituted the intellectual leadership of the Liberal Party and in a large measure that of England. Their report was published after eighteen months of deliberations, entitled "Britain's Industrial Future being the Report of the Liberal Industrial Inquiry." It commands great attention, reflecting the ideas of leading English liberals and academicians as to how much of the liberal ideology of the nineteenth century could be salvaged. Chapter VIII of the

report is devoted to trusts and trade associations. The report states that ". . . this very proper objective [the protection of the public interest] is not to be secured in these days by mere attempts to restore the old conditions of competition, which often involve waste and effort, the uneconomic duplication of plant or equipment, and the impossibility of adopting the full advantages of large-scale production.

"In modern conditions a tendency towards some degree of monopoly in an increasing number of industries is, in our opinion, inevitable and even, quite often, desirable in the interests of efficiency. It is, therefore, no longer useful to treat trusts, cartels, combinations, holding companies, and trade associations as inexpedient abnormalities in the economic system to be prevented, checked, and harried. The progression from purely private individualistic enterprises to the Public Concern is one of endless gradations and intermediate stages. . . ." (pp. 92-3)

Perhaps the most remarkable feature of the analysis of trusts and trade associations in this important Liberal Party document is the conclusion that publicity is a completely adequate safeguard of the public interest. The report further proposed that when a trade association comprised more than 50% of a trade or industry it should or could become an incorporated association, supervised by the Board of Trade; and that when an incorporated association could show that 75% of those affected were in favor of a rule, it could—if sanctioned by the Board of Trade—issue an order enforcing the rule in question on all members of the trade or industry.

By the end of the decade British industry was among the leaders of the world-wide concentration movement. It

exercised a tight control over its domestic and imperial markets.

In addition to the growing complexity of industrial production, marketing, and trade, the tariff protection of key industries, which was enacted after the World War, considerably assisted trustification and cartelization.

The tariff protection of industries had begun with the McKenna Duties of 1915—33⅓% on motor cars, cycles, clocks, watches, musical instruments, and a flat rate on films. The Key Industries Duties of 1921 applied the same rate of 33⅓% to many instruments and chemicals, and 50% to optical instruments and magnetos. These were the first breaches in the free trade system of England, where the only duties previously in force were a few levies raised for revenue (*e. g*; on tobacco). The profit possibilities to be derived from economic concentration were enhanced by the tariff which raised the delivered price of potentially competitive imports.

The highly tolerant view British legislation and courts took with respect to restraints of trade, the narrowness of their interpretation of what was an unreasonable restraint, and their refusal to consider any but the most specific evidence, contributed to the development of highly restrictive practices throughout British industry. This meant that what would be considered competitive behavior in the United States was at a discount and would have tended to provoke violent retaliation by an entire industry against the aggressor enterprise. A tacit code of non-competitive industrial discipline was built up which was and is of the greatest effectiveness.

4. Economic Concentration in the Thirties

The source material regarding cartelization and the concentration movement in general becomes very abundant in this period. In addition to voluminous information in economic and financial periodicals and some books previously mentioned, like Hermann-Levy's "The New Industrial System", London, 1936, and the Temporary National Economic Committee Monograph No. 40, there is especially abundant material on international cartels organized by British producers, frequently under British Government supervision. (See Alfred Plummer: "International Combines in Modern Industry", second revised edition, London, 1938; William Oualid: "International Raw Materials Cartels", International Institute of Intellectual Cooperation, League of Nations, Paris, 1938; Erwin Hexner: "The International Steel Cartel", Chapel Hill, 1943; D. L. Burn: "The Economic History of Steelmaking 1867-1939", Cambridge University Press, 1940; W. Y. Elliott and others: "International Control in the Non-Ferrous Metals", New York, 1937; Ballande: "Les Ententes Economiques Internationales", Paris, 1937; "Intergovernmental Commodity Control Agreements", International Labour Office, Montreal, 1943.)

Parliamentary papers regarding individual industries are also increasing in numbers and importance. Noteworthy among them are the report of the so-called May Committee on the steel industry, and its sequels, including a "Report of the Import Duties Advisory Committee on the Present Position and Future Development of the Iron and Steel Industry" (Cmd. 5507, 1937), the "Memorandum on Clause 6 of the Finance Bill, 1936" (Cmd. 5201, 1936) (concerning the steel tariff), &c. Relevant legislation includes the Cotton Spinning Industry Act of 1936, the Cotton Industry Re-

organization Act of 1939, the Coal Act of 1938, the Sugar Industry Reorganization Act of 1936, and numerous other enactments.

Regarding government sponsored international cartels in which British producers participated, data can also be found in British Government papers dealing with the respective agreements. In addition to the familiar cases of rubber, tin, tea, &c., the international regulation of whaling (Cmd. 5757 and 5827, 1938) deserves mention as a new type of production control.

Economic concentration developed during the 1920s largely in a haphazard manner. It developed as and when conditions permitted. During the 1930s two major changes occurred, both of which propelled industry further in the direction of concentration and coordination.

First was the adoption of protectionist foreign trade policies. England adopted a full-fledged protectionist tariff in 1932. At the Ottawa Conference in the same year, moreover, a system of Imperial preference was established which went far to guarantee the Imperial market for British manufactured products. Having become a protectionist country, England enabled a number of her industries, in which previously the absence of a tariff enforced some measure of competition, to reduce their competitive activities.

The tariff rates imposed in 1932 were: a blanket 10% ad valorem on imports, excepting raw materials on the free list, and manufactures. The latter were mostly taxed at 20%, furs and jewelry at 30%, iron and steel products at 33⅓%. An Import Duties Advisory Committee was also formed to advise the Treasury on tariff questions. The Committee interpreted its task as essentially protective and

has advised the Treasury accordingly in most cases. The Treasury has tended to follow the advice it received.

The second major development was the gradual realization that cartels, trusts, and other forms of industrial agreements and mergers are helpful tools of national policy. Compulsory cartelization was attempted in cotton spinning, coal, and steel, among others. The British Government took an active interest in the international steel cartel negotiations, it made tariff and quota protection of the industry conditional on rationalization and reorganization, it backed the numerous international commodity agreements that involved British Empire producers.

The British Iron and Steel Federation was first organized under a slightly different name in 1934. The full history of the cartelization of the steel industry is so well written up in the literature that it is probably not worth reviewing here in detail. (Hexner, op. cit., Burn, op. cit.)

The Sugar Industry Reorganization Act of 1936 enacted a compulsory merger of all beet sugar manufacturing companies in the British Sugar Corporation, Ltd., which was to be privately owned and was allowed a maximum 7% dividend on its common stock. It was also during this period that the Federation of British Industries became a major power in Great Britain.

The Federation of British Industries published an undated pamphlet entitled "Industry and Action", quoted in Robert A. Brady: "Business as a System of Power", Columbia University Press, 1943 (p. 177), in which the Federation boasted of its influence on British fiscal policy and commercial policy. The influence of the Federation on import duties, and its success as a channel of consultation with the government in commercial treaty negotiations, are particularly emphasized.

The extensive business affiliations of Conservative members of Parliament and the resultant possibilities of combination to exclude imports and to promote cartelization are emphasized by Brady and also by Simon Haxey's "Tory M. P.", London, 1939. The latter showed, among other evidence, that the 181 Conservative members of Parliament who held company directorships held no less than 775 such directorships. This did not include directorships previously held by members of Cabinet, who, according to British custom, resigned all corporate affiliations when they entered the Cabinet. The book also brought out the fact that the vice president of the Federation of British Industries, Sir Patrick Hannon, was also a member of Parliament.

With the German example before their eyes, British Government officials and corporation executives became increasingly aware of the advantages to the execution of national policies that could be derived from well-functioning industrial organization.

Advantages and disadvantages in international trade have an exceptionally voluminous literature in England going back to the early seventeenth century. The economic literature of no country pays as much attention as does the British to the "terms of trade", *i. e.*, to the relationship of export prices to import prices. Methods of making the terms of trade favorable to England and to the colonies received a great deal of study. The advantages of selling at monopoly prices and buying at competitive prices did not go unobserved.

They saw that monopolistic agreements among raw materials producers were a very effective way to increase the total proceeds of exports, and the total revenues accruing therefrom both to the producing interests and to the na-

tional economy as a whole. These considerations were powerful in the formation of raw materials cartels throughout the British Empire, such as the rubber cartel, the tin cartel, and numerous other agreements among British Empire producers.

They also became aware of the advantages of regulating trade and payments relations between England and foreign nations on a comprehensive basis, in which regulations organized trade played a considerable part.

Among the first of such English payments agreements was the one negotiated with Argentina in 1933, the so-called Roca-Runciman Agreement. There were a number of subsequent agreements before 1939. A whole network of them was put into operation quickly after the outbreak of the war. The most interesting such agreements were those reached with Germany, first the several payments agreements, and, early in 1939, after Munich, an agreement between British and German industrialists, concluded at Dusseldorf, but never ratified because of the outbreak of the war, virtually amounting to a division of world markets between German and British industry on a non-competitive basis.

The Dusseldorf Agreement is reviewed in the Report of the Kilgore Committee (Subcommittee on War Mobilization of the Committee on Military Affairs, United States Senate; 78th Congress, 2nd Session), Part I, page 7. A list of both English payments agreements and special import regulations can be found in "Trade Regulations & Commercial Policy of the United Kingdom", previously quoted.

5. The Future

While it is obviously dangerous to make prophecies, current indications are unanimously in the direction of

cartelization in the post-war organization of British industry.

Attorney General Biddle is reported by the Associated Press to have said, on January 24, 1945, that England will seek to keep the markets she now has, frustrating, through cartels if possible, American attempts to expand into those markets. "The countries who undoubtedly are behind the cartel movement are England and Belgium and most of the other European nations, but primarily England because England is in a position where she is afraid of American competition." (Wall Street Journal, January 25, 1945)

An interesting article by Mr. Geoffrey Crowther, editor of The Economist, in the latest issue of the Yale Review, Winter 1945, points in a similar direction. The British delegation to the International Chamber of Commerce Conference at Rye, New York, in November 1944 clearly indicated that this was its position. As early as December 1942 the Commission to study the Organization of Peace (8 West Fortieth Street, New York) published a study of "British Business Associations on Post-war Reconstruction" which even then strongly indicated this much. British Government action has hitherto not given any signs of reversing the previous trend towards government-encouraged cartelization of private industry. Indeed, all its actions towards post-war planning and reconversion planning indicate that it expects to pursue a vigorous policy of intervention in economic affairs. Integration of industries in cartel forms is an inevitable concomitant to such a policy, short of outright nationalization.

In other words, tight organization of British industry, which has been forged for purposes of the war economy, is not going to be abandoned in favor of a freely competitive

system after the war. On the contrary, it seems that the British Government will take an active part in the leadership of the industrial combination movement. The policy will be one of active government participation in business, including participation in and cooperation with industrial combinations, rather than one of checking and controlling them from the outside. In this respect the antithesis drawn by Crowther in his recent article is revealing. The real purport of the article is that complete socialization of specified activities, and governmental responsibility for them, are preferable to government interference by bureaucratic control from the outside.

". . . There are two ways of combining governmental direction with individual enterprise; the marriage may be happy or unhappy. The unhappy alternative is the negative method of 'control'. This is the infertile compromise to which countries are driven that recognize the necessity for some intervention by the government and yet shy away from the brutal logic—and the difficult political problems—of socialism. It is the infertile compromise to which both the American and British democracies have had increasing recourse since the First World War—that of leaving the business man with all the initiative and responsibility, with the obligation of covering his costs and satisfying his creditors, but burdening him with any number of prohibitions, restrictions, and controls. This is the bureaucrat's paradise. He carries no real responsibility; he has no pay roll to meet and no shareholders to confront. But his permission has to be sought, his rules have to be observed, his day-long questionnaires have to be filled out. It is a negative system; for while both the business man and the bureaucrat have to be in agreement before a new enterprise can be inaugurated, either one can prevent it.

"The second alternative method of combining government and business is the positive one. Its weapon is organization rather than control. Where public policy requires the intervention of the government in some economic situation, this method would have the government itself assume the initiative and the responsibility, instead of attempting to control the actions of others without assuming their burdens. . . ." (The Yale Review, Winter 1945, p. 221)

II. The Organization of German Industry

1. Before 1914

The literature relating to the organization of individual German industries is enormous and even the literature relating to the concentration movement in German industry is vast. The bulk of this output is, however, largely hidden in German scientific periodicals and doctoral dissertations, in the writings of the so-called historical school of German economists headed by Professor Schmoller of the University of Berlin; and in the works of economic historians like Werner Sombart. The most important official publication relating to the early period of cartelization is the Bericht Ueber Kartellwesen published in Berlin in 1905. Among the more accessible sources are Francis Walker: "Monopolistic Combinations in the German Coal Industry", American Economic Association, 1904; W. F. Bruck: "Social and Economic History of Germany from William II to Hitler, 1888-1938", Oxford University Press, 1938; Alfred Marshall: "Industry and Trade", Cambridge University Press, 1919; Hermann Levy: "Industrial Germany", Cambridge University Press, 1935; Robert Liefmann: "Cartels, Concerns and Trusts", New York, 1932; as well as English and American literature discussing the history of international cartels.

The economic history of German monopolies goes back to privileges granted in the eighteenth century. These monopolies granted by edict disappeared in the course of the nineteenth century, but there does not appear to have existed great popular hostility against them.

The modern industrial development of Germany began with the wars waged for the unification of the Reich (1864, 1866, 1870-71), much as the modern industrial development of the United States dates from the Civil War. The new industries of Germany grew from 1870 to 1914 at a pace that was second only to the growth of industry in the United States. These industries developed in the form of large-scale enterprise, the largest outside the United States.

The occasional cyclical interruptions to this rapid growth promoted further mergers and cartelization in the industries affected. German industry became a leader of the movement towards industrial concentration. This movement was not wholly unopposed, but the opposition was on the whole quite ineffective. Even Socialist opposition was largely restricted to the capitalistic features of concentration rather than aimed at the idea of concentration itself.

The technological advantages of large-scale organization were clearly realized and well appreciated in a nation of technicians, such as the Germans increasingly became. Moreover, there being no well-entrenched ideological free competition tradition in the many small German states that eventually made up the Empire, this concentration movement had no major political obstacles to overcome. In fact, from the viewpoint of national policy industrial concentration was something of an advantage. It permitted a stabler, more even, and more calculable rate of growth at a time

when the politically controlling elements of the Reich were intensely preoccupied with the political and military power position of the country.

Supervision of mergers and cartels was spasmodic and largely unofficial, though a Parliamentary commission conducted a fairly extensive investigation into the cartelization of industry in 1903-04.

2. War and Inflation: 1914-1923

The frightful economic strains of the First World War accelerated the concentration movement in German industry. They resulted, under the direction of Walter Rathenau, then Minister of Economics, in the first comprehensive plan for the direction of an economy for the purposes of total war. (See H. Kessler: "Walter Rathenau", London, 1929, Chapters 8 and 9.) This integration of the German economy for war purposes was, however, rapidly forgotten as soon as the war was over.

The first socialist government of the Weimar Republic had ambitious plans for the socialization of the economy. These found their most interesting expression in the work of W. von Moellendorff, the Permanent Secretary of State in the Ministry of Economics (see Bruck, op. cit., pages 157-162). He is considered the wartime originator of the concept of a planned economy. His plans were unanimously rejected by the Cabinet in 1919 because they were considered too bold, but his spiritual influence remained considerable and had an effect on subsequent developments in Germany.

Problems of industrial organization were very acute during the four years of post-war inflation. These years were, however, a period of such economic turmoil that their

influence on subsequent development was more of a deterrent than otherwise. Many huge mergers took place during this time, often on a purely speculative basis, and most of them had to be undone or recapitalized after the stabilization of the currency.

Inflationary conditions had a disruptive effect on existing cartel agreements. It was patently impossible to exercise rational price and sales control in times of wild currency inflation and material shortages. On the whole, few lessons of any significance could be derived from a detailed account of the futile attempts that were made to organise German production and marketing during inflation.

3. The Liberal Regulation of Cartels: 1923-1933

The literature of German cartelization during the 1920s is extremely voluminous. In addition to the general sources previously listed (Liefmann, op. cit., Bruck, op. cit., Hexner, op. cit., Hermann Levy, op. cit.) periodicals like the Kartell Rundschau and the Weltwirtschaftliches Archiv cover innumerable phases of the evolution of cartelization. The League of Nations published an important set of relevant documents partly in preparation for and partly as a sequel to the World Economic Conference in 1927, which contain a substantial amount of information on German cartelization. An impressive amount of material specifically on cartels was published by the German Parliamentary Commission delegated to study the cartel question, the so-called Enquete-Ausschuss. This series of documents is briefly reviewed in Temporary National Economic Committee Monograph No. 40. H. Wagenfuhr: "Kartelle in Deutschland", Nurnberg, 1931, is in many respects a useful compilation. See also Arnold Wolfers: "Das Kartellproblem im Lichte der deutschen Kartell-Literatur", Munich, 1930.

The liberal governments of the post-war era recognized the national problem that lay hidden in the cartel system. The first Kartellverordnung was issued in 1923. It gave cartels a well-defined legal status and placed them under government supervision. The text of this cartel ordinance is reprinted in Robert Liefmann, op. cit., page 351 and subs. and discussed ibid. page 168.

Temporary National Economic Committee Monograph No. 40, page 39, contains an interesting tabulation of the estimated number of German cartels at various times, which is reproduced below. The author points out that it is frequently difficult to distinguish between a cartel and a harmless trade association and that consequently the estimates are none too accurate.

Year	Number	Estimated by—
1865	4	Sombart
1875	8	Sombart
1887	70	Philippovich
1888	75	Philippovich
1889	106	Philippovich
1890	117	Sombart
1895	143	Bücher
1896	250	Sombart
1900	300	Central Ass'n. of German Industry
1905	385	Government Enquete
1911	550-600	Tschierschky
1922	1,000	Liefmann
1924	1,500	Reich Ass'n. of German Industry
1925	2,500	Government
1930	2,100	Wagenfuhr

Unfortunately the number of cartels is no indication of the extent of their coverage of the German economy; it is,

however, well known that in all major German industries extensive agreements existed, regulating competitive practices, allocating outputs and markets.

German thinking viewed agreements among independent competitors as a phenomenon distinct from the general movement towards industrial concentration. This was reflected primarily in a state-as-policeman attitude, leading to solutions of the cartel problem by purely formal tests applied in judicial and administrative regulation.

After 1923 there were two factors that acted powerfully in the direction of increasing the economic concentration of German industry. One was the need for new capital for industrial reconstruction and modernization. The other was the disruption of the structure of both production and marketing that resulted from the First World War.

With respect to the former, the shattered condition in which German industry emerged from the First World War was the major factor. Machinery was worn out, repairs had been neglected for years, and the financial position of most enterprises was unsound, owing to the rapid progress of inflation. Inflation itself and the ability to finance plant expansion with paper money promoted the process of physical reconstruction up to a point. It stimulated, however, an unplanned, widely competitive overbuilding of industrial plant, regardless of its post-inflation costs of operation and future uses, merely as a matter of flight from the depreciating currency.

Moreover, when stabilization came, the working capital position of the whole German economy was found to be woefully inadequate. Both cash and inventories, especially inventories of imported raw materials, had been squandered

during the war and inflation. Large new liquid capital resources had to be found. Especially in view of the heavy reparations burdens imposed on the German economy it was essential to attract new foreign capital investment. Such foreign capital was, however, only obtainable on well-founded prospects of profits and would not have been available to industries in which conditions of cut-throat competition prevailed. In the absence of legal obstacles to mergers and cartel agreements, these financial requirements were alone sufficient to give powerful impetus for a tight organization of German industry.

Added to this there was a second, and, in the long run, probably even more important incentive—the disruption of productive and marketing processes due to the loss of the First World War.

For instance, the Ruhr steel industry relied heavily on Lorraine iron ore and shipped coal into the Lorraine in return. This two-way traffic was interrupted by the return of the Lorraine to France (see Weltwirtschaftliches Archiv, April 1927). A somewhat similar cleavage occurred in the Silesian coal and steel industry, which was partly given to Poland. Lastly, the breakup of the Hapsburg Empire created six small nations where there had been one large economic area before. This broke up trade interchange into completely unfamiliar and in many respects unworkable patterns.

International cartelization was thought to be the one effective solution of the problems so created. French economic interests were among the most powerful promoters of international cartelization in the interests of post-war international economic collaboration and a return to stable conditions required for a durable peace.

A conference to discuss problems of the post-war economic organization of Europe is believed to have been first proposed by Mr. Jouhaux, the French labor leader, in 1924. Mr. Louis Loucheur, a leading French industrialist and a Cabinet member of several French governments, proposed such a conference officially at the League of Nations Assembly of September 1925. He more than anybody else was responsible for the eventual convocation of the World Economic Conference held by the League of Nations in 1927. One of the objectives of this Conference was to attempt to create order out of chaos, to attempt systematic economic reconstruction by the coordination of European industries and the rational organization of their mutual trade.

Even before the World Economic Conference French and German steel makers were able to conclude agreements. (See Hexner, op. cit., p. 220.) A large number of cartels sprang up also among the industries of the successor states, as well as between the successor state industries and German industries.

In July 1930 the government issued a second executive order to regulate cartels, which revised and strengthened the ordinance of 1923 in the light of subsequent experience.

The network of national and international cartels that was created during the 1920s was subjected to violent strain after Germany's foreign exchange difficulties in 1931, which will be discussed in a separate section below. Since, however, the central position of the German economy on the Continent of Europe remained unaffected, all that was necessary, and indeed possible, was to readjust the cartel agreements to the changed conditions. These readjustments, however, did not occur under the old Kartellverordnung any more. The depression washed away the founda-

tions of the liberal capitalistic reconstruction of Europe that was attempted during the twenties.

4. After 1933: Compulsory Cartelization

The source material with regard to the Nazi reorganization of the German economy is described in Fritz Weike's "Der Aufbau der Gewerblichen Wirtschaft", Berlin, 1935, which prints the texts of the relevant laws and regulations to the end of 1935. Other sources are Hans E. Priester: "Das Deutsche Wirtschaftswunder", Amsterdam, 1936; the "Jahrbuch der Nationalsozialistischen Wirtschaft", Munich, 1937; Fritz Haussmann: "Konzerne und Kartelle im Zeichen der 'Wirtschaftslenkung'", Zurich-Leipzig, 1938; and "Die wirtschaftliche Konzentration an ihrer Schicksalswende", Basel, 1940.

Much of the voluminous American literature on German industrial organization under the Nazis tends to project backwards the phenomena of Nazification. This obscures the revolutionary character of the Nazi movement and the revolutionary nature of the changes it has caused in German economic organization.

The advent of the Nazis to power created a radically new situation. They first resorted to deficit spending, on a scale never previously attempted in peacetime, for the purpose of reemployment. Presently they converted their reemployment expenditures into rearmament expenditures, and proceeded to integrate the whole German economy in the service of this rearmament effort.

On July 15, 1933, they issued a new cartel decree establishing the right of the Reich to compel cartelization wherever the authorities considered it desirable. By their law for the reorganization of the German economy, issued in

February 1934, they gave themselves authority for the most far-reaching economic reorganization, which authority they then proceeded to use to the full.

In November, 1934, a new cartel order reorganizing the whole German economy was issued. It compulsorily cartelized the whole of German industry, both horizontally and vertically. An industrial supercartel was created, called the Reichsgruppe Industrie, and a whole system of public cartels was fitted into it; the previously existing private cartels had to fit into this system as best they could. The approach of the Nazis towards industry was radically different from that of the liberal Republic which merely concerned itself with the question of how to police cartels. From 1934 on the German Government used German industry and German cartels as instruments of national policy, frequently against the wishes of the industries and industrialists involved, and thus created patterns of economic control that had previously been considered only permissible or even possible in wartime.

In the international sphere this use of German industry for the promotion of what the Nazi Government considered to be Germany's national interest was further complicated by foreign exchange policies also aimed at the promotion of these genuine or supposed national interests of Germany.

The actual evolution of German foreign exchange and trade controls will be discussed below. Suffice it here to say that international trade by German industry was subjected to regulation not only from the viewpoint of overall national policy, but also from the specific angle of providing the national government with foreign exchange resources of the quantity and composition that they thought

they required. As often as not, international cartel agreements of German industry had to be revised to meet government requirements, regardless whether the German companies affected and their managements considered these modifications to be in their or their associates' interests.

Since about 1937 German industry has been wholly dominated by military requirements. What the postwar position of German industry will be, nobody can say; but it is self-evident that a freely competitive industrial structure cannot exist in Germany for decades to come, if ever.

5. I. G. Farben and the Competitive Situation in the German Chemical Industry

"History: Organized under German laws in 1925, as a merger of six German dye and chemical companies, the Badische Anilin-und Soda-Fabrik, the Farbenfabriken vormals Friedr. Bayer & Co. (Elberfelder Farben), the Farbwerke vormals Meister Lucius & Bruning (Hochster Farbwerke), the A. G. fur Anilin-Fabrikation (Agfa), the Chemische Fabrik Griesheim-Elektron, and the Chemische Fabriken vormals Weiler-ter Meer.' These companies, representing the largest chemical and dye producers of Germany, had operated under a 'Community of Interest Agreement' (Interessengemeinschaft) since 1916.

"Merger of these companies was accomplished through absorption of other companies by Badische Anilin-und Soda-Fabrik, on a share for share basis, name of Badische Anilin shares then being changed to I. G. Farbenindustrie A. G. In 1926, I. G. Dyes absorbed the Koln-Rottweil A. G. formerly engaged in the manufacture of hunting and sporting ammunition and explosives and which since the war had converted some of its factories to manufacture of rayon." (Moody's Manual of Investments, 1943, p. 2528.)

The beginnings of what later became the I. G. Farbenindustrie A. G. go back to cartel agreements between large chemical companies shortly after the turn of the century. The original agreements preserved the independence of each constituent company, but contained profit-sharing provisions at least in the case of the 1904 agreement between the Hoechst and the Casella company, and probably in others. (Haussmann, 1938, p. 40) A tighter integration of German chemical enterprises was undertaken in 1916, under the necessities of the First World War; the "community of interest agreement" determined the key according to which the profits of all members were to be distributed.

After 1928 the merged enterprise had a total capitalization in excess of R. M. 1 billion, *i. e.*, over $250 million at the then rates of exchange ($420 million after the devaluation of the dollar).

From the viewpoint of the technical excellence of its management and research operations it was the leading chemical enterprise of the world. The two most spectacular discoveries in the industrial chemistry of the present century, namely, synthetic nitrogen and the hydrogenation process, were both developed in the laboratories of I. G. Farben.

The technological excellence of the research work of I. G. Farben made it a most formidable competitor. Its widespread and well-entrenched sales organization and its comprehensive cartel connections within Germany and throughout Europe gave it an extraordinarily high degree of control over its European markets. It had excellent political connections with the Weimar Republic as long as the Republic lasted; and after the Nazis came into power, it was coordinated with the Nazi system of industrial organization, which meant that it was converted into a vehicle for German power politics. These three factors

made I. G. especially formidable as a competitor to manufacturers of new products seeking markets. Conversely, these same factors of strength in I. G. Farben made it a very desirable ally with respect to developing new products and opening up new markets. Many foreign companies entered into agreements with I. G. Farben and some even established jointly owned production facilities in Germany during the liberal era of the Weimar Republic, when Germany joined the League of Nations and cooperation between Germany and the Western Powers was at its height. (For a list of I. G.'s agreements, see Report of the Kilgore Committee, Part II, pp. 3-35.)

I. G. Farben was not a Nazi company prior to 1933. The most authoritative historian of Nazism prior to 1932, Mr. Konrad Heiden ("Geschichte des Nationalsozialismus; die Karriere einer Idee", Rowohlt, Berlin, 1932), who investigated very carefully the origins of the movement, its sources of funds, and the hidden support it was receiving from various sources, never suggested that I. G. Farben was in any way involved in the Nazi movement. Evidence is, on the other hand, available that I. G. Farben was to some extent involved in politics on the liberal side. It has been said that it subsidized the leading liberal daily of Western Germany, the Frankfurter Zeitung. It was the leading German company in the camp that wanted collaboration with the Western Powers. It even attempted to internationalize its operations and ownership as much as possible. Obviously, after 1933 it was "coordinated" to Nazi aims and methods, like everything and everybody else in Germany.

By contrast, the German heavy industries were undeniably engaged on the Nationalist side in politics. Whether and how far back they subsidized the Nazi movement is

difficult to determine. Konrad Heiden shows that prior to 1930 such help was intermittent; but there is no doubt that the leadership of the steel industry was sympathetic to all nationalistic political movements and often gave such movements financial support.

The economic logic of the contrasting political attitude of I. G. Farben and the heavy industries under the Republic was fairly obvious. The steel industry by and large only had debts abroad and was no doubt delighted at prospects of selling bigger armaments to a nationalistic German Government. I. G. Farbenindustrie, on the other hand, had assets and markets all over the world, including extremely valuable patents. Its highly sophisticated and experienced management could not have been blind to the jeopardy in which these assets would be placed by adventurous foreign policies. After all, its predecessor "community of interests" was the principal victim of the expropriation of German assets and German patents by Allied nations during the First World War.

III. Foreign Exchange Problems

The patterns of national income and expenditure for each country are set by natural resources, technology, previous economic development, and consuming habits. These patterns change very slowly even if the aggregate totals of national income and expenditure show fairly ample fluctuations from year to year.

Expenditure on imports is part of the national expenditure pattern, and as such it is in a very stable relationship to national income. It will rise and fall as national income rises and falls, though in most countries it will tend to go up and down faster. (See "Imports and Income in the United States and Canada" by Imrie de Vegh, Review

of Economic Statistics, Harvard University Press, August 1941, p. 135, chart 3.) It takes major economic dislocations to affect this pattern.

1. The Dollar Shortage

Subsequent to the hectic years immediately following the First World War foreign nations were able to import vast quantities of materials for reconstruction and development purposes, largely financed by loans from the United States. The resultant business activity provided a powerful stimulus to world recovery during the years 1924-29.

Subsequent to 1929 there occurred a drastic reduction in the total supply of dollars available to foreigners. The reduction resulted from the cessation of foreign lending and from the drop in imports into the United States that was caused partly by the beginning of the depression, partly by the Hawley-Smoot Tariff.

Since dollars and sterling were the principal media for the financing of international trade, and sterling itself was endangered by the shortage of dollars that developed, the effects of this dollar shortage on international trade were catastrophic.

In the United States the quantity of imports continued to be closely related to industrial production. Their value declined faster than national income only because of the greater price decline of internationally traded commodities. The quantity of imports into foreign countries dropped disproportionately as compared to their industrial production; and their imports from the United States dropped much faster than their total imports. In other words, under the impact of the world-wide dollar

shortage there was a drastic reduction in the ratio of world trade to world production, and a further reduction in the proportionate share of the United States in total international trade. (See "The United States in the World Economy" by Hal B. Lary, United States Department of Commerce, Bureau of Foreign & Domestic Commerce, Economic Series No. 23, Washington, 1943. Chart 1, table 1, and chart 2.)

The methods by which the use of dollars was restricted in foreign countries were numerous and sophisticated. Their primary objective in each case was to reduce total imports from the United States and to substitute for them either domestic production or at least imports from other sources. Helping to reduce both the dollar shortage and domestic unemployment in one fell swoop was usually the official policy.

2. Sterling Exchange during the Depression

In the United Kingdom the abandonment of the gold standard in September, 1931, immediately made goods from the United States and Germany 33% more expensive and eventually 50% more expensive than they had been prior to the devaluation of the pound. This situation was rectified by the devaluation of the dollar in 1934, but in the meantime, in 1932, Great Britain established a new protective tariff and Imperial preference; she progressively strengthened her economy on bilateral and exclusive patterns, which tended to discriminate against American goods.

"Buy British", by no means a new slogan, received added popularity. The Federation of British Industries and lesser trade associations also made determined efforts to organize British markets so as to present maximum resistance to foreign merchandise. Renewed impetus was

given to cartelization among the exporting industries and raw material producers of the British Empire—whose best customer was the United States—so as to maximize the dollar proceeds of export sales by a monopolistic price policy.

3. German Exchange Problems of the Depression

In Germany the situation in 1930-31 was similar to the English situation, only much worse. The collapse of the German banking system in the spring of 1931 was primarily the consequence of excessive short-term borrowing in London and New York, and to the freezing of the funds so borrowed in loans that became uncollectible after the onset of the world depression.

On July 15, 1931, after all the banks had been closed, a presidential emergency decree was issued regulating commerce in foreign exchange.

The basic principle of the allocation of import exchange was that every enterprise in Germany was entitled to spend on imports an amount of foreign exchange equal to its average monthly foreign exchange expenditures on imports during the period July 1, 1930, through June 30, 1931.

This allocation of import exchange was already far below pre-depression levels, but still very liberal as compared to subsequent restrictions. The shortage of exchange of the German authorities became so serious after the depreciation of the pound sterling in September 1931 that in May 1932 this allocation of import exchange had to be reduced to 50% of the base period maximum.

The depreciation of the dollar in 1933 caused major additional difficulties to the German export trades and thus

reduced further the supply of foreign exchange. Moreover, the Nazi government was intent to build up the war potential of the German economy; the supply of foreign exchange began increasingly to be diverted to the requirements of defense. As a result, beginning in February, 1934, drastic measures became necessary for the further curtailment of ordinary commercial imports. The import exchange quotas to which enterprises were entitled without special license were in very short order reduced from the previous 50% to 5% of the base period level; many imports were altogether prohibited except under license, and foreign trade became partly a tool, partly a weapon, of economic warfare. (See "Die Massnahmen Deutschlands zum Ausgleich der Zahlungsbilanz, mit besonderer Berucksichtigung des Neuen Plans," by Gaston Adolf von Bleichert, Berner Wirtschaftswissenschaftliche Abhandlungen, Vol. 27, Bern, 1940.)

4. Developments After the Devaluation of the Dollar

The dollar shortage ceased to be acute in England after 1934. The combined effect of the protective tariff, Imperial preference, and the raising of the price of gold in the United States (which accrued largely to the benefit of the gold producers of the British Empire) was to ease considerably the foreign exchange situation. Sterling once more became a reasonably safe currency. By then, however, the damage was done. While imports from the United States revived, they never attained previous totals. After 1937 new pressures developed on the dollar resources of England, partly as a result of the renewed slump in the United States, which cut down all our imports, and partly owing to rearmament needs.

On the Continent of Europe and in the non-British world generally the dollar shortage remained acute throughout the nineteen thirties. In the ultimate analysis this dollar shortage was responsible for the abandonment of the gold standard by the three "rich" countries, Holland, Switzerland, and France in 1936, as well as for the maintenance, and (after 1937) renewed intensification of exchange restrictions, in all the "poor" countries. It was this dollar shortage that kept the share of the United States in total world trade lower than it had been in the previous decade.

After a temporary alleviation of the dollar shortage in 1936-37 the slump at the end of 1937 once more intensified the worldwide dollar shortage, when solely due to a drop in our imports we rapidly changed from a small import surplus to a billion dollar a year export surplus.

During the thirties the armaments race became an increasingly important factor in confining more and more to products of military necessity the imports to the Continent of Europe from the United States. The renewed dollar shortage in 1938 further increased the need to restrict the utilization of dollars to the purchase of military necessities.

The import licensing systems and foreign exchange control systems that were in effect in most continental countries over most of the period strongly militated against American exports of products that were directly competitive with domestic products in those countries. Full employment policies as well as foreign exchange considerations both led to import restrictions. Even less good or more expensive domestic products were preferable as long as they did not require dollar exchange, and as long as their domestic production provided additional employment. (See

also Howard S. Ellis: "Exchange Control in Central Europe", Harvard University Press, 1941.)

The Continental European countries were thoroughly cartelized. (See J. W. Reichert: "Die Kartellgesetze der Welt", Berlin, 1935; Fischer-Wagenfuhr: "Kartelle in Europa Ohne Deutschland", Nurnberg, 1929.) Exchange controls suited these cartels and entrenched their control over domestic and neighboring markets. The cumulative effect of dollar shortage, reemployment and rearmament made the Continental European markets virtually impregnable to American products aimed for general consumption.

In view of the factors described, any United States company starting an aggressive policy of exporting to the Continental markets would have faced major obstacles at this time if its products had not been militarily useful. The total volume of exports that could have been sold would have been negligible before restrictions would have been clamped down by these countries, based on considerations of foreign exchange and employment, strongly supported by domestic cartels. Thus there was little incentive for American companies to engage in an export trade whose total proceeds would have been trifling and whose net effect would have been the establishment of lasting bad relations with well-entrenched European interests.

IV. Effects of the Economic Environment

The sweep of industrial concentration through the English and German economies has been paralleled by a similar evolution in virtually all European countries. The question suggests itself whether the cause of so universal—and so universally accepted—a movement can be sheer wickedness, whether there is not an inner logic or necessity

that prompts corporate managements to organize in such patterns and that induces governments to accept this process.

The concentration movement does, in fact, possess considerable inner logic. From the viewpoint of management this logic may be irresistible. From the viewpoint of the public interest it may be compelling in the long run, though not necessarily for short periods or without supervision.

There are two distinct phenomena in the concentration movement. For one of them a good technical term exists, namely, "imperfect competition." The other we shall call, for lack of a universally accepted name, "monopolistic behavior." The distinction between them is profoundly significant.

"Imperfect competition" is a technical term that describes a kind of competition that does not meet the formal tests of "perfect competition," but that, from the viewpoint of behavior, is fully as competitive as so-called "perfect competition." "Monopolistic behavior" is behavior aimed to exclude competition, or to prevent it, or to use economic power or political means for the purpose of destroying competitors.

The forms of competition known in real life are necessarily all "imperfect." This imperfection can vary in degree. Probably the most obvious measure of the degree of imperfection is the number of competitors and the share of the market any small number controls. When the number is very small or a very few control the market, we speak of oligopoly. Other measurements of the degree of imperfection may, however, be more useful at times.

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The degree of imperfection is in no way a criterion of the competitiveness of the competitors. In fact, the "free competition" of the law is descriptive of the "imperfect competition" of the economist. Monopolistic behavior, on the other hand, connotes kinds of destructive action that may be taken by competitors at almost any degree of imperfection. The higher degrees of imperfection often make it easier for rivals to behave in such a manner, but this is not necessarily so. Nothing could be less helpful than to imagine that there exists not only a continuous shading from "perfect competition" through "monopolistic" or "imperfect" competition to total monopoly, but also a *parallel* shading from competitive to monopolistic behavior.

1. Imperfect Competition

It has been increasingly recognized in recent economic literature that neither the perfect monopoly nor the perfect competition of the theoretician, nor any reasonable approximation to them, has ever existed, or can exist in modern industry. Competition has always been, and can only be, "imperfect." (Joan Robinson: "The Economics of Imperfect Competition", Macmillan, London, 1933; Edward Chamberlin: "The Theory of Monopolistic Competition", Harvard University Press, 1933; A. R. Burns: "The Decline of Competition", McGraw-Hill, New York, 1936.)

Perfect competition as defined by the economist is a timeless concept in which price is determined by the costs of the most expensive producer still needed to satisfy the demand that exists at that price. If the price were higher, the demand would be less than the larger amount offered at that higher price. If the price were lower, the amount that could be offered would be insufficient to meet the greater demand. In describing such a perfectly competitive market

the theoretician carefully postulates homogeneity of product, continuous market, perfect knowledge, perfect mobility of the factors of production, perfect independence of the participants, and such a size distribution of buyers and sellers that the market price is given for any one of them, *i. e.*, no action taken by any single one or small group could have any effect on the price.

It will be appreciated why these conditions cannot exist in the mining, manufacturing, and service industries. It takes time to get factors of production into or out of industry; sometimes it takes a very long time. This in itself makes nonsense of the stipulation of a perfect mobility of the factors of production. Knowledge of the market is also restricted; but that is less important than the size distribution of the buyers and sellers. The efficiencies of large-scale production are usually so decisive over handicraft operation that most manufacturing cannot be conducted on a small scale except at a prohibitive cost to the consumer. Large-scale manufacturing implies that only a relatively small number of producers can exist concurrently and that the action of any one of them is likely to have a substantial effect on the market.

This inevitable technological factor removes the automatism with respect to price that the theoretician imputes to perfect competition. It does not mean, however, that imperfect competition is necessarily less competitive than perfect competition. Highly imperfect competition may be so, contrary to what is generally recognized as "monopolistic" as to be competitively far more violent than market situations much less imperfect.

The reason for this is relatively simple. Since it takes time to get into and out of an industry, there must exist most

of the time excess capacity in every industry requiring large plant investment. This follows from the fact of industrial fluctuations. If additional capacity is built in an industry during a boom,—and it is the nature of booms that additional industrial capacity is built while they are in progress,—then during the ensuing recession and for indeterminate periods thereafter that industry will necessarily have excess capacity. This excess capacity can be called into production at the will of the owner. It would pay the owner to utilize his excess capacity as long as the price of the products stays above prime costs. His depreciation charge would run on whether he operated his factory or not; and if he operated it, he would amortize some part of his depreciation charge provided he attained a price above prime costs. Consequently, in industries suffering from over-capacity there is a tendency to price wars. Price wars bring prices below the levels that would prevail under conditions of "perfect" competition. They destroy capital values. Occasionally prices are pushed below prime costs in order to preserve the goodwill of the business.

Excess capacity in an industry sometimes rests on the market for a very long time, because the extreme durability of capital goods prevents healthy competitive conditions from developing. This is harmful not only to the industry primarily affected, but also to capital goods industries, because no new machinery can be introduced into the over-built industry until the old machinery has completely obsolesced. In a capitalist economy prolonged cycles of unemployment in capital goods industries are an inevitable consequence of booms and of the durability of capital goods.

Young industries, small enterprises, and highly specialized enterprises are highly vulnerable to the demoralizing

effects of imperfect competition. They can come into being only if their costs of production are lower than those of existing firms; the cost advantages of mass production have to be assumed to have been offset by special skills. Their risks consist partly in their inability to compete with their larger competitors with respect to selling and overhead costs and partly in their lack of diversification.

The larger the firm, the more efficient its sales effort can be. Large corporate enterprise, controlling several plants, possibly in several sections of an industry, derives tremendous competitive cost advantages from being able to distribute its overhead over a variety of products and over greater areas than a small enterprise could. It also derives great competitive advantages from a diversification of its production: each product helps to advertise the name of the enterprise; booms and slumps will not hit every line of business at exactly the same time; nor are the long-term trends of various lines of its business by any means likely to parallel each other. Consequently, new discoveries, new fashions, even cyclical fluctuations are far more dangerous to a small single-product enterprise than to diversified businesses.

The imperfections of competition and the hazards they create for various types of enterprise put a premium on large units and large-scale diversification of corporate enterprise. In the interests of a better diversification of risks, of a wider distribution of overhead costs, of a better resistance to the competitive struggle,—in other words, in the interest of self-preservation,—small enterprise is forced to try to become big, by merger if not by growth. The reduction of competitive hazards consists in the stronger control the more diversified, larger enterprise can exercise over its own fate.

While larger size does not mean reduced competitiveness, defensive measures against the hazards of the competitive struggle invariably tend to increase what we have termed the imperfections of competition. Agreements with other enterprises are the minimum means available to small enterprise to obtain the benefits of bigness without sacrificing identity.

The problems of over-capacity or lack of organization lead to efforts to stabilize business and to create more favorable growth conditions by cooperative action. Failing these, the difficulties may become so extreme that agreements and even legislation to restrain competition may be necessary. We have seen numerous British efforts along such lines. Public policy in the United States has recognized this need in the cases of the export trades, agriculture, coal mining, air transportation, shipping, marine insurance, petroleum, railroads, and labor.

2. Monopolistic Behavior

Monopolistic behavior may be defined as the use of destructive methods of competition or attempts at exclusion from competition. As we have seen, combination is occasionally forced upon producers by the extreme dangers resulting from imperfections of competition. At other times deliberate restraints are imposed by certain producers or groups of producers for no other reason than that they have the power to do so; these are different in character from steps merely changing the degree or the impact of imperfections of competition. They are especially frequently applied against competition from abroad.

The concept of monopoly as such is a singularly awkward one. "Perfect monopoly" does not and cannot exist any more than perfect competition can. Every monopoly

is rigidly hemmed in by the availability of an ever increasing number of substitutes. Conversely, within a very narrow limit, almost every enterprise is a quasi-monopoly. The relevant issue is not whether an enterprise is big or small in itself, nor even whether it controls a large percentage of a given market, or even the entire production of a single homogeneous commodity, but whether its conduct is such as to be in the public interest.

Truly fair competitive conduct is difficult enough to enforce in the United States, where the long tradition of antitrust prosecutions has established—albeit haltingly and with many contradictions—what type of conduct is competitive and what type of conduct imposes restraints that are deemed unreasonable. In foreign countries, where no such tradition exists, regulation of the competitive—or monopolistic—behavior of enterprise is managed on a different level.

Well-entrenched large enterprises and cartels abroad use any and every method to prevent new competition from entering what they have come to consider their own reserved territory. In many, if not most, countries of the world, domestic industry is strongly favored against foreign competition. In many countries industry is heavily or even systematically cartelized. Practices classed as unfair or monopolistic in the United States, and accordingly subject to prosecution, are considered entirely fair and proper in the legal systems and business mores of the rest of the world. Cartelization is an accepted phenomenon. A substantial proportion of the industrial production of the world is controlled by monopolistic combinations of one form or another.

In countries where monopolistic combinations are allowed or even encouraged, they are often able not only to control domestic production but also to exercise influence over the foreign trade policies of their own governments. Increasingly they have become instruments for the execution of national policies.

A new competitor, especially a new foreign competitor, may not claim entry into such controlled markets as a matter of right. Unless he comes to terms with existing combinations, he is unlikely to be able to develop a substantial business.

3. Effects of the Combination Movement

For young industries, for new developments, there exists not only a substantial incentive but an unavoidable need to seek, first, substantial financial backing, and, second, a working arrangement with leading local interests in each country.

The first purpose of such arrangements is to secure entry. The second is to secure the most rapid development possible for the new product, unhampered by attempts at exclusion and other similar practices of entrenched organizations.

Owners of incomplete sets of patents are especially vulnerable to competition from owners of other groups of similarly incomplete patents. The hazards of patent litigation are always present, especially if one group of patentees has resources adequate to finance prolonged litigation. Moreover, if two sets of incomplete patents are used competitively, the development of the new product is likely to be much slower, less efficient; and the hazards of capital

losses and misdirections of investment are likely to be much greater than if patent rights and technical information are exchanged. To that extent a reduction of potential competition among rival patent owners eliminates one of the more obvious wastes of imperfect competition.

It should be realized in this connection that though a patent confers a monopoly it does so in law only.

In the first place, new inventions are frequently developed more or less simultaneously by several inventors working in the field. Thus incomplete sets of patents or processes frequently become complementary and one is not particularly useful without the other. Even independent new inventions often obtain greatly enhanced usefulness by being put into operation jointly. Cross-licensing may be the best means of exploiting them, the best means to get the new product to the consuming public promptly and at the lowest possible price.

In the second place, even patent exchanges made for the speeding up of the development and commercial exploitation of new inventions seldom result in a real monopoly. Competition of slightly different products that are in practice substitutes for each other prevents or at least restricts and limits effectively the operations of a patent monopoly. To quote John Maurice Clark: "As to substitution it is a commonplace that the triumphs of modern industrial chemistry have vastly increased its range and flexibility. . . . . It seems that the differences between substitute products . . . . are nowadays no more serious than similar differences between different varieties of what we think of as the 'same' product. . . . ." ("Toward a

Concept of Workable Competition", American Economic Review, June 1940, p. 247.)

In other words, even if a group of patents constitutes a complete world monopoly, as long as there exist adequate substitutes for the product it will be sold in a competitive market. In this market all producers of substitutes will make every effort to maintain their position and to preserve the value of their assets. As long as there is no understanding between producers of the new product and its substitutes, the limitations to the monopoly of the patentee are fully as real as those of almost any manifestly competitive producer. After all, it is obvious that almost any purveyor of almost anything is a near-monopolist with respect to certain rigidly defined markets; hardly any monopoly is ever more complete than that of the village store.

Under the conditions of the interwar period, owners of patents, and especially owners of rival sets of patents in different countries, had no genuine alternative to a network of agreements.

4. The Combination Movement and the Public

With respect to the advantages or disadvantages to the public, it is necessary to distinguish between development products and those already fully developed.

Development products are more likely to reach the public in quantity if the development is organized and in strong hands than if it is weakly promoted on an individualistic, free-for-all basis. Dependent on the nearness of substitutes, and on the rate of progress in solving cost problems, even the pricing of the development products can only seldom be exploitative.

Fully developed products present a slightly more complex case.

The consumer often benefits temporarily from the very sickness that besets an industry, from the fact that producers selling their product below total replacement cost are giving him, as it were, a small piece of their assets as a bonus with each purchase. But in the long run the public is hurt both by the violent and irregular replacement cycles of capital assets that develop if cut-throat competition prevails over a large enough segment of industry, and by the high prices that have to be paid for years in order to induce new capital investment in unstable industries.

Moreover, the direct protection of the consumer is not the only concern; the wastes of imperfect competition of the cut-throat variety should be measured in terms of losses to investors and wage earners, as well as to the consumer, all of whom would probably receive more, and with greater assurance, if imperfections of competition did not retard industrial progress.

As mentioned before, the trait of modern industry discussed in the present section is usually referred to as oligopolistic, to express the small number of firms that control each industry. This oligopolistic character creates social, political, and economic problems for the oligopolists themselves. The great instability and competitive hazards of imperfect competition impel towards concentration, mergers, ever larger enterprises. The large units into which industry is organized obtain, by their very size and diversification, a certain degree of stability in output, employment, and revenues. At the same time their size exposes them

to envy, and to much closer scrutiny, than if they were less conspicuous. For this reason, if for no other, higher reasons, they have social responsibilities with respect to giving the public the maximum supply at the lowest possible cost. They also have a responsibility towards their own employees with respect to affording stability of employment, and to their stockholders with respect to not squandering their assets by waging purposeless economic warfare among themselves.

The final section of the present survey presents an outline of how the public interest can best be served in United States foreign trade, in the light of the findings of the foregoing discussion with respect to the organization of industry abroad and oligopolistic tendencies in general.

V. American Business Operations Abroad

There are three types of business operations in which American corporations may engage internationally: (1) exports, (2) imports, (3) production abroad. Production abroad may take place by wholly-owned subsidiaries, by partly owned foreign enterprise, or by licensing enterprise wholly owned by foreigners.

Each of these possible methods of operation has its own advantages and disadvantages as well as its own rules of conduct.

1. Exports

With respect to exports the situation is seemingly unambiguous, but actually major national issues are involved.

Three of these issues usually occupy the foreground of discussions.

(a) First in importance in American discussions is usually the quantity of exports. Possibly as a result of the country having been a debtor country after the Civil War, we seem to have been highly conscious of the economic advantages of paying off debt, and stimulating employment at the same time, by a high level of exports. Whatever the reason, the American approach seems to have been that from a national point of view a high level of exports was very desirable.

As we became more and more an exporter of manufactured products, fierce competition tended to develop in third markets to which both American and European industries tried to export their products. Fierce competition by local producers and efforts at the exclusion of the American product became increasingly frequent also in national markets that American producers tried at various times to invade.

More recently, foreign governments have used tariff increases to force American exporters to build up manufacturing production within the foreign frontiers, first by transferring finishing operations, and then increasingly by fabricating locally the products previously exported from the United States.

(b) In recognition of the problems created by the competitive situation in export markets, the Webb-Pomerene Act of 1918 permitted the formation of export associations, and to that extent exempted the export trade from provisions of the antitrust laws. Producers may cooperate in controlling prices and sales in the export trade without any limitation upon their activities, provided the domestic prices of the commodities concerned remain unaffected. As Arthur R. Burns remarks ("The Decline of Competition",

New York, 1936): ". . . the full significance of this proviso has never become evident." (p. 21)

With respect to the national interest in foreign trade, the Webb-Pomerene Act clearly envisaged that, where United States exporters are competing against foreign interests, it would be an advantage to them, and consequently of benefit to the total national economy, if they strengthened their bargaining position by acting collectively. The economic logic of that position is that it improves the terms of trade for the United States; that is to say, it tends to make the unit price of American exports higher as compared to the unit price of American imports, though it is not obvious that the legislators of 1918 saw this aspect of the matter at all clearly.

Moreover, the Department of Justice issued a ruling in 1924, in connection with the silver cartel, saying that it is legal for a Webb Association to join in an agreement with foreign cartels, provided other American exporters are not discriminated against and any effect on the domestic price is only incidental. (See Temporary National Economic Committee Monograph No. 6, pp. 124-8.)

Good reasons exist in support of this position. It is clearly not in the national interest to force exporters to compete singly against well organized, well entrenched, and government-sanctioned cartels abroad, nor for American exporters to be forced to compete against each other for orders from buying monopolies and cartels abroad. The result of such competition can only be that the prices we obtain for our exports will decline as compared to the prices we have to pay for our imports.

(c) A further problem often arises in connection with patented processes and products. When they are licensed

by Americans to foreigners, or vice versa, an attempt is frequently made to restrict the right of the American patent owner or patent licensee to export to foreign countries. The legal aspects of such restrictions are outside the scope of the present memorandum.

2. Imports

To the extent that American corporations are importers of foreign products, or processors of foreign raw materials, their interest is to buy at the lowest possible price. To the extent that they are producers of products that are competitive with potential imports, their interest lies in having tariff protection and other legal means to reduce the threat of foreign competition.

The legal aspects of geographical limitations on the use of patents by foreign licensees of American corporations are outside the scope of this memorandum. Their economic aspects present a difficult problem of economic policy. If a foreign licensee or a foreign company partly owned by an American company can produce more cheaply than the American owner of the patents, why should not the American consumer be allowed to benefit from the lower foreign costs?

The obvious answer that this low-cost foreign competition reduces employment in the United States does not hold water; from that angle a geographically restricted license is no less than a privately imposed tariff of prohibitive height. Let Congress decide whether the low foreign cost should be offset by tariff protection.

There is, however, another aspect to this question. If territorial limitations were impossible, self protection would prevent American corporations from licensing foreign cor-

porations that have lower costs. This would hardly be in the interests of anyone.

Even here there is a difference between a new development and an established product. In the latter case the burden of proof might rest on one who advocated geographical limitations. In the case of new inventions, however, it is obviously not in our national interest to insist that all licenses granted abroad be unrestricted, if lower foreign costs of production might result in the production of the new product being retarded or stopped in the United States.

3. Production Abroad

American corporations can engage in production abroad directly by wholly-owned subsidiaries or by partly owned foreign enterprise, or indirectly by licensing an enterprise wholly owned by foreigners.

The Webb Act dealt with a period in which American interests abroad were still predominantly export interests. With the worldwide trend towards trade restriction and tariff increases, as well as with the increase in the economic power and foreign assets of the United States, the acquisition or building up of subsidiaries of American corporations engaged in productive operations abroad became an increasingly typical case. It is not possible to make an estimate of how large a percentage of the total foreign business of American corporations took the form of production or processing abroad. The probabilities are that, prior to Lend-Lease, the latter were considerably more important than exports from this country.

The American owner of a wholly-owned foreign subsidiary has been in an increasingly difficult position for

the last ten to fifteen years. The pressure to replace exports from the United States by local facilities was followed, whenever the local facilities were American owned, by a pressure to have the local facilities at least partly locally owned.

A wholly-owned American subsidiary is handicapped with respect to adaptation to local customs, tastes, sales methods. What is worse, it remains a "foreign" enterprise against which local interests can always stir prejudice. Examples abound of discriminatory action against such wholly-owned American subsidiaries abroad.

Partnership with local groups and royalty agreements based on patent licensing are the two ways of forming a community of interests with someone inside the fort. These two methods are the only ways to stay in the foreign business and avoid discrimination directed against "foreign" enterprise. Short of withdrawal from business abroad, they are the only practicable alternatives to a policy of economic aggression from the outside by competitive exports, or to a policy of economic aggression from the inside by wholly-owned subsidiaries.

Foreign nations have demonstrated that they will use every known means to resist these types of economic aggression. In such a fight the enterprise trying to invade foreign territory is always in a weak position. Especially in view of high American wage costs and of the important steps that have been taken in recent years to teach American technology to foreign nations, it is hard to believe that we shall be able to maintain a major position in foreign markets without cooperation with local interests.

Barring "trade" based on open or concealed subsidies, the only further alternative to economic aggression or economic cooperation is a withdrawal from business abroad. Such an ostrich policy of economic isolationism would not only be costly in terms of lost sales and assets, but it would eventually also show up in a slowing down of our technological and economic progress.

Lack of agreement regarding export markets would not only not necessarily result in increased total exports, it might result in less. Small local enterprises would spring up behind each new tariff wall, the cost of production would be higher, and the price to the consumer more erratic. This in turn might mean a failure of the product to be developed properly and to reach the public in quantity, except after considerable delays.

The problem thus resolves itself into deciding what the proper range of agreements and cooperation with local interests should be, and what the effective practical significance of various provisions is on which foreign participants in such agreements usually insist.

4. The Problem of the Future

In a sense, all agreements between potential competitors are cartel agreements. The typical cartel agreement is, however, an understanding in a mature industry, regulating competition among fully developed enterprises. No useful purpose can be served by viewing agreements aimed at the development of new products in the same light as agreements aimed to raise the price of rubber or mercury to the consumer, or agreements aimed to prevent competitive bidding for government contracts.

With respect to the future it is apparent that cartels and other agreements represent the standard forms of organization of foreign business. There is no serious prospect that the Government of the United States will be able unilaterally to force American standards of competition on foreign countries. The latter have developed their own—and in their opinion adequate—methods of dealing with business organization, and they predominantly favor government-supervised cartelization of industry.

The problem is to find a solution that will not force surrender of the foreign business of American corporations, that will afford American corporations a practical means of engaging in business in a cartelized world, and that will not offend the spirit of anti-trust legislation in the United States.

(1)

D. P. Exhibit 1

July 26, 1938

DR. J. E. BOOGE
NEWPORT

SHERWIN-WILLIAMS

In general, you are familiar with the process which Sherwin-Williams are developing to produce TiO2. Sherwin-Williams contemplate purchasing a special grade of ilmenite which runs lower in silica content than the material which we normally receive from India. You have explained that this is caused by the fluorine combining with the silica, and thereby lowering the recovery of this chemical.

Since we are anxious to sell Sherwin-Williams their requirements of ilmenite, we would like to learn whether garnet will be harmful to the same extent as silica. If garnet is an objectionable impurity, then we will have a better opportunity to sell Sherwin-Williams because our competitor, Hopkin-Williams, who produces only the M.K. grade of ilmenite will find it very difficult to reduce the combined garnet and silica content to meet S-W specifications.

Please advise.

Z. PHELPS

ZP/dd

(2)

D. P. Exhibit 2

Letterhead of

THE SHERWIN-WILLIAMS CO.

September 29, 1938.

Mr. Z. Phelps, Asst. General Manager,
E.I. du Pont de Nemours & Company,
Wilmington, Delaware.

Dear Zach:

Thanks a lot for the samples of Ilmenite. We shall test these out carefully in the laboratory and a little later shall take the matter up with you again.

You may rest assured that we shall not contract for our supply without first letting you know.

Very truly yours,

PETE
R. M. ROOSEVELT, Mgr.

RMR:MES.

(3)

D. P. Exhibit 3

COPY

Blind copy to Du Pont London Office
Miss Smith-Office

LETTER No. 2084

September 30, 1938

Travancore Minerals Co., Ltd.,
Aldwych House, Aldwych,
London, W. C. 2, England.

Gentlemen:

We are continuing to contact Sherwin-Williams in the effort to later sell them their requirements of ilmenite.

The fact that this new producer will be a competitor of ours naturally handicaps us somewhat in getting reliable information regarding their future plans. We understand, however, that they have a pilot plant and are actively working on the development of their process for the manufacture of titanium dioxide, and that if this process works out successfully they will then promptly erect a plant to produce this pigment on a commercial scale.

We have again sent Sherwin-Williams samples of your "Q" grade of ilmenite, and attach copy of their letter for your information.

Yours very truly,

Z. P.
Z. PHELPS, Asst. General Manager

ZP/dd

(4)

D. P. Exhibit 4

Blind copy to Du Pont London Office
Miss Smith—Office

November 21, 1938

LETTER No. 2167

Travancore Minerals Co., Ltd.,
Aldwych House, Aldwych,
London, W. C. 2, England.

Gentlemen:

We have advice that Sherwin-Williams are still working to develop their process for manufacturing titanium dioxide and at the present time are working this out on a small pilot unit scale.

They inform us that they will not be in the market to consider the purchase of ilmenite until sometime after February 15, 1939. It is our plan to keep in close touch with them and we will again approach Sherwin-Williams early next year, at which time we hope to be able to advise you more definitely regarding their interest in the purchase of ilmenite.

Yours very truly,

Z. PHELPS, ASST. GENERAL MANAGER

ZP/dd

(5)

D. P. Exhibit 5

FILE COPY

August 27, 1940

Mr. E. E. Ware,
Titanium Division,
The Sherwin-Williams Company,
Gloucester City, New Jersey.

Dear Mr. Ware:

With further reference to our quotation of August 19th on a lot of ilmenite for shipment late this year—

We are most anxious to serve you, and trust that you now have our offer under consideration. I would appreciate very much getting the benefit of your advice as to the next move I should make to sell this ilmenite to your company. If you have definitely decided to purchase ilmenite in the near future, would it be of any assistance for me to discuss this subject with any individuals in your organization?

With kindest regards, I am

Yours very truly,

Z. PHELPS, ASST. GENERAL MANAGER

ZP/dd

P.S.—Should I write to Mr. Davis in Cleveland?

D. P. Exhibit 6

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Incorporated

COPY

April 24, 1939

W. J. O'Brien, Vice President,
American Zirconium Company,
Baltimore, Maryland.

Dear Mr. O'Brien:

In line with our previous correspondence, we confirm the sale of one 6,000 to 7,500 gross ton cargo (buyer's option) of M.K. ilmenite to your company for shipment from Colachel, India, between February 15th and April 15th, 1940.

The price is 22 shillings per gross ton, free alongside steamer, for loading in bulk at the Port of Colachel. The quality of the ilmenite is to be substantially the same as the M.K. material shipped you this season, and is guaranteed to contain not less than 53.75% TiO_2. Any moisture in excess of 1% is to be deducted from the outturn weights (at P.R.R. Canton Pier, Port of Baltimore) on which settlement is to be based. Settlement (in pounds sterling, terms cash) is to be made promptly after the unloading weights and ore analysis are available.

It is understood that the usual type of force majeure clause is to apply since, in event of war or unexpected circumstances beyond the control of both parties, American Zirconium Company may be prevented from receiving all of the ilmenite or du Pont may find it impossible to completely fulfil this contract.

D. P. Exhibit 6

We offer to arrange for your account the chartering of the steamer to move this lot of ilmenite within the shipping period specified. When the freight rate is later established, we will make you an offer on the price per ton for your cargo of ilmenite delivered into open top cars at P.R.R. Canton Pier, Baltimore. We will keep you informed of the ocean freight rates from India, and will naturally obtain your approval before we will charter a vessel to move the ilmenite which you have purchased.

We are sending you this letter in duplicate, and request that you note your acceptance on one copy and return same to us.

With kindest personal regards, I am

Yours very truly,

Z. PHELPS, ASST. GENERAL MANAGER
ZP

ACCEPTED:

(SGD) W. J. O'BRIEN

4180

(8)

D. P. Exhibit 7

FILE COPY

May 23, 1941

W. J. O'Brien, V. P.,
The Glidden Company,
1396 Union Commerce Bldg.,
Cleveland, Ohio.

Dear Mr. O'Brien:

We will appreciate your advising us as to the prospects of your being interested in purchasing any ilmenite for shipment from India during the 1941-42 season.

As has always been the case, we are most interested to quote you on your Indian ilmenite requirements whenever you should be in the market; and trust that you will again give us this opportunity.

With kindest regards, I am

Yours very truly,

Z. Phelps

Z. PHELPS, ASST. GENERAL MANAGER

ZP/dd

(9)

D. P. Exhibit 8

Letterhead of

THE GLIDDEN COMPANY
1396 Union Carbide Building

CLEVELAND, OHIO
May 27, 1941

Mr. Z. Phelps,
Assistant General Manager,
Krebs Pigments Department,
E. I. du Pont de Nemours & Company,
Wilmington, Delaware.

Dear Mr. Phelps:

I am in receipt of your letter of May 23 relative to ilmenite.

In view of the general situation, particularly in regard to shipping, etc., we would not at this time be interested in arranging for shipments of ilmenite from India. We would be very glad to keep in touch with you regarding this situation.

Yours very truly,

W. J. O'BRIEN
Vice President.

WJO'B-B

D. P. Exhibit 9

FILE COPY
BLIND COPIES TO

MISS SMITH—OFFICE.
FOREIGN RELATIONS DEPT.

Incorporated with limited liability
in the State of Delaware, U. S. A.

July 7, 1941.

LETTER No. 3269

Travancore Minerals Co. Ltd.,
2 High Street,
Woking, Surrey, England.

Gentlemen:

We recently approached the Glidden Company and Sherwin-Williams, and now find that neither of them is interested to purchase Indian ilmenite at this time.

They feel that the high ocean freight rate is prohibitive and, that furthermore it is improbable that steamers can be secured to move any of this material. They think that under existing conditions the purchase of Indian ilmenite involves considerable speculation since they have no assurance that the material can be delivered.

We would expect at a later time to have some information as to what arrangements these two companies make in regard to obtaining domestic ilmenite, and will advise you fully.

Yours very truly,

Z. P.

Z. PHELPS, ASST. GENERAL MANAGER

ZP/dd

D. P. Exhibit 10 4183

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

Newark, New Jersey,
March 4, 1932.

Dr. J. E. Booge—Office:

I do not recall ever seeing any memorandum of information sent over to De Rohden on technical matters. Have you sent any, and if so, I would like a copy to clear my desk, which can, of course, be returned to you.

I want to make certain that nothing definite has been put into writing with De Rohden on this exchange of information which might be construed as having reached an agreement. It is, as you know, all tentative, and was subject to working out something definite with Dr. Blumenfeld when he came back through this country. We are just as well pleased that he is not coming through here, as we are not disposed to make a final agreement with him at this time.

This brings me to the question of patents. I want to make dead certain that any patent applications we may put through in this country on our own developments are withheld from De Rohden in every way, and no mention made thereof in technical information to him, for the reason that we must comply with the du Pont policy to obtain approval of the Finance Committee before we give away any rights under patents.

Up to the present time it is my understanding that all patents are an inheritance from Commercial Pigments, no new ones having been applied for in the United States by Krebs. It is on the new ones that we must be careful to keep them in our own hands until we come to a definite decision as to what we want to do regarding sending them abroad.

C. H. RUPPRECHT.

CHR:s CHR

D. P. Exhibit 11

April 30, 1932.

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corp.
256 Vanderpool Street
Newark, N. J.

Dear Mr. Rupprecht:

Referring to our conversation of this morning about the exchange of information with Blumenfeld and his licensees, the circumstances surrounding this are as follows.

Last summer, after the completion of the Krebs arrangement, Mr. Ticknor and myself met Mr. Blumenfeld in Paris and told him that we had sold the business of the Commercial Pigments Company to the Krebs Company, consequently the arrangement heretofore existing between himself and the Commercial Pigments Company regarding the exchange of technical and patent information was terminated.

The arrangement having been a direct one with Commercial Pigments was not assignable. Since the Commercial Pigments was about to be dissolved, Mr. Blumenfeld was told that if he wished to make a similar agreement with the new Company, he would have to arrange it with the officials of the Krebs Company.

We said, however, that we would be willing to discuss with him the basis on which we thought such an arrangement might be made. As a result of this discussion, a suggested form of agreement was drafted with the understanding that it was to be submitted to the Krebs officials. Mr. Blumenfeld then informed us that he expected to come to the United States later on, and that he would then talk

the matter over with Mr. Rupprecht, President of the Krebs Company.

Mr. Blumenfeld did come to the United States, and together with yourself, Mr. Ticknor and myself discussed the matter. No definite agreement was reached but it was left that for the time being, there would be an informal exchange of information. Mr. Blumenfeld said he would be back in the United States in December of '31 at which time the matter could be discussed in detail as both parties would then be in a better position to know what the contract, if any, should cover.

Mr. Blumenfeld did not return to the United States and no formal agreement has ever been made.

In our opinion, the formal arrangement between Mr. Blumenfeld and the Commercial Pigments was actually terminated at the time of the sale to Krebs, and Mr. Blumenfeld fully understood this. Any exchange of information between Krebs and Blumenfeld has been entirely informal and was made merely for the purpose of mutual benefit until a formal contract, if any, was entered into.

We cannot see that there is either moral or legal obligations to enter into an agreement with Blumenfeld.

He has had plenty of time and opportunity to approach Krebs on the subject but his failure to do so plainly indicates that he does not feel that the matter is of much importance to him.

Very truly yours,

M. F. CHASE

MFC:BH
c.c. to T. R. Hanley
c.c. to W. Richter

D. P. Exhibit 12

Blind copies to:
W.R.Swint,Dir.—For.Relations Dept.—Wil.
Dr.F.Sparre,Dir.—Development " "
T.R.Hanley,Legal Dept.—Wil.
Du Pont London Office

CC—M.F.Chase,V.P.Com.Col. — N.Y.
Wm. Richter,Gen.Mgr. — Wil.

Newark, New Jersey,
July 13, 1933.

CONFIDENTIAL

T. S. GRASSELLI, PRESIDENT,
CLEVELAND.

You will recall that mention was made at our last Board Meeting of a proposed visit from Dr. Joseph Blumenfeld of Paris, and this will report that a conference was held with Dr. Blumenfeld on Monday of this week, attended by Mr. Chase and also Dr. Orrison, Superintendent of Dr. Blumenfeld's TiO_2 plant in France.

The important matter on Dr. Blumenfeld's mind was, of course, the question of a possible exchange of information agreement with him and his associates, and it was explained to him very clearly that because of a number of conditions, particularly those of prior commitments of the du Pont Company, it was impossible to consider any such exclusive arrangement as formerly in effect between himself and Commercial Pigments Company. It was also explained to him that his former agreements were not assignable to Krebs and had not been assumed by the new Krebs Corporation. He was, of course, disappointed, but finally

stated very clearly that if that was the case, there was nothing else to be done about it. We can, therefore, assume that this matter is closed.

We told Dr. Blumenfeld that we were, of course, desirous of maintaining a friendly relationship with him, and that if he at any time had any developments on titanium dioxide which he wanted to offer us, we would be very glad to consider them and negotiate for their acquisition if of interest.

Of next importance was a new process he has developed for the manufacture of Cerium Oxide and reclaiming some of the rare earths present as by-product, which, you will recall, was brought to our attention at the last Board Meeting by Mr. Chase. Mr. Chase and the writer told Dr. Blumenfeld that it would be given careful consideration, and toward that end it was arranged that he discuss the matter more fully with our Dr. Booge, so that the question could then be reviewed further and decide whether it was of interest to Krebs. If not, Mr. Chase suggested that they would give it some thought, and there might even be a possibility of suggesting some other connection for Dr. Blumenfeld if Commercial or Krebs were not interested.

On Wednesday morning Dr. Blumenfeld had opportunity to discuss the proposition with Dr. Booge, and sometime within the next week we will probably proceed further in discussing the matter with Mr. Chase.

The writer escorted Dr. Blumenfeld to Wilmington yesterday as our guest, and arranged meeting with Mr. Swint, to whom Dr. Blumenfeld made known some ideas he had on foreign matters in which he was interested, which Mr. Swint has taken under advisement and will probably inform Dr. Blumenfeld direct of what can be done, or

through London Office. None of the suggestions seem to indicate any possibility of du Pont participation, because of other commitments or connections, but Mr. Swint very kindly offered to think them over.

We further extended the courtesy of a visit to the Newark Plant to Dr. Blumenfeld's associate, Dr. Orrison, and Dr. Booge also entertained him for a day in visiting the Baltimore Plant.

CHR

C. H. RUPPRECHT.

CHR:s

(17)

D. P. Exhibit 13

Blind copies to:

Messrs. T. S. Grasselli — Cleve.
Wm. Richter — Wil.
T. R. Hanley — "
W. R. Swint — "
H. H. Ewing — London

August 16, 1933.

Dear Dr. Blumenfeld:—

Mr. Chase has submitted to me your letter of August 4th, presenting certain questions in connection with the calciner used at our Baltimore Plant.

I regret extremely that in view of the conditions explained to you in Mr. Chase's office, when we had the pleasure of meeting there last month, we are unable to furnish you with this specific data. I am, therefore, sorry that we cannot comply with this request.

In your recent letter to me you stated that you would be interested in hearing of progress in some of our economic events in this country, and I am enclosing copies of two recent addresses by the officials of our National Recovery Administration, which I thought you might enjoy reading.

With assurance of my kindest regards, I am

Yours very truly,

C. H. Rupprecht.

CHR:s

Copy to:
Mr. M. F. Chase, New York.

D. P. Exhibit 14

TRANSLATION

SOCIETE de PRODUITS CHIMIQUES des TERRES RARES

67, Rue de Prony, Paris (17e)
30th August, 1933,

Monsieur C. H. Rupprecht
Krebs Pigment & Color Corporation
256 Vanderpool Street
Newark, New Jersey (U.S.A.)

Dear Mr. Rupprecht:—

We have your letter of the 16th current, and I have seen with great interest the two papers that you have sent.

I think you very sincerely. I regret much that you have interpreted my demand concerning the rotary kiln as a desire on my part by a roundabout way to obtain an exchange of information. I have always understood that an apparatus as the rotary kiln, which is not of your construction, had nothing specific and would almost be equivalent of a method of construction pure and simple of the method of the constructor.

In any case, I beg you once again not to put such an interpretation to my question.

I hope that you are well and I pray you think, dear Mr. Rupprecht, of the expression of my best sentiments.

(s) J. Blumenfeld.

JB/JA

(19)

D. P. Exhibit 15

CC—Foreign Relations Dept.—Wil.
T. R. Hanley, Legal " — "

Newark, New Jersey,
October 10, 1933.

Confidential
H. H. Ewing, Manager,
Du Pont London Office.

Under the old agreement which Commercial Pigments Corporation had with Dr. Blumenfeld and his foreign associates there was a fairly regular exchange of samples of finished product. As you know, we have not made any agreement whatsoever with Dr. Blumenfeld and his associates, on which, however, there continues to be correspondence, as you will note from letter written yesterday.

It comes to my attention that one group, namely, Montecatini in Italy, are continuing to send samples to us, and since there has never been any understanding or correspondence between us on this subject, we think it inadvisable to open up anything. There is no obligation on our part in any way, and we would just as soon have Montecatini discontinue sending these samples.

We feel, however, that the matter has to be handled tactfully, and we would suggest that when you or one of your staff next sees our Italian friends, in some casual way mention be made of the fact that Krebs has noticed these samples coming in from time to time and wondered why they were being sent, and that the suggestion would be to discontinue same. We can in no way exchange samples, and consequently would not want to approach it, even by intimating anything of this kind, but they could be made

to see that Krebs is not interested in receiving such samples and they might just as well be discontinued. It is important that all reference to agreements be left out of the conversation.

Therefore, I hope that when the opportunity presents itself you can get them to discontinue sending these samples, and will appreciate your cooperation toward that end.

C. H. RUPPRECHT.
CHR

CHR:s

(21)

D. P. Exhibit 16

PATENT POLICY

EXECUTIVE COMMITTEE ACTION
NOVEMBER 2, 1938

The following resolution was offered and unanimously adopted:—

WHEREAS, the growth of the chemical industry and the development by this Company of a diversified line of chemical products have given increasing importance in recent years to the relation of patents to its business; and

WHEREAS, it is deemed advisable to set forth, for convenient guidance, the principles of patent policy, which have become established in the course of the Company's experience in such matters;

THEREFORE, BE IT RESOLVED, that the following statement of the Company's practices be accepted as the Company's patent policy and serve as a guide to all departments (the term "Company" as used herein being understood to include subsidiaries, and the term "Heads of Departments" being understood to include officers of subsidiaries:—

A. FILING UNITED STATES APPLICATIONS

Experience has shown that ownership of inventions usually can not be safeguarded by attempting to maintain secrecy, and that public use in plant operations is not a practical means of preventing others from obtaining letters patent and thereby preventing the use by the Company of its own inventions. Adequate protection of the large expenditures of the Company in research and development work requires, therefore, the prompt filing of applications for

D. P. Exhibit 16

United States letters patent covering all patentable inventions which may possess commercial value. The following types of inventions are deemed to possess commercial value:

(1) Inventions which the Company is practicing or intends to practice in its own manufacturing operations;

(2) Auxiliary inventions covering modifications or alternatives which it may be found practical or desirable to introduce in the Company's manufacturing operations;

(3) Inventions covering uses of the products sold by the Company;

(4) Inventions which may be a source of income or other benefit through licenses to others.

B. LICENSES UNDER UNITED STATES PATENTS

1. *Grants.* The Company's patented inventions should be utilized wherever commercially practicable, either in the Company's own operations or by licenses to others, or by both methods. Since most inventions developed by the Company are of the first three types mentioned in Section A, ordinarily it is preferable to utilize them in the manufacture or use of the Company's own products, rather than to attempt to exploit them as a source of profit through licenses to others. In some instances, however, others may be interested in obtaining licenses under the Company's patents, and fair consideration should be given to such requests.

The advisability of granting licenses can only be determined in the light of the circumstances involved in each

case; but, as a general guide, such grants may be desirable in the following instances:

(a) Where the invention is not being or likely to be practiced by the Company itself, but can be used by others to serve a sound commercial need;

(b) Where the market in some areas can be served more economically by other concerns with existing manfacturing and distributing facilities;

(c) Where, if the invention is practiced by the Company itself, the revenue obtainable from such licenses will compensate adequately for the waiver of the Company's exclusive rights;

(d) Where such licenses will serve the purposes described in paragraph 3 of this section.

On the other hand, requests for licenses ordinarily should be denied under the following circumstances:

(a) Where the Company is developing and promoting an important new product or process, economic factors may justify the withholding, either temporarily or permanently, of licenses under patents relating thereto. This is apt to be the situation where the project requires a heavy investment and an introductory period of losses.

(b) The licensing of additional production may be unsound where the market already is adequately supplied by existing manufacturing and operating facilities, or where the Company contemplates such coverage with its own facilities.

(c) Licenses may be refused where the Company is not satisfied as to the financial or technical responsibility of the applicant.

(d) It may be impossible to grant licenses under a patent because of having already granted exclusive rights thereunder; but to avoid this situation licenses should be confined, wherever practicable, to non-exclusive grants.

Under the procedure set forth in Section C below all licenses to be granted by the Company are submitted to the Executive Committee. In order that this Committee may be familiar with negative as well as affirmative actions in respect to granting licenses under the Company's patents, the departments concerned shall report to the Executive Committee all cases where requests for licenses are refused.

2. *Conditions and Restrictions.* Any conditions or restrictions included in licenses granted by the Company shall be confined to matters clearly within the scope of the patent grant. The following types of provisions are deemed either to be outside such scope or to be otherwise contrary to the general policy of the Company:

(a) A considerable part of the Company's research and development work relates to the uses of its products. Ordinarily, it is impractical from a business standpoint to charge royalties for the use of such inventions by customers. As for the Company's only direct reward for such efforts, it might seem reasonable to grant licenses which are conditioned upon and limited to the use of its products with its patented inventions. Such conditions are regarded by the courts, however, as going beyond the scope of the patent grant. Accordingly, in such cases the Company's reward must be through goodwill engendered by these

contributions to the progress of the industry, and through the wider outlets thereby created for its products. No license shall be conditioned upon the use of the Company's products.

(b) Most patents in the chemical industry cover process rather than product claims. While the prevailing view is that it is permissible, in licenses under process patents, to fix the price at which the resulting product may be sold by the licensee, uncertainty as to the soundness of this view makes it preferable not to attempt such control.

(c) As a matter of law, a licensee is estopped from denying the validity of the patent under which he has accepted a license, so long as he retains the license. Frequently the licensee is required, as a condition of the license, to admit such validity throughout the term of the patent, notwithstanding any earlier termination of the license. The Company is opposed to requiring such admission beyond the continuance of the license.

It is legally permissible for a licensor, at least where the patent covers the product, to control the licensee's selling territory, output, method of marketing, and selling price. Nevertheless, price control should not be imposed unless the validity of the licensed patent has been established in litigation or in the opinion of the Legal Department is beyond reasonable doubt; and the reasons for including any such conditions should be explained to this Committee before approval of the contract, accompanied by an opinion of the Legal Department as to the validity of the patent.

D. P. Exhibit 16

3. *Cross-licenses.* The practice of exchanging licenses between holders of separate patents is desirable, particularly in the following situations:

(a) Where different parties hold conflicting patents or patent applications, cross-licensing may avoid long and expensive interference proceedings or litigation.

(b) Different parties may hold patents covering different steps in producing a finished product, such as inventions covering a basic material, a process of manufacture, a machine used in such manufacture, an improvement patent, and a compound produced from several basic materials. Efficient exploitation is obstructed by the divided ownership of these supplementary patents, and this obstruction may be removed by exchange of licenses.

Because cross-licensing is susceptible of abuse, care should be exercised to conform strictly to the rules previously stated governing the imposition of restrictions or conditions in license agreements generally.

C. Acquisition and Disposition of Rights

The procedure with reference to entering into agreements with other parties relative to the acquisition or disposition of rights under patent applications, patents and inventions, shall be governed by this Committee's resolution of March 3, 1937, which sets forth the following rules:

1. During the progress of negotiation of an agreement looking to the acquisition or disposition of rights of the

character above-mentioned, and prior to definite commitment of the Company thereunder, the Head of the Industrial Department conducting such negotiation should submit the proposed agreement to the Legal Department in order to make certain that the merits of the agreement are adequately coverd in an approvel legal manner, and, after approval as aforesaid by the Legal Department, should determine, with the assistance of the Legal Department—

(a) Whether the proposed agreement directly affects other departments or affiliates of the Company; and

(b) Whether any commitment of an indeterminate nature is involved. (Examples of such indeterminate commitments might be:—

The acknowledgment of the validity of patents.

Any restrictions of the scope of the Company's activities in the future.

The granting of licenses under specific du Pont-owned patents coupled with an obligation to license "any patents of which the Company may subsequently become possessed within the same field").

In either of these cases, "a" or "b", the head of the department conducting such negotiations shall, thorugh the Legal Department if he so desires, secure the vise of such other department as would probably be affected thereby, including the vise of the Chemical Department and Patent Board whenever it is apparent that the interest of more than one other department would be involved, and of the Engi-

D. P. Exhibit 16

neering Department with respect to all mechanical matters therein referred to, as well as the vise of the Foreign Relations Department if there is any probability that any of our foreign agreements would be affected.

2. The authority for the approval of expenditures for the acquisition of rights under agreements of this character shall be the same as authorized in "Rules Governing Method of Handling Appropriations" for Heads of Departments and Boards of Directors of 100% owned Subsidiaries, and amendments thereto. In arriving at the contemplated expenditure, there should be added to the initial cost any other expected expenditures such as expenditures for royalties, research, development, and the like.

3. If the agreement falls in any one or more of the following categories it should be presented by the Industrial Department to the Executive Committee for approval, and in the case of a Subsidiary Company the approval of its Board of Directors should precede such presentation to the Executive Committee:—

(1) The contemplated cost of the rights to be acquired is in excess of the approval authority of the individual or Board.

(2) In case a commitment of an indeterminate nature is involved.

(3) In case a protest is registered by some division of the Company.

(4) In every case of the disposition of rights.

4. It is further understood that the disposition of rights will require the authorization of the Finance Committee

only when the total amount involved is in excess of $300,000, but it will be the duty of the Executive Committee to inform the Finance Committee of all actions taken by the Executive Committee on matters of major importance in connection with the authorization of licenses to others under patents owned or controlled by the Company, and authorization of assignments or sales to others of patents so owned or controlled, such matters of major importance being defined as follows:

> "Where the granting of a license will produce an estimated annual royalty of $10,000 or more; where the assignment or sale of patents, patent applications or inventions is estimated to be worth $100,000 or more; or where, in the opinion of the Executive Committee, the effect of such license, assignment or sale is to importantly affect the Company's status patentwise in any broad field of the Company's present or prospective operations."

In submitting future reports the Heads of Departments should advise specifically as to whether the proposition which they are presenting is considered to be a matter of major importance and to what extent.

D. INFRINGEMENT

The following rules shall be observed as a means of avoiding, so far as possible, infringement of patents not owned by or licensed to the Company:

1. Every department should take care not to commit any infringement of a patent, and to this end should regularly obtain and keep on file copies of all United States

D. P. Exhibit 16

Patents granted in their respective art; and should examine such patents for infringement before undertaking any new industrial operation or change in existing practices.

2. Upon discovering a patent that might be infringed by an existing or contemplated operation, the case should be immediately submitted to the Patent Division for an infringement opinion and a preliminary opinion on validity.

3. Unless the Patent Division definitely decides that no infringement is being or would be incurred, the department should study and consider ways and means of altering the device, process or product so as to clearly avoid infringement.

4. If the department finds that it can not reasonably avoid infringement without abandoning the project, then the department may request a complete validity opinion on the patent or patent claims involved, and the Patent Division will render such opinion, in which, after reviewing the facts and the law, a statement will be made regarding the probable chances of defending any suit that might be brought. After receiving the opinion, the department should proceed as follows:

(a) If the patent is clearly invalid, the department sh ald secure the final approval of the Patent Board and the permission of the Executive Committee for infringement, before any infringement is committed.

(b) In all other cases, even though the valdity of the patent is of doubtful character, the department shall explore the possibilities of a settlement by

a license or otherwise, such exploration to include discussion with the owner unless there should be important objections to doing so from the legal, economic or business aspects. If a settlement is under the circumstances reasonably possible, it should be made. If not, then the department, if it wishes to proceed with infringement, should submit the case to the Patent Board in the usual manner, and shall then prepare a statement of the case for the Executive Committee accompanied by a copy of the Patent Board action, and secure the final permission of the Executive Committee for infringement or other mode of disposition of the case.

(c) It is recognized that most patent litigation involves complicated technological and legal aspects which often render the outcome uncertain even after attempted careful appraisal, but nevertheless the Company's judgment on validity will be based upon a fair appraisal of the probable outcome in each particular case.

(d) The department is requested, in connection with any statement made to the Patent Board or Executive Committee in accordance with these provisions, to include the recital of any previous dealings with the patent owner or his predecessors in title, so that that Company may be regularly and fully advised in each case of any special circumstances of legal or equitable nature that might have a bearing upon a successful defense of a patent suit.

D. P. Exhibit 16

The foregoing shall supersede the resolution on this subject adopted by this Committee on October 13, 1937.

E. PRICES

The general policy of the Company, as stated in the 1937 Annual Report to the Stockholders, is to endeavor to increase consumption of its patented and other new products by aiming at a low profit per unit on a large volume of sales rather than a high margin on a small volume.

The possession of patent protection covering a product, its method of manufacture, or its use, may be helpful in carrying out this policy, since it can absorb initial losses from low selling prices with greater assurance that the volume thereby created will flow to it. The ability to accomplish this purpose is of course largely dependent upon other factors which enter into the determination of selling prices, including the fact that every chemical product is competitive with natural or synthetic substitutes; but the industrial departments should give due weight to any protection that may be afforded by existing patents, insofar as it can be used as a factor in carrying out the general price policy stated above.

As a corollary, the industrial departments shall not permit the existence of patent protection to influence higher selling prices than can be economically justified on the basis of the other factors involved.

F. EMPLOYEES' RELATIONS

Research and the inventions resulting therefrom constitute one of the important phases of the Company's business. It employs hundreds of chemists and technicians to performs such work. To the results of these joint efforts it

makes substantial contributions: the expenditure of millions of dollars annually, at the risk of negative results; the maintenance of properly equipped laboratories; direction and supervision of the employee's line of research; the assistance of associates and of past experience; the cost of filing prosecuting and defending applications and patents; the cost and risk of exploiting the resulting inventions, involving the combined efforts of capital, engineering, manufacturing, market studies, advertising, selling, and general business experience. From the standpoint of the employee inventor, he is relieved of the risk attending such research and exploitation, receives a regular salary, and is given the opportunity of additional reward in the form of bonus for successful inventions as provided in the Company's Bonus Plan.

The product of such an employee's efforts is the property of the Company. To protect its ownership of this property, employees engaged in work of a technical nature dealing with research or manufacturing operations, particularly where their experience might lead to inventions or the development of secret processes, should be required to execute agreements in the form approved by the Legal Department, safeguarding the Company's rights.

G. Foreign Patents

1. It is the general policy of the Company to limit applications for foreign patents to those inventions which appear to be of considerable importance, and then to limit the number of countries in which applications are filed. Several considerations are deterrents to applying for foreign patents to a greater extent:

(a) The filing fees, annual renewal fees, and legal expense involved;

(b) The necessity of working the inventions in most countries to avoid revocation or compulsory licensing;

(c) The inability in some countries to obtain product patents;

(d) The difficulty of discovering and preventing infringement;

(e) The effect of unsettled or unknown political policies and conditions in some countries.

2. Where an invention comes within the scope of an agreement with a foreign associate, under which the parties are offered licenses under their respective inventions, the acceptance of a license by the other party relieves the Company from determining whether to apply for patents on the invention in the countries covered by license.

3. In other cases no attempt shall be made to obtain patents in foreign countries unless the industrial department concerned determines that such action is advisable because (a) the country has an industry which may be interested in a license to use the invention, or (b) the Company has or expects to have an export business in the country which will be protected by such a patent.

4. It is considered undesirable to enter into any broad patents and processes agreements with foreign concerns, other than those concerns with whom such agreements are already in effect, but there is no objection to making arrangements with foreign manufacturers as follows:

D. P. Exhibit 16

(a) Such arrangements shall provide (1) that each party expresses the intention of bringing to the attention of the other developments which they believe might be of interest; (2) that there is no obligation to offer any invention to the other or to refrain from offering it to third parties; (3) that no offer is to be made that is in conflict with other commitments; and (4) that each process offered under such arrangements is to be the subject of separate negotiations.

(b) Each such arrangement is to be reviewed with the Legal, Development and Foreign Relations departments and receive the approval of the Foreign Relations and Executive committees before being concluded.

(c) Such arrangements are to be covered by exchange of letters which make it clear that the arrangement is merely an expression of intention to offer processes on a voluntary basis and that no other significance is to be read into it.

(d) The Foreign Relations Department is to be consulted in advance of negotiations relation to the sale of specific processes under such arrangements to enable that department to determine whether the interests of any other department or general Company policy are affected. (In addition, the Executive or Finance Committee must give final authorization in accordance with regular Company procedure.)

(e) In the event negotiations for the sale of a specific process are successfully concluded, a formal license or other agreement is to be executed.

D. P. Exhibit 16

H. RESPONSIBILITY FOR PATENT APPLICATIONS

It shall be the responsibility of the Heads of Departments to arrange for the filing of applications for patents on inventions made under their jurisdiction, wherever such action is advisable, and to cause suitable technical and administrative efforts to be made to secure satisfactory patents.

It shall be the responsibility of the Legal Department that the filing and prosecution of patent applications be carried out properly and efficiently.

It shall be the responsibility of the Patent Board to review all allowed United States patent applications, and the final fee for issuance of patent shall not be paid without its authorization. Also, the departments shall obtain the approval of the Patent Board before filing applications for foreign patents.

* * * * * * * *

(37)

D. P. Exhibit 17

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

Newark, New Jersey,
January 4, 1933.

CONFIDENTIAL

DR. G. LUTZ, MANAGER,
PATENT DIVISION—CLEVELAND

NATIONAL LEAD COMPANY

On December 21st I sent you copy of a letter received from Dr. Thompson, dated December 20th, in reply to mine wherein I sent him the data which Mr. Biesterfeld had supplied us on secret use. A copy of Dr. Thompson's reply also went to Mr. Biesterfeld, who has written me as per the attached, which I am simply sending along to complete your file on this subject.

Of course no copy of Mr. Biesterfeld's comments is being sent to National Lead Company.

C. H. RUPPRECHT.
CHR

CHR:s
Encl.

(38)

P. Exhibit 17

COPY

MR. C. H. RUPPRECHT, NEWARK. December 22, 1932.

I have read Mr. G. W. Thompson's letter, and I am quite well aware of the point he makes that there is not recorded in the decisions a case where it was squarely held on a direct issue between the parties, that an admitted and proved prior secret use by the defendant, prior to plaintiff's earliest patent date, was insufficient to protect defendant. The contrary is also true—that there is no recorded case where the Court held that it was sufficient to protect defendant. In every case in which this possible direct issue arose the case was decided on some other ground. The closest decisions are the two I gave you, and I think they are ample authority for getting a ruling that a secret use is no defense even in the hands of the user.

I believe I should point out that which you naturally would realize anyhow from your previous experience in patent matters, namely, that in many of the decided cases the prior use that was set up by the defendant was not proved or admitted to be secret. It eventuated that the said use was held to be public. That is how many of the cases got off the track and became non-pertinent to our present consideration.

In other cases the patents were declared invalid for lack of invention or some other defense was upheld which made it unnecessary for the Court to consider the present issue.

In many of the other cases the Court held that the facts did not show that a prior use existed and therefore threw the defense out on that ground.

D. P. Exhibit-17

Every patent case has a number of defenses and it has so happened that no court, to my knowledge, has so far had the aforesaid issue squarely before it and passed upon it directly. The circumstances in Kendall v. Winsor and Macbeth-Glass case were very parallel to the case we are here considering, but the issues were slightly different in that the plaintiff in the Macbeth-Glass case was attempting to enforce a patent that the Court said was void because of previous reliance on the plaintiff's trade secrets. In Kendall v. Winsor the defendant was not attempting to put up a secret use. Nevertheless, the reasoning of the Courts in those two cases are in my opinion sufficient to sustain the position we are advancing against National Lead Company. I have often discussed this matter with other patent attorneys and they coincide with the views herein expressed.

C. H. BIESTERFELD

CHB:MCW

4212

(40)

D. P. Exhibit 18

Letterhead of

KREBS PIGMENT & COLOR CORP.
PATENT DEPARTMENT

C.C. Mr. C. H. Rupprecht, Newark

CONFIDENTIAL Oct. 24, 1933.

Dr. J. E. Booge,
Research Director—White Pigments
Krebs Pigment & Color Corp.
Newark, N.J.

Re: Marking of Ti-Bar and Ti-Cal Products

I believe that on Ti-Bar and Ti-Cal we should show the same patent numbers as on straight TiO_2.

I reviewed our report of Oct. 26, 1932, and on the basis of our discussion therein I suggest that the N.L.Co. patents be shown as follows:

Licensed under U. S. patents: 1,288,863, 1,333,819,
Fladmark Jebsen
1,333,849, 1,338,473 and 1,348,129.
Olsen & Forland Wrigley & Spence Goldschmidt

This list differs from the patents mentioned under No. 4 (page 3 of the above) report: It includes the Olsen and Forland reduction and Goldschmidt calcination patents for the reason that while we might not strictly infringe the specific claims which formed the basis of our discussion, we actually use processes which would be covered by other claims in these patents.

I also omitted the Farup and Washburn phosphate patents as they are so remote from our operations that it would

seem doubtful that any one would consider actual infringement.

I suppose that this marking will be done in agreement with N.L.

G. LUTZ

G. Lutz
Manager, Patent Dept.

GL:RMC

D. P. Exhibit 19

CC—Dr. G. Lutz —Cleve.
Dr. J. E. Booge—Office

Newark, New Jersey,
November 15, 1933.

J. F. DALEY—OFFICE:

PATENT NOS. ON PACKAGES OF TiO_2 AND EXTENDED PIGMENTS

As per conversation of yesterday, it is understood that on preparation of your next labels for barrels or bags of TiO_2 you will extend the list of patents to show our product as produced under the following patents, which include not only those we have heretofore shown, but some additions, and patents under which we are now licensed.

U.S.P. 1,288,863
1,333,819
1,333,849
1,338,473
1,348,129
1,357,690
1,412,027
1,504,669
1,633,621
1,707,248
1,845,633
1,892,693
Re-Issue 18,790
Re-Issue 18,854

These process patents should simply be listed by number, in numerical rotation. The last two patents mentioned as

(41B)

D. P. Exhibit 19

Re-Issues, should show the words "Re-Issue". You understand that they take the place of the original patents on which they were based.

Furthermore, packages should show the following patents in a separate column under the heading: "Uses of Product Covered by U. S. Patents", and listed numerically as herewith, with the word covering the product in which used, as shown:

U.S.P. 1,205,267—Paint
1,205,268—Paint
1,205,269—Paint
1,236,367—Linoleum
1,283,455—Printing Ink
1,286,916—Lake Color
1,317,854—Pliable Filled Fabric
1,365,882—Nitrocellulose Plastics
1,322,518—Rubber
1,326,319—Rubber
1,847,539—Oil-Nitrocellulose Paint

The same patent numbers already listed above should appear on the Ti-Bar and Ti-Cal packages, but in addition, the Ti-Cal packages should carry:

1,906,730.

The Ti-Bar packages will not carry any extra patent number.

If there are any further questions, please speak up.

C. H. RUPPRECHT.

CHR:S

D. P. Exhibit 20

Blind copies to:
Mr. C. H. Biesterfeld — Wil.
Dr. G. Lutz — Cleve.

June 29, 1934.

CONFIDENTIAL

Dear Dr. Thompson:—

In accordance with the terms of the licensing agreement of January 1, 1933 between your subsidiary, The Titanium Pigment Company, Inc., and Krebs Pigment & Color Corporation, it is understood that Krebs will offer your German and British associates opportunity to negotiate non-exclusive rights under any patents relating to the "Licensed Field" as covered by the agreement, and issued to us in countries of Continental Europe or Great Britain.

Enclosed are two copies of a patent application filed in the United States Patent Office in Washington under date of March 2, 1934 in the name of Robert M. McKinney and assigned to Krebs Pigment & Color Corporation, covering an invention under the subject of "Colored Titanium Oxide Pigments and Paints". If agreeable to you we would suggest that you forward the enclosed copies of this application to your German and British associates and ascertain whether or not they are interested in negotiating licenses on any corresponding patents which we may take out in Europe or Great Britain.

If they are interested and we arrive at mutually satisfactory terms and conditions, it may be advisable to have

your associates undertake prosecution of the applications, since being on the spot they can probably do so more advantageously. We, of course, will in any case require that applications in foreign countries shall not be filed until the very latest Convention date.

I presume the above is entirely in accord with your understanding, and if not please communicate with me. otherwise would appreciate your forwarding these applications so that we can learn at an early date whether or not your associates are interested.

Very truly yours,

C. H. RUPPRECHT
PRESIDENT.

CHR:s

Encls.

D. P. Exhibit 21

Newark, New Jersey,
October 8, 1934.

CONFIDENTIAL
DRG Lutz, Manager
Patent Dept., Cleveland

You will recall that in our licensing agreement on titanium operations with Titanium Pigment Company we have agreed to offer their foreign associates first refusal on any patents we make take out in Europe.

Based on our experience with foreign patents, we would not be very much disposed to take out patents unless they were unusual. However, a patent may mean a good deal more to a foreign operating company than it would to us. By that I mean that a patent we might not consider registering in any foreign country might be very worthwhile to an actual manufacturer on the spot. Under the circumstances we might decide to act as we have in connection with the McKinney patent on Tinted TiO2, namely, submit them copies of our U.S. application and ask whether they are interested in negotiating rights.

I would, therefore, like to set up with you some basis by which all applications we file in this country can be reviewed from the standpoint of whether or not we would consider filing foreign applications, and if not, arrange to submit such applications to these foreign associates of T.P.Company to determine whether they are interested. We may realize a little money in this way, although it is difficult to tie a big amount of royalty onto a lot of process patents on just one product. However, we may at the same time be able to establish some goodwill to enable us to obtain

licenses on fairly reasonably terms on any U.S. patents their foreign associates may file.

Consequently, I think as soon as we have filed any U.S. Titanium application we should quickly decide whether it justifies foreign application. Then we must determine whether we will offer it to the foreign associates of T.P. Company, after taking out the application ourselves, or, in case we do not consider important enough for ourselves. to offer it to them on the basis of their applying, provided they are interested and we can come to terms. The McKinney Tinted TiO2 patent has been put up to them on the latter basis, and I would appreciate knowing how you feel about our filing foreign applications in the event they should not be interested.

This should be kept actively before us, so that we have time to approach these European people, and not be in the position of rushing, such as happened in connection with the Duol-Rosin Substitute patents, where we were nearing expiration of convention date for filing.

I do not propose to keep a follow-up in this office on patent applications, and I think it is a matter that should be worked out between you and Booge, in order to bring these to my attention along some lines as above, or in any other way that you suggest.

C. H. RUPPRECHT.
CHR

CHR:s

(46)

D. P. Exhibit 22

Blind copy to Dr. Sparre

July 8, 1937

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

PROPOSED LICENSE TO TITAN CO., INC. UNDER FOREIGN PATENTS: GREAT BRITAIN 464,836; ITALY 336,407; FRANCE 796,587; GERMANY APPLICATION SERIAL NO. K.139.771 IV b/22 f; AND CZECHOSLOVAKIA APPLICATION SERIAL NO. P6251/35

Herewith is submitted proposed license agreement to Titan Co., Inc. under foreign patents and applications above mentioned, covering blended titanium dioxide pigments.

These patents and applications cover blended pigments of the type of "Ti-Bar" and "Ti-Cal", which are covered by patents in the United States, and were filed in these five foreign countries as of possible future value.

Titan Co., Inc. is owned 87% by National Lead Company, and serves as a clearing house and sales agent on patents and sales matters for National Lead Company and its foreign manufacturing associates in the titanium dioxide field. The latter includes Titangesellschaft m.b.H. of Leverkusen, Germany, which is owned 50% by National Lead Company and 50% by I.G. and the British Titan Products Company of England, in which National Lead Company has a 49% interest and I.C.I. 17%.

Under this agreement Titan Co., Inc. is granted a royalty-free license, which is exclusive, except for du Pont, I.C.I., and any Company in which du Pont holds a 50% interest.

D. P. Exhibit 22

Titan Co., Inc. is permitted to sub-license its associates, royalty free. Other sub-licenses may be granted subject to du Pont approval, and the payment of 50% of any royalties received by Titan Co., Inc.

This agreement has been approved by the Legal Department.

Since the patents covered by this agreement offer little possibility of return, this agreement will permit the Company to maintain these patents without expense, and it is, therefore, recommended that the Management be authorized to execute the license as herewith submitted.

C. H. RUPPRECHT
GENERAL MANAGER

(48)

D. P. Exhibit 23

Copies to:

C. H. Lyman—Office

MR. C. H. RUPPRECHT
MR. H. C. HASKELL
DR. FIN SPARRE
MR. W. F. RASKOB

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

* * *

PROPOSED LICENSE TO TITAN CO., INC. UNDER FOREIGN PATENTS: GREAT BRITAIN 464,836; ITALY 336,407; FRANCE 796,587; GERMANY APPLICATION SERIAL NO. K.139.771 IV b/22 f; AND CZECHOSLOVAKIA APPLICATION SERIAL NO. P6251/35:

The following resolution was offered and unanimously adopted:—

RESOLVED, that C. H. Rupprecht, General Manager, or Zack Phelps, Assistant General Manager, Krebs Pigments Department, or the President or any Vice-President, of this Company, together with the Secretary or an Assistant Secretary, be and they are hereby authorized to execute an agreement, in form substantially as per copy attached to letter from Mr. Rupprecht to this Committee, dated July 8, 1937, under which this Company grants to THE TITAN CO., INC. a royalty-free license under certain foreign patents and applications re-

ferred to in the aforesaid letter, covering blended titanium dioxide pigments.

This is to certify that the foregoing is a true and correct copy of resolution unanimously adopted by the Executive Committee of E. I. duPont deNemours & Company at meeting held on July 14, 1937.

M. W. FISHER
Assistant Secretary
E. I. duPont deNemours & Company

29

(50)

D. P. Exhibit 24

Copies to:
C. H. Lyman—Office
Dr. F. Sparre, Dir. Development Dept.

April 27, 1939

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

Proposed License with Titan Company, Inc.
Covering Specific Titanium Pigment Patents

Herewith is submitted proposed license agreement with Titan Company, Inc., covering exchange of rights under a number of their United States Letters Patent and Applications for rights under a number of du Pont foreign applications in several countries, as listed hereafter, all rights being restricted to the titanium pigment field.

Titan Company, Inc. is owned 87% by National Lead Company, and handles all patent matters in foreign countries for National Lead Company and its foreign associates, also acting as Sales Agent for the latter. Foreign associates involved in this license are Titangesellschaft m.b.H. of Leverkusen, Germany, owned 50% by National Lead Company and 50% by I.G.; British Titan Products Company, Billingham, England, in which National Lead Company has a 49% interest and I.C.I. 17%; Societe Industrielle du Titane, Paris, France, in which Titan Company, Inc. has a 57% interest; and Titan Kogyo Kabushiki Kaisha, Kobe, Japan, in which Titangesellschaft of Germany is a minority stockholder.

The du Pont foreign patent applications involved correspond to the following twelve United States applications,

the same application being filed in more than one country in several instances:

In France:

Serial 17,379, Filed April 20, 1935—"Process for making Calcium Sulphate";

Serial 145,051, Filed May 27, 1937—"Process for Producing Calcium Sulphate";

Serial 145,044, Filed May 27, 1937—"Process for Producing Blended Pigments";

Serial 155,231, Filed July 23, 1937—"Titanium and Zirconium Hydrate Treated TiO_2 Pigments";

Serial 146,541, Filed June 5, 1937—"Treatment of Titanium Pigments";

In Great Britain:

Serial 145,051, Filed May 27, 1937—"Process for Producing Calcium Sulphate";

Serial 145,044, Filed May 27, 1937—"Process for Producing Blended Pigments".

In Holland:

Serial 138,584, Filed April 23, 1937—"Titanium Oxide Pigments and Process for Producing Same";

In Germany and Japan:

Serial 138,584, Filed April 23, 1937—"Titanium Oxide Pigments and Process for Producing Same";

D. P. Exhibit 24

Serial 147,485, Filed June 10, 1937—"Titanium Pigments Containing Water-Soluble Salts of Organic Acids";

Serial 26,790, Filed June 15, 1933—"Preparation of Compounds of Titanium" (now issued U. S. Patent 2,127,247);

Serial 138,583, Filed April 23, 1937—"Titanium Pigments and Process for Producing Same";

Serial 139,497, Filed April 28, 1937—"Titanium Pigments and Process for Producing Same";

Serial 145,930, Filed June 2, 1937—"Water Dispersing Titanium Pigments";

Serial 144,759, Filed May 25, 1937—"Water-Insensitive Hydrophillic Pigments".

Under this agreement, Titan Company, Inc. is granted a non-assignable, royalty-free license, in each case restricted to countries as specified above. License is exclusive except for du Pont or any company controlled by du Pont, and for I. C. I. in Great Britain. Titan Company, Inc. is permitted to sub-license its associates, as specifically defined in the agreement, on a royalty-free basis. Other sub-licenses may be granted subject to du Pont approval and the payment of 50% of any royalties obtained. Titan Company, Inc. assumes all costs incidental to the filing and prosecution of our applications under this license; pays all necessary maintenance fees during their life; and cannot permit abandonment without our approval.

D. P. Exhibit 24

Du Pont obtains from Titan Company, Inc. a non-exclusive, royalty-free, non-assignable license under the following twelve United States Letters Patent and/or Applications:

Serial 33,383, Filed July 26, 1935—"Titanium Dioxide Pigments";

Serial 136,502, Filed April 12, 1937—"Preparation of Titanium Oxygen Compounds";

Patent No. 2,118,916, Dated May 31, 1938—"Titanium—Containing Pigments";

Serial 119,625, Filed January 8, 1937—"Titanium Dioxide Pigments";

Serial 137,494, Filed April 17, 1937—"White Pigments";

Serial 137,044, Filed April 15, 1937—"Titanium Pigments" (now Patent No. 2,138,384);

Patent No. 2,111,460, Dated March 15, 1938—"Alkali Metal Titanates";

Serial 11,164, Filed March 14, 1935—"White Pigments";

Serial 142,918, Filed May 15, 1937—"White Pigments";

Serial 142,928, Filed May 15, 1937—"White Pigments";

Serial 88,851, Filed July 3, 1936—"Pigment Suspensions and Methods of Preparing Same";

Serial 155,040, Filed July 22, 1937—"Manufacture of Titanium Pigments".

D. P. Exhibit 24

Du Pont rights under the patents listed are confined to the United States of America, its territories and dependencies. Du Pont is not obliged to pay any expenses incidental to preparation, filing and prosecution of United States patents covered by this license.

License specifically provides that where patent extends or applies outside titanium, no rights are granted except insofar as they pertain to the manufacture of titanium compounds which can be used as pigments. Each admits validity of the patents involved, during period of license.

This agreement has been formally approved by the Legal Department.

This exchange of patent rights is desirable, inasmuch as it permits us freedom of action in adopting process refinements covered by several Titan Company, Inc. United States patents and applications, which are of varying importance, and we retain all rights of manufacture and sales for the Company under our foreign patents, without any filing or maintenance costs.

It is, therefore, recommended that the Management be authorized to execute license as herewith submitted.

C. H. RUPPRECHT
GENERAL MANAGER

(55)

D. P. Exhibit 25

Copy given C. H. Lyman—5/4/39

Mr. C. H. Rupprecht (2)
Dr. Fin Sparre
Mr. C. R. Mudge
Mr. W. F. Raskob

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

*****

Proposed License Agreement with Titan Company, Inc. Covering Specific Titanium Pigment Patents:

The following resolution was offered and unanimously adopted:—

RESOLVED, that C. H. Rupprecht, General Manager, or Z. Phelps, Assistant General Manager, Krebs Pigments Department, or the President or any Vice-President of this Company, together with the Secretary or an Assistant Secretary, be and they are hereby authorized to execute an agreement with Titan Company, Inc., in form substantially as per copy attached to letter to this Committee from Mr. Rupprecht, dated April 27, 1939, whereby duPont receives from Titan a royalty-free, non-exclusive, non-assignable license under each of twelve (12) U. S. Letters Patent and/or Applications and Titan receives from duPont royalty-free, non-assignable licenses, with the right to sub-license its associates, under patent applications filed in France, Great Britain, Holland, Germany, and Japan corresponding to twelve (12) U. S. applications filed by

D. P. Exhibit 25

duPont, all rights being restricted to the titanium pigment field.

This is to certify that the foregoing is a true and correct copy of resolution unanimously adopted by the Executive Committee of E. I. duPont deNemours & Company at meeting held on May 3, 1939, at Wilmington, Delaware.

M. D. FISHER
Assistant Secretary
29 E. I. duPont deNemours & Company

(57)

D. P. Exhibit 26

April 15, 1940

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

PROPOSED LICENSE WITH TITAN COMPANY, INC. COVERING SPECIFIC TITANIUM PIGMENT PATENTS

Herewith is submitted proposed license agreement with Titan Company, Inc., covering exchange of rights under a number of their United States Letters Patent and Applications, for rights under a number of du Pont foreign applications in several countries, as listed hereafter, all rights being restricted to the titanium pigment field.

Titan Company, Inc., a Delaware Corporation, is owned 87% by National Lead Company, and handles all patent matters in foreign countries for National Lead Company and its foreign associates, also acting as Sales Agent for the latter. Foreign associates involved in this license are Titangesellschaft m.b.H. of Leverkusen, Germany, owned 50% by National Lead Company and 50% by I.G.; British Titan Products Company, Billingham, England, in which National Lead Company has a 49% interest and I.C.I. 17%; Societe Industrielle du Titane, Paris, France, in which Titan Company, Inc. has a 57% interest; and Titan Kogyo Kabushiki Kaisha, Kobe, Japan, in which Titangesellschaft of Germany is a minority stockholder.

The du Pont foreign applications involved correspond to the following thirteen United States applications, the same applications being filed in more than one country in a number of instances:

D. P. Exhibit 26

In France:

Serial No. 183,127, Filed January 3, 1938—"Procedure for Treating Residual Sulfuric Acid Liquors";

Serial No. 177,739, Filed December 2, 1937—"Process for Making Anhydrite";

Serial No. 172,378, Filed November 2, 1937—"Process for Making Titanium Pigments";

Serial No. 183,322, Filed January 4, 1938—"Stabilization of Soluble Crystalline Materials";

Serial No. 183,311, Filed January 4, 1938—"Dispersible Pigments";

Serial No. 181,990, Filed December 27, 1937—"Titanium Oxide Pigments and Process of Producing Same";

Serial No. 192,314, Filed February 24, 1938—"Pigment Milling Process";

Serial No. 191,967, Filed February 23, 1938—"Pigment Treating Process and Agents Therefor";

In Great Britain, Northern Ireland and the Isle of Man:

Serial No. 166,943, Filed October 2, 1937—"Process for Production of Improved Titanium Pigments";

Serial No. 172,378, Filed November 2, 1937—"Process for Making Titanium Pigments";

D. P. Exhibit 26

Serial No. 177,739, Filed December 2, 1937—"Process for Making Anhydrite";

Serial No. 191,967, Filed February 23, 1938—"Pigment Treating Process and Agents Therefor";

In Holland:

Serial No. 177,739, Filed December 2, 1937—"Process for Making Anhydrite";

Serial No. 172,378, Filed November 2, 1937—"Process for Making Titanium Pigments";

In Germany:

Serial No. 172,378, Filed November 2, 1937—"Process for Making Titanium Pigments";

Serial No. 183,322, Filed January 4, 1938—"Stabilization of Soluble Crystalline Materials";

Serial No. 183,311, Filed January 4, 1938—"Dispersible Pigments";

Serial No. 211,797, Filed June 4, 1938—"Pigment Materials and Process of Producing";

Serial No. 181,990, Filed December 27, 1937—"Titanium Oxide Pigments and Process of Producing Same";

Serial No. 191,967, Filed February 23, 1938—"Pigment Treating Process and Agents Therefor";

D. P. Exhibit 26

In Japan:

Serial No. 177,739, Filed December 2, 1937—"Process for Making Anhydrite";

Serial No. 166,943, Filed October 2, 1937—"Process for Production of Improved Titanium Pigments";

Serial No. 166,564, Filed September 30, 1937—"Calcium Sulfate Pigments";

Serial No. 172,378, Filed November 2, 1937—"Process for Making Titanium Pigments";

Serial No. 183,311, Filed January 4, 1938—"Dispersible Pigments";

Serial No. 211,797, Filed June 4, 1938—"Pigment Materials and Process of Producing";

Serial No. 181,990, Filed December 27, 1937—"Titanium Oxide Pigments and Process of Producing Same";

Serial No. 191,967, Filed February 23, 1938—"Pigment Treating Process and Agents Therefor";

Serial No. 198,899, Filed March 30, 1938—"Production of Titanium Pigments";

Serial No. 200,748, Filed April 7, 1938—"Preparation of Titanium Concentrates";

In Italy and Belgium:

Serial No. 177,739, Filed December 2, 1937—"Process for Making Anhydrite."

Under this agreement, Titan Company, Inc. is granted a non-assignable, royalty-free license, in each case restricted

to countries as specified above. License is exclusive except for du Pont or any Company controlled by du Pont, and for I. C. I. in Great Britain. Titan Company, Inc. is permitted to sub-license its associates, as specifically defined in the agreement, on a royalty-free basis. Other sub-licenses may be granted subject to du Pont approval and the payment of 50% of any royalties obtained. Titan Company, Inc. assumes all costs incidental to the filing and prosecution of our applications under this license; pays all necessary maintenance fees during their life; and cannot permit abandonment without our approval.

Du Pont obtains from Titan Company, Inc. a non-exclusive, royalty-free, non-assignable license under the following seven United States Letters Patent and/or Applications:

Serial No. 204,838, Filed April 28, 1938—"Rutile Seeding Process";

Serial No. 238,358, Filed November 2, 1938—"Rutile Seeding Process";

Serial No. 228,326, Filed September 3, 1938—"Methods of Dispersing Titanium Dioxide Pigments";

Serial No. 247,843, Filed December 27, 1938—"Chromium Naphthenate Treatment of TiO_2";

Patent No. 1,539,996, Dated June 2, 1925—"Process of Recovering Titanic Oxide from Titanium Nitrogen Compounds";

Patent No. 1,919,425, Dated July 25, 1933—"Process for Dissolving Titaniferous Materials in Acids";

D. P. Exhibit 26

Patent No. 2,055,221, Dated Septemb.. 22, 1936—"Process of Producing Titanium Pigments."

Du Pont rights under the patents listed are confined to the United States of America, its territories and dependencies. Du Pont is not obliged to pay any expenses incidental to preparation, filing and prosecution of United States patents covered by this license.

License specifically provides that where patent extends or applies outside titanium, no rights are granted except insofar as they pertain to the manufacture of titanium compounds which can be used as pigments. Each admits validity of the patents involved, during period of license..

This exchange of patent rights is desirable, inasmuch as it permits us freedom of action in adopting process refinements covered by several Titan Company, Inc. United States patents and applications, which are of varying importance, and we retain all rights of manufacture and sales for the Company under our foreign patents, without any filing or maintence costs. Of particular value to du Pont are rights under Titan Company, Inc.'s two rutile seeding process applications, which may be of great importance in connection with our rutile study and placing such type pigment on the market sometime in the future.

This agreement has been prepared and approved by the Legal Department, and the required Operating and Chemical Department approvals have been obtained.

It is, therefore, recommended that the Management be authorized to execute license as herewith presented.

C. H. RUPPRECHT
GENERAL MANAGER

D. P. Exhibit 27

Copy given C. H. Lyman—4/19/40

Mr. C. H. Rupprecht (2)
Dr. Fin Sparre
Mr. C. R. Mudge
Mr. W. F. Raskob
Mr. A. C. Nielsen
Mr. G. V. Wolstenholme

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

****

PROPOSED LICENSE AGREEMENT WITH TITAN COMPANY, INC. COVERING SPECIFIC TITANIUM PIGMENT PATENTS:

The following resolution was offered and unanimously adopted:—

RESOLVED, that C. H. Rupprecht, General Manager, or Z. Phelps, Assistant General Manager, Krebs Pigments Department, or the President or any Vice-President of this Company, together with the Secretary or an Assistant Secretary, be and they are hereby authorized to execute on behalf of the Company a license agreement with TITAN COMPANY, INC., covering specific titanium pigment patents, the agreement to be in form substantially as per copy attached to report from Mr. Rupprecht, to this Committee, dated April 15, 1940.

This is to certify that the foregoing is a true and correct copy of resolution unanimously adopted by the Executive Committee of E. I. duPont deNemours & Company at meeting held on April 17, 1940.

M. D. FISHER
Assistant Secretary
E. I. du Pont deNemours & Company
[SEAL]

D. P. Exhibit 28

June 12, 1941

To: COMMITTEE ON PATENTS

FROM: KREBS PIGMENTS DEPARTMENT

PROPOSED LICENSE AGREEMENT WITH TITAN COMPANY, INC. COVERING SPECIFIC TITANIUM PIGMENT PATENTS

Herewith is submitted proposed license agreement with Titan Company, Inc. covering exchange of rights under a number of their United States Letters Patent and Applications, for rights under a number of du Pont foreign applications in several countries, as listed hereafter, all rights being restricted to the titanium pigment field.

Titan Company, Inc., a Delaware corporation, is owned 87% by National Lead Company, and handles all patent matters in foreign countries for National Lead Company and its foreign associates, also acting as sales agent for the latter. Foreign associates of National Lead Company involved in this agreement are Titangesellschaft m.b.H. of Leverkusen, Germany, owned 50% by National Lead Company and 50% by I. G.; British Titan Products Company, Billingham, England, in which National Lead Company has a 49% interest, I.C.I. 17%, with the remaining 17% owned by several other British companies; Societe Industrielle du Titane, Paris, France, in which Titan Company, Inc. has a 50% interest; and Titan Kogyo Kabushiki Kaisha, Tokyo, Japan, in which Titangesellschaft of Germany is a minority stockholder.

Negotiations leading to this proposed agreement were begun early in 1939. The du Pont U.S. patent applications

D. P. Exhibit 28

corresponding to their equivalent foreign applications involved, were all filed in the United States Patent Office between June 15 and October 7, 1938, and these foreign applications were filed in the various countries between June 16 and September 19, 1939. Some of the applications have since been issued as patents in the United States and foreign countries.

Except for some minor changes, the terms of the proposed agreement were practically agreed upon in the fall of 1939 and first draft submitted to the Legal Department on November 27, 1939, approval of which was obtained January 23, 1940. Subsequently Titan Company, Inc. submitted the proposed agreement to their foreign associates for approval, but the documents were lost during the German occupation of Paris. The Vice President of Titan Company, Inc., whose headquarters were in Paris, and who has handled all negotiations, has now been in the United States for some months and has advised that the proposed agreement is approved and he is prepared to execute.

The du Pont foreign applications and/or patents involved correspond to the following seven United States applications and patents, the same applications having been filed in more than one country in a number of instances:

In France:

Serial No. 215,218, Filed June 22, 1938—"Titanium Pigment Production"

Serial No. 213,835, Filed June 15, 1938—"Process of Preparing Alkaline Earth Metal Titanates"

Serial No. 219,601, Filed July 16, 1938—"Titanium Oxide Suspensions"

D. P. Exhibit 28

Serial No. 288,926, Filed September 8, 1938—"Improved Titanium Oxide Pigments and Process of Making Same"

In United Kingdom of Great Britain, Northern Ireland and the Isle of Man:

Serial No. 215,218, Filed June 22, 1938—"Titanium Pigment Production"

Serial No. 213,835, Filed June 15, 1938—"Process of Preparing Alkaline Earth Metal Titanates"

Serial No. 228,926, Filed September 8, 1938—"Improved Titanium Oxide Pigments and Process of Making Same"

In Germany:

Serial No. 225,716, Filed August 19, 1938—"Glue Treatment of Calcium Sulphate"

Serial No. 215,218, Filed June 22, 1938—"Titanium Pigment Production"

Serial No. 219,601, Filed July 16, 1938—"Titanium Oxide Suspensions"

In Italy:

Serial No. 215,218, Filed June 22, 1938—"Titanium Pigment Production"

In Holland:

Serial No. 215,218, Filed June 22, 1938—"Titanium Pigment Production"

D. P. Exhibit 28

Serial No. 228,926, Filed September 8, 1938—"Improved Titanium Oxide Pigments and Process of Making Same"

In Belgium:

Serial No. 215,218, Filed June 22, 1938—"Titanium Pigment Production"

In Japan:

Serial No. 219,601, Filed July 16, 1938—"Titanium Oxide Suspensions"

Serial No. 228,403, Filed September 3, 1938—"Oxidation Treatment of Tinted Titanium Oxide"

Serial No. 233,749, Filed October 7, 1938—"Process for Production of Titanium Solutions"

Under this agreement, Titan Company, Inc. is granted a non-assignable, royalty-free license, in each case restricted to countries as specified above. License is exclusive except for du Pont or any company controlled by du Pont, and for I.C.I. in Great Britain. Titan Company, Inc. is permitted to sub-license its associates, as specifically defined in the agreement, on a royalty-free basis. Other sublicenses may be granted subject to du Pont approval and the payment of 50% of any royalties obtained. Titan Company, Inc. assumes all costs incidental to the filing and prosecution of our foreign applications under this license; pays all necessary maintenance fees during their life; and cannot permit abandonment without our approval.

Of the seven applications or patents under which Titan Company, Inc. will be licensed, only one is considered to be important, and one of moderate importance, i.e.:

D. P. Exhibit 28

Application Serial No. 215,218 (now U.S.Patent No. 2,218,655), covers calcination of titanium with small amount of zinc oxide to produce low-chalking grade suitable for tinted finishes, and sold by du Pont as "Ti-Pure" O. This case was declared in interference with Titan Company, Inc., but du Pont was able to prove priority. It is considered relatively important, representing 1.4% of our total TiO_2 sales in 1940 and 1.2% over the first four months of 1941.

Application Serial No. 233,749, covers process for reuse of sulphide containing muds in dissolving titaniferous ores. Moderately important, as it offers possibility of some savings, but we have not yet been able to justify adoption in our operations.

Du Pont obtains from Titan Company, Inc. a non-exclusive, royalty-free, non-assignable license under the following four United States Letters Patent and/or Applications:

Serial No. 277,870, Filed June 7, 1939—"Manufacture of Titanium Dioxide Pigments"

Serial No. 283,986, Filed July 12, 1939—"Titanium Dioxide Pigment and Printing Inks Containing Same"

Serial No. 300,004, Filed October 18, 1939—"Methods of Making Improved Titanium Dioxide Pigments"

Patent No. 1,852,510, Dated April 5, 1932—"Process of Treating Titaniferous Materials with Acids"

D. P. Exhibit 28

Two of the above inventions under which du Pont will be licensed are of extreme importance, i.e.:

Serial No. 283,986 (now U.S.Patent No. 2,224,987), covers combination of antimony-aluminum treatment of TiO_2 for low-chalking pigment satisfactory for white finishes. Of our 1940 sales 14.2% came within the scope of this patent, and for the first four months of this year 20.8% of sales. There is also indication that use of domestic or ore type ilmenite may require this treatment for all production.

Serial No. 300,004, covers precipitating aluminum oxide on TiO_2 in atmosphere of ammonia by a specific method which we have adopted over our earlier procedure because of much improved quality resulting. Of our 1940 sales 12.2% came within claims of this application and 14.4% of our sales over the first four months of this year.

Du Pont rights under the patents listed are confined to the United States of America, its territories and dependencies. Du Pont is not obliged to pay any expenses incidental to preparation, filing and prosecution of United States patents covered by this license.

License specifically provides that where patent extends or applies outside titanium, no rights are granted except insofar as they pertain to the manufacture of titanium compounds which can be used as pigments. Each admits validity of the patents involved, during period of license.

This exchange of patent rights is highly desirable and necessary for du Pont, inasmuch as two of the inventions under which we will be licensed are of great importance, since about 35% of our current TiO_2 sales represent grades

produced within the claims of these two cases as described in a previous paragraph. The remaining applications under which du Pont will be licensed are of lesser importance, but permit us freedom of action in adopting process refinements which they cover and may prove of real value. Furthermore, the du Pont foreign applications and patents under which Titan Company, Inc. will be licensed are of relatively minor importance, and we retain all rights of manufacture and sale for du Pont under our foreign patents without any filing or maintenance costs.

Insofar as any future commitments on our part under the agreement are concerned, the provision of the agreement that Governmental objection or prohibition shall be a valid plea for either party to decline to disclose or grant rights on any involved invention, patent or application governs. In order to fully discharge our obligations with respect to Governmental approvals, we propose to forward to Titan, Inc. the accompanying transmittal letter directing its attention to the existence of certain Governmental regulations which must be fully complied with.

This agreement has been prepared and approved by the Legal Department, and the required Operating, Chemical, and Foreign Relations Department approvals have been obtained.

It is, therefore, recommended that the Management be authorized to execute license as herewith presented.

C. H. RUPPRECHT
General Manager

(71)

D. P. Exhibit 29

Copy given C. H. Lyman—Office 6/20/41

C. H. Rupprecht—2
H. C. Haskell
Fin Sparre
C. H. Biesterfeld
W. F. Raskob

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

* * * *

CROSS-LICENSE AGREEMENT WITH TITAN COMPANY, INC. UNDER SPECIFIC PATENTS IN TITANIUM PIGMENT FIELD:

RESOLVED, that C. H. Rupprecht, General Manager, or Zack Phelps, Assistant General Manager, Krebs Pigments Department, or the President or any Vice-President, together with the Secretary or an Assistant Secretary, of this Company, be and they are hereby authorized to execute on behalf of the Company agreement with Titan Company, Inc. covering an exchange of licenses under specific patents restricted to the field of titanium pigments, said agreement, and proposed letter transmitting it to Titan pointing out necessity for obtaining necessary approvals of U. S. Government, to be in form substantially as per copies submitted to this Committee with letter from the Committee on Patents, dated June 16, 1941.

(72)

D. P. Exhibit 29

This is to certify that the foregoing is a true and correct copy of resolution unanimously adopted by the EXECUTIVE COMMITTEE of E. I. du Pont de Nemours & Company at meeting held on Wednesday, June 18, 1941.

F. G. HESS
Assistant Secretary
E. I. du Pont de Nemours & Company

[SEAL]

36

(74)

D. P. Exhibit 30

COPY

(Original of this letter in C. H. Lyman's Secretary's files.)

THE GLIDDEN COMPANY
1963 Union Trust Building

Cleveland, Ohio
January 11, 1934.

Adrian D. Joyce
President

Mr. C. H. Rupprecht, President,
Krebs Pigment & Color Corporation,
256 Vanderpool Street,
New York City.

Dear Mr. Rupprecht:

I have your letter o .the 9th and thank you very much for your courtesy in sending me a list of the Titanium Dioxide patents owned by the Krebs Pigment & Color Corporation. I shall be very glad to take this patent matter under advisement and obtain copies of the patents you have listed and compare these patents with those controlled by our company and its affiliates.

I can assure you we have no desire to infringe on any of the patents owned by your Company and when I have had a digest made of the situation I will be glad indeed to have our Patent and Technical staff discuss this with your staff in Cleveland.

Thanking you for your courtesy, I am

Yours truly,

(s) ADRIAN D. JOYCE
President.

(75)

D. P. Exhibit 31

FILE COPY

CC—Mr. H. C. Haskell, Legal Dept.—Wil.

Newark, New Jersey,
March 22, 1934.

STRICTLY CONFIDENTIAL

Mr. C. H. Biesterfeld—Wil.,
Dr. G. Lutz—Cleveland.

PATENT SITUATION—AMERICAN ZIRCONIUM CORP.—
TITANIUM DIOXIDE

For your information, below is an extract from the Minutes of the Board of Directors Meeting of Krebs Pigment and Color Corporation held on March 19, 1934, together with Resolution with respect to procedure in the case of possible or probable infringement of our Titanium Dioxide patents by American Zirconium Corporation:

"The President advised orally that he had received information that the American Zirconium Corporation, which, as previously advised, had obtained all patents covering Titanium Dioxide manufacturing processes held by Metal & Thermit Co., is about to construct a plant and engage in the production of Titanium Dioxide under a process or processes which may infringe the patents of this Corporation, and suggested to the Board that steps should be taken to prepare protection of our patent position.

"After discussion, it was moved and unanimously carried that the President be and he is hereby authorized and directed to consult with the duPont Legal Department and, if deemed advisable by him, such outside patent counsel as he may select, and in the name of

this Corporation take all necessary action as in his judgment may be considered necessary or desirable to protect the interests of this Corporation against infringements of the patents of this Corporation relating to the production of Titanium Dioxide.

"IT WAS FURTHER RESOLVED, that the President be and he is hereby instructed to prepare an estimate of the cost involved in the proper protection of our patent interests against this potential infringement and submit a formal request for authorization of expenditure to the Board at its next meeting."

This was discussed with Mr. Haskell in Wilmington on Tuesday (Mr. Biesterfeld being absent), and with Dr. Lutz in Newark yesterday. It is, therefore, understood and desired that Dr. Lutz and Mr. Biesterfeld meet at an early opportunity to plan procedure to lay the ground for possible patent action, in accordance with this Resolution. It is, of course, understood that procedure is subject to approval of the writer.

I would, therefore, ask that this matter be given preferred attention, at least to get properly started as promptly as possible, inasmuch as there is a likelihood that American Zirconium Corporation may be entering the market sometime this coming Summer, and any action by Krebs, if finally decided upon, subject to approval of du Pont Legal Department and Executive Committee, would have to be undertaken promptly at that time.

C. H. RUPPRECHT.

CHR:s

D. P. Exhibit 32

Letterhead of

E. I. Du Pont de Nemours & Company

Mr. C. H. Rupprecht, April 4, 1934
Newark.

Dr. Booge, Dr. Lutz, and I spent the day reviewing the titanium oxide patent situation, with particular reference to the possibility of infringement by the American Zirconium Corporation. We examined the Richter patent 1,947,226, owned by that company, in view of our own patents and discussed the infringement questions that we found to exist, and also discussed tentatively the initial research work that probably would be initiated in the event that further proceedings make it probable that the American Zirconium Company's process would be substantially based on the Richter disclosure. We also discussed the infringement situation from the standpoint of the use of the ilmenite process. In this letter I am not giving the details of our conversations but do want to give our present recommendations for procedure in the next few weeks in this matter.

It appears that a suit against the American Zirconium Company would be conducted either in the Fourth Circuit in which Baltimore is situated, or in the place of incorporation of the defendant. The latter I am looking up in the next few days, and when I find the place of incorporation I am going to determine what the existing law and practice on interrogatories is in that particular district and circuit. The probability is that we shall prefer to file a Bill of Complaint in the Baltimore District. During the progress of the Moistureproof Cellophane suit I had occasion to look up the

Interrogatories practice in the Fourth Circuit and found that it was not contrary to the New York practice, which allows the plaintiff to question the defendant by Interrogatories regarding defendant's process. As the matter stands today, I think we can get in court, via Interrogatories, a disclosure of the defendant's process on which to base our suit for infringement. I will write you within the next week or so more fully on this particular subject as soon as I get the place of incorporation, and in that manner we shall be able to decide which circuit is preferable for a suit.

Our joint recommendation is that, as soon as I give you the latter report, you will be in a position to interview the American Zirconium Corporation again, following the plan of the first interview, and discuss further with them what their plans in this industry are, with a view of getting from them a precise statement as to the process they intend to follow. Such action on your part may, in our opinion, take place any time during the next two months. Inasmuch as it is doubtful whether American Zirconium has worked out to date any precise process of manufacture, it may be well to delay the interview for a month or two. If, during the interview with them, they give you the details of their process, it will be up to us to definitely advise American Zirconium Company of the patents infringed and take our position. We do not believe the program can be outlined any further than that at the present writing, as everything will depend on the outcome of the conference.

We discussed various matters pertaining to a possible suit, among them the matter of engaging outside counsel, but our recommendation is to defer any such selection until you have had your conference with American Zirconium Company. This would not involve any sacrifice of our

position or early procedure in studying the enforcement of our patents, and in view of that we feel that it would be unnecessary to incur the additional expense.

It is also our opinion that at the next conference the representatives of the American Zirconium Company may well ask you the question as to what your intentions are regarding them; that is, whether you are undertaking these proposed discussions for the purpose of persuading them to accept a license under the Krebs Company patents or whether you are endeavoring to persuade them to desist altogether from entering this business. We feel that you and your Board should have an answer prepared on this point or some form of policy determined upon.

If as a result of your further discussion with the American Zirconium Company the latter finally tell you that they refuse to yield their ground, then it will be in order to notify them that they will be sued for violation of our patents. Such suit by us may then be deferred until the actual beginning of commercial operations by the defendant.

C. H. BIESTERFELD

C. H. BIESTERFELD

CHB:MCW

(80)

D. P. Exhibit 33

Letterhead of

KREBS PIGMENT & COLOR CORPORATION
1300 Guardian Bldg.

C.C. Dr. J. E. Booge—Newark
Mr. C. H. Biesterfeld—Wilmington
Dr. G. Lutz—Cleveland

Cleveland, Ohio, June 29, 1934.

Mr. C. H. Rupprecht, Pres.
—NEWARK—

We had the conference this morning with the representatives of the American Zirconium Corp. on the titanium oxide patent situation. Attending the conference for the Krebs Company were Messrs. Booge, Lutz and Biesterfeld and for American Zirconium Corp., O'Brien, Rhodes, Zucker and Kolb.

The conference proceeded approximately along the expected lines as we began by discussing the attack step and then went on step by step through the process with Mr. O'Brien every now and then declining to disclose specifically the detailed steps of his contemplated process. We learned appreciably more than at the previous conference, chiefly, however, through denial that they would practice steps covered by our patents.

Dr. Lutz and Dr. Booge will prepare and send you a detailed report of the morning's conference and of the statements made by Mr. O'Brien and his associates. As soon as you have this report we believe it will be in order for you to write a letter to Mr. Joyce summarizing the results of the conference and thus put on record for future use in court, if necessary, the position taken by us today and also

the failure of the American Zirconium representatives to state their position by way of recitation of facts. We believe you might wish to have our thoughts in regard to the form of letter to be sent to Mr. Joyce and give you a draft of such letter which you will, of course, modify according to your best judgment.

Before framing the letter, we wish to say that we concluded the conference on our part by merely stating to Mr. O'Brien and his associates that on the basis of the discussion we would report to you that we found no basis for a status of non-infringement by the American Zirconium Corp. We preferred to say no more than this and I particularly refrained from committing the Krebs Company to any definite policy and did not at this session directly accuse the American Zirconium Corp. of infringement under any specific patent claims, leaving that for our future choice as we may best be advised.

The form of letter could be substantially as follows:

Mr. Joyce:

Following our last exchange of correspondence on the subject of infringement of patents of the Krebs Company by possible future operations of the American Zirconium Corp., our representatives met in Cleveland on the morning of June 29th and discussed the subject further. Our conference was attended by Messrs. Booge, Lutz and Biesterfeld representing Krebs, and O'Brien, Rhodes, Zucker and Kolb representing the American Zirconium Corp.

A report given to me by our representatives shows that the matter of infringement of our patents was discussed and that your representatives indicated that certain claims of our patents would be infringed, but that they considered

them to be invalid. The report at hand also shows that your representatives declined in a number of instances to give us any detailed disclosure or information in regard to your contemplated processes sufficient to form a basis for an opinion on our part as to infringement.

I understand from our representatives that they advised you to that effect, namely that in view of the discussion they were unable to find that a status of non-infringement existed. Consequently, I feel that the conference failed in a large measure in achieving the object we had hoped for, namely, to set forth the American Zirconium Corp.'s proposed process in sufficient detail to enable us to form a definite opinion (judgment) as to whether our patents would be infringed, and thereby avoid any future controversy, if avoidance be at all possible prior to your actual operation of your proposed process.

In view of the results of the conference, therefor, I am obliged to conclude that infringement is contemplated by Amer. Zir. Corp. (your company) in its proposed commercial operations. Consequently, I feel that I should advise you now that the Krebs Company is determined to protect its patent rights and in the event of commercial operations by the American Zirconium Corp. involving infringement of our patents, Krebs will take the necessary steps to protect such rights.

C. H. BIESTERFELD
C. H. Biesterfeld

CHB:RMC

D. P. Exhibit 34

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

c.c. Mr. C. H. Biesterfeld, Wil.
Dr. G. Lutz, Cleveland
3 extra copies

CONFIDENTIAL

JULY 2, 1934.

MR. C. H. RUPPRECHT:

CONFERENCE WITH AMERICAN ZIRCONIUM CORP. REPRESENTATIVES HELD AT GLIDDEN OFFICES CLEVELAND, JUNE 29.

This will cover details of the discussion at our Cleveland conference attended by Messrs. O'Brien, Rhodes, Zucker and Kolb, representing American Zirconium Corporation and Messrs. Biesterfeld, Lutz and Booge, representing Krebs.

INTRODUCTORY

Mr. Biesterfeld stated that the purpose of the meeting was to allow Zirconium to tell Krebs more about their proposed process to be used in their proposed plant operation.

Mr. O'Brien stated that they would tell us their process but reserved the right to keep silent on new improved steps; for such steps they would merely assure us that they do not intend to infringe.

They were asked to describe their proposed process but Mr. O'Brien stated that they preferred to take it up step by step and answer our questions rather than volunteer information.

D. P. Exhibit 34

ATTACK STEP

They were asked in general how they expected to carry out the attack. Mr. O'Brien stated that they would follow Weintraub's expired U.S. Patent #1,014,793. Mr. O'Brine had a typed memoranum on Weintraub and other references.

At this point Mr. Biesterfeld asked whether they expected to use rutile or ilmenite. Mr. O'Brien replied that thru Metal & Thermit they have acquired control of the American Rutile Company, which company has about two million tons of rutile available. However, it will take several years to develop this source of supply with an expenditure of about $200,000. Meanwhile they will use ilmenite as their raw material. Mr. O'Brien stated that Krebs is primarily interested in the ilmenite process and that he would not discuss rutile in detail; their ilmenite process was stated to be flexible enough to take care of rutile later on.

In reply to a question concerning the concentration of acid to be used in the attack, Mr. O'Brien stated that this would be 93% acid,—commercial 66° Bé. There will be no re-attack of the residue.

Question—Just how will the attack be carried out?

Answer—by Mr. O'Brien.—Do not wish to disclose details; however, will not dilute the acid in the attack. Will heat sufficiently high to cause reaction, the temperature then going to the boiling point.

Mr. Rhodes stated that they expect to mix fuming (104.5%) acid with water to yield 93% acid. They will then add ground ilmenite to the hot 93% acid. The amount of acid will be equivalent to normal titanium sulphate $Ti(SO_4)_2$ or 100 F.A.

D. P. Exhibit 34

No additional information could be obtained concerning the details of the operation except a general denial that Krebs Coffelt patent will be infringed.

DISSOLVING STEP

Question—Composition of solution to be produced.

Answer—Not decided yet. May be concentrated or dilute depending on comparative economy; however, will be less than 45° Bé. Mr. O'Brien stated that they could not go into detail because they think they have novel ideas and have filed a patent application.

Mr. O'Brien stated that they are "Thoroughly familiar with the Krebs and National Lead processes",—he intimated that this came thru Messrs. Rhodes, previously with Krebs, and Bosquet, previously with National Lead. He stated further that they expected to depart from these processes but was not in a position to tell us how.

Weintraub and early Barton patents were cited as prior art merely to indicate that titanium solutions had been prepared. In this case and in later cases of discussion of prior art, Zirconium took the stand that the prior art broadly gave them the right to use almost any process they may choose but they would not disclose the process they expect to use. This seemed scarcely logical as they would have nothing to lose by disclosing a process covered by prior art and well known; on the other hand, if their processes are novel and subject to patent protection they again have nothing to lose by such disclosure as they would obtain patents at a later date which would be a complete protection.

On this question of composition of their solution and in later similar points on other steps we asked several definite specific questions which Zirconium refused to answer.

D. P. Exhibit 34

COPPERAS REMOVAL

In view of Krebs patent on copperas removal to Blumenfeld we asked whether they intended to practice this step. Mr. O'Brien stated very definitely that Zirconium did not intend to infringe, but that he was not willing to say just how they would remove iron. They have a novel step which they do not wish to disclose.

They were then asked whether this would be incomplete solution of the iron sulphate as covered by Krebs patent to Weizmann and Blumenfeld #1,489,183. Mr. O'Brien again stated that they did not intend to infringe but would not disclose their process.

CLARIFICATION STEP

In reply to a question based on the Krebs Blumenfeld patent #1,633,621, on clarification, Mr. O'Brien stated that they would not use hydrogen sulphide or copper sulphide in their clarification. They expect to filter their titanium sulphate solution possibly with the use of filter-aid. They assured us that no other addition agent would be used.

Their attention was then called to claim 7 in the Blumenfeld patent covering broadly a well clarified titanium liquor. Mr. O'Brien *admitted infringment* of this claim.

Mr. Zucker argued that prior art anticipated this claim including the Goldschmidt patent on use of colloidal sulphur and an old Norwegian patent on clarification.

REDUCTION STEP

In view of a Krebs patent covering reduction during dissolving, questions were asked on this step. Mr. O'Brien stated that they have not decided just how they will reduce. He argued that they have a right to reduce during the dis-

solving based upon Barton #1,223,358 also a later Barton patent.

Mr. O'Brien stated that they may reduce during dissolving and thus infringe,—if this proves advantageous.

In reply to a question concerning the amount of reduction Mr. O'Brien stated that they can reduce some of the titanium to the trivalent titanous condition based on prior art of Barton. Messrs. Rhodes and O'Brien stated that they have not yet decided whether they will have titanous present at hydrolysis but insist that they can use this if they wish.

Mr. Rhodes stated that he had produced good TiO_2 with ferric iron present at hydrolysis (which we doubt) and that National Lead uses up to 10% titanous at hydrolysis.

Mr. O'Brien stated that they expected to hydrolyze in the absence of ferric iron.

Prior art referred to included the following:

Barton U.S.P. 1,222,358, page 2, lines 79-87
Barton U.S.P. 1,196,030, page 1, lines 90-107
Weintraub 1,014,793

The above references were read from a typewritten memorandum obviously covering prior art references.

CRYSTALLOID SOLUTION

We asked whether they would infringe Blumenfeld 1,504,669, claim 2, covering the hydrolysis of a crystalloid solution to produce a TiO_2 of uniform properties. Mr. O'Brien admitted that they will infringe but argued invalidity on prior art. He stated that Fladmark and other references must have employed a crystalloid solution. In this case, and all others where prior art decided, we merely stated that to our knowledge such prior art did not teach the pu c

the advantages revealed by the Krebs' patents and that TiO2 made by the processes covered by such prior art would not in any way be comparable in quality with present TiO2 made according to the teachings of the Krebs' patents.

Concerning claim 1 of the Blumenfeld patent 1,504,669, which is not as broad as claim 2 under which infringement is definitely admitted, Zirconium tacitly admitted infringement also by refusal to disclose the concentration of the liquor and the temperature of the attack. In other words claim 1 as well as claim 2 is probably infringed.

HYDROLYSIS STEP

The question was again raised concerning the composition of liquor at the time of hydrolysis. Mr. O'Brien this time stated that they will use a concentrated solution but prefers not to divulge other details. Mr. Rhodes volunteered to show the patent which they intend to follow and refferred to Rossi and Barton U.S.P. 1,106,406. Messrs. O'Brien and Rhodes studies this patent rather diligently and finally referred to page 2, lines 41 et seq. They read this reference but it seemed very general and not a guide to a practical hydrolysis procedure. Reference was made to the use of 50-60% sulphuric acid in the solution.

Additional references mentioned were Barton 1,205,144, Barton 1,223,357 and Barton 1,234,260.

After further discussion of the references by Messrs. O'Brien and Rhodes which failed to bring out anything very definite Mr. Rhodes finally stated that their hydrolysis process is still under development. It was stated that they would follow Rossi and Barton in general but the exact procedure has not been decided. They will, however, obtain a "basic titanium sulphate" such as Barton describes.

Obviously the above was not a complete answer on hydrolysis.

They were then asked whether they would use paraffine oil on the surface of the hydrolysis slurry. Mr. Rhodes stated that this would not be done.

They were asked whether they would use pressure hydrolysis and Mr. O'Brien replied that they would not use pressure.

SEEDING IN HYDROLYSIS

The Krebs' representatives made reference to the several Krebs' patents covering seeding in hydrolysis and asked whether Zirconium intended to use such a process. Mr. O'Brien denied that they would infringe in their proposed operation.

Mr. O'Brien went on to state that their were references to seeding including Barton 1,205,144, covering the addition of a base to the titanium liquor, and Barton 1,223,657 covering addition of a small amount of lime; on these references he feels that they can use seeding if they wish but that they do not intend to.

Krebs stated that avoidance of infringement could best be proved by disclosure of their exact process which would allow Krebs to duplicate the operation themselves and prove absence of infringement. Mr. O'Brien in reply stated that he would like to disclose their process but this would tell too much about the novel steps in their operation. He stated that the composition of the liquor for example, would tell us too much about prior steps in their proposed process. However, he repeated that they would not use any seed and that they have not decided on the concentration and composition of the solution. He added that they will not mix

solutions or add water thus avoiding infringement of Krebs' patents along these lines.

Claim 2 of Krebs Re-issue 18,854 covering hydrolysis broadly was read. Mr. Rhodes that they would *not* infringe but would not disclose how they could avoid infringement. Krebs feels that any practical hydrolysis process yielding present high quality commercial TiO_2 in good yield is apt to infringe but cannot prove infringement or non-infringement by Zirconium in the absence of definite information.

FRIT ADDITION

In view of the Krebs' Blumenfeld & Meyer patent covering alkali metal frits, a question was asked concerning the plans of Zirconium along this line. Mr. O'Brien stated that they would not add an alkali metal salt and in fact would add no type of addition agent prior to calcination. Mr. Rhodes stated that there would be no alkali metal salt present but Mr. O'Brien modified this by saying that traces might enter accidentally from previous steps. He added however, that the usual washing of the TiO_2 would remove most or all of the alkali metal salts.

We pressed the point of accidental presence of alkali metal salts with manipulation such that the amount would be controlled to obtain the benefit of frit addition. Zirconium entered a general denial of any intention to do this.

CALCINATION

Mr. O'Brien stated that the calcination was to be carried out at approximately 750°C. Krebs has no knowledge of an uncalcined titanium oxide pigment which would yield good quality at 750°C and asked how this could be done,

particularly in the absence of trit but Mr. O'Brien stated that they were not free to give any information along these lines as it would tell too much concerning the novel steps in their process.

DRY GRINDING

In view of the Kubin patent covering wet grinding followed by dry grinding, this question was raised. Mr. O'Brien stated that there would be no wet grinding in their proposed operation and in fact they would not wet the pigment at all following calcination. He denied intention to infringe Kubin or the Hanahan patent on wet grinding and elutriation.

Along toward the end of the conference it was quite obvious that all questions were answered in a similar fashion, namely that they were not free to give information on confidential steps of their process. The Zirconium representatives definitely refused to take advantage of the offer to disclose their process in sufficient detail so that Krebs could decide the question of infringement of the various Krebs patents under consideration.

GENERAL STATEMENT AT END OF CONFERENCE

A brief private discussion was held between the Krebs representatives. It was felt that the conference had failed in its object in view of the refusal of the Zirconium representatives to discuss various steps in their process.

On the return of the Zirconium representatives to the conference, a final statement was made by Mr. Biesterfeld as follows: Mr. Biesterfeld stated that he could not find that a status of non-infringement existed and that he would report to Krebs along these lines.

D. P. Exhibit 34

The Zirconium representatives seemed rather taken aback by this statement and were inclined to argue it. Krebs brought out that they had admitted infringement of certain broad claims in the Krebs patents and on other claims which it is believed that they must infringe to produce high quality TiO_2 in good yield, they had merely entered a general denial. The proper course would be for them to divulge their process in sufficient detail so that Krebs could demonstrate whether it is operative without infringement. This Zirconium had refused to do and continued to refuse.

It was stated that Mr. A. D. Joyce would receive a letter from Mr. C. H. Rupprecht summarizing the results of the conference based upon reports of the Krebs representatives.

JAMES E. BOOGE

JAMES E. BOOGE,
RESEARCH DIRECTOR—WHITE PIGMENTS.

JEB:MP

(93)

D. P. Exhibit 35

COPY

THE GLIDDEN COMPANY

1396 UNION COMMERCE BLDG.

Adrian D. Joyce
President

Cleveland, Ohio
August 4, 1941

Mr. C. H. Rupprecht, General Manager
Krebs Pigment Division
E. I. du Pont de Nemours & Company, Inc.
Wilmington, Delaware

Dear Mr. Rupprecht:

Referring to our telephone conversation of August 1, I have informed the representatives of the OPM that we anticipate no difficulty in our negotiations within the Dupont Company for permission to increase our production of Titanium Oxide. I have explained that our royalty license agreement was consummated in 1935 and that our relations with the Dupont Company have always been on a friendly and satisfactory basis.

I would like very much to discuss with you the matter of removing the restrictions as to quantity from our license agreement, and suggest that if possible you come to Cleveland to discuss this subject. We have all the data available here, and I would like very much to have you meet Mr. O'Brien and other of our executives who have had to do with the working out of our Titanium Oxide problems.

I find we can get the proper priorities for machinery and equipment necessary to increase our production, and I also find that we will have available supplies of ilmenite.

D. P. Exhibit 35

We are desirous of increasing our production to 9,000 tons per annum as quickly as possible.

If you find you can come to Cleveland for a conference, I will appreciate it if you will wire me a date and I will make sure everyone interested is available. I will explain that this is vacation month for our staff and it is therefore necessary for me to remain very close to headquarters.

Looking forward with interest to hearing from you, and with my personal regards, I am

Yours truly,

(s) ADRIAN D. JOYCE
President

ADJ—V

4268

D. P. Exhibit 38

COPY

Blind copies to:
Mr. S. I. Abrams—Legal Dept.
Mr. J P. Hancock— " "

Adrian D. Joyce, President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

August 6, 1941

Dear Mr. Joyce:

I have your letter of August 4th, suggesting that I come to Cleveland to discuss with you the question of increased production of titanium dioxide under the license granted by us to American Zirconium Corporation dated January 1, 1935.

It so happens that the vacation problem is with us these days also, and particularly insofar as I am personally concerned, since I have made arrangements to leave tomorrow for several weeks.

However, Mr. Phelps will take the matter in hand, which requires discussion with our Executive and Finance Committees. He will proceed with this promptly and you may expect to hear further from us within a few days. I hope this can be done by the early or middle part of next week.

I am sorry that I am prevented from coming to Cleveland, and naturally Mr. Phelps will be pretty busy during my absence, however, I assure you that your request will have prompt and thorough consideration, as above.

With kindest personal regards, I am

Yours very truly

C. H. RUPPRECHT
GENERAL MANAGER.

CHR:s

D. P. Exhibit 37

FILE COPY

Blind copies to:
Mr. S. L. Abrams —Legal Dept.
Mr. J. P. Hancock— " "

August 8, 1941

Adrian D. Joyce, President
American Zirconium Corporation
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. Joyce:

This will supplement our letter of August 6th, which acknowledged your letter of August 4th relative to our January 1, 1935 license agreement and your desire that certain provisions of said agreement be modified in order to permit you to increase your titanium dioxide production under our licensed patents to 9,000 tons per annum.

I can now advise you that we are agreeable to the suggestion that your titanium dioxide production under our license be increased to not exceed 9,000 tons per year. Accordingly, we propose that Article I, paragraph (b), of our said January 1, 1935 agreement be amended to the extent that the quantity of titanium dioxide specified for each 12 months' period in said article and paragraph, henceforth shall be 9,000 tons per annum in lieu of the quantities which said article and paragraph now provide for.

It is understood, of course, that the modification to our agreement above set out shall not otherwise alter said agree-

ment nor affect nor impair any of its remaining terms and provisions.

If you are agreeable to the foregoing, will you kindly indicate your acceptance of this amendment to our contract by signing and returning to me the enclosed copy of this letter.

Very truly yours,

(s) Z. PHELPS
ASST. GENERAL MANAGER.

ZP:s

Accepted August 11, 1941
American Zirconium Corporation

By (s) ADRIAN D. JOYCE
President

(98)

D. P. Exhibit 38

Letterhead of

THE GLIDDEN COMPANY

August 11, 1941

Mr. Z. Phelps
Assistant General Manager
Krebs Pigments Department
E. I. du Pont de Nemours & Co., Inc.
Wilmington, Delaware

Dear Mr. Phelps:

I received your letters of August 8 and in view of the fact that your company is agreeable to the suggestion that our Titanium Dioxide production under your License be increased to 9,000 tons per year, it will be unnecessary for you to come to Cleveland at this time.

I am returning herewith one copy of your letter of August 8 properly executed.

Thanking you for your courtesy in arranging this matter to our satisfaction, I am

Yours truly,

ADRIAN D. JOYCE
President.

ADJ-V

D. P. Exhibit 39

Letterhead of

THE GLIDDEN COMPANY

April 22, 1943

Mr. David W. Jayne
Development Department
E. I. du Pont de Nemours & Company, Inc.
Wilmington, Delaware

Dear Mr. Jayne:

Our Company, as you perhaps know, has a license agreement with your Company in connection with the manufacture of Titanium Dioxide pigment. This license covers the use of your patents and processes in the manufacture of anastase type of Titanium pigments.

We are now planning on changing our plant to manufacture the rutile type and I am writing to ask whether we can secure a license from your Company for the manufacture of the rutile type of Titanium pigments. It is possible that you may be willing to make an amendment to our present license authorizing us to make the rutile type under your patents on the same royalty basis.

Thanking you for giving this your consideration, I am

Yours truly,

ADRIAN D. JOYCE
President.

ADJ V

D. P. Exhibit 40

FILE COPY

April 29, 1943

Adrian D. Joyce, President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. Joyce:

After being away from the office for several days, I find your letter of April 22nd addressed to Mr. D. W. Jayne, which was forwarded to me for attention since all matters concerning titanium dioxide clear through this office as in the past.

I note your request with respect to a license for the manufacture of rutile type pigment, and will be glad to give this consideration and advise you further. It so happens that I am in the office for today only, and will not return until sometime next week. However, please be assured that you will hear from me shortly.

With kindest regards,

Yours very truly,

GENERAL MANAGER

CHR/d

(101)

D. P. Exhibit 41

Letterhead of

THE GLIDDEN COMPANY

May 3, 1943

Mr. C. H. Rupprecht, General Manager
Pigments Department
E. I. du Pont de Nemours & Company, Inc.
Wilmington, Delaware

Dear Mr. Rupprecht:

I am in receipt of your letter of April 29 and I wish to explain that the reason I wrote Mr. D. W. Jayne about the patent matter was because a short time ago I took up the matter of a patent license on certain inventions on Lecithin and the correspondence was referred to Mr. Jayne, so I was under the impression that perhaps Mr. Jayne was handling patent matters.

I am very glad indeed to know that this is under your control for I am sure you will give the matter very careful consideration. I will appreciate it if you will let me hear from you as soon as you have had an opportunity of thinking the matter over.

I hope you are well, and want to ask that if you come out this way you make it a point to stop over for a visit.

With my personal regards, I am

Yours truly,

ADRIAN D. JOYCE
President.

ADJ V

(102)

D. P. Exhibit 42

May 7, 1943.

Mr. Adrian D. Joyce, President
American Zirconium Corporation
Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:

This will refer further to your letter dated April 22, 1943, my acknowledgment of April 29, 1943, and your inquiry whether our existing license agreement dated January 1, 1935 (variously modified under dates of November 18, 1937, November 9, 1939 and August 8, 1941) might be enlarged to include within its terms any U. S. patents and applications relating to rutile pigment production which we now own.

I am writing to advise that we have no objection to the inclusion of our rutile patents and applications under our said agreement, which patents and applications are more particularly set forth in the attached Schedule. To that end, we are now writing to suggest that, if agreeable to you, we now supplement or modify our said January 1, 1935 agreement to the following extent, but not otherwise:

(a) That the United States patents and applications set forth in the attached Schedule shall be henceforth included in Schedule "A" of said January 1, 1935 agreement, variously modified as aforesaid, and as coming under the license therein granted you; and

(b) That upon expiration of the letters patent originally listed in said Schedule "A", the royalties which there-

D. P. Exhibit 42

after shall accrue to us by reason of your titanium oxide pigment production shall be construed as only applying to TiO_2 pigments which you shall manufacture, use or sell under the licensed patents and/or applications set forth in the attached Schedule.

It is understood that the above extension and modification of our said agreement shall not be construed as otherwise altering, affecting or impairing any of its remaining terms and conditions.

If the foregoing meets with your approval, will you kindly indicate your acceptance thereof by signing and returning to me the enclosed duplicate original of this letter?

Very truly yours,

E. I. DU PONT DE NEMOURS & Co.

By (S) C. H. RUPPRECHT
General Manager, Pigments Dept.

Accepted May 8, 1943

AMERICAN ZIRCONIUM CORPORATION

By (S) Adrian D. Joyce
President

4277

D. P. Exhibit 42

SCHEDULE

(a) U. S. PATENTS

Pat. No.	*Dated*	*Inventor*	*Entitled*
2,062,133	Nov. 24, 1936	Kubelka, et al.	Rutile Pigments and Process of Making the Same
2,062,134	Nov. 24, 1936	Kubelka, et al.	Rutile Pigments
2,193,559	Mar. 12, 1940	Keats	Production of Rutile Pigments
2,193,563	Mar. 12, 1940	McKinney	Rutile Pigment from Barium Titanate
2,213,542	Sept. 3, 1940	Booge	Titanium Pigment Production
2,237,764	April 8, 1941	McKinney	Production of Rutile Pigment
2,253,551	Aug. 26, 1941	Booge	Titanium Pigment Production
2,266,260	Dec. 16, 1941	Peterson	Titanium Oxide Pigment Production
2,273,431	Feb. 17, 1942	Booge	Titanium Pigment Production
2,286,881	June 16, 1942	Bichowsky	Method of Treating Hydrolyzable Titanium Salt Solutions
2,286,882	June 16, 1942	Bichowsky	Titanium Oxide Pigment Production
2,293,861	Aug. 25, 1942	Stark	Production of Composite Titanium Oxide Pigments
2,301,412	Nov. 10, 1942	Keats, et al.	Titanium Oxide Production
2,304,110	Dec. 8, 1942	McKinney, et al.	Production of Titanium Oxide Pigments
2,307,048	Jan. 5, 1943	Keats	Production of TiO_2 Pigments

D. P. Exhibit 42

(b) U. S. APPLICATIONS:

Ser. No.	*Filed*	*Inventor*	*Entitled*
426,248	Jan. 9, 1942	Olson & Booge	Titanium Oxide Pigment Production
472,876	Jan. 19, 1943	Olson & Krchma	Preparation of Titanium Chloride Solutions
426,249	Jan. 9, 1942	Peterson	Titanium Oxide Pigment Production
426,247	Jan. 9, 1942	Olson	Titanium Oxide Pigment Production
283,052	July 6, 1939	Keats & Stark	Titanium Oxide Production
242,922	Nov. 29, 1938	McKinney & Stark	Production of Rutile Pigments
283,046	July 6, 1939	Bichowsky	Titanium Oxide Pigment Production
283,050	July 6, 1939	Keats & Stark	Titanium Oxide Pigment Production
283,051	July 6, 1939	Keats & Stark	Titanium Oxide Pigment Production
449,665	July 3, 1942	Olson	Titanium Oxide Pigment Production
370,483	Dec. 17, 1940	Keats & Booge	Titanium Oxide Pigment Production
401,448	July 8, 1941	Stark & Keats	Production of Titanium Oxide Pigments
449,666	July 3, 1942	Olson	Titanium Oxide Pigment Production
449,667	July 3, 1942	Olson	Titanium Oxide Pigment Production
426,250	Jan. 9, 1942	Keats & Peterson	Titanium Oxide Pigment Production
426,251	Jan. 9, 1942	Keats	Titanium Oxide Pigment Production
449,668	July 3, 1942	Olson	Titanium Oxide Pigment Production

(106)

D. P. Exhibit 43

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Blind copies to
Mr. C. H. Lyman
Mr. J. P. Hancock
Dr. J. E. Booge

Pigments Department

August 2, 1943

Adrian D. Joyce, President
American Zirconium Corporation
Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:

You will recall that, by my letter to you of May 7, 1943, and your May 8, 1943 acceptance, the January 1, 1935 du Pont-American Zirconium Corporation license agreement was modified to the extent that du Pont rutile patents and applications, particularly identified in the Schedule which accompanied my letter, became included within the terms of the license agreement.

It has now come to my attention that one additional du Pont titanium oxide patent application exists which might be of interest in your rutile manufacture. This application is the following:

Ser. No	Filed	Inventor	Entitled
392,942	May 10, 1941	Daiger and Seidel	Production of Improved Pigments

Accordingly, we propose that the aforesaid application Serial No. 392,942 be hereby added to those which appear in the Schedule accompanying my said May 7, 1943 letter,

and that henceforth said application shall be considered as included among the licensed United States patents and applications of said Schedule.

In behalf of American Zirconium Corporation, will you please indicate its acceptance of this modification of our license agreement, by executing and returning to me the attached duplicate original of this letter?

Upon receipt of your acceptance, I will transmit to you for your records a copy of each of the applications set forth in the Schedule, as modified.

Very truly yours,

E. I. DU PONT DE NEMOURS & COMPANY

By: C. H. Rupprecht

C. H. Rupprecht

General Manager, Pigments Department

Accepted: 1943

AMERICAN ZIRCONIUM CORPORATION

By ADRIAN D. JOYCE

President

(108)

D. P. Exhibit 44

November 4, 1940

To: COMMITTEE ON PATENTS

FROM: KREBS PIGMENTS DEPARTMENT

LICENSE TO VIRGINIA CHEMICAL CORPORATION UNDER PATENT APPLICATION U. S. SERIAL NO. 262,695 DATED MARCH 18, 1939

On August 5, 1937 a non-exclusive license was granted to Virginia Chemical Corporation, 100% subsidiary of Interchemical Corporation, giving them rights to produce stipulated annual amounts of pure titanium dioxide under a specified list of our patents, and carrying a 2% royalty.

This Licensee has now requested a license under a pending application, U. S. Serial No. 262,695, filed March 18, 1939, (recently allowed) and any patent that may issue therefrom, covering antimony treatment for chalk resistance of pigment. Licensee became informed of our application by reason of publication of limitation of a competitive patent, following settlement of interference with us.

We are proposing, therefore, to add this patent application, or any patent which may issue therefrom, to the original license, under exactly the same terms and conditions, except that for every pound of titanium pigment produced under this particular application herein mentioned, an increased royalty of one percent (1%) over and above the 2% ~~royalty in~~ the original agreement will be paid.

Beginning with October 1, 1940 Virginia Chemical Corporation is licensed to produce 6000 tons pure titanium

D. P. Exhibit 44

dioxide per year under our patents for the next six years. We estimate that about 15-20% of Licensee's production will come under this additional 1% royalty provision, and based on our present carload selling price, this would amount to a payment of about $2500-$3000 a year during this period, and thereafter at 9000 tons a year production, this would increase to about $3500-$4700 annually.

Patent and Legal Departments have approved this agreement, and propose that the transaction be handled by letter, as here attached, rather than by an additional and separate agreement.

It is, therefore, recommended that the Management of this Department be authorized to execute this additional license.

C. H. RUPPRECHT
GENERAL MANAGER

(110)

D. P. Exhibit 45

Copy given C. H. Lyman--11/18/40

Mr. C. H. Rupprecht — 2
Mr. H. C. Haskell
Dr. Fin Sparre
Mr. W. F. Raskob
Mr. A. C. Nielsen
Mr. G. V. Wolstenholme

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

* * *

LICENSE TO VIRGINIA CHEMICAL CORPORATION UNDER U. S. PATENT APPLICATION, SERIAL NO. 262,695 RE CHALK-RESISTANT TITANIUM PIGMENTS:

WHEREAS, this Company entered into an agreement, dated August 5, 1937, with Virginia Chemical Corporation, by which, (a) du Pont granted them a non-exclusive license under 43 U. S. patents covering manufacture, use and sale of pure titanium dioxide on a royalty basis of 2% of du Pont average published carload selling price, with minimum royalty of ¼¢ per pound, and a rising scale of allowable tonnage to be made (not exceeding 9,000 tons a year after 1946), and (b) Virginia granted du Pont a non-exclusive, royalty-free license under one U. S. patent and one patent application re a calcium base titanium pigment;

RESOLVED, that C. H. Rupprecht, General Manager, or Zack Phelps, Assistant General Manager, Krebs Pigments Department, or the President or any Vice-President, of

D. P. Exhibit 45

this Company, together with the Secretary or an Assistant Secretary, be and they are hereby authorized to execute on behalf of the Company letter to Virginia Chemical Corporation agreeing to include in above-mentioned agreement, dated August 5, 1937, non-exclusive license under du Pont U. S. Patent Application, Serial No. 262,695, re antimony treatment for chalk resistance of titanium pigments, on the same terms mentioned in the main agreement except that royalty rate on production of this particular type of pigment shall be 3% of aforesaid selling price, said letter to be in form substantially as per copy submitted to this Committee by letter from the Committee on Patents, dated November 11, 1940.

This is to certify that the foregoing is a true and correct copy of resolution unanimously adopted by the EXECUTIVE COMMITTEE of E. I. du Pont de Nemours & Company at meeting held on Wednesday, November 13, 1940.

M. D. FISHER
Assistant Secretary
E. I. du Pont de Nemours & Company

36

[CORPORATE SEAL]

(112)

D. P. Exhibit 46

FILE COPY

Blind copies to:
S. L. Abrams —Legal Dept.
J. P. Hancock— " "
J. E. Booge —Newport

November 18, 1940

John Allegaert, President
Virginia Chemical Corporation
c/o United Color and Pigment Company
Newark, New Jersey

Dear Mr. Allegaert:

Referring to the desire of your Company to include the Booge Application, Serial No. 262,695, filed March 18, 1939 and entitled "Chalk-Resistant Titanium Pigments," or [redacted] patent or re-issue resulting therefrom, in the provisions of our license agreement of August 5, 1937, as amended, we wish to advise that we are willing to include it on the same terms and conditions as provided in the agreement, with the additional understanding that for every pound of titanium pigment produced under the said Booge application or patent, an increased royalty of one per cent (1%) over and above the contract royalty be paid.

If this is agreeable to you, kindly indicate by signing and returning the accompanying copy of this letter.

Very truly yours,

C. H. RUPPRECHT
General Manager

Accepted November 19, 1940
Virginia Chemical Corporation

By (s) John Allegaert
President

(113)

D. P. Exhibit 47

Letterhead of

VIRGINIA CHEMICAL CORPORATION

November 19, 1940.

Mr. Carl H. Rupprecht, General Manager,
Krebs Pigments Department,
E. I. du Pont de Nemours & Company,
Wilmington, Delaware.

Dear Mr. Rupprecht:

Thank you for your letter of November 18, granting us the right to operate under the Booge application serial No. 262,695, for the production of chalk-resistant titanium pigments.

The terms and conditions, as outlined in your communication, are acceptable and your request that one copy of your letter be signed and returned is being complied with. You will find the letter enclosed.

Thank you for your cooperation.

Yours very truly,

JOHN ALLEGAERT

JA:MB
Encl.

(114)

D. P. Exhibit 48

FILE COPY

Blind copies to:
Mr. S. L. Abrams, Legal Dept.
Mr. J. P. Hancock, " "

May 12, 1941

REGISTERED MAIL

John Allegaert, President
Virginia Chemical Corporation
c/o United Color and Pigment Company
Newark, New Jersey

Dear Mr. Allegaert:

This will confirm our recent conversation relative to Article I, Paragraph (b) of our Agreement of August 5, 1937, under which Virginia Chemical Corporation is licensed to manufacture specific quantities of titanium dioxide under our patents, and also our letter of August 5, 1940 authorizing certain modifications.

In view of the conditions explained by you, we are agreeable to a further modification from our letter of August 5, 1940, to the extent of changing the quantity specified for the twelve-months period ending September 30, 1941 from 4,000 tons to 5,000 tons.

It is, of course, understood that our consent to this additional modification can not be regarded as a precedent for waiving any of the provisions of the contract.

D. P. Exhibit 48

Please indicate your acceptance of this further amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. RUPPRECHT
General Manager.

CHR:s

Accepted, May 14, 1941
VIRGINIA CHEMICAL CORPORATION

By (s) JOHN ALLEGAERT
President

(116)

D. P. Exhibit 49

Letterhead of

VIRGINIA CHEMICAL CORPORATION

Personal and Confidential

May 14, 1941.

Mr. C. H. Rupprecht,
General Manager,
Krel s Pigments Division,
E. I. du Pont de Nemours & Co., Inc.,
Wilmington, Delaware.

Dear Mr. Rupprecht:

Thank you for your letter of May 12, agreeing to our request for a modification of the annual tonnage as provided in our License Agreement covering the production of Titanium Dioxide. We are appreciative of your cooperation in this matter.

As requested, I have signed, and am returning herewith, copy of your letter agreeing to the change.

Very truly yours,

JOHN ALLEGAERT

JA:MB

(117)

D. P. Exhibit 50

FILE COPY

Blind copies to:
Mr. S. L. Abrams —Legal Dept.
Mr. J. P. Hancock— " "

August 8, 1941

John Allegaert, President
Virginia Chemical Corporation
c/o United Color and Pigment Company
Newark, New Jersey

Dear Mr. Allegaert:

This will confirm our conversation relative to Article I, paragraph (b), of our agreement of August 5, 1937 (as amended under dates of August 5, 1940 and May 12, 1941) under which Virginia Chemical Corporation is licensed to manufacture certain quantities of titanium dioxide under our patents.

This is to advise that we are agreeable to a further modification in the yearly quantity of titanium dioxide produced by you under our agreement, and we accordingly propose that Article I, paragraph (b), of our said agreement be amended to the extent that the quantity of titanium dioxide specified for each 12 months' period in said article and paragraph (as amended by said letters of August 5, 1940 and May 12, 1941) be modified whereby in lieu of such quantities henceforth you may produce not in excess of 9,000 tons per annum of titanium dioxide under said license.

It is understood, of course, that our consent to this additional modification does not otherwise alter our said

agreement, nor affect nor impair any of its remaining terms and provisions.

Please indicate your acceptance of this further amendment to said agreement by signing and returning to me the enclosed copy of this letter.

Very truly yours,

(s) Z. PHELPS
Asst. General Manager.

ZP:s

Accepted August 13, 1941
Virginia Chemical Corporation

By (s) John Allegaert
President

D. P. Exhibit 51

Letterhead of

VIRGINIA CHEMICAL CORPORATION

August 13, 1941

Mr. Z. Phelps, Ass't. General Manager
Krebs Pigments Department
E. I. du Pont de Nemours & Company
Wilmington, Delaware

Dear Zac:

Thank you for voluntarily permitting us to produce 9,000 tons of TiO_2 annually, instead of the 6,000 as called for for the next few years under our license agreement with you. We appreciate your cooperative attitude very much indeed.

As requested, I have signed and am enclosing herewith a copy of your August 8th letter, in which you formally record tonnage modification.

Sincerely yours,

JOHN ALLEGAERT

JA:FB
Enc.

(120)

D. P. Exhibit 52

July 22, 1943

Mr. John Allegaert, President
Virginia Chemical Corporation
c/o United Color & Pigment Company
Newark, New Jersey

Dear Mr. Allegaert:

I am writing to confirm the understandings which we have reached in our recent discussions regarding the existing du Pont-Virginia Chemical Corporation agreement, dated August 5, 1937 (as variously amended under dates of August 5, 1940, May 12, 1941 and August 8, 1941), and the proposed further supplement to said agreement to include particularly licenses under United States patents and applications relating to rutile titanium oxide pigments which du Pont now owns.

It is agreeable to du Pont to include its United States rutile patents and applications under said agreement, which patents and applications are more particularly set forth in the attached schedule. Copies of the applications will be forwarded to you upon advice that the terms set forth herein are satisfactory to you.

We very much appreciate your offer that we include in this supplemental agreement the right of the Company to acquire non-exclusive, non-assignable licenses under your existing patents and applications relating to rutile titanium oxide pigments on terms satisfactory to this Company. However, we would prefer that the terms of such licenses as we may desire, be negotiated between us, as we have no

D. P. Exhibit 52

doubt that there would be no difficulty in arriving at mutually satisfactory terms.

Hence, du Pont now agrees to supplement said agreement of August 5, 1937, to the following extent:

(a) That the United States patents and applications including any patents resulting therefrom) which are set forth in the attached schedule shall be henceforth considered as included in Schedule "A", which accompanies said August 5, 1937 agreement, variously modified as aforesaid, and shall be considered as coming under the license therein granted to Virginia by du Pont;

(b) That upon expiration of the letters patent originally listed in said Schedule "A", the royalties which thereafter shall accrue to du Pont by reason of Virginia's titanium oxide pigment production shall be construed as applying only to titanium oxide pigments which Virginia shall manufacture, use or sell under the licensed patents and/or applications set forth in the attached schedule; and

(c) That du Pont shall be entitled, upon request, to acquire a non-exclusive, non-assignable license under the United States patents and applications (including any patents resulting therefrom) which you now own, relating to rutile titanium oxide pigments on terms that shall be mutually satisfactory.

It is understood that the above extension and modification of our said agreement, as amended, shall not be construed as otherwise altering, affecting or impairing any of the remaining terms and conditions thereof.

If the foregoing comprises a correct statement of the understanding which we have reached with respect to du

D. P. Exhibit 52

Pont's patents and applications and is satisfactory with respect to your patents and applications, will you kindly indicate your acceptance thereof by signing and returning to me the enclosed duplicate original of this letter, together with a list of your patents and copies of applications relating to rutile titanium oxide pigments.

Very truly yours,

E. I. DU PONT DE NEMOURS & COMPANY

BY C. H. RUPPRECHT

General Manager, Pigments Dept.

ACCEPTED: JULY 30 1943

VIRGINIA CHEMICAL CORPORATION

BY JOHN ALLEGAERT

President

4296

D. P. Exhibit 52.

SCHEDULE

(a) U. S. PATENTS:

Pat. No.	*Dated*	*Inventor*	*Entitled*
2,062,133	Nov. 24, 1936	Kubelka, et al.	Rutile Pigments and Process of Making the Same
2,062,134	Nov. 24, 1936	Kubelka, et al.	Rutile Pigments
2,193,559	Mar. 12, 1940	Keats	Production of Rutile Pigments
2,193,563	Mar. 12, 1940	McKinney	Rutile Pigment from Barium Titanate
2,213,542	Sept. 3, 1940	Booge	Titanium Pigment Production
2,237,764	April 8, 1941	McKinney	Production of Rutile Pigment
2,253,551	Aug. 26, 1941	Booge	Titanium Pigment Production
2,266,260	Dec. 16, 1941	Peterson	Titanium Oxide Pigment Production
2,273,431	Feb. 17, 1942	Booge	Titanium Pigment Production
2,286,881	June 16, 1942	Bichowsky	Method of Treating Hydrolyzable Titanium Salt Solutions
2,286,882	June 16, 1942	Bichowsky	Titanium Oxide Pigment Production
2,293,861	Aug. 25, 1942	Stark	Production of Composite Titanium Oxide Pigments
2,301,412	Nov. 10, 1942	Keats, et al.	Titanium Oxide Production
2,304,110	Dec. 8, 1942	McKinney, et al.	Production of Titanium Oxide Pigments
2,307,048	Jan. 5, 1943	Keats	Production of TiO_2 Pigments

(124)

D. P. Exhibit 52

(b) U. S. APPLICATIONS:

Ser. No.	*Filed*	*Inventor*	*Entitled*
426,248	Jan. 9, 1942	Olson & Booge	Titanium Oxide Pigment Production
472,876	Jan. 19, 1943	Olson & Krchma	Preparation of Titanium Chloride Solutions
426,249	Jan. 9, 1942	Peterson	Titanium Oxide Pigment Production
426,247	Jan. 9, 1942	Olson	Titanium Oxide Pigment Production
283,052	July 6, 1939	Keats & Stark	Titanium Oxide Production
242,922	Nov. 29, 1938	McKinney & Stark	Production of Rutile Pigments
283,046	July 6, 1939	Bichowsky	Titanium Oxide Pigment Production
283,050	July 6, 1939	Keats & Stark	Titanium Oxide Pigment Production
283,051	July 6, 1939	Keats & Stark	Titanium Oxide Pigment Production
449,665	July 3, 1942	Olson	Titanium Oxide Pigment Production
370,483	Dec. 17, 1940	Keats & Booge	Titanium Oxide Pigment Production
401,448	July 8, 1941	Stark & Keats	Production of Titanium Oxide Pigments
449,666	July 3, 1942	Olson	Titanium Oxide Pigment Production
449,667	July 3, 1942	Olson	Titanium Oxide Pigment Production
426,250	Jan. 9, 1942	Keats & Peterson	Titanium Oxide Pigment Production
426,251	Jan. 9, 1942	Keats	Titanium Oxide Pigment Production
449,668	July 3, 1942	Olson	Titanium Oxide Pigment Production
392,942	May 10, 1941	Daiger & Seidel	Production of Improved Pig-

D. P. Exhibit 53

November 6, 1944

To: COMMITTEE ON PATENTS

FROM: PIGMENTS DEPARTMENT

MODIFICATION OF LICENSES TO AMERICAN CYANAMID COMPANY AND THE GLIDDEN COMPANY TO WAIVE PROVISION LIMITING PRODUCTION AND PROVISION OF PATENT SCOPE AND VALIDITY

Agreement dated August 5, 1937 between du Pont Company and Virginia Chemical Corporation (subsequently assigned to American Cyanamid Company) licensed VIRGINIA to manufacture, use and sell titanium dioxide under patents owned by DU PONT. This agreement includes the following Articles:

I.

(a) Du Pont hereby grants to Virginia a non-exclusive license to make titanium dioxide in the quantities specified in paragraph (b) of this Article, and to use and sell titanium dioxide so produced, throughout the United States of America and the territories and dependencies thereof, under the Letters Patent described in Schedule "A" hereof and any reissues or divisions thereof.

(b) The total quantity of titanium dioxide (including the titanium dioxide content of all compounds, mixtures and other products) made by Virginia wholly or partly under the claims of the patents licensed to it hereunder, shall not exceed in any annual period during the

continuance of this agreement the quantity specified for such year in the following table:

Annual Period	*Quantity*
October 1, 1937 to September 30, 1938	3,000 tons
" " 1938 " " " 1939	3,000 "
" " 1939 " " " 1940	3,000 "
" " 1940 " " " 1941	6,000 "
" " 1941 " " " 1942	6,000 "
" " 1942 " " " 1943	6,000 "
" " 1943 " " " 1944	6,000 "
" " 1944 " " " 1945	6,000 "
" " 1945 " " " 1946	6,000 "
Each subsequent annual period	9,000 "

V.

(a) Virginia admits the validity of each of the letters Patent listed in Schedule "A" hereof, and agrees that it will not directly or indirectly infringe or contest the validity or scope of any of the claims thereof, or aid or encourage others in so doing. The termination of this license for any cause prior to its normal expiration shall not affect the provisions of this Article or release or discharge Virginia from the admission and estoppel herein set forth.

(b) Du Pont admits the validity of United States Letters Patent No. 2,066,074 and of any Letters Patent issued on Application for United States Letters Patent Serial No. 138,104 (insofar as the Letters Patent so issued cover the invention or inventions claimed in said Application as submitted by Virginia to du Pont under date of July 7, 1937), and agrees that it will not di-

rectly or indirectly infringe or contest the validity or scope of any of the claims thereof, or aid or encourage others in so doing. The provisions of this paragraph (b) shall be effective so long as du Pont is licensed under said Letters Patent.

Article I, Section (b) was amended August 1, 1941 to afford maximum production by VIRGINIA of 9000 tons per annum.

Agreement dated January 1, 1935 between du Pont Company and American Zirconium Company (subsequently assigned to The Glidden Company) licensed AMERICAN ZIRCONIUM to manufacture, use and sell titanium dioxide under patents owned by DU PONT. This agreement includes the following Articles:

I.

(a) Krebs hereby grants to American a non-exclusive license to make titanium dioxide in the quantities specified in paragraph (b) of this Article, and to use and sell titanium dioxide so produced, throughout the United States of America and the territories and dependencies thereof, under the Letters Patent described in Schedule "A" hereof and any reissues or divisions thereof.

(b) The total quantity of titanium dioxide (including the titanium dioxide content of all compounds, mixtures and other products) made wholly or partly under the license granted herein, shall not exceed in any calendar year during the continuance of this agreement the quantity specified for such year in the following table:

D. P. Exhibit 53

Year	*Quantity*
1935	3,000 tons
1936	3,000 "
1937	3,000 "
1938	6,000 "
1939	6,000 "
1940	6,000 "
1941	6,000 "
1942	6,000 "
1943	6,000 "
Each subsequent year	9,000 ".

IV.

American admits the validity of each of the Letters Patent listed in Schedule "A" hereof, and agrees that it will not directly or indirectly infringe or contest the validity or scope of any of the claims thereof, or aid or encourage others in so doing. The termination of this license for any cause, prior to its normal expiration, shall not affect the provisions of this Article or release or discharge American from the admission and estoppal herein set forth.

Article I, Section (b) was amended August 1, 1941 to afford maximum production by American Zirconium of 9000 tons per annum.

The Legal Department recommends the elimination of Article I, Section (b), from each of these agreements. It also recommends elimination of Article IV from the American Zirconium Agreement and waiver of Article V of the Virginia Chemical Agreement only to the extent that its

covenants affect the scope, validity and infringement of the licensed du Pont patents. The Legal Department informs that the quantity restrictions of Article I, Section (b) of each agreement are of a nature which the Government has criticized, while the changes suggested in respect to Article IV of Zirconium Agreement and Article V of the Virginia Chemical Agreement are of a technical character designed to eliminate another possible ground of criticism against the licenses.

Attached hereto are proposed forms of letters to be transmitted to American Cyanamid and Glidden for purposes of effecting these changes in the agreements.

In view of the above, it is recommended that this Department be authorized to effect the changes proposed in the involved licenses, and to transmit the suggested letters to the respective licensees.

J. F. DALEY
GENERAL MANAGER

(130)

D. P. Exhibit 54

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY
Incorporated

CC: Mr. C. H. Lyman (2)
Mr. J. P. Hancock (3)
Dr. J. E. Booge
Mr. E. K. Gladding
Mr. A. C. Nielsen

November 10, 1944

American Cyanamid Company
30 Rockefeller Plaza
New York 20, New York

Gentlemen:

We hereby waive the following provisions of the license agreement dated August 5, 1937 between du Pont and Virginia Chemical Corporation, as variously amended and assigned:

(a) Article I, Section (b), as variously amended, specifying the maximum quantities of titanium dioxide to be produced by you under the license.

(b) Article V containing covenants as to scope, validity and infringement of du Pont's licensed patents. It should be understood with respect to the waiver of this Article V that du Pont is not in any way waiving the implied estoppels at law existing against you as a licensee under the du Pont patents covered by the license agreement.

D. P. Exhibit 54

It is understood we consider that these waivers do not affect any of the other provisions of the license agreement.

We should appreciate your acknowledgment of receipt of this letter for the purposes of our records.

Very truly yours,

J. F. DALEY
J. F. Daley
General Manager

(132)

D. P. Exhibit 55

AMERICAN CYANAMID COMPANY

December 15, 1944.

E. I. duPont de Nemours & Company,
Pigments Department,
Wilmington 98, Delaware.

Attention: Mr. J. F. Daley, General Manager

Gentlemen:

This will acknowledge your letter of November 10, 1944, whereby you advise us that you waive certain provisions (as set forth in your letter of November 10, 1944) of the license agreement, dated August 5, 1935, between du Pont and Virginia Chemical Corporation (American Cyanamid Company having succeeded to the rights of Virginia Chemical Corporation).

We understand that your waiver does not affect any of the other provisions of the license agreement.

We wish to apologize for the delay in answering your letter.

Very truly yours,

G. R. MARTIN,
Assistant Secretary.

D. P. Exhibit 56

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY
Incorporated

CC: Mr. C. H. Lyman (2)
Mr. J. P. Hancock (3)
Dr. J. E. Booge
Mr. E. K. Gladding
Mr. A. C. Nielsen

November 10, 1944

The Glidden Company
Cleveland, Ohio

Gentlemen:

We hereby waive the following provisions of the license agreement dated January 1, 1935 between Krebs Pigment and Color Corporation and American Zirconium Corporation, as variously amended and assigned:

(a) Article I, Section (b), as variously amended, specifying the maximum quantities of titanium dioxide to be produced by you under the license.

(b) Article IV containing covenants as to scope validity and infringement of the licensed patents. It should be understood with respect to the waiver of this Article IV that du Pont is not in any way waiving the implied estoppels at law existing against you as a licensee under the patents covered by the license agreement.

D. P. Exhibit 56

It is understood we consider that these waivers do not affect any of the other provisions of the license agreement.

We should appreciate your acknowledgment of receipt of this letter for the purposes of our records.

Very truly yours,

J. F. DALEY
J. F. Daley
General Manager

(135)

D. P. Exhibit 57

COPY

THE GLIDDEN COMPANY

CLEVELAND, OHIO

CLIFTON M. KOLB
Secretary

November 15, 1944

Mr. J. F. Daley, General Manager
E. I. DuPont de Nemours & Company
Pigments Department
Wilmington 98, Delaware

Dear Sir:

We wish to acknowledge receipt of your letter of November 10, 1944, relative to the license agreement dated January 1, 1935, between Krebs Pigment and Color Corporation and American Zirconium Corporation.

Very truly yours,

(SGD) CLIFTON M. KOLB
Secretary

Copies made for:
J. P. Hancock

(136)

D. P. Exhibit 58

(This is the only copy typed)

MEMORANDUM

Newport, Del.
February 26, 1936.

INFORMATION FROM MR. J. L. TURNER—2/25/36

Titanox-C

The calcium sulphate and wet blending equipment is completely installed at Sayerville,—finished in November. Has not been operated as yet.

Sayerville is now running at 40 tons TiO_2 per day. No straight TiO_2 made at St. Louis since April or May.

Further plans concerning blended Titanox-C are rather indefinite. The general feeling is that they will wet blend at Sayerville later on but this would mean making straight TiO_2 at St. Louis and using both of the TiO_2 capacity at Sayerville and St. Louis for Titanox-C.

Titanox-C at St. Louis being made by the old coalesced process. They are worried about quality compared with LO "Ti-Cal" particularly color. They do not see their way clear to switching over to a blending process at St. Louis for regular Titanox-C.

Concerning HO Titanox-C they made close to 1,000 tons in their trial runs. This of course was made by dry blending. I gather that much of the 1,000 tons is off-standard. This HO Titanoc-C is moving rather slowly and no further production is planned until the stock is decreased.

Titanox-B

This is still being made at St. Louis by the old coalesced process. They are talking rather seriously about changing

the process to blending but do not see their way clear to do this with the equipment available at St. Louis. I asked Mr. Turner why they seem to be considering "Ti-Bar" so seriously,—Mr. Kingsbury having recently gone over our "Ti-Bar" operation in detail followed now by Mr. Turner for an inspection of the plant. He replied that their Sales Department is quite concerned about the superior quality of "Ti-Bar", particularly color.

They have considered various blanc fixe processes including that developed by the Dorr Co., the salt fusion process, and a black ash-barium chloride process similar to our black ash residue process, the last one appearing most favorable to them. They are afraid of the Dorr process from the standpoint of equipment and operating costs and are afraid of the salt fusion process from the standpoint of controlling quality. The black ash process would be exactly similar to our black ash residue process except H_2S would be involved which they would burn and use in their sulphuric acid plant. They are, however, obtaining some credit from by-product sodium syiphide and I gather that they are not at all close to swinging over to a new process.

In general, Mr. Turner was a little vague concerning their plans which may have been due to reluctance to volunteer information or to the fact that many of their plans are reached by Mr. Roosevelt and Mr. Washburn together.

LEAD TITANATE

The present lead titanate process makes use of MO TiO_2 shipped from Sayerville. This is wet blended with litharge, ball milled, dried and calcined. The calcination has to be on a rather carefully controlled schedule to avoid poor color; two hours of 600°C then gradual increase to 650-700 and

D. P. Exhibit 58

possibly 750°. The calcination is complete when less than 1% of free PbO remains. (extractable with acetic acid).

The lead titanate is finely ground (not wet ground.). They have tried various dry grinding methods including the Raymond impact mill and another one. No one mill is a standard with them at present. This is evidently a serious problem. (We should plan to wet grind lead titanate if and when we produce it). In view of the rather sketchy information which Mr. Turner had on the lead titanate operation, he promised to send me a detailed description of the process.

Concerning the progress of lead titanate in the trade, Mr. Turner was rather indefinite. He first stated that they had no large customers and were selling only small sample lots. Later when I called his attention to Devoe & Raynolds he said that D. & R. actually adopted it.

The production schedule has been irregular, operating at times and shut down at times. His guess was an average of about three tons per day with warehouse stocks being brought up to a maximum.

In general, I got the impression that there was some withholding of information,—this being definitely the first time that this situation has developed.

J. E. B.

J. E. Booge
TECHNICAL DIRECTOR

JEB:DEE

(139)

D. P. Exhibit 59

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

KREBS PIGMENTS DEPARTMENT

THIS IS THE ONLY COPY

Newport, Del.
November 16, 1939

MEMORANDUM

To: MR. ZACK PHELPS

Thru various visits of our representatives in Sayreville, we learn that T.P. is having great difficulty in washing their [illegible] sufficiently due to availability of only one washing Oliver. As a result, their Titanox-X pigments are relatively low in gloss and grit properties and this holds especially for their CR or 168 grades.

Under the circumstances, we should take full advantage of this deficiency in our Sales promotion arguments. Will it be in order for me to advise the Wilmington Sales Office of the general situation?

Our own comparisons consistently give a slight advantage to our CR-LO and Y-CR in grit and gloss properties, but Sales has not conducted any campaign along this line. This advantage is increased over T.P. production of the last two or three months which has been at high capacity.

Our attitude has been defensive for quite a while and much of our Sales effort has been spent in repulsing attacks at our good accounts. The present situation would

D. P. Exhibit 59

seem to present an opportunity to help the Sales Department out of this defensive position and allow them to make offensive claims at T.P.'s accounts.

It would not be my idea to pass on confidential information to the salesmen but merely explain the situation to the Wilmington Office so that they could spur the individual salesman to take the necessary aggressive action and make the necessary quality claims at T.P. accounts.

J. E. Booge
TECHNICAL DIRECTOR

JEB:DEE

D. P. Exhibit 60

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

KREBS PIGMENTS DEPARTMENT

THIS IS THE ONLY COPY

Newport, Del.
November 17, 1939

MR. ZACK PHELPS

I called Mr. J. L. Turner today to ask him about micronized Titanox-A LO grade. He first said that they had only made a trial run on this of 50 tons.

I then asked whether they had sold any and he said it had not been "released for sale." He then added that it was his understanding that it was not necessary to notify me on new micronized grades, and I took sharp issue with this. He went on to say that in our last Wilmington conference he understood that new micronized grades were not subject to notice. I told him in very definite terms that this was not my understanding and that it would change the whole spirit of the agreement.

He did not pursue the subject further but repeated that this micronized LO had not been "released for sale." I asked his definition of "release for sale" and it came down to a question of notifying their Sales Department that they had a new and improved pigment. I, of course, called his attention to the fact that "release for sale" had *previously* meant shipped or billed to a customer.

He then took another step backward and said that he did not think any of this had been shipped to customers. I told him that Dahlstrom had told Madson that all the LO

D. P. Exhibit 60

packed since October 25th had been micronized and shipped. Actually Dahlstrom told Madson that all LO shipped since October 25th had been the micronized grade. Turner was not clear as to whether some of this had been shipped to warehouse and whether it might not have been shipped to customers from warehouse.

As soon as I mentioned Dahlstrom, Turner said he would check up with Dahlstrom and find what he had told Madson. Turner called me back later to say that Dahlstrom was wrong and had told Madson yesterday that his original information was wrong. The present story is that *none* of this micronized LO has been *shipped out of Sayreville*. Frankly, I doubt this*

I was purposely rather sharp with Turner thruout our three telephone conversations during the day. I find it difficult to believe that Dahlstrom who is in charge of the Control Laboratory knew so little about shipments as to tell Madson that the micronized LO was being shipped and then find later that he was entirely wrong.

J. E. BOOGE
TECHNICAL DIRECTOR

JEB:DEE

*Dahlstrom told Madson *yesterday* that it *was* being shipped but had not been sold! Turner and Dahlstrom still do not agree.

4316

(143)

D. P. Exhibit 61

3/1/40

EXCHANGE OF INFORMATION WITH T. P.

The exchange has been in force some seven years (Agreement dated January 1, 1933). One motive for discontinuance is the purely selfish one that T. P. has benefited more than Krebs.

Adoption of Krebs TiO_2 Process—About one year after the Agreement, T. P. changed their TiO_2 process at St. Louis, adopting the Krebs process completely. This included particularly copperas removal, Krebs hydrolysis process, acid washing for improved color and wet grinding subsequent to calcination for improved fineness.

This wiped out the extremely large quality advantages previously possessed by Krebs TiO_2 and allowed T. P.'s agressive Sales Department to stop Krebs' previous rapid advance in sales. This is indicated by the following table showing the ratio of Krebs' sales to T. P.'s sales (basis total TiO_2 content of all pigments).

Year	Krebs/T. P	Year	Krebs/T. P.
1932	40%	1936	109.8
1933	62.6	1937	111.3
1934	81.6	1938	107.4
1935	106.3	1939	94.0

Later Duplication of Important Improvements—During the last few years, practically every important quality improvements or new grade of TiO_2 introduced by Krebs has quickly been duplicated by T. P. The delay has ranged from approximately 3 months for CR TiO_2 down to a few days for many grades.

A few improvements have been initiated by T. P. and adopted by Krebs,—it is not intended to indicate that the exchange was entirely one-sided.

D. P. Exhibit 61

The situation on extended pigments has been similar to that on TiO_2, T. P. quickly adopting improvements and new grades. This included adoption of the Krebs $CaSO_4$ process with resultant improvement in Titanox-C quality.

As a consequence, Krebs has not been able to cash in to a great extent on improvements and new developments. "TI-CAL" forms somewhat of an exception where T. P. was slow to duplicate the fine SF "TI-CAL" and has not aggressively promoted the HO and MX types. Consequently, our combined sales of these three grades make up over 50% of total "TI-CAL" sales.

The exchange of information has become known to the Sales Departments of the two companies and to the trade generally, making it still more difficult to capitalize on new or improved grades of titanium pigments saleswise.

Savings Items—T. P.'s original TiO_2 costs at St. Louis and Sayreville ranged around 10¢/#. Their adoption of the Krebs TiO_2 process was followed by frequent visits to Krebs plants which finally resulted in bringing the T. P. operations into line with Krebs and brought their TiO_2 manufacturing costs down to somewhere near our level (not exactly known). As an indirect result of this decrease in TiO_2 cost, T. P. has been able to aggressively reduce selling prices.

To summarize, the exchange of information has had the net result of maintaining T. P.'s quality at about the same level as Krebs' quality and has robbed both parties and notably Krebs of any chance to profit saleswise from new quality developments. This situation has undoubtedly had a major influence on the sales trend whereby T. P. stopped Krebs sales advance and is now aggressively cutting into the Krebs sales field. In my opinion, the best

means to correct this situation is to step out qualitwise by aggressive research and, if it is not too late, partly regain our superior quality and cost position of January 1, 1933.

We have several major studies underway with which T. P. is not as yet familiar. The most important is development of a white pigment Rutile. This study is still on a laboratory scale but shows definite possibilities of producing pigment Rutile. The indicated hiding power is approximately 20% to 40% higher than present "TI-PURE" (under different conditions of use) with an increased manufacturing cost which may not be more than 1¢/#. In my opinion, there is at least a 50-50 chance of satisfactory Rutile production within the next two or three years, and if so, it is probable that Rutile will largely replace present anatase.

From the purely selfish standpoint, Krebs' future position in the titanium industry will largely be determined by the period during which it is the only rutile producer and later by the comparative quality of the Krebs rutile and other rutiles when and if they appear. It is, of course, entirely possible, that T. P. will place rutile on the market first, but in my opinion, it is much better to take this chance than to continue the present Agreement.

J.E.B.

(146)

D. P. Exhibit 62

CC: Mr. Zack Phelps
Mr. F. H. Weismuller
Mr. J. F. Broeker
Dr. H. H. Morris

Newport, Del.
April 8, 1941

Mr. G. A. McCorkle
Nemours Bldg.

I recently saw another advertisement by T.P. stating in aggressive language that *they* have originated *all* improvements in titanium pigments. I was beginning to be impressed by these claims myself so I took a little time out to "look at the record". The following may be of interest:

1. *Wet Ground TiO_2*—Originated by Commercial Pigments about 1928 (based on Krebs patented process) Copied by T.P.
2. *Improved Color TiO_2 ("C" Process)*—KREBS—Copied by T.P.

*3. *CR Grade TiO_2*—KREBS—T.P. came out three months later.

*4. *"Y" Type TiO_2*—KREBS (Influenced by English development)—T.P. stole a march by combining "Y" and CR and deserve credit.

*5. *"O" Type TiO_2*—KREBS—T.P. actually released a few days before Krebs following six months trial of Krebs "O" by the trade.

It should be noted that Krebs has basic patent protection of both "Y" and "O" pigments after winning interferences with T.P.

6. *AT TiO_2*—Krebs—Minor—Based on English practice

7. *A-24*—Originated by T.P.

8. *51 Type TiO_2*—Krebs

*9. *Rutile*—Extended rutile by T.P.—pure rutile by Krebs

"Ti-Cal" *Developments*

1. "Ti-Cal" HO—Krebs

2. "Ti-Cal" SF, Fine Texture Type—Krebs

3. "Ti-Cal" MX, Mix-In Type—Krebs

Practically all "Ti-Cal" developments were seemingly Krebs up to the extended rutile grades put out by T.P.

J. E. Booge
Technical Director

JEB:DEE

*Major developments.

4321

D. P. Exhibit 63

Letterhead of
E. I. DU PONT DE NEMOURS & COMPANY

KREBS PIGMENT DEPARTMENT

CC: Mr. F. H. Weismuller
Newport, Del.

Mr. Zack Phelps
Nemours Bldg.

April 9, 1941

You will be interested in the following letter received from Sawyer covering his inspection of the T.P. St. Louis plant from outside of the grounds. I judge that St. Louis is being expanded to 300 tons/day of extended pigments,—the ten attack tanks would indicate this capacity.

"It looks as if T.P. will have 300+ tons of extended pigments within a couple of months. There are now ten attack stacks—two very new, not yet used, and one recognizably newer than the rest. An attack went off in that tank while I watched. Two new kilns are in but the building is still open on both sides. Four new mills are in although the return duct from the collector of one is not yet hooked up. The dry grinding building is still open on the south to give a clear view of the collectors. The kiln feed filters are on a flat car in the yard. The whole plant is a beehive of construction activity. We might have had a tip-off on RC-HT if we had had a look at the plant four months ago. The whole combination looks like extended rather than pure."

JEB
J. E. BOOGE
TECHNICAL DIRECTOR

JEB:DEE

4322

(149)

D. P. Exhibit 64

June 12, 1936.

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

BALTIMORE PROJECT No. 1508—$30,800

PRESSURE WATER FILTERS WITH ELEVATED TANKS

Project herewith presented provides for installation of water filters and accessory tanks at Baltimore plant. Estimate by the Engineering Department places cost at $30,800.

Heretofore filtering of process water obtained from city mains at Baltimore has not been considered necessary, as regular and frequent laboratory tests showed no unusual variation. During the past year, however, the water has shown serious contamination at times and on one occasion sufficient to cause shutting down plant for some hours in order to avoid pigment spoilage. A filter test approaching plant scale operation was recently conducted, which demonstrated an appreciable residue of iron oxide and metallic iron being collected. While this was not evident from routine laboratory tests, it is now shown that impurities are present in sufficient amount to have a very decided deleterious effect on pigment color.

Competition has so improved color of titanium dioxide as to place our product on the defensive. The problem is being actively studied, with promising results. The amount of residue revealed by this test is sufficient to cause a two point drop in our pigment color scale. This, together with

D. P. Exhibit 64

the known occasional lapses in quality of water over the past year, makes it imperative that filters be installed. The Edge Moor plant is already so equipped.

It is, therefore, recommended that this appropriation be authorized as a quality necessity.

C. H. RUPPRECHT
GENERAL MANAGER

4:324

(151)

D. P. Exhibit 65

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

ADVICE OF ACTION

June 18, 1936

Mr. C. H. Rupprecht, G. M.

Copy for Information of:
Engineering Dept. (2)
Comptroller.

Mr. G. L. Naylor

APP'N $30,800—PROJ. #1508—PRESSURE WATER FILTERS WITH ELEVATED TANKS, BALTIMORE WORKS:

SUBJECT

Action taken by Executive Committee at Meeting June 17, 1936

REMARKS

Your letter June 12th:

Your request for the above-mentioned appropriation was unanimously granted.

M. D. FISHER
Secretary.

(152)

D. P. Exhibit 66

Copy given C.H.Lyman 5/27/37

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

EDGE MOOR PROJECT NO. 2207—$69,900.00 RAYMOND MILL AND AUXILIARIES FOR "TI-CAL" SF AND "TI-PURE" LW GRINDING

The project herewith presented provides for an additional Raymond mill and auxiliary equipment at Edge Moor plant, necessary to meet:

(1)—Improved quality requirements for "Ti-Cal"

(2)—Permit production of "Ti-Pure" LW (dry ground TiO_2).

Three Raymond mills were installed at Edge Moore to provide for plant capacity of 60 tons "Ti-Cal" per day. Operating on regular grades of "Ti-Cal" each mill is capable of grinding 20 tons per day. However, competition, with greater and more flexible grinding capacity, has placed on market a superfine product which we have matched and further improved with a new grade called "Ti-Cal" SF, but which can only be produced at a rate of 10 tons per Raymond mill per day. In other words, the grinding capacity is cut in half when operating on improved grade.

Several important accounts have adopted this grade and its use is growing. Therefore, with "Ti-Cal" business in general increasing steadily, our existing business will be seriously jeopardized unless we quickly place ourselves in position to meet this improved quality requirement.

While definite quality requirements for "Ti-Cal" alone are the basis for this project, another very important pur-

pose is served. At present Edge Moor can produce certain quantities of dry ground "Ti-Pure" in excess of present and immediate forecast quantity of TiO_2 required for extended titanium pigments. For sometime past, with "Ti-Cal" sales still below plant capacity, we have utilized one Raymond mill to produce "Ti-Pure" LW grade, but with "Ti-Cal" sales increasing, and quality demands cutting capacity, this cannot be continued.

Baltimore has a rated capacity of 70 tons TiO_2 per day, and for March and April total sales of TiO_2 were 74.5 and 78.4 tons per day respectively, so that production of "Ti-Pure" LW at Edge Moor was necessary. This will probably continue to be so in face of the forecast of 66.89 tons per day for this year, and 69.86 tons for 1938.

As long as "Ti-Cal" sales permit, this additional mill will allow sufficient flexibility to enable us to produce "Ti-Pure" LW at Edge Moor as required, and relieve Baltimore to that extent. However, if demand for superfine "Ti-Cal" increases further, even this mill will be insufficient, and more grinding capacity necessary.

Any future expansion in pure titanium dioxide will probably be placed at Edge Moor, and studies are under way in preparation for such necessity. Consequently, any grinding equipment installed at Edge Moor will fit in perfectly with ultimate plans.

It is, therefore, strongly recommended that this project be approved on the basis of a quality necessity, which at the same time will allow a certain flexibility in TiO_2 production to relieve strain on the Baltimore plant.

C. H. RUPPRECHT
GENERAL MANAGER

(154)

D. P. Exhibit 67

Copy given C. H. Lyman

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

ADVICE OF ACTION

June 3, 1937

Mr. C. H. Rupprecht, G. M.

Copy for Information of:
Engineering Dept.
Comptroller.

Mr. J. B. Eliason

SUBJECT

APP'N $69,900—PROJ. #2207—RAYMOND MILL AND AUXILIARIES FOR "TI-CAL" SF AND "TI-PURE" LW GRINDING, EDGE MOOR WORKS:

Action taken by Executive Committee at Meeting June 2, 1937

REMARKS

Your letter May 27th:

Your request for the above-mentioned appropriation was unanimously granted.

M. D. FISHER
Secretary.

4328

(155)

D. P. Exhibit 68

Blind copy to Dr. F. Sparre (without project)
" " " C. H. Lyman

April 17, 1939

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

LICENSE AGREEMENT WITH NATIONAL LEAD COMPANY COVERING MICRONIZER REDUCTION MILLS

APPROPRIATION REQUEST NO. 4282—$65,400.00 MICRONIZERS AND FAN FOR BALTIMORE PLANT

On April 5th this Department orally requested authorization from your Committee to execute a license agreement with National Lead Company to process titanium pigments under International Pulverizing Corporation U.S. Letters Patent No. 2,032,827, covering a micronizer reduction mill, and to proceed with purchase of mills, the cost of which, together with accessories and installation, was estimated to be around $100,000, of which approximately $60,000 would be spent at the Baltimore plant and $40,000 at Fore Moor.

Informal approval was granted and we now submit the above for formal approval, as follows:

1—Non-exclusive license agreement with National Lead Company, which has been approved by the Legal Department, and attached thereto copy of agreement between International Pulverizing Corporation and National Lead Company, giving the latter right to sub-license:

D. P. Exhibit 68

(a) Under our license we acquire the same benefits, privileges, and immunities as National Lead Company possesses.

(b) Micronizer mills installed remain the property of International Pulverizing Corporation, but in event of cancellation of license due invalidation of patent, the mills with all improvements pass to ownership of du Pont.

(c) Du Pont agrees to pass on to International rights to all improvements and information on operation of the mills themselves, but nothing regarding the licensed materials processed.

(d) Du Pont admits validity of patent and agrees not to contest during period of license, but du Pont has right to cancel for any reason whatever on three months' notice.

(e) International Pulverizing Corporation guarantees to hold du Pont harmless against any infringement suit by third parties.

(f) Royalty to be paid at rate of 50¢ per ton for first 4000 tons, and 25¢ per ton for each ton over 4000 tons in any accounting year, such royalty to be computed and based on aggregate tonnage of National and all sub-licensees; no minimum royalty is provided.

(g) At 50¢ per ton rate, it is estimated royalty will amount to $325 per month on such grades as we expect to process in near future, but on combined basis with National will undoubtedly result in lower rate.

2—Project No. 4282 for $65,400 to cover purchase and installation of micronizers and high speed fan for fine grinding at Baltimore plant;

(a) No saving is involved and equipment is required solely to produce titanium dioxide of improved texture, and higher gloss in finishes, in order to maintain competitive position.

(b) Grinding operating cost through micronizers, including royalty, is now estimated to be about equal to or possibly up to 50¢ per ton higher than present methods. Fan cost is expected to be upwards of 50¢ per ton less than micronizer grinding.

(c) High speed fan included in project, for pigments falling outside low oil absorption range, would have been required in any case to provide supplementary dry grinding necessary to obtain normal capacity from Raymond mill at Baltimore, authorized by Executive Committee under Project No. 3719, August, 1938, and explained therein.

Project for approximately an additional $40,000 to cover equipment for Edge Moor plant is in preparation and will be submitted to a member of Executive Committee for formal approval.

Project estimates are of high spot nature, due to speed necessary to place ourselves in competitive position, and unfamiliarity or lack of experience with types of equipment being installed.

Management is proceeding with purchase of mills and execution of license agreement in accordance with informal authorization previously granted.

C. H. RUPPRECHT
GENERAL MANAGER

D. P. Exhibit 68.

REASONS FOR MAKING THIS EXPENDITURE

1. PRESENT FACILITIES AND TO WHAT EXTENT THEY HAVE INADEQUATE.

Pigment quality improvement through improved methods of dry-grinding has been intensively studied by manufacturers of grinding equipment and by our own Engineering Department for several years.

This work has now reached a point where definite performance has shown that substantial changes and improvements in various finished pigment properties can be obtained in two newly available types of grinding units. These units are:

(1) Mikronizer manufactured by International Pulverizing Co.

(2) High speed fan developed by du Pont Engineering Dept.

The Mikronizer consists of a simple cylindrical chamber in which grinding action is obtained by subjecting particles suspended in a stream of steam to attrition upon themselves and at the same time permits a degree of particle size classification which insures that the oversize particles are retained in the chamber until reduction in size is obtained.

The high speed fan consists of an impeller which operates at high speed and develops grinding action in three ways:

(a) Attrition of particles against blades as the particles pass through the impeller.

(b) Impingement against wear ring or anvil located around periphery of impeller.

(c) Attrition of the particles upon themselves due to air velocity.

Both of these units effect substantial improvement in pigment fineness or particle size reduction as compared with that obtainable from any other type of grinding equipment now available. This improvement in fineness is accompanied by an improvement in gloss of paints formulated with t' ese pigments and at the same time gives the pigment consumer an advantage in reducing the amount of grinding required in his mills in the manufacture of paints, inks, etc.

The action on the pigment as obtained in the Mikronizer further causes a definite reduction in the oil absorption of the finished pigment. This is a very desirable change in certain pigments but in others cannot be tolerated. Consequently, because of the oil absorption reduction obtained, the Mikronizer will probably be the more desirable unit in making pigments for enamels, etc., where low oil absorption is desired, whereas the fan will find its most important use in the manufacture of other types of pigments where the higher oil absorption is necessary.

The National Lead Co. has obtained license to the use of the Mikronizer in grinding titanium pigments and we have obtained a sub-license from them under similar terms. We consider it absolutely essential to install Mikronizers for dry grinding LO grades of TiO_2 at Baltimore in order to avoid a probable serious loss of business to a competitive manufacturer who would be in the position of selling TiO_2 with important quality advantages which would otherwise not be available to us. Consequently, we are recommending the installation

of two Mikronizers which would have sufficient total capacity (approximately 20 tons per day) to handle all of our LO grades of TiO_2 now sold.

At the same time we are recommending the installation of one high speed fan. It is regarded as entirely probable that the high speed fan might be further developed to give a degree of fineness not obtainable in the Mikronizer and, further, that the fan which is free from royalty might be operated at substantially lower cost than the Mikronizer on an equal quality basis. The reduction in oil absorption as obtained in the Mikronizer, however, might make it necessary to use this particular unit on certain grades regardless of differences in cost or other pigment properties.

Our estimates indicate that grinding costs (including royalty of 50¢ to 25¢ per ton) for the Mikronizer will be approximately equal to or up to 50¢ per ton higher than present costs for producing our LO grades of TiO_2 which are roller milled and pulverizer (in combination) ground. Actual capacity obtained from Mikronizer will be governing factor on unit costs obtained.

The installation of the high speed fan at Baltimore has been definitely under consideration for some time. Project 3719 was approved in August, 1938, for one Raymond type roll mill at a cost of $52,500.00. In order to get a normal capacity of 20 tons per day from a roll mill it is usually installed in combination with a supplementary grinding unit called a pulverizer. A pulverizer unit costs an additional $10,000.00. When this last roll mill was installed at Baltimore the experimental work on the high speed fan indicated that the further program would show a definite superiority in that unit

as compared with the pulverizer. Consequently, the roll mill was installed without any supplementary grinding unit and which set-up permitted operation at only 50% of capacity. This rate of output was estimated to be sufficient to take care of requirements until about the middle of 1939 and by which time it was assumed data would be available to show practicability of the fan. Such data is now available and the fan can be installed to supplement the roll mill at a cost of $20,000.00 instead of the $10,000.00 figure for the pulverizer. The improved fineness obtainable from the fan in itself is sufficient justification for the additional expenditure. Further, it is believed that in addition to bringing the capacity of the roll mill up to 20 tons per day, the fan may also permit of production rates considerably higher than this figure or, in other words, will represent a definite economy over the pulverizer.

2. KNOWN LOSS (IF ANY) PER ANNUM UNDER PRESENT CONDITIONS

3. DESCRIPTION OF PROPOSED WORK

Two Mikronizers will be installed with feed and discharge arrangements of a temporary nature to maintain maximum flexibility and to permit of development of accurate information on different types of material which will be processed through the Mikronizers, grinding rates on each, etc. After such data is available proper mechanical equipment will be installed for satisfactory operation.

Mikronizers to consist of steel shell with chromium plated lining to minimize tendency of pigment to stick

to mill sides. Steam to be fed at 100 lb. pressure. Superheater to be installed to heat steam to maximum of 750° F. Machine to be vented to atmosphere for release of steam and hot gases and entrained fine pigment estimated at 1% maximum. After definite information is available on pigment loss, recovery equipment will be installed if justified.

The proposed high speed fan to be constructed of chrome steel alloy with special heat treatment for hardening. Fan impeller speed 12,000 r.p.m. The fan at Baltimore to be steam turbine driven to take advantage of exhaust steam supply which can be satisfactorily used at Baltimore.

The high spot estimated cost of proposed work is as follows:

Dismantling and Moving	$ 820.00
Superheater	23,700.00
Micronizers, Bldg. #4	17,940.00
Fan, Bldg. #4	22,940.00
	$65,400.00

(163)

D. P. Exhibit 69

Copy given C.H.Lyman—4/6/39

Mr. C. H. Rupprecht (2).
Mr. C. R. Mudge
Dr. Fin Sparre
Mr. J. B. Eliason
Mr. W. F. Raskob

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

LICENSE AGREEMENT WITH NATIONAL LEAD COMPANY AND PURCHASE OF MICRONIZER REDUCTION MILLS:

The following resolutions were offered and unanimously adopted:

RESOLVED that, subject to approval of the Director or Assistant Director of the Legal Department, C. H. Rupprecht, General Manager, or Zack Phelps, Assistant General Manager, Krebs Pigments Department, or the President or any Vice-President of this Company, together with the Secretary or an Assistant Secretary, be and they are hereby authorized to execute on behalf of the Company a license agreement with National Lead Company for a sub-license for processing of titanium pigments under International Pulverizing Corporation's U. S. Letters Patent No. 2,032,827, covering a micronizer reduction mill, in accordance with the brief resumé of terms orally outlined by Mr. Rupprecht at this meeting;

D. P. Exhibit 69

RESOLVED FURTHER, that the Krebs Pigments Department Management be authorized to proceed with the purchase of micronizer reduction mills, the cost of which, together with accessories and installation, is estimated to be around $100,000, of which approximately $60,000 will be spent at Baltimore Works and $40,000 at Edge Moor Works, it being understood that the order for the purchase of these mills will not be entered until the above-mentioned approval of the Legal Department is obtained, and that formal appropriation request will be submitted in due course.

This is to certify that the foregoing is a true and correct copy of resolution unanimously adopted by the Executive Committee of E. I. duPont deNemours & Company at meeting held on April 5, 1939.

M. D. FISHER
Assistant Secretary
E. I. duPont deNemours & Company

29

[SEAL]

D. P. Exhibit 70

July 17, 1939.

TO: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT.

PROJECT NO. 4222—$133,300—OLIVER FILTERS FOR PIGMENT WASHING—BALTIMORE

PROJECT NO. 4236—$150,900—PRE-DRIER INSTALLATION—BALTIMORE

The two above projects, representing a total expenditure of $284,200 at Baltimore plant, are submitted simultaneously, as their objectives are closely knit together and thus avoid repetition.

In recent months our principal titanium dioxide competitor has placed on the market several distinctly improved grades, combining better pigment dispersion, improved paint gloss, and lower grit (all very important properties), which grades have already cut in on some of our trade, and unless duplicated will make serious inroads on our established business. An extensive study to achieve similar improvements without such a major capital expenditure was undertaken by our Research and Industrial Engineering groups, but without success, and we are now in the position where it is imperative that we equip to at least equal competitive products, or suffer appreciable loss of business.

Project No. 4222—$133,300—"Oliver Filters for Pigment Washing"—provides for additional washing repulp tanks for raw pigment, followed by two Oliver washing type filters, with all necessary accessory equipment.

Project No. 4236—$150,900—"Pre-Drier Installation"—provides for two chain belt driers for pre-drying of pig-

ment before delivery to present finishing driers of the rotating cylindrical type, equipped with steam tubes.

The proposed supplementary repulping and washing equipment is required to permit an additional operating step involving the precipitation of aluminum sulphate which has previously been added to the pigment slurry, to aluminum oxide with ammonia in the presence of TiO_2, and washing to eliminate the soluble ammonia present. Very marked improvement in pigment dispersion and higher gloss in paints results.

The proposed pre-drier overcomes objectionable grit in finished pigment, caused by TiO_2 of high moisture content in direct contact with steam-heated tubes in final drying, forming into hard cake on the hot tubes. The pre-drier feeds half dried cake to finished driers, which avoids sticking to tubes and resultant caking and grit.

There is nothing speculative about either installation. By using filter presses from other operations to produce limited quantities, we have confirmed results to be obtained by additional and improved washing, and by shipping TiO_2 slurry to Newark for preliminary drying on lithopone festoon driers and returning to Baltimore for finishing, we have confirmed beneficial effect of pre-drying. Material so produced is equal in every respect to the improved competitive qualities, and offers opportunity for further improvement toward achieving optimum pigment fineness and accompanying improved gloss in paints.

No savings will result and only absolutely necessary quality improvement is involved. Additional operating costs are very slight and may be eliminated with experience.

Question may be raised as to what bearing these improvements have on recently approved micronizer mill in-

stallations for fine texture. The answer is that these proposed steps in the operation further improve dispersion and fineness, enabling still greater improvement in the final micronizer grinding which follows, than can be obtained from present pigment.

Temporary steps have been set up to make very limited quantities of improved pigment by make-shift and costly procedure, and the need for quick installation of proposed equipment is very urgent.

It is recommended that these two projects be authorized as absolutely essential to the maintenance of our present position in the titanium dioxide industry, and to enable us to expand sales against competition.

C. H. RUPPRECHT
GENERAL MANAGER

(168)

D. P. Exhibit 71

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

ADVICE OF ACTION

July 19, 1939

Mr. C. H. Rupprecht, G. M.
Krebs Pigments Department

Copy for Information of:
Engineering Dept. (2)
Comptroller
Treasurer
Mr. C. H. Lyman

SUBJECT

APP'N $133,300—PROJ. #4222—OLIVER FILTERS FOR PIGMENT WASHING, BALTIMORE WORKS:

APP'N $150,900—PROJ. #4236—PRE-DRIER INSTALLATION, BALTIMORE WORKS:

Action taken by Executive Committee at Meeting July 19, 1939

REMARKS

Your letter of July 17th:

Your request for the above-mentioned appropriation was unanimously granted.

M. D. FISHER
Secretary.

29

4342

(169)

D. P. Exhibit 72

FILE COPY

October 11, 1939.

M. D. FISHER, SECRETARY
EXECUTIVE COMMITTEE

APPROPRIATION REQUEST NO. 4519—$49,516.00
FILTRATE THICKENERS FOR WASHING FILTERS AND CENTRIFUGE FOR CR PIGMENTS

Project is herewith submitted calling for pigment centrifuge and filtrate thickeners at the Baltimore plant, which are required to meet competitive quality and new grades.

It is necessary that we have this additional equipment to avoid contamination of other grades due to specific treatment of the newest grade of titanium introduced, which is an antimony-treated product and which gives promise of becoming one of the most popular pigments for the paint industry.

We definitely require the additional centrifuge and thickeners in order to maintain quality of this grade in particular, and thus be able to hold other grades in line, protecting us against losing business to competition.

This project is wholly necessary for quality reasons, and it is, therefore, recommended that it be submitted to a member of the Executive Committee for approval.

C. H. RUPPRECHT.

CHR:s
Encls.

(170)

D. P. Exhibit 73

Letterhead of
E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

October 13, 1939

Mr. C. H. Rupprecht, G. M.
Krebs Pigments Department

Copies to Mr. E. G. Ackart (2)
Mr. A. C. Nielsen
Mr. J. B. Eliason
Mr. C. H. Lyman

APP'N $49,516—PROJ. #4519—FILTRATE THICKENERS FOR WASHING FILTERS AND CENTIFUGE FOR CR PIGMENTS, *BALTIMORE WORKS:*

Referring to your letter of October 11th:

This is to advise that the above-mentioned appropriation request has been authorized by Executive Committee member W. F. Harrington.

Two signed copies of this project are being forwarded to the Comptroller.

M. D. FISHER
Sec'y Executive Committee

29

4344

(171)

D. P. Exhibit 74

October 16, 1939.

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

APPROPRIATION REQUEST NO. 4942—$72,800.00
2 MICRONIZERS FOR EDGE MOOR PLANT

Attached is appropriation request to cover installation of two micronizers and auxiliary equipment at Edge Moor, these grinding units being similar to the one micronizer (authorized May, 1939) which was put in operation last month.

Our experience has shown that this micronizer has effected the expected improvement in the quality of "Ti-Cal" through lowering the grit content, and offerings of this improved product have been well received by paint manufacturers.

We are informed that one of our competitors, who originally installed one micronizer, has already placed order for two additional units and will improve the quality of some of their other grades of calcium base titanium pigment. We consider it essential that we likewise equip to meet this competition, or risk facing serious inroads on our established business. There are definite indications that there will be an increasing demand for our present micronized grade of "Ti-Cal", and additional micronized capacity will be necessary to satisfy these requirements.

We, therefore, recommend that this project be approved to permit us to order and install two additional micronizers at the earliest possible date, and enable us to at least maintain our competitive position on quality.

C. H. RUPPRECHT
GENERAL MANAGER

(172)

D. P. Exhibit 75

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

ADVICE OF ACTION

October 19, 1939

Mr. C. H. Rupprecht, G. M.
Krebs Pigments Department

Copy for Information of:
Engineering Dept. (2)
Comptroller.
Treasurer

Mr. C. H. Lyman

SUBJECT

APP'N $72,800—PROJ. #4942—INSTALLATION OF TWO ADDITIONAL MICRONIZERS, EDGE MOOR PLANT:

Action taken by Executive Committee at Meeting held October 18, 1939

REMARKS

Your letter October 16th:

Your request for the above-mentioned appropriation was unanimously granted.

M. D. FISHER
Secretary.

(173)

D. P. Exhibit 76

June 24, 1940

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

APPROPRIATION REQUEST NO. 5897—$152,000 FACILITIES FOR PRODUCING 20 TONS PER DAY RUTILE TYPE TITANIUM DIOXIDE PIGMENT AT EDGE MOOR

Attached is appropriation request for $152,000 to cover installation of equipment at Edge Moor to manufacture our newly developed rutile type titanium dioxide pigment at rate of 20 tons per day.

Present TiO_2 ("Ti-Pure") is what is known as anatase crystal type. It has always been recognized that the rutile crystal type would possess appreciably greater opacity, so that research toward development of such a pigment has been in progress almost from the start of our TiO_2 manufacture in 1931.

Until some few months ago research results were very discouraging, in that it appeared the only commercially adaptable process for manufacturing a rutile pigment would require erection of almost entirely new plants, and obsolete much of present costly investment. We can now report that we have succeeded in working out a particularly favorable process, which will permit manufacture of such pigment in our existing TiO_2 plants, with relatively moderate additional capital investment and with no additional by-products to further complicate waste disposal problem.

The patent situation has been carefully studied and we will not be handicapped by any known patent problems, and

while it is too soon to say that we will hold a dominating position, we believe definitely that no patents stand in the way of our development, further details of which are given in reason sheet.

There is every reason to believe that one active competitor and one prospective competitor are at work on this important pigment. It is highly important that we install equipment to produce rutile pigment on commercial scale at the earliest possible date, and by proceeding at once we should be able to offer such product for sale by February, 1941. We hope to be first in the field with a rutile pigment, which will in itself be a distinct advantage, and, likewise, thus protect our existing TiO_2 business against competition offering such product at any future date. It cannot be emphasized too strongly that a competitor preceding us with such product will have a considerable advantage, and we would find ourselves in a very embarrassing sales position.

Our proposed product has been worked out on semi-works scale, and pilot unit study is in progress. It is considered inadvisable to hold up commercial plant construction for completion of piilot unit work, inasmuch as results to-date are so satisfactory and encouraging that we do not anticipate difficulty in going to plant scale operation, and our Research Department is confident that we will have completed necessary refinements and improvements well in advance of the plant being in readiness.

We believe that over the next five years rutile type pigment will replace to a considerable extent the present anatase TiO_2 and contribute still further to the continued growing demand for titanium pigments.

Our proposed rutile pigment is produced by our present process with one added step, and makes use of all existing plant equipment. The project herewith presented provides

for this supplementary equipment, such as cooler, tanks and filters, required for this additional step in process, to the extent of making available a minimum capacity of 20 tons per day for the rutile type product. We will be prepared and in position to convert present TiO_2 plants to produce required tonnage of rutile pigment as increasing sales demands develop, by addition of more of same type equipment as initially provided in this project.

The appropriation now requested, $152,000, will enable us to convert a minimum of 20 tons per day TiO2 production at Edge Moor to the rutile type pigment. It is estimated that an additional $650,000 investment would be required if we eventually convert the balance of our TiO_2 production at both plants to this new type pigment, and this is extremely probable.

The new rutile pigment produced at 20 ton per day rate will carry cost penalty of about 1¢ per pound over present "Ti-Pure" cost. We are using cost penalty of $.0115 per pound in project calculations, which is conservative.

Additional value to customers will justify a premium in selling price of from 2¢ to 3¢ per pound over present "Ti-Pure" price. Margin of profit will be greater than that on present pigment. We forecast that within a period of one year after the rutile pigment is offered to the trade our volume of sales will be at rate of 20 tons per day.

Estimated additional return on 20 tons per day rutile pigment over present normal profit on "Ti-Pure" will be at 29% rate if product is sold at 2¢ per pound premium, and 64% rate if premium is 3¢ per pound.

The premium in selling price can better be determined when the actual quality of our rutile pigment is standardized on commercial scale and is more completely evaluated

in the formulas in which it will be employed. We feel certain that the return will be as mentioned above; however, regardless of the additional profit on this new pigment to justify this added investment, we also consider it essential that we produce rutile pigment as a matter of protection to our existing titanium dioxide business.

It is, therefore, recommended that this expenditure be approved.

C. H. RUPPRECHT
GENERAL MANAGER

4350

(177)

D. P. Exhibit 77

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

ADVICE OF ACTION

June 27, 1940

Mr. C. H. Rupprecht, G. M.
Krebs Pigments Department

Copy for Information of:
Engineering Dept. (2)
Comptroller.
Treasurer

SUBJECT

APP'N $152,000—PROJ. #5897—FACILITIES FOR PRODUCING 20 TONS A DAY OF RUTILE TYPE TITANIUM DIOXIDE PIGMENT, EDGE MOOR WORKS:

Action taken by Executive Committee at Meeting June 26, 1940

REMARKS

Your remarks June 24th:

Your request for the above-mentioned appropriation was unanimously granted.

M. D. FISHER
Secretary.

29

(178)

D. P. Exhibit 78

January 24, 1941

To: Executive Committee

From: Krebs Pigments Department

APPROPRIATION REQUEST NO. 5897—PART III—$80,000.

"IMPROVED HYDROLYSIS EQUIPMENT AT EDGE MOOR"

Herewith is submitted appropriation request for $80,000 to cover extension of facilities for production of rutile type titanium dioxide at Edge Moor Plant.

Parts I and II of this project, totaling $175,500, were authorized for initial unit of 20 tons of this new pigment, which equipment is nearing completion and expected to be placed in operation February 1st, practically on schedule.

It was our intention to market the new rutile product in pure form at a differential of, at least, two cents per pound over our present TiO_2 standard, which would show a fair return on investment. However, on January 13th, one of our competitors, National Lead Company, announced to the trade and immediately began distributing samples of two extended calcium base titanium pigments (30% TiO_2—70% $CaSO_4$) produced from rutile type TiO_2 and possessing 30/40% higher hiding power than their previous standards (similar to our "Ti-Cal") but selling at the same price as existing standards, 5¼¢ per pound carloads.

This presents a very serious threat to our entire calcium titanium pigment business because of the much greater money value offered the customer in these new products. Consequently, the adoption and substitution of these pigments is expected to be very rapid.

D. P. Exhibit 78

We have hurriedly prepared blends of our pilot unit rutile with Edge Moor $CaSO_4$ and can produce a very good counter-offering for the more important of the two new competitive pigments, and show indications of better color for our pigment. We are, therefore, preparing sufficient quantities of blended pigment from pilot unit operations for distribution of five-pound samples and mailed announcement of this new pigment to the trade on January 23rd, together with simultaneous announcement of our pure rutile pigment. We will be in position to supply these five-pound samples within a few days and larger quantities of the extended product by February 15th.

Competition offering their new extended pigments with no price advance is aimed at the lithopone market (150,000 tons sold in 1940, and at the same time lowers the value of our present "Ti-Cal." Our plan to charge a two-cents per pound differential for the pure product is now made impossible, but we intend to add one cent per pound to our present price and hope we can maintain this. Cost increase on our pure rutile is still estimated at slightly over one cent per pound but confidently expected to be brought down to not more than one-half cent per pound with plant experience.

Why competition introduced their rutile pigment in the extended form and not the pure is very much of a mystery, but we are hopeful that it means their process is causing color difficulties. These would be somewhat minimized in the extended pigment.

By announcing our products and making samples available promptly, we will divert the attention of the trade and accomplish some delay, but this makes it imperative for us to become equipped to manufacture the rutile pigment to

D. P. Exhibit 78

the capacity of the Edge Moor plant as quickly as possible.

Project here submitted will enable us to produce the rutile type pure TiO_2 at Edge Moor to the capacity of that plant, which is now rated at 70 tons per day. The equipment already installed under Parts I and II of this project was set up as required for a — "seed", but pilot unit experimental results permit adoption of — "seed" at the start of our plant operations, and we expect to be down to a — "seed" before very long. Consequently, the capacity of the plant for the important step of "seed" preparation as now installed is considered sufficient. There is no question of capacity for the "Ti-Cal" production, where it will be a matter of careful scheduling only.

Under these conditions it is almost impossible to forecast rate of sales, and no earnings figures are being submitted since market and competitive conditions will be very chaotic and disturbed for some months. It is unfortunate that competition was first to introduce a rutile type product in this extended form, but we will be first in the market with the pure rutile product and are fortunate that our construction has reached the point where plant operation is imminent so that we can introduce our product, but the urgency for additional capacity for processing pure rutile cannot be overemphasized as the situation is critical.

It will unquestionably be necessary to equip Baltimore for producing rutile grade before long, and work order has been put in preparation.

It is, therefore, recommended that this project be authorized as a matter of utmost expediency and urgency to protect our titanium pigment sales and heavy investment.

C. H. RUPPRECHT
GENERAL MANAGER

(181)

D. P. Exhibit 79

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

ADVICE OF ACTION

January 30, 1941

Mr. C. H. Rupprecht, G. M.
Krebs Pigments Department

Copy for information of:
Engineering Dept. (2)
Comptroller
Treasurer

Mr. C. H. Lyman

SUBJECT

APP'N $80,000—PROJ. #5897-3—ADD'L COST OF IMPROVED HYDROLYSIS EQUIPMENT, EDGE MOOR WORKS:

Action taken by Executive Committee at meeting held January 29, 1941

REMARKS

Your letter January 24th:

Your request for the above-mentioned appropriation was unanimously granted, making a total of $255,500 authorized to date under this project.

M. D. FISHER
Secretary.

(182)

D. P. Exhibit 80

May 8, 1941

To: FINANCE COMMITTEE

FROM: EXECUTIVE COMMITTEE

APP'N $514,300—PROJ. #6899—ADD'L EQUIPMENT TO PRODUCE RUTILE TITANIUM DIOXIDE, BALTIMORE WORKS:

Referring to the attached letter from C. H. Rupprecht, General Manager, Krebs Pigments Department, dated May 2, 1941 (#4812), enclosing the above-mentioned appropriation request:

At meeting of the Executive Committee held on May 7, 1941, it was moved and unanimously carried that the request be approved, and ordered transmitted to the Finance Committee for final authorization.

This project is now presented to your Committee for consideration and final action.

EXECUTIVE COMMITTEE

BY M. D. FISHER

SECRETARY

14-enc

Copies to
Mr. C.H. Rupprecht
Mr. C. H. Lyman

(183)

D. P. Exhibit 81

May 2, 1941

To: Executive Committee

From: Krebs Pigments Department

Appropriation Request No. 6899—$514,300

Additional Equipment to Produce Rutile Titanium Dioxide Baltimore Plant

Request is herewith submitted for $514,300 for equipment to produce rutile type of pure titanium dioxide at Baltimore plant.

While the over-capacity demand for our regular anatase product has prevented production of pure rutile pigment at Edge Moor to the extent of more than enough tonnage to permit customers to purchase quantities sufficient for plant trial runs, the response is such that all indications point to rapid substitution of rutile for anatase once material is available. As a matter of fact, the introduction of the product and inability to supply is proving very embarrassing.

Edge Moor has been equipped to produce its full capacity of 70 tons per day (24,080 tons annually) as rutile pigment, but of this 30 tons must be reserved for calcium base pigment; another 13 tons for remaining extended pigments; thus leaving only 27 tons a day (9300 tons annually) for sale as pure rutile. Our extended calcium rutile pigment, "Ti-Cal" R, will represent one-third of our total "Ti-Cal" sales for April, which is limited only by tonnage which has been available.

D. P. Exhibit 81

As our principal competitor is informing trade they will place pure rutile pigment on market shortly, and as interest in the rutile product is such that we are forecasting the pure rutile pigment will replace anatase to the extent of at least 75% as soon as available in 1942, we consider it imperative to equip Baltimore to produce its capacity, (70 tons a day or 24,080 tons annually); as rutile pigment, as quickly as possible.

At Edge Moor we have a dual system which enables shifting from one type of pure pigment to the other, and in order to avoid duplication of this expensive investment it is planned to confine Baltimore operations to rutile, and whatever anatase may remain can be supplied from Edge Moor.

The total estimate of $514,300 to install equipment for 70 tons per day rutile at Baltimore is, unfortunately, $218,178 higher than the amount which was required to equip Edge Moor for the same tonnage. The principal items contributing to this increase over Edge Moor are building requirements; limitations in existing equipment; increased cost of filter conversion; several items included on justifiable savings basis; and increased engineering supervision and design costs, as follows:

Buildings, warehouse, dismantling and moving	$41,820
Conveyor and dump truck for waste materials	11,660
Catch-all tank, pumps and piping, due no tankage cut-offs possible as at Edge Moor	17,300
Conversion of 8 more Moore filter trucks to bag type than at Edge Moor, due smaller size at Baltimore	36,215

D. P. Exhibit 81

Temporary construction sheds and tools (Edge Moor used facilities remaining from previous expansion job just completed)	11,440
Increased labor, field engineering supervision and design	29,945
For savings based on Edge Moor experience, tanks for storage of liquid raw materials substituted for dry, and rotary filters for process liquors instead of hand presses	53,100

These items account for $201,480 of the total, and on the item for $53,100, covering installations for savings, an approximate return of 54.88% is expected.

The justification for the expenditure herein requested is wholly one of quality, due to advancement in the titanium pigment art, and necessary to maintain and better our competitive position. It is based entirely on expected sale of the capacity of Baltimore plant as rutile pigment. Our regular titanium dioxide sales have been at capacity rate, in fact over-sold, and are forecast to continue. Despite and apart from present abnormal conditions, steadily increasing demand for titanium pigments is expected, and question of plant expansion is being seriously studied.

It is planned to operate Baltimore entirely on rutile pigment, and this product carries a cost penalty of approximately ¾¢ per pound over anatase; however, the product also carries 1¢ a pound selling price premium which, therefore, returns ¼¢ a pound, or $5.00 a ton profit over that on anatase. The return on new money spent under this project is, therefore, estimated to be 13.56% after deduction of undistributed expense, based on forecast sale of Baltimore capacity.

D. P. Exhibit 81

However, there can be no question that rutile, because of its much greater money value to the consumer, as well as other properties, is the titanium dioxide of the future, sales of which will rapidly displace anatase as the pigment becomes available. Close to a year will be required to complete the proposed installation at Baltimore and we consider it a matter of extreme urgency that this construction be started at the earliest possible date.

It is, therefore, recommended that this project be authorized as most expedient for the protection of our titanium pigment sales and large investment.

C. H. RUPPRECHT
GENERAL MANAGER

(187)

D. P. Exhibit 82

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

ADVICE OF ACTION

May 19, 1941

Mr. C. H. Rupprecht, G. M.
Krebs Pigments Department

Copy of information of:
Engineering Dept. (2)
Comptroller
Treasurer

Mr. C. H. Lyman

SUBJECT

APP'N $514,300—POJ. #6899—ADDITIONAL EQUIPMENT TO PRODUCE RUTILE TITANIUM DIOXIDE, BALTIMORE WORKS:

Action taken by Finance Committee at meeting held May 19, 1941.

REMARKS

Your letter May 2nd:

Your request for the above-mentioned appropriation was unanimously authorized, same having been approved by the Execu' Committee at meeting held on May 7th.

M. D. FISHER
Secretary.

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D. P. Exhibit 83

KREBS PIGMENT & COLOR CORPORATION

SEMI-ANNUAL COMPETITIVE REPORT

SECOND SIX MONTHS 1933 vs SECOND SIX MONTHS 1932

PRODUCT	Titanium Dioxide	Page 7
		(Tons of 2,000#)
Total Capacity of Competitors—Annual Basis		14,000
Krebs Capacity—Annual Basis		9,000
TOTAL—Annual Basis		23,000
Krebs % of Total		39.1%

Capacity shown for Krebs is on basis of annual rated capacity which became effective November 1, 1933. Capacity prior to that date was 5,400 tons.

	Sales in Tons (2,000#) Last 6 Mos. 1933	Last 6 Mos. 1932
Competitors	7,300	4,450
Krebs	3,126	1,585
TOTAL	10,426	6,035
Krebs % of Total	30%	26.2%
Krebs % of Increase	97%	

D. P. Exhibit 83

TITANIUM DIOXIDE—COMPETITION Page 8

Titanium Pigments Company continued to be our sole competitors. No activity was noted on the part of the Vanadium Corp., who are known to have a plant of unestimated capacity. Quality improvements represented the sole form of competition between ourselves and Titanium Pigments Company, since prices remained firm for the period.

NEW TITANIUM DIOXIDE BUSINESS SECOND SIX MONTHS 1933

Customer	*Tonnage Annual Basis*	
U. S. Gutta Percha Pt. Co.	40	Titanium Pigments Co.
Boston Blacking Co.	20	" " "
West Pt. & Var. Co.	5	" " "
Hancock Pt. & Var. Co.	10	" " "
Carpenter Morton Co.	20	" " "
O'Niel Duro Co.	10	" " "
A. J. & J. O. Pilar	25	" " "
Armstrong Cork Co.	600	Substituted for Krebolith.
Lilly Varnish Co.	5	Titanium Pigments Co.
R. N. Nason Co.	10	" " "
Nekoosa Edwards Paper Co.	25	New consumer.
Standard Paper Co.	10	" "
Tennessee Eastman	20	" "
Geo. D. Wetherill Co.	40	Titanium Pigments Co.
Manion Pt. & Var. Co.	10	" " "

LOST TITANIUM DIOXIDE BUSINESS SECOND SIX MONTHS 1933

Ohio Wax Paper Co.	20	Titanium Pigments Co. Quality.

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D. P. Exhibit 84

KREBS PIGMENT & COLOR CORPORATION

ANNUAL COMPETITIVE REPORT
1934 vs 1933

* * * * *

PRODUCT Titanium Dioxide

	(Tons of 2000#)
Total Capacity of Competitors—Annual Basis	14,000
Krebs Capacity*—Annual Basis	14,000
TOTAL—Annual Basis	28,000
Krebs % of Total	50%

*Made available late in 1934

	Sales in Tons (2,000#)	
	1934	1933
Competitors	13,500	8,700**
Krebs	9,890	5,830
TOTAL	23,390	14,530
Krebs % of Total	42.2%	40.1%
Krebs % of Increase	69.6%	

**Revised from previous report.

Note: Krebs' production and sales have been confined entirely to pure Titanium Dioxide, therefore for comparative purposes, we have estimated our competitors' producing capacity and sales on the basis of Titanium Dioxide content of extended titanium pigments plus Titanium Dioxide manufactured and sold in the pure form.

D. P. Exhibit 84

TITANIUM DIOXIDE—COMPETITION

As in the previous year, Titanium Pigment Company continued to be our sole active competitor. During the closing months of the year we noted greater activity on the part of Vanadium Corporation (Southern Mineral Corporation), who were offering samples quite generally throughout the trade. Many of these samples were obtained and found to be of fairly good quality, particularly in color. However, we understand that this material has been produced only on a semi-works scale and it remains to be demonstrated that this new producer can regularly duplicate this high quality in a commercial scale operation. Late in the year the Glidden Company also announced their entry into the titanium pigment field in the form of circulars distributed to consumers, stating that their affiliated company, The American Zirconium Company, would soon be in operation. No samples from this source have as yet been obtained and to our best knowledge this competitive product has not yet been released for sale. In fact, in January 1935 we filled Glidden's order for two carloads of Titanium Dioxide which is apparently required for their own consumption.

NEW TITANIUM DIOXIDE BUSINESS—1934

Customer	*Tonnage Annual Basis*	*Competition*
Paraffine Co.	150 Tons	N.J.Z. (Cryptone)
Detroit Sulphite Pulp & Paper Co.	70	N.J.Z. (Cryptone)
O'Brien Var. Co.	60	T.P.Co.
International Shoe Co.	25	T.P.Co.

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D. P. Exhibit 84

NEW TITANIUM DIOXIDE BUSINESS—1934 (Cont'd)

Customer	*Tonnage Annual Basis*	*Competition*
General Prtg. Ink Co.	30	T.P.Co.
Hilton Davis Co.	20	T.P.Co.
Rinshed Mason Co.	12	T.P.Co.
Old Dutch Industrial Pdts.	10	T.P.Co.
Monroe, Ledered & Taussig	10	T.P.Co.
Hammersly Mfg. Co.	10	T.P.Co.
E. J. Kelly Sons	8	T.P.Co.
Nubian Pt. & Var. Co.	38	T.P.Co.
Great Lakes Var. Co.	25	T.P.Co/
Elliott Var. Co.	15	T.P.Co.
New Jersey Zinc Co.	300	New consumer
Sloane Blabon Co.	150	New consumer
Bird & Son Co.	60	New consumer
Berst Foster Dixfield	35	New consumer
Beggs & Cobb	15	New consumer
Patterson Sargent Co.	15	New consumer
Boston Varnish Co.	10	New consumer
Rex Ink & Supply Co.	10	New consumer
Acme White Lead & Color	20	T.P.Co.
Arco Co. Ltd.	5	T.P.Co.
Aulcraft Pts. Ltd.	5	T.P.Co.
Badger State Tanning Co.	80	T.P.Co.
Badger Paper Mills	10	New consumer
Chillicothe Paper Co.	15	New consumer
Consolidated Water Power & Paper	15	New consumer
Crocker McElwain Co.	15	New consumer
Chi-Namel Co.	5	New consumer
Cornell Wood Prod. Co.	10	T.P.Co.
Andrew Brown Co.	10	T.P.Co.
Dunn Sulphite Paper Co.	25	New consumer
Eddy Paper Co.	10	New consumer
Fiberloid Corp.	10	T.P.Co.
French Paper Co.	5	T.P.Co.
Gardner Richardson Co.	30	New consumer

D. P. Exhibit 84

NEW TITANIUM DIOXIDE BUSINESS—1934 (Cont'd)

Customer	*Tonnage Annual Basis*	*Competition*
General Pt. Corp.	10	New consumer
Hammermill Paper Co.	90	New consumer
A. C. Horn	15	T.P.Co.
International Paper Co.	40	T.P.Co.
Imperial Var. & Color Ltd.	7	T.P.Co.
Jones Dabney Co.	20	T.P.Co.
Kalamazoo Vegetable Parchment	90	New consumer
Marathon Paper Mills	50	T.P.Co.
Mohawk Paper Mills Inc.	8	New consumer
Neenah Paper Co.	15	New consumer
Oxford Paper Co.	18	T.P.Co.
Port Huron Sulphite & Paper	25	T.P.Co.
Prime Leather Finish Co.	10	New consumer
Pure Oil Co.	12	New consumer
Pittston Paper Co.	20	T.P.Co.
R. B. H. Lacquer Base Co.	50	T.P.Co.
Rhinelander Paper Co.	7	New consumer
Howard Smith Paper Ltd.	20	T.P.Co.
Scriver & Quinn	8	T.P.Co.
Wardway Pt. Works	100	New consumer
Dewy & Almy Chem. Co.	85	T.P.Co.
Goodyear Rubber Sundries	8	New consumer
Hodgman Rubber	30	New consumer
I. B. Kleinert	12	T.P.Co.
Panther Panco Rubber	30	T.P.Co.
Phillips Baker Rubber	15	New consumer
Penna. Rubber	10	New consumer
Wilson Welder & Metals	15	New consumer

We suffered no loss of business on Titanium Dioxide during the year.

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D. P. Exhibit 85

KREBS PIGMENT & COLOR CORPORATION

Annual Competitive Report

1935 vs 1934

* * * * *

PRODUCT TITANIUM DIOXIDE

	(Tons of 2,000#)
Total Capacity of Competitors—Annual Basis	33,000
Krebs Capacity—Annual Basis	25,370
TOTAL—Annual Basis	58,370
Krebs % of Total	43.5%

The above total capacity of competitors includes 2,480 tons, representing the Piney River Virginia Plant of Southern Mineral Corp., which ceased operations during 1935. The increase in total capacity over 1934 was 30,370 tons, due largely to new plants put into operation by Krebs at Edge Moor, Titanium Pigment Company at Sayerville, N. J., and American Zirconium Corporation at Baltimore.

	(Sales in Tons (2,000#)) 1935	1934
Competitors	20,000	13,500
Krebs	17,800	9,890
TOTAL	37,800	23,390
Krebs % of Total	47.1%	42.2%
Krebs % Increase	80.0%	

Note: The above estimates of production capacities and sales are on the basis of titanium dioxide content of extended titanium pigments and titanated lithopone, plus the titanium dioxide manufactured and sold in pure form.

TITANIUM DIOXIDE

We improved our position quite substantially in the titanium dioxide industry, our estimated percentage of total sales, figured in terms of pure titanium dioxide, being 47.1% for the year compared with 42.2% in 1934. Of a total of approximately 20,000 tons of titanium dioxide sold by our competitors, we estimate that our principal competitor, Titanium Pigment Company, sold 18,500 tons and the balance of 1,500 tons was sold by American Zirconium Corporation. Of the 1,500 tons sold by American Zirconium Corporation, we estimate that a large bulk of this was consumed by their affiliate, the Glidden Company, in the manufacture of paints and titanated lithopone. Their outside sales of titanium dioxide were estimated to be quite small in view of the fact that they did not offer standard quality product to the trade until late in the year. The Glidden Company's purchases from American Zirconium Corporation represent a loss to Krebs, as we formerly supplied them with most of their titanium dioxide requirements.

Of the 18,500 tons of titanium dioxide sold by Titanium Pigment Company, we estimate that 9,800 tons went into their extended pigments while the remainder, namely, 8,700 tons was sold in the pure form. Of our total sales of 17,800 tons, 1,190 tons were in the form of extended titanium pigments, 1,650 tons went into our titanated lithopone and the balance of 14,960 tons were sold as titanium dioxide.

Since our increased capacity for titanium dioxide at Baltimore was made available in the latter part of 1934, we were in position to take care of the rapidly increasing demand for this pigment whereas Titanium Pigment Company continued to be handicapped by limited capacity until

its new plant at Sayerville N.J. was completed and put into operation about the middle of 1935. Our sales of titanium pigments in terms of titanium dioxide increased 80% over 1934, whereas we estimate Titanium Pigment Company's sales increased about 37%.

TITANIUM DIOXIDE—COMPETITION

Titanium Pigment Company continued to be our sole active competitor until late in the year when American Zirconium Corporation commenced offering Zopaque, a titanium dioxide of very fair quality. The Vanadium Corporation (Southern Mineral Corporation) made some attempt to promote its pigment late in 1934 and in 1935. They made little headway, however, due to poor quality and finally discontinued operations in the fall of 1935.

We expect American Zirconium Corporation to be more aggressive in 1936, although their output is limited to 3,000 tons under their license agreement. Numerous samples of their pigment indicated appreciable improvement in quality during the year, however, it is not yet rated generally equal to our product.

We are not reporting separately our sales of extended titanium pigments, "Ti-Bar" and "Ti-Cal", for the reason that we did not start production until mid-year and our efforts during the last six months were largely promotional. Total sales for this period were 1,530 tons "Ti-Bar" and 2,237 tons "Ti-Cal". On an annual basis this would represent about 17% of the country's consumption of extended titanium pigments. The largest individual month's sales were 552 tons "Ti-Cal" in October and 358 tons "Ti-Bar" in September.

D. P. Exhibit 85

New Titanium Dioxide Business—1935

Customer	*Tonnage*	*Competition*
American Can Co.	22 Tons	Titanium Pigment Co.
Atlas Powder Co.	62 "	" "
Bay State Chemical	22 "	" "
Boston Blacking & Chem. Co.	18 "	" "
Cherry River Paper Co.	16 "	New use
Downington Paper Co.	42 "	" "
Groveton Paper Co.	15 "	" "
Sinclair Refining Co.	20 "	Titanium Pigment Co.
Standard Varnish Wks.	45 "	" "
U. S. Rubber Prods. Co.	142 "	" "
S. D. Warren Co.	40 "	" "
Whittemore Bros. Corp.	25 "	United
Boydell Bros.	19 "	Titanium Pigment Co.
Cummer Prods. Co.	13 "	Replaces our lithopone
James B. Day	21 "	Titanium Pigment Co.
Elliott Pt. & Var.	12 "	Replaces our lithopone
Great Lakes Varnish	31 "	Replaces our lithopone
J. Greenbaum Tanning	34 "	Replaces out lithopone
Menasha Prtg. Ink Co.	15 "	Titanium Pigment Co.
Nubian Pt. & Var. Co.	44 "	" "
O'Neil Duro	22 "	" "
Twin City Lumber & Shingle	11 "	New use
Eagle Picher Lead Co.	60 "	New use for manufacture of titanated lithopone
Crown Williamette Paper Co.	126 "	New use
General Pt. Co.	19 "	Titanium Pigment Co.
Boston Woven Hose & Rubber	11 "	New use
General Tire & Rubber	16 "	" "
Libbey Glass Mfg. Co.	40 "	" "
Una Welding Inc.	64 "	" "
Wilson Welder & Metals Co.	59 "	" "
Advance Paint Co.	26 "	Titanium Pigment Co.
Columbus Coated Fabrics	21 "	" "
Container Corp. of America	29 "	New use
Egyptian Lacquer Co.	45 "	Titanium Pigment Co.

New Titanium Dioxide Business—1935 (Cont'd)

Customer	*Tonnage*	*Competition*
Foster Paper Co.	16 Tons	New use
Frazer Paper Co.	224 "	" "
Leitch Mfg. Co.	23 "	Titanium Pigment Co.
Michigan Carton Co.	22 "	New use
Minnesota Linseed Oil	25 "	Titanium Pigment Co.
Mount Hope Finishing Co.	10 "	New use
New York & Penna Co.	17 "	" "
North American Rayon Co.	20 "	" "
Pittsburgh Plate Glass	29 "	Titanium Pigment Co.
Rex Paper Co.	20 "	New use
Wilhelm & Company	30 "	Now buy from parent company

Lost Titanium Dioxide Business—1935

Customer	*Tonnage*	*Competition*
Capitol Pt. & Var. Co.	18 Tons	N.J.Z. Trouble with our Titanium Dioxide in enamels, so reformulated with our lithopone. Our lithopone now lost to competition due to credit
Glidden Co.	180 "	They are now manufacturing their own titanium dioxide
General Electric Company	60 "	T.P.Co. Partial—estimate we lost three cars.
Arkansas Co.	13 "	T.P.Co. Partial—decided to split their purchases
International Paper Co.	36 "	T.P.Co. Reciprocity
Grand Rapids Var. Co.	42 "	Partial—lost some refrigerator enamel business to duPont.

D. P. Exhibit 86

KREBS PIGMENT & COLOR CORPORATION

ANNUAL COMPETITIVE REPORT

1936 vs 1935

	YEAR 1936		YEAR 1935		1936 vs 1935 Percent Increase or Decrease Krebs Sales
	Krebs Sales	Percent of Total	Krebs Sales	Percent of Total	
Titanium Dioxide..	21,167 tons	66.0%	16,610 tons	66.0%	+ 27.4%
Extended Titanium Pigments	13,625 "	23.0	4,229 "	9.2	+222.0

TITANIUM DIOXIDE

Titanium Pigments Corp.	21,330 tons	42.5%
American Zirconium Corp.	3,000 "	6.0
KREBS	25,830 "	51.5
Grand Total	50,160 tons	100.0%

EXTENDED TITANIUM PIGMENTS

Titanium Pigments Corp.	66,640 tons	70.0%
KREBS	28,560 "	30.0
Grand Total	95,200 tons	100.0%

D. P. Exhibit 86

TITANIUM DIOXIDE (In pure form)

Krebs sales of titanium dioxide (in pure form) increased 27% over 1935; however, our position in the industry continued the same as for 1935, being 66% of the total. This condition was due largely to increased sales by American Zirconium Corporation which for 1936 are estimated at 2,400 tons as compared to 1,500 tons for 1935.

EXTENDED TITANIUM PIGMENTS

Sales of our extended titanium pigments during the first full year of operation were 13,625 tons compared with 4,229 tons in 1935 (7 months). Our position in the industry increased from 9.2% in 1935 to 23% in 1936, largely at the expense of our only competitor. These pigments did, however, displace approximately 1,340 tons of competitive lithopones.

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Continued progress is expected in 1937 on all titanium pigments and dry colors. Due to continued replacement by titanium pigments our sales of lithopone are expected to be 2,000 tons less than for 1936, however, we believe that we will at least maintain our present position in this industry. Total Krebs sales are estimated at 5% over 1936.

D. P. Exhibit 87

2/4/38

KREBS PIGMENTS DEPARTMENT

ANNUAL COMPETITIVE REPORT

1937 vs. 1936

	1937		1936		1937 vs. 1936
	Du Pont Sales Tons	Percent of Industry %	Du Pont Sales Tons	Percent of Industry %	Per cent Increase or Decrease Du Pont Sales
Titanium Dioxide	22,489	64.6	21,167	66.0	+ 6.2
Extended Titanium Pigments	22,000	28.9	13,625	23.0	+61.5

Titanium Dioxide

	Tons	Per cent of Total
Titanium Pigments Corp.	24,080	44.2%
American Zirconium Corp.	3,000	5.5
DU PONT	27,348	50.3
Grand Total—	54,428	100.0%

Extended Titanium Pigments

Titanium Pigments Corp.	79,120	[illegible]%
DU PONT	29,240	27.0
Grand Total—	108,360	100.0%

D. P. Exhibit 87

TITANIUM DIOXIDE (In pure form)

Our sales of titanium dioxide in pure form (but also including the titanium content of our titanated lithopone) increased 6.2% over 1936. Our position in the industry, however, declined from 66.0% to 64.6%, due to:— (1) increased sales by American Zirconium Corp. which are estimated at 3600 tons as compared with 2400 tons the preceding year, and (2) decrease in our sales to Sherwin-Williams Company who stocked up heavily in the fall of 1936, prior to our increasing the price to this customer.

EXTENDED TITANIUM PIGMENTS

Sales of our extended titanium pigments during our second full year of operation were 22,000 tons as compared with 13,625 tons in 1936. Our position in the industry increased from 23.0% in 1936 to 28.9% in 1937. Our increase in sales of 8375 tons was largely at the expense of our only competitor. These pigments, however, did replace approximately 1800 tons of our lithopone and 1500 tons of competitive lithopone.

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D. P. Exhibit 88

February 6, 1939.

KREBS PIGMENTS DEPARTMENT

Annual Competitive Report

1938 vs. 1937

	1938		1937		1938 vs. 1937
	Du Pont Sales Tons	Percent of Industry	Du Pont Sales Tons	Percent of Industry	Per cent Increase or Decrease Du Pont Sales
* * * * * * * * * * * *					
Titanium Dioxide	20,148	54.2	22,489	64.6	—10.4
Extended Titanium Pigments	24,738	33.8	22,000	28.9	+12.4
* * * * * * * * * * * *					

Titanium Dioxide

	Tons	Per cent of Total
Titanium Pigment Corp.	22,000	37.7
American Zirconium Corp.	6,000	10.3
Virginia Chemical Corp.	3,000	5.1
Du Pont	27,348	46.9
Grand Total	58,348	100.00

Extended Titanium Pigments

Titanium Pigment Corp.	79,120	73.0
Du Pont	29,240	27.0
Grand Total	108,360	100.0

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D. P. Exhibit 88

TITANIUM DIOXIDE (In pure form, including titanium content of titanated lithopone)

Our position in the industry declined from 64.6% in 1937 to 54.2% in 1938, due largely to the appearance of a new competitor in this field at the close of 1937. Our sales declined 2,341 tons, or 10.4%; competitive tonnage increased 4,750 tons. Outlined below are the principal factors contributing to these changes:

1—(a) Virginia Chemical Corporation, subsidiary of Interchemical Corporation, entered the pure titanium dioxide field as a new competitor at the close of 1937. In addition to gaining a number of friendly accounts, some of which were our losses, Virginia Chemical Corporation naturally began to supply all divisions of Interchemical Corporation, including United Color & Pigment Company, International Printing Ink Corporation and Ault & Wiborg Corporation, all of whose requirements heretofore had been placed with us, and our sales to this group alone declined 910 tons.

(b) The increase in Sherwin Williams Company's titanium dioxide consumption, estimated at about 800 tons, was given to Virginia Chemical Corporation, in particular, and American Zirconium Corporation for reciprocal reasons.

2—Both Pittsburgh Plate Glass Company and Devoe & Raynolds Company decided, for certain policy reasons, to favor Titanium Pigment Corporation and as a result our sales declined 515 tons.

3—Our transfers of pure titanium to the Fabrics & Finishes Department declined 590 tons, or 21%, due to the sharp drop in production of automotive and refrigerator finishes in comparison with 1937.

EXTENDED TITANIUM PIGMENTS

Our sales of extended titanium continued to increase in 1938 in the face of a 3.7% decline for the industry as a whole, and as a result our position in 1938 rose to 33.8% in comparison with 28.9% the previous year. The relatively good showing of the industry last year was due largely to replacement of lithopone pigments. Our increase in position, however, was due mostly to business gained from our only competitor, Titanium Pigment Corporation.

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D. P. Exhibit 89

February 12, 1940.

KREBS PIGMENTS DEPARTMENT

Annual Competitive Report

1939 vs. 1938.

	1939		1938		1939 vs. 1938
	Du Pont Sales Tons	Percent of Industry	Du Pont Sales Tons	Percent of Industry	Per cent Increase or Decrease Du Pont Sales
* * * * * * * * * * *					
Titanium Dioxide	25,524	48.1	20,148	54.2	+26.7
Extended Titanium Pigments	32,350	35.8	24,738	33.8	+30.8
* * * * * * * * * * *					

Titanium Dioxide

	Tons	Per cent of Total
Titanium Pigment Corp.	24,800	41.3
American Zirconium Corp.	6,000	10.0
Virginia Chemical Corp.	4,000	6.6
Du Pont	25,284	42.1
Grand Total	60,084	100.0

Extended Titanium Pigments

Titanium Pigment Corp.	67,000	65.0
Du Pont	36,120	35.0
Grand Total	103,120	100.0

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D. P. Exhibit 89

TITANIUM DIOXIDE (In pure form, including titanium content of titanated lithopone)

As a result of greatly increased usage in the consuming industries, particularly paint, titanium dioxide experienced during 1939 a growth greater than that of any other white pigment. Commencing in January, our sales mounted to near capacity levels and during the last five months of the year exceeded plant capacity to the point where it was necessary to curtail sales efforts.

Our sales tonnage increased 26.7% as compared with an estimated 42% increase for the entire industry so our position declined from 54.2% to 48.1%. Our decrease in position is attributed to:

1—An unavoidable loss of approximately 1,000 tons (actual decrease from 1938) to competition due to changes in purchasing policy at five important accounts.

2—Titanium Pigment Corporation enjoyed a larger relative share of the increased demand for titanium dioxide by reason of (a) having as the backlog of their business a number of the largest paint accounts in the country, such as Pittsburgh Plate Glass Company, Sherwin-Williams Company, Devoe & Raynolds Company, and Sears, Roebuck & Company, whose consumption we estimate as having increased considerably more than the general average for the paint industry, and (b) its sales not being restricted by any capacity limitation.

D. P. Exhibit 89

EXTENDED TITANIUM PIGMENTS

The year in question saw further improvements in quality in extended titanium pigments which enhanced their use, particularly in the paint industry where it was still evident that replacement of other pigments, especially lithopone, continued. Our sales tonnage increased 30.8% as compared with an estimated 23% increase for the entire industry so our position again advanced from 33.8% to 35.8%. Although replacement of lithopone continued, our increase in position was due mostly to gains from our only competitor, Titanium Pigment Corporation.

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D. P. Exhibit 90

February 14, 1941

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

ANNUAL COMPETITIVE REPORT

Herewith is submitted Annual Competitive Report for this Department for the year 1940.

C. H. RUPPRECHT
GENERAL MANAGER

February 10, 1941.

KREBS PIGMENTS DEPARTMENT

ANNUAL COMPETITIVE REPORT—1940

* * * * * * * * * * * *

	duPont as Per Cent of Industry—Tons					duPont Sales in tons 1940
	1936	1937	1938	1939	1940	
* * * * * * * * * * *						
Titanium Dioxide	66.0	64.6	54.2	48.1	45.3	30,457
Extended Titanium Pigments	23.0	28.9	33.8	35.8	36.2	38,038

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TITANIUM DIOXIDE (In pure form, including titanium content of titanated lithopone)

D. P. Exhibit 90

TITANIUM DIOXIDE SALES—ESTIMATED

	1939		1940	
	Per Cent of Total	Tons	Per Cent of Total	Tons
Titanium Pigment Corp. . .	34.9	18,500	40.2	27,000
American Zirconium Corp. .	9.4	5,000	7.1	4,800
Virginia Chemical Corp. . .	7.6	4,000	7.4	5,000
Total Competition	51.9	27,500	54.7	36,800
DU PONT	48.1	25,524	45.3	30,457
	100.0	53,024	100.0	67,257

Capacity estimates follow. Our increase is due to expansion of our Edge Moor plant completed December 1940. It is believed that Titanium Pigment Corporation increased its Sayreville, N. J. capacity by a relatively greater tonnage.

TITANIUM DIOXIDE

ANNUAL CAPACITY AS OF DEC. 31—ESTIMATED

	1939		1940	
	Per Cent of Total	Tons	Per Cent of Total	Tons
Titanium Pigment Corp. . .	41.5	25,000	47.5	41,000
American Zirconium Corp. .	10.0	6,000	7.0	6,000
Virginia Chemical Corp. . .	6.6	4,000	5.8	5,000
DU PONT	41.9	25,284	39.7	34,228
	100.0	60,284	100.0	86,228

Titanium dioxide again showed a growth greater than that of any other white pigment, due largely to increased usage by the paint industry. Exterior house paints are being reformulated with higher titanium dioxide and lower white lead content. We have benefited from Fabrics &

Finishes Department's greater consumption in this respect, however our competitors have gained to a greater extent because they have most of the business of four of the largest pigment consumers:—Sherwin-Williams Company, Pittsburgh Plate Glass Company, Devoe & Raynolds Company, and Sears-Roebuck & Company. Conversely, the industries to which we supply the major portion of their requirements—linoleum, rayon, and to a lesser extent, paper—did not register corresponding increases.

EXTENDED TITANIUM PIGMENTS

	EXTENDED TITANIUM PIGMENT SALES—ESTIMATED			
	1939		1940	
	Per Cent of Total	Tons	Per Cent of Total	Tons
Titanium Pigment Corp. . .	64.2	58,000	63.8	67,000
DU PONT	35.8	32,350	36.2	38,038
	100.0	90,350	100.0	105,038

Capacity estimates are as follows. Edge Moor plant expansion completed December 1940 accounts for our increases.

	EXTENDED TITANIUM PIGMENTS			
	ANNUAL CAPACITY AS OF DEC. 31—ESTIMATED			
	Per Cent of Total	Tons	Per Cent of Total	Tons
Titanium Pigment Corp. . .	65.0	67,000	59.8	69,000
DU PONT	35.0	36,120	40.2	46,440
	100.0	103,120	100.0	115,440

* * * * * * * *

(212)

D. P. Exhibit 91

February 13, 1942

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

ANNUAL COMPETITIVE REPORT

Herewith is submitted Annual Competitive Report for this Department for the year 1941.

C. H. RUPPRECHT
GENERAL MANAGER

D. P. Exhibit 91

KREBS PIGMENTS DEPARTMENT

ANNUAL COMPETITIVE REPORT—1941

	du Pont as Per Cent of Industry—Tons					du Pont Sales in tons
	1937	1938	1939	1940	1941	1941
Titanium Dioxide	64.6	54.2	48.1	45.3	41.6	38,473
Extended Titanium Pigments	28.9	33.8	35.8	36.2	34.4	45,075

TITANIUM DIOXIDE (In pure form, including titanium content of titanated lithopone)

	SALES POSITION—ESTIMATED			
	Each Producer as Per Cent of Industry			Tons
	1939	1940	1941	1941
Titanium Pigment Corp.	34.9	40.2	45.4	42,000
American Zirconium Corp.	9.4	7.1	7.0	6,500
Virginia Chemical Corp.	7.6	7.4	6.0	5,500
Total Competition	51.9	54.7	58.4	54,000
DU PONT	48.1	45.3	41.6	38,473
	100.0	100.0	100.0	92,473

D. P. Exhibit 91

	Annual Capacity as of Dec. 31—Estimated			
	Each Producer as Per Cent of Industry			Tons
	1939	1940	1941	1941
Titanium Pigment Corp...	41.5	47.5	48.00	44,000
American Zirconium Corp.	10.0	7.0	7.3	6,700
Virginia Chemical Corp...	6.6	5.8	7.3	6,700
Total Competition ...	58.1	60.3	62.6	57,400
Du Pont	41.9	39.7	37.4	34,228
	100.00	100.0	100.0	91,628

Our stocks had been seriously reduced by the advance buying in December 1940 prior to price increase January 2, 1941 therefore our 1941 sales were limited largely to our production capacity. On the other hand, our principal competitor had a considerable margin of unused capacity available to meet the augmented demand with the result that all other producers, including du Pont, declined in position.

Du Pont actual sales exceeded our rated capacity by 4,245 tons, or 12.4%, partly because "Ti-Bar" and "Ti-Cal" were not operated at capacity, thereby making available more titanium dioxide for sale as "Ti-Pure".

Extended Titanium Pigments

	Sales Position—Estimated			
	Each Producer as Per Cent of Industry			
	1939	1940	1941	1941
Titanium Pigment Corp...	64.2	63.8	65.6	86,000
Du Pont	35.8	36.2	34.4	45,075
	100.0	100.0	100.0	131,075

D. P. Exhibit 91

The 1941 changes in the capacity percentages below reflect the large increase in our competitor's capacity.

	Annual Capacity as of Dec. 31—Estimated			
	Each Producer as Per Cent of Industry			Tons
	1939	1940	1941	1941
Titanium Pigment Corp...	65.0	59.8	70.3	110,000
Du Pont	35.0	40.2	29.7	46,440
	100.0	100.0	100.0	156,440

Our competitor introduced rutile calcium titanium pigment at the beginning of 1941 and was able to gain additional business at our expense during the several months we were getting into production and building up working stocks. When pigment demand increased in the Summer and Fall, rather than increase "Ti-Cal" production to capacity operation we elected to hold it at 80% thereof and sell the titanium content of the balance as "Ti-Pure" at a greater profit. Around the middle of 1941 our competitor increased his capacity by approximately 100 tons per day and accepted new business in large volume.

* * * * * * * *

(216)

D. P. Exhibit 92

February 12, 1943

To: EXECUTIVE COMMITTEE

FROM: PIGMENTS DEPARTMENT

ANNUAL COMPETITIVE REPORT

Herewith is submitted Annual Competitive Report for this Department for the year 1942.

C. H. RUPPRECHT
GENERAL MANAGER.

PIGMENTS DEPARTMENT

ANNUAL COMPETITIVE REPORT—1942

* * * * * * * * * * * *

SUMMARY OF DU PONT INDUSTRY SALES (INCLUDING TRANSFERS) POSITION BY PIGMENT GROUPS —FIVE YEARS 1938-1942

	duPont as Per Cent of Industry—Estimated					duPont Sales in tons
	1938	1939	1940	1941	1942	1942
Titanium Dioxide	54.2	48.1	45.3	41.6	44.5	32,615
Extended Titanium Pigments	33.8	35.8	36.2	34.4	28.7	29,743

* * * * * * * * * * * *

D. P. Exhibit 92

TITANIUM DIOXIDE (In pure form, including titanium content of titanated lithopone)

SALES POSITION—ESTIMATED

	Each Producer as Per Cent of Industry			Tons
	1940	1941	1942	1942
Titanium Pigment Corp...	40.2	45.4	45.1	33,000
American Zirconium Corp.	7.1	7.0	2.5	1,800
Virginia Chemical Corp...	7.4	6.0	7.9	5,800
Total Competition	54.7	58.4	55.5	40,600
DU PONT	45.3	41.6	44.5	32,615
	100.0	100.0	100.0	73,215

ANNUAL CAPACITY AS OF DEC. 31—ESTIMATED

	Each Producer as Per Cent of Industry			Tons
	1940	1941	1942	1942
Titanium Pigment Corp...	47.5	48.0	48.0	44,000
American Zirconium Corp.	7.0	7.3	7.3	6,700
Virginia Chemical Corp...	5.8	7.3	7.3	6,700
Total Competition	60.3	62.6	62.6	57,400
DU PONT	39.7	37.4	37.4	34,228
	100.0	100.0	100.0	91,628

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D. P. Exhibit 92

Several factors contributed to our gain in sales position. We were successful in securing orders covering the major portion of U. S. Government requirements for the year.

The Glidden Company substantially increased their purchase of titanium dioxide from us by giving us a portion of their requirements when the plant of their subsidiary, American Zirconium Corporation, shut down due to lack of ilmenite. This plant has not yet resumed operation.

We secured 1,300 tons of new business on our new rutile pigment at the expense of competition following sharp decrease in demand beginning May, when we were no longer required to allocate our production because of oversold conditions.

EXTENDED TITANIUM PIGMENTS

SALES POSITION—ESTIMATED

	Each Producer as Per Cent of Industry			Tons
	1940	1941	1942	1942
Titanium Pigment Corp...	63.8	65.6	71.3	74,000
DU PONT	36.2	34.4	28.7	29,743
	100.0	100.0	100.0	103,743

ANNUAL CAPACITY AS OF DEC. 31—ESTIMATED

	Each Producer as Per Cent of Industry			Tons
	1940	1941	1942	1942
Titanium Pigment Corp...	59.8	70.3	70.3	110,000
DU PONT	40.2	29.7	29.7	46,400
	100.0	100.0	100.0	156,400

D. P. Exhibit 92

General Preference Order M-44, effective January 1, 1942, required the allocation of titanium pigments on the basis of 1941 average monthly sales. Our titanium dioxide plants operated at capacity in 1941, but we limited our "Ti-Cal" production to 80 tons per day, selling the titanium content of the balance as "Ti-Pure" at a greater profit. By drawing on our stocks, however, 1941 sales of "Ti-Cal" exceeded production by 10%, whereas our competitor had ample production to meet sales requirements.

During the early months of 1942, with "Ti-Cal" stocks depleted, we had to restrict sales to 80 tons per day or 90% of 1941 while our competitor supplied his trade at full 1941 rate.

In March a substantial reserve stock in the pool set up by Order M-44 was available for distribution. We were required to use our portion toward making up the deficiency with our own customers whereas competitor was able to use his excess to gain business from our accounts.

When a sudden decline in May caught consuming industries with large inventories we were not able to recover our position.

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D. P. Exhibit 93

February 10, 1944

To: EXECUTIVE COMMITTEE

FROM: PIGMENTS DEPARTMENT

ANNUAL COMPETITIVE REPORT—1943

Herewith is submitted Annual Competitive Report for this Department for the year 1943.

C. H. RUPPRECHT
GENERAL MANAGER

PIGMENTS DEPARTMENT

ANNUAL COMPETITIVE REPORT—1943

	Du Pont as Per Cent of Industry—Estimated					Du Pont Sales in tons
	1939	1940	1941	1942	1943	1943
Titanium Dioxide	48.1	45.3	41.6	44.5	45	37,532
Extended Titanium Pigments	35.8	36.2	34.4	28.7	23.5	30,453

D. P. Exhibit 93

TITANIUM DIOXIDE (In pure form, including titanium content of titanated lithopone)

	SALES POSITION—ESTIMATED			
	Each Producer as Per Cent of Industry			Tons
	1941	1942	1943	1943
Titanium Pigment Corp.	45.4	45.1	46.4	38,600
*American Zirconium Corp.	7.0	2.5	0.3	250*
Virginia Chemical Corp.	6.0	7.9	8.2	6,800
Total Competition	58.4	55.5	54.9	45,650
DU PONT	41.6	44.5	45.1	37,532
	100.0	100.0	100.0	83,182

*The American Zirconium Corp. were forced to suspend operations due to lack of ilmenite ore, thus accounting for small sales volume.

	*ANNUAL CAPACITY AS OF DEC. 31—ESTIMATED			
	Each Producer as Per Cent of Industry			Tons
	1941	1942	1943	1943
Titanium Pigment Corp.	48.0	48.0	48.0	44,000
American Zirconium Corp.	7.3	7.3	7.3	6,700
Virginia Chemical Corp.	7.3	7.3	7.3	6,700
Total Competition	62.6	62.6	62.6	57,400
DU PONT	37.4	37.4	37.4	34,228
	100.0	100.0	100.0	91,628

*Annual Capacities, as in recent years, are based on the use of high grade Indian ilmenite, with the exception of Virginia Chemical Corp., which has always operated with Virginia ilmenite.

D. P. Exhibit 93

Our increase in sales position was due, we believe, to our better relative rate of production compared with our principal competitor. This was made possible by drawing on our stock of Quilon ore to supplement our insufficient supply of Adirondack ore. Deliveries of this domestic ore to our competitor and ourselves were considerably below original estimates; however, according to our best information our competitor has had no Indian ore to draw on.

Our plants operated throughout the year at maximum rates consistent with the ore situation. Sales demand exceeded production every month and finished product stocks were exhausted by mid-summer. During the last half of the year our sales were limited by our capacity to produce.

EXTENDED TITANIUM PIGMENTS

	SALES POSITION—ESTIMATED			
	Each Producer as Per Cent of Industry			Tons
	1941	1942	1943	1943
Titanium Pigment Corp.	65.6	71.3	76.5	99,000
DU PONT	34.4	28.7	23.5	30,453
	100.0	100.0	100.0	129,453

	*ANNUAL CAPACITY AS OF DEC. 31—ESTIMATED			
	Each Producer as Per Cent of Industry			Tons
	1941	1942	1943	1943
Titanium Pigment Corp.	70.3	70.3	70.3	110,000
DU PONT	29.7	29.7	29.7	46,400
	100.0	100.0	100.0	156,400

*Annual Capacities, as in recent years, are based on the use of high grade Indian ilmenite.

D. P. Exhibit 93

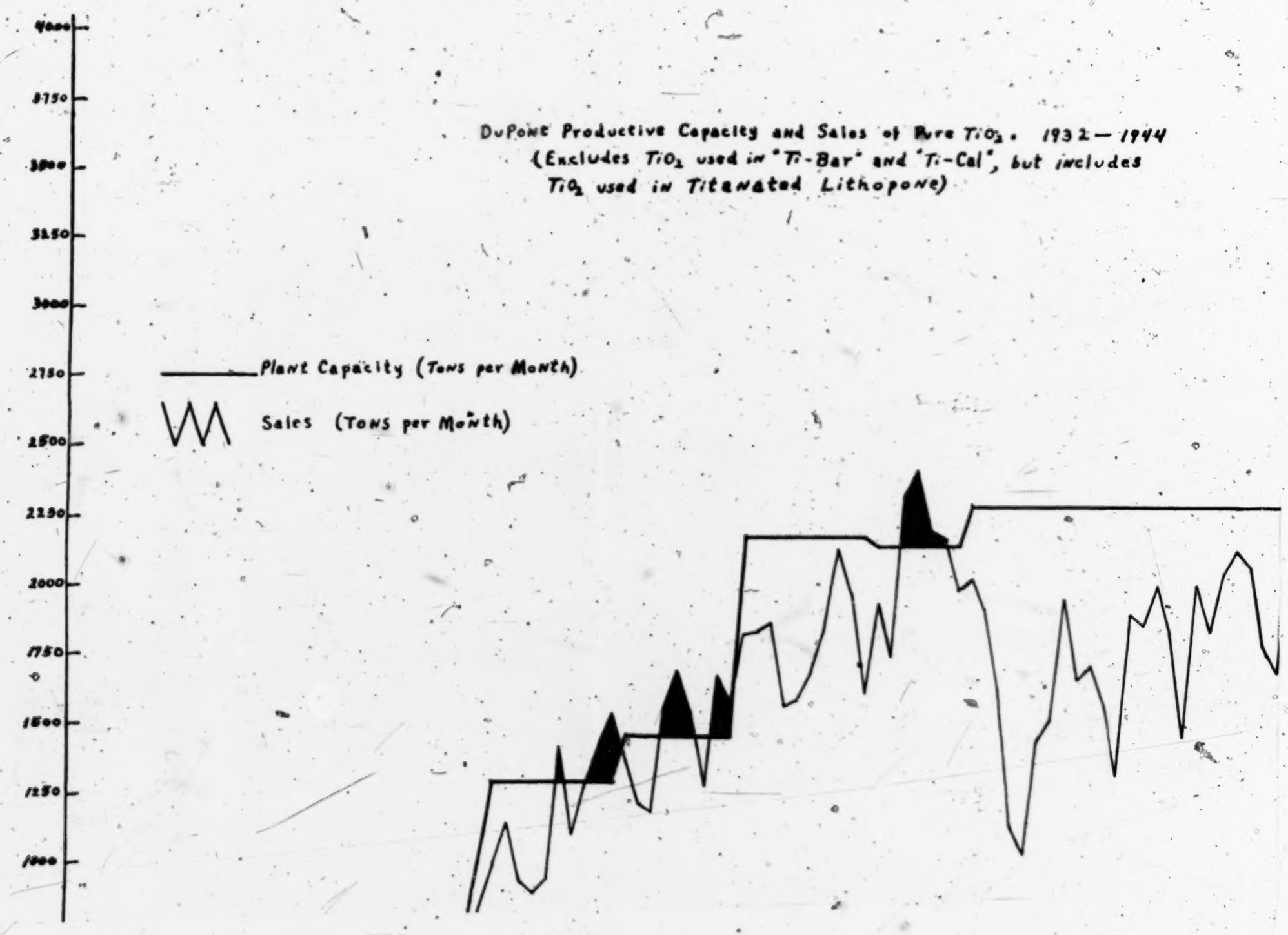
During the early months of 1943 we restricted our production of "Ti-Cal" titanium calcium pigment to 70 tons per day and for the last half of the year imposed a further restriction to 60 tons per day, selling the titanium content of the balance as "Ti-Pure" at a greater profit.

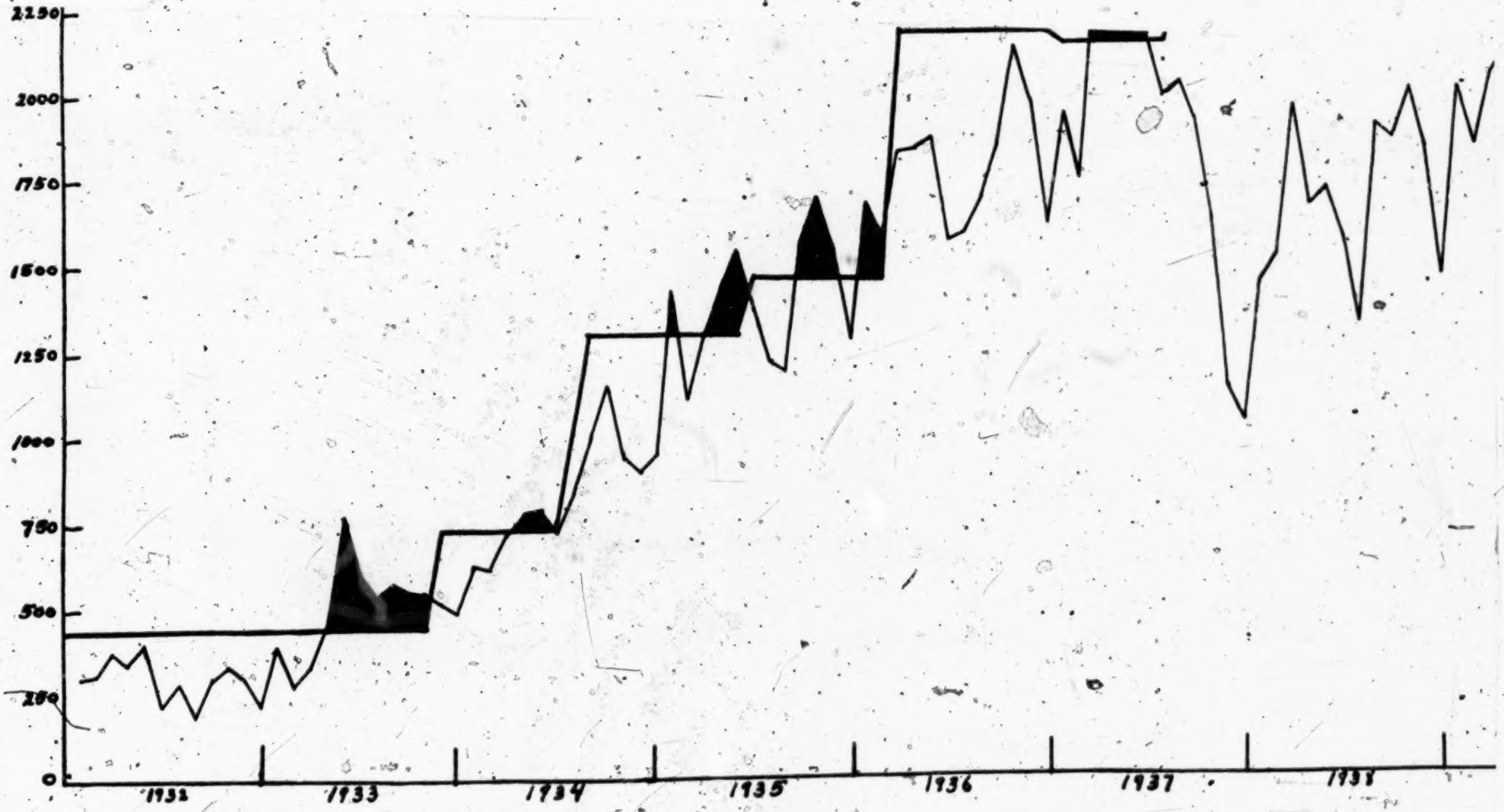
These rates of production did not permit us to satisfy the full demands of our customers for "Ti-Cal". Our competition, on the other hand, having large reserve of finished product stocks and ample capacity, was able to gain considerable business from our accounts, hence our loss in sales position.

We are able to partially offset our loss by the substitution of lithopone for "Ti-Cal" with a number of our good accounts.

* * * * * * * *

DuPont Productive Capacity and Sales of Pure TiO_2. 1932 — 1944
(Excludes TiO_2 used in "Ti-Bar" and "Ti-Cal", but includes TiO_2 used in Titanated Lithopone)




2250
2000
1750
1500
1250
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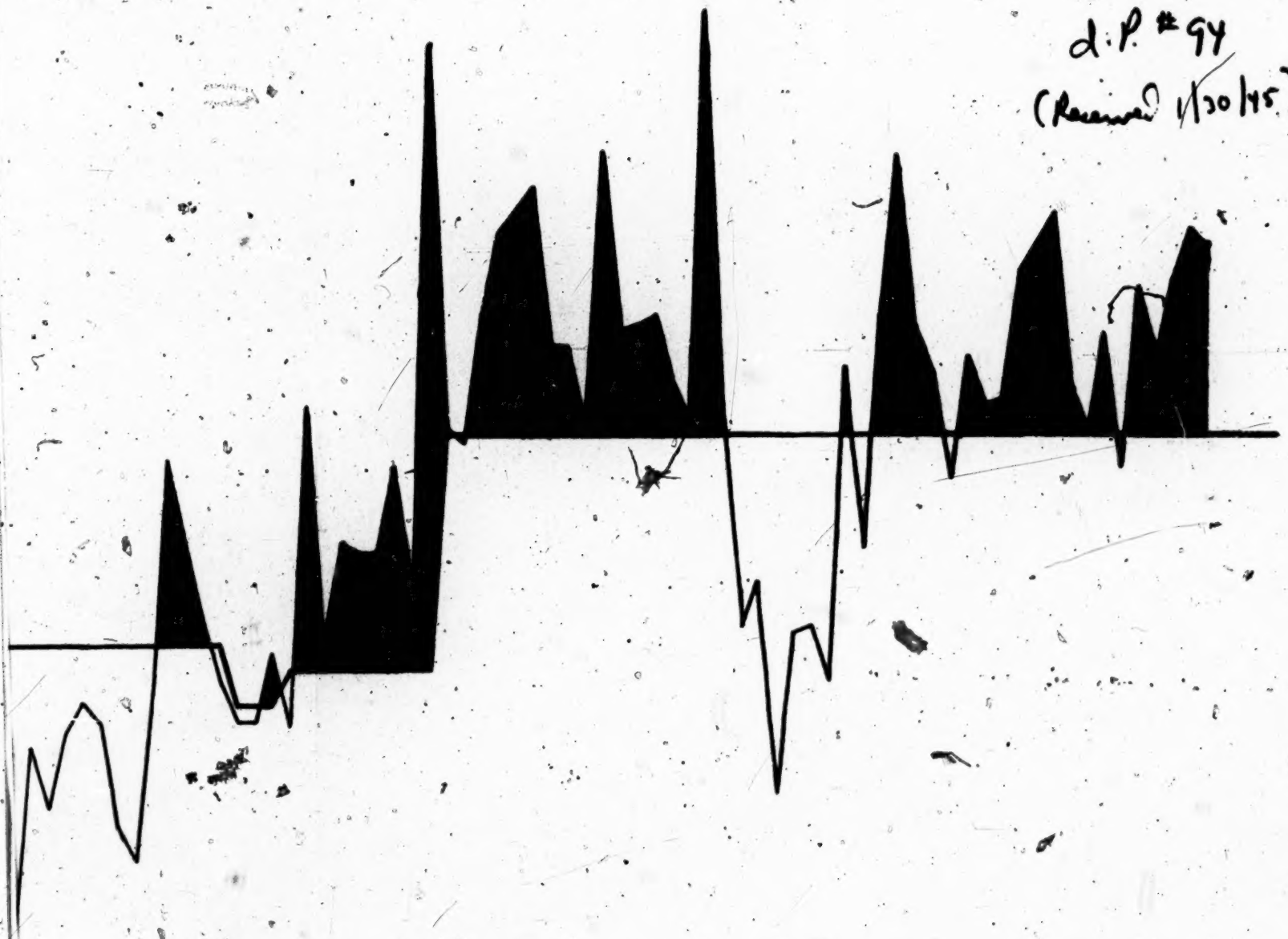
750
500
250
0
1932
1933
1934
1935
1936
1937
1938

d.P. # 94
(Received 1/30/45)



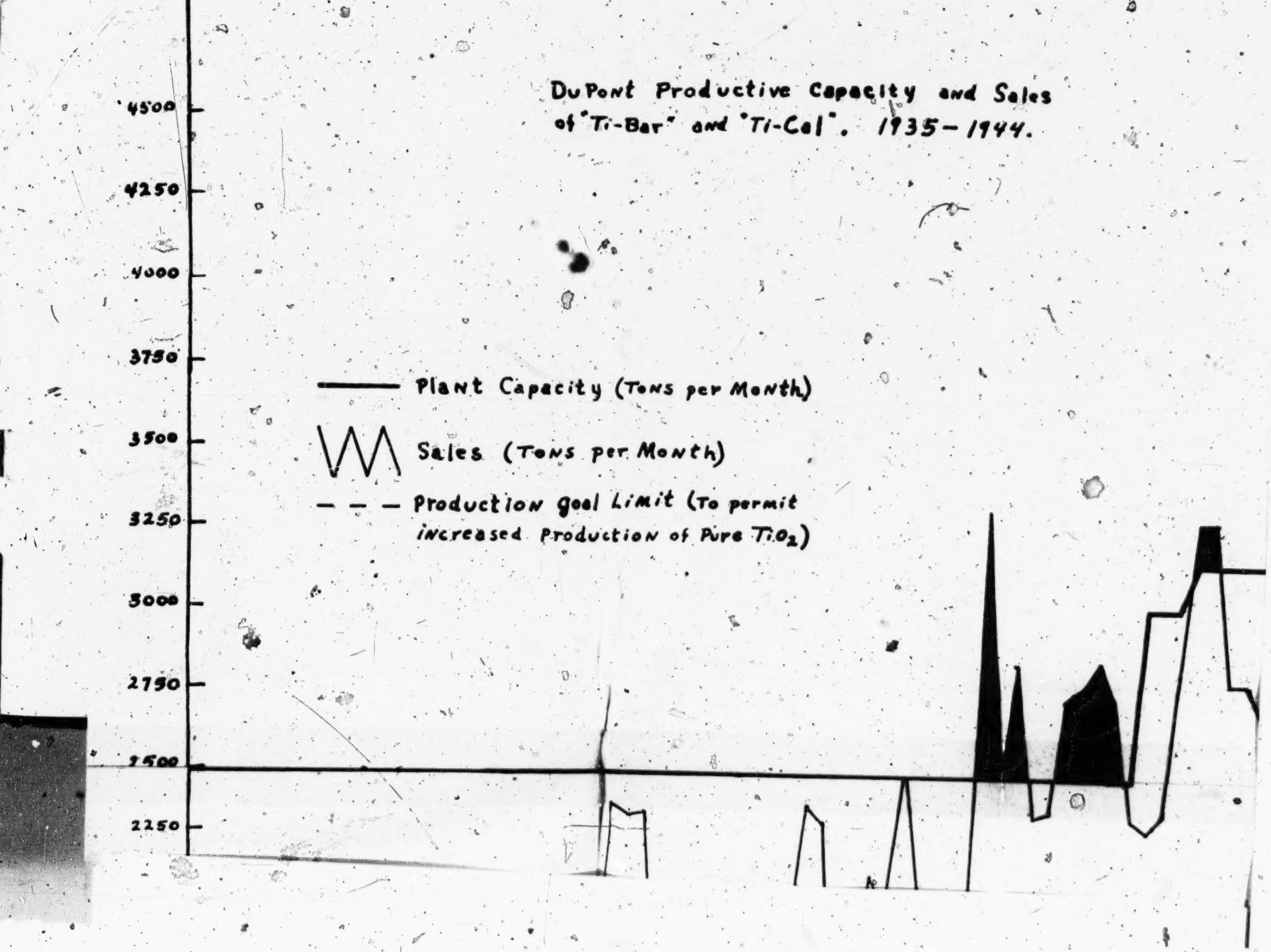
DuPont Productive Capacity and Sales of "Ti-Bar" and "Ti-Cal". 1935–1944.

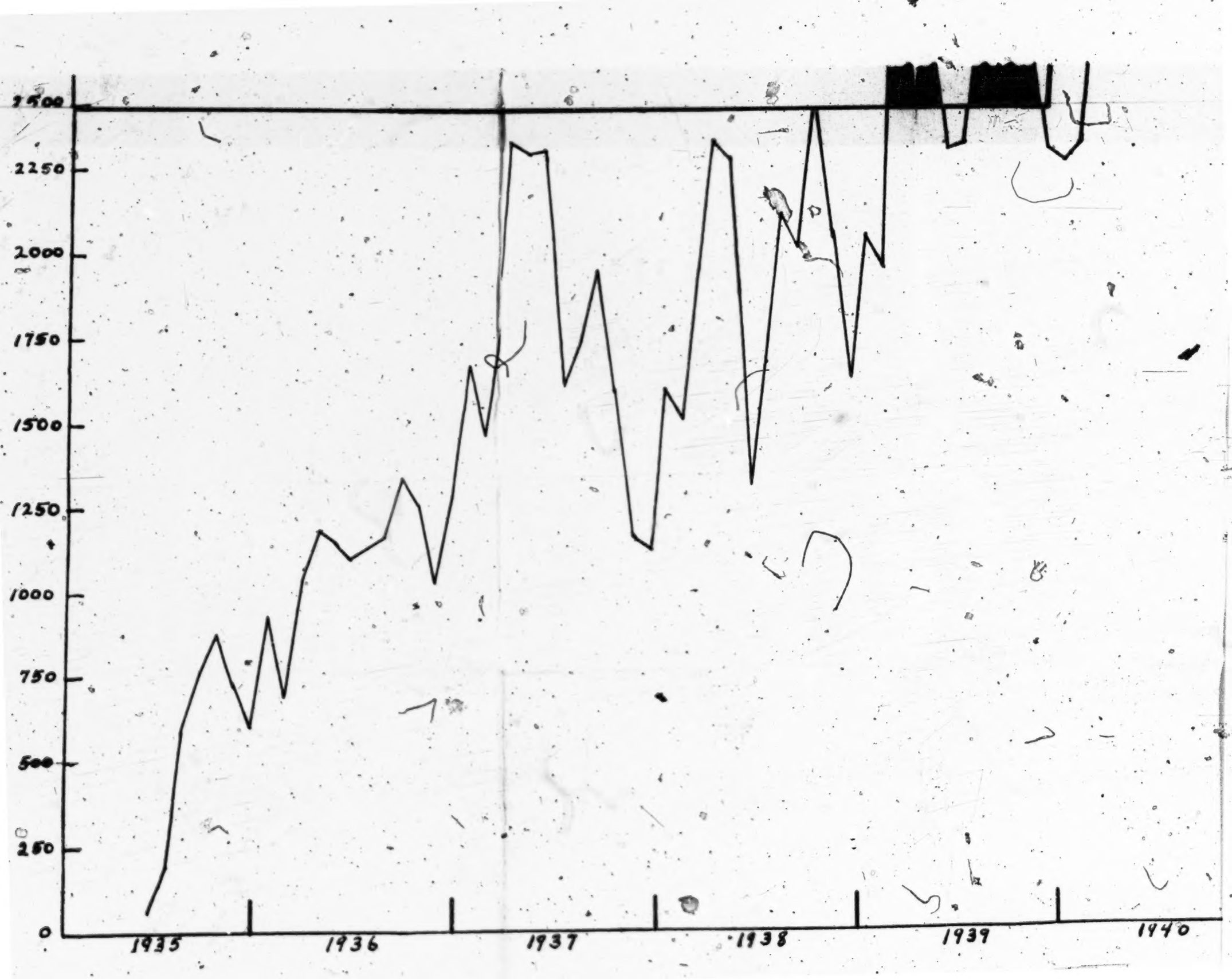
4500
4250
4000
3750
3500
3250
3000
2750
2500
2250

—— Plant Capacity (Tons per Month)

Sales (Tons per Month)

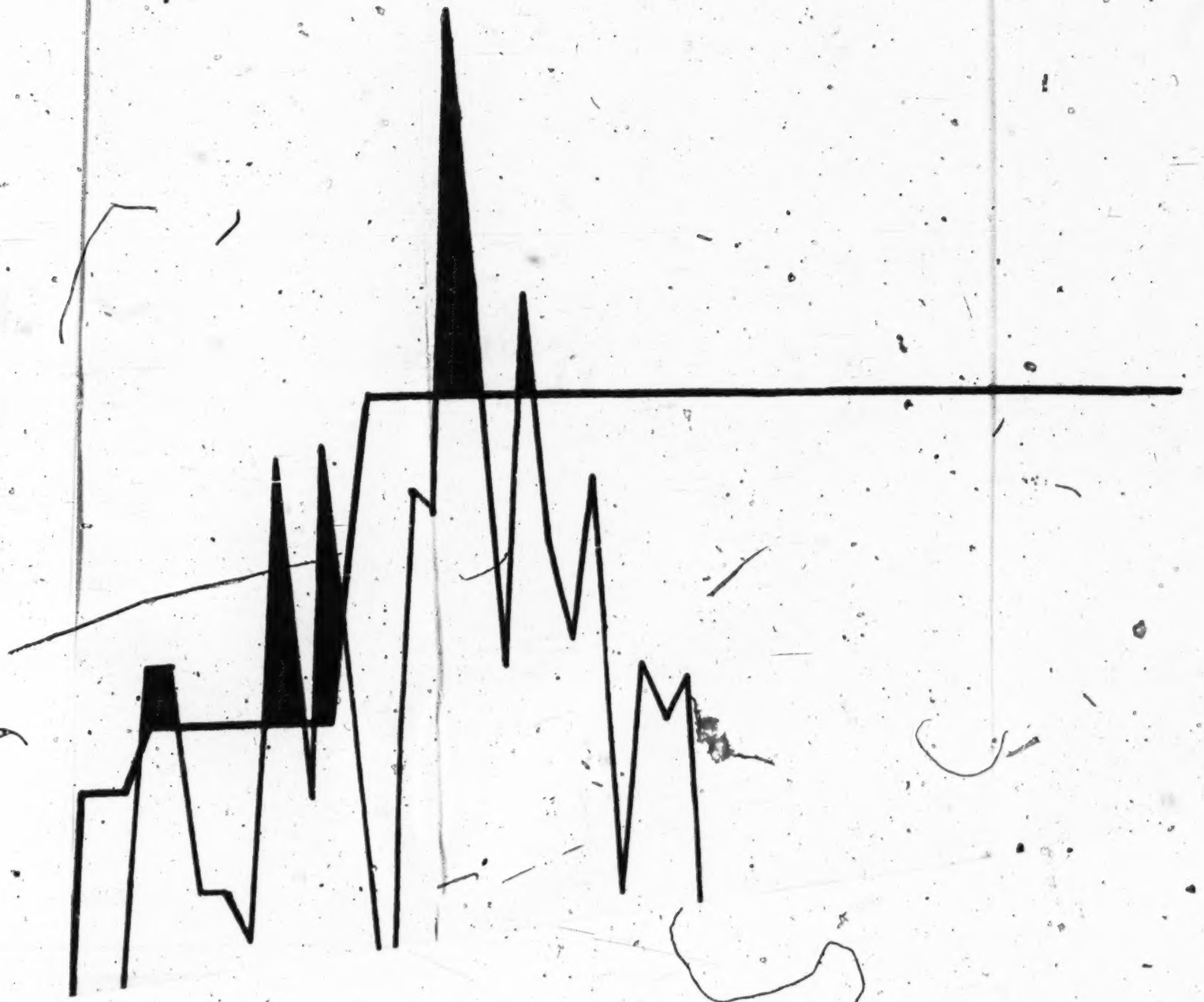
— — — Production Goal Limit (To permit increased Production of Pure TiO_2)




2500
2250
2000
1750
1500
1250
1000
750
500
250
0
1935
1936
1937
1938
1939
1940

D. P. Exhibit 95

d p # 95
(Received 1/30/45)



D. P. Exhibit 96

ORIGINAL

CONTRACT

KREBS PIGMENT & COLOR CORPORATION

KREBS PIGMENT & COLOR CORPORATION hereby agrees to sell and ship

and GLIDDEN COMPANY, CLEVELAND, OHIO

agrees to purchase and receive the products specified below, for the buyer's own consumption, during the period beginning August 25, 1932 and ending August 25, 1933 on the following conditions and terms:

In the event of fire, strikes, accidents or other like causes, beyond the control of either party, interfering with the production, consumption, or transportation of the goods herein described, deliveries under this contract, during the period required to remove the cause or repair the damage, shall be cancelled. Each delivery to stand as a separate transaction, and if the Buyer fails to fulfill terms of purchase or payment under this or other contracts with Seller, Seller shall have the option of cancelling the undelivered portion thereof. The Seller's liability for damages under this contract shall in no case exceed the purchase price of the particular shipment with respect to which such damages are claimed.

The Seller may decline to make deliveries on this contract, except for cash, whenever the Seller, for any reason, shall have any doubt as to the Buyer's responsibility, and so advise the Buyer; whereupon the Buyer shall have the privilege of satisfying the Seller of his responsibility and when the Seller is so satisfied then delivery shall be made or renewed on per above terms.

The total quantity to be taken in about equal monthly shipments of each article. The Seller may decline to furnish more than the pro-rated amount of the maximum quantity in any one month. Any tax on sales, and/or other tax levied by the United States Government affecting the commodities herein sold, shall be paid by the buyer. This contract shall bind and inure to the benefit of the successors and assigns of the parties hereto respectively.

QUANTITY	PRODUCTS	PRICE
Buyer's ~~Total~~ Requirements	Ground Calcined Titanium Dioxide	15½ cents per pound in carloads.
all our letter 10/14	Unground Calcined Titanium Dioxide	14½ cents per pound in carloads.
	In the event of it being possible for the Buyer, during the life of this contract, to purchase material of equal quality at a lower price than herein mentioned, he shall give the Seller proper evidence of same and the Seller will have the option of meeting such price or permitting Buyer to purchase elsewhere at the lower price.	

PACKAGES: Barrels approximately 250 or 300 pounds net weight.

DELIVERY: Sales are f.o.b. Baltimore, Md., with actual freight allowed not to exceed 50 cents per 100 pounds.

TERMS: [redacted] 1%, 10th Proximo.

Accepted: GLIDDEN COMPANY

By W. J. O'Brien
Vice President.
Date September 15, 1932

Accepted:
KREBS PIGMENT & COLOR CORPORATION.

By G. Bert Bowles

Date 9/19/32

FILE COPY

APR 18 1946

CHARLES ELMORE CROPLEY
CLERK

No. 1130 89

In the Supreme Court of the United States

OCTOBER TERM, 1945

THE UNITED STATES OF AMERICA, APPELLANT

v.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

STATEMENT AS TO JURISDICTION

In the District Court of the United States for the Southern District of New York

Civil Action No. 26–258

UNITED STATES OF AMERICA, PLAINTIFF

v.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, DEFENDANTS

STATEMENT AS TO JURISDICTION

In compliance with Rule 12 of the Supreme Court of the United States, as amended, the United States of America submits herewith its statement particularly disclosing the basis upon which the Supreme Court has jurisdiction on appeal to review the judgment of the District Court entered in this cause on October 11, 1945. A petition for appeal was filed on December 10, 1945, and is presented to the District Court herewith, to wit, on December 10, 1945.

JURISDICTION

The jurisdiction of the Supreme Court to review by direct appeal the judgment entered in this cause is conferred by Section 2 of the Expediting Act of February 11, 1903, as amended (32 Stat. 823; 36 Stat. 1167; 15 U. S. C. 29), and Section

238 of the Judicial Code, as amended (36 Stat. 1157; 38 Stat. 804; 43 Stat. 938; 28 U. S. C. 345).

The following decisions sustained the jurisdiction of the Supreme Court to review the judgment on direct appeal in this case:

United States v. *Crescent Amusement Co.*, 323 U. S. 173;
Interstate Circuit, Inc. v. *United States*, 306 U. S. 208;
United States v. *Amerian Tobacco Co.*, 221 U. S. 106.

STATUTE INVOLVED.

The pertinent provisions of Sections 1, 2 and 4 of the Act of July 2, 1890, 26 Stat. 209, as amended, 15 U. S. C. 1, 2 and 4, commonly known as the Sherman Act, are as follows:

> SEC. 1. Every contract, combination in the form of trust or otherwise, or conspiracy in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal. * * *. Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a misdemeanor, * * *.
>
> SEC. 2. Every person who shall monopolize or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, * * *.

SEC. 4. The several district courts of the United States are hereby invested with jurisdiction to prevent and restrain violations of this act; and it shall be the duty of the several district attorneys of the United States, in their respective districts, under the direction of the Attorney-General, to institute proceedings in equity to prevent and restrain such violations. * * *

THE ISSUES AND THE RULING BELOW

The complaint filed by the United States in this case charges National Lead Company, Titan Company, Inc., and E. I. du Pont de Nemours and Company (hereinafter respectively referred to as National Lead, Titan and du Pont) with being engaged in a combination and conspiracy to restrain and to monopolize interstate and foreign commerce in the titanium pigment industry.

After trial of the case the district court filed an opinion stating that National Lead had been a party to a world-wide patent pool of all present and future patents of the parties; that these agreements covered an entire industry and divided the world into exclusive marketing territories for the various parties with respect to commodities both protected and not protected by patents; and that the agreements had the purpose and effect of suppressing imports into and exports from the United States. The court held that the agreements were unlawful under the Sherman Act and that du Pont had become a

member of the combination with foreign concerns. The opinion states that the effect of the agreement between National Lead and du Pont to exchange all of their present and future patents and patent applications, and to exchange technical information, had been to confront any newcomer in the industry with a veritable jungle of patent claims and that the patents, "through the agreements in which they are enmeshed and the manner in which they have been used, have, in fact, been forged into instruments of domination of an entire industry." This exchange, the court held, was used and was available for use as an instrument of restraint to continue the mastery of the market which National Lead and du Pont had achieved by means of the illegal international agreements. The opinion further states that the net effect of the agreement between National Lead and du Pont was that "a business, originally founded upon patents which have long since expired, is today less accessible to free enterprise than when it was first launched."

The court declared that the plaintiff was entitled to a decree which would restore titanium to a system of free competition and would destroy the means of preventing, and the power to prevent, this development.

The findings of fact filed by the district court show, among other things, the following:

National Lead and du Pont together manufacture 100% of all of the composite titanium pigments, and approximately 90% of the pure titanium pigments, manufactured in the United States. The only other companies producing pure titanium pigments in the United States held licenses to use du Pont's titanium pigment patents. These licenses restricted the amount of pure titanium which could be produced under the du Pont patents and only after the present suit had been started were the restrictions on output cancelled by mutual consent of the parties. National Lead and du Pont had pooled all of their titanium pigment patents and patent applications on a royalty-free basis. Du Pont enjoyed the patents of the foreign associates of National Lead and the latter enjoyed the use of du Pont patents on a royalty-free basis. National Lead and du Pont had also exchanged technical information relating to the industry until May 1940, by which time the titanium pigment business had become a mature industry. National Lead and du Pont had secured a monopoly on technical information relating to the manufacture and use of titanium pigments and they dominated and controlled the manufacture and sale of such pigments to the exclusion of all actual or potential competition in the United States. There were no imports of such pigments into the United States from the foreign co-conspirators and no exports by the defendants into

the territories of the foreign co-conspirators except upon their request.

The decree entered by the district court cancels the agreements made by the defendants which the court had found to be illegal and enjoins them from entering into similar agreements in the future; requires National Lead and Titan to present within a year a plan for divesting themselves of their interests in foreign manufacturers of titanium pigments; and requires each defendant to grant to any applicant a license under all of its titanium pigment patents presently owned or issued within five years from the decree, at a uniform, reasonable royalty. The last requirement is subject to the condition that the applicant grant reciprocal rights under its patents. The decree further provides that, during a period of three years from its date, such license or reciprocal license may, at the option of either party, provide that the licensor shall furnish the licensee, at a reasonable charge, technical information relating to the methods and processes used by the licensor in the commercial practice of the licensed patents.

The Government has assigned as error the failure of the district court—

(a) to require each defendant to license its existing titanium pigment patents without royalty until the district court shall have determined, on application by any defendant, that the effects of

the defendants' illegal combination have been fully dissipated;

(b) to require National Lead and du Pont each to submit a plan providing for the divestiture of approximately one-half of the plant and assets used by it in the titanium pigment business;

(c) to require National Lead and du Pont to furnish to any applicant, at a reasonable charge, technical information relating to the manufacture of titanium pigments, without confining this requirement to methods and processes used in a licensed patent and without making the furnishing of reciprocal information by the applicant a condition of this requirement.

THE QUESTIONS ARE SUBSTANTIAL

The basic question presented on this appeal is whether the decree which has been entered gives the relief necessary to undo the effects of a combination under which the defendants have prevented any substantial competition from others and have attained a position of dominance in the titanium pigment industry. The Government's contention is that the provisions of the decree are insufficient to bring to an end the defendants' dominance in the industry and to give the relief which the district court said in its opinion the decree should provide—"restore titanium to the system of free competition". There is thus presented the question whether this Court should modify the decree "lest the public interest not be ade-

quately protected by the decree as cast." *United States* v. *Crescent Amusement Co.*, 323 U. S. 173, 186.

For years the defendants have had the benefit of an exchange of patents among themselves, and with their foreign associates, on a royalty-free basis. The defendants should be required to extend to others the privilege of royalty-free licensing until the effects of their illegal combination have been fully dissipated. This, and other relief, is essential in order to enable newcomers in the industry, or the two small producers presently licensed by du Pont, to meet the advantages given the defendants by reason of their trade connections, customer position, trained personnel, patents and technical information, achieved under noncompetitive conditions which have led to a duopoly in the industry.

The proposed relief is not in conflict with the ruling in *Hartford-Empire Co.* v. *United States*, 323 U. S. 386, which set aside a requirement for royalty-free licensing for the life of the defendants' patents, upon the ground that this requirement amounted to a confiscation of the patents and constituted the imposition, in an equity proceeding, of a penalty for past violation of the statute. The proposed relief would carry out the principles applied in the decisions holding that, where a patent has been licensed upon conditions or agreements which are beyond the scope of the patent

monopoly and have the effect of restraining competition, the courts will not entertain suit for infringement of the misused patent until the effects of its improper use have been fully dissipated. *Morton Salt Co.* v. *Suppiger Co.*, 304 U. S. 488, 493; *B. B. Chemical Co.* v. *Ellis*, 314 U. S. 495, 498.

The provisions of the decree relating to furnishing technical information are also, in the Government's view fatally deficient. The court's opinion states that the basic patents in this industry have expired. The decree, by providing for furnishing technical information only as to methods and processes employed in licensed patents, does not reach the fund of technical information accumulated by the defendants over the years in which they were exchanging such information. The evidence shows the great importance which the defendants attached to this exchange. The decree should provide for furnishing such information to others at a reasonable charge if it is to afford them reasonable opportunity to compete effectively.

The decisions of this Court establish that partial dissolution may be, and frequently is, a necessary means of destroying the effects of a combination which has captured a substantial part of the market for a commodity, by integrating competitors under single ownership or control. The present appeal raises the novel and

important question of the power of a court, in a Sherman Act proceeding, to require partial divestiture where two corporations, not under common control, have attained dominance in the industry by means of agreements in illegal restraint of trade.

National Lead and du Pont each has two separate major operating titanium pigment plants. One of National Lead's is located on the East Coast and one at St. Louis. Those of du Pont are located in Maryland and New Jersey. The Government therefore believes that it is entirely feasible for each of these defendants to transfer one of its plants to a new corporation and to sell the stock of such corporation to persons not connected with the present combination. But in any event the Government merely requests that the decree require each of these defendants to present, within a stated time, a plan for such partial divestiture of its assets. The objective sought is bringing about a situation in which there would be at least four corporations in the industry of comparable productive capacity.

We believe that the questions presented by this appeal are substantial and that they are of public importance.

Respectfully submitted.

J. Howard McGrath,
J. Howard McGrath,
Solicitor General.

U. S. GOVERNMENT PRINTING OFFICE: 1949

United States District Court

SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA,
Plaintiff,

against

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY,
Defendants.

Civ. 26-258

Appearances:

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RIFKIND, *D. J.*

By its complaint the United States alleges a cause of action under sections 1 and 2 of the Sherman Act. 26 Stat. 209, 15 U. S. C. A. §§ 1, 2. Its prayer is for an injunction to restrain the alleged violations of the statute and for ancillary remedies to make the court's mandate effective.

The defendants are National Lead Company and E. I. du Pont de Nemours & Company, Inc.,[1] the two principal producers of titanium pigments in the United States and the two largest producers thereof in the world; and Titan Company, Inc., wholly owned by NL and in turn the owner of substantial stock interests in the following corporations, producers of, dealers in titanium pigments: BTP, TG, SIT, TAS and TK.

The complaint charges that

> "Beginning on or about July 30, 1920, defendant National and co-conspirator Titan A/S, and the remaining defendants and co-conspirators, and others to plaintiff unknown, on various dates thereafter, continuing at all times thereafter to the date of the filing of this complaint [June 24, 1944], have been continuously engaged in a combination by the means and methods hereinafter set forth, in restraint of, and to monopolize, the aforesaid trade and commerce in titanium compounds among the several states of the United States and with foreign nations and have been and are now parties to contracts, agreements, and understandings in restraint of such trade and commerce, all in violation of Sections 1 and 2"

of the Sherman Act.

The evidence supports the allegation in every material respect.

Titanium is a very abundant element. The principal ores which yield titanium in commercial concentration are ilmenite and rutile. Titanium compounds and particularly titanium dioxide possess the characteristics of opacity, great hiding power, high tinting strength and chemical inertness. These properties make it superlatively suitable for the manufacture of white paint and valuable in the production of rubber, glass, paper and several additional materials.

The commercial development of titanium compounds is founded largely upon the work of three groups of chemists working independently at and about the time of the first World War. In the United States, at Niagara Falls, New York, Messrs. Barton and Rossi developed a process for the manufacture of titanium compounds. Patents were issued to them; and these they assigned to TP, a corporation formed for the purpose. In Norway, Gustav Jebsen and his associates, interested in the utilization of a large ilmenite deposit, developed another process. The patents which were granted thereon were assigned to TAS, organized for the purpose of exploiting them.

In France, Joseph Blumenfeld invented and procured patents for a third process. Terres Rares acquired these patents.

In 1920 NL held 10% of the stock of TP and had an option to acquire up to 50% of its stock. NL thereupon negotiated an agreement with TAS which was executed and went into effect on July 30, 1920. This agreement became the basic charter for the world-wide regulation of production and commerce in titanium compounds.

It marked the birth of a new industry. In the course of the ensuing twenty years titanium pigments outstripped the production and sale of lithopone and white lead. In the

United States production rapidly mounted and by 1940 more than 100,000 tons of pure TiO_2, having a value in excess of $40,000,000 were manufactured and sold. In Europe and other parts of the world, too, the industry took serious hold and production mounted to approximately one third of the United States tonnage. By 1944 American production had risen to 133,000 tons of pure TiO_2. Most of the sales were not in the form of pure TiO_2 but in the form of extended pigments—that is, pigments composed of TiO_2 chemically united or mechanically mixed with other ingredients.

Throughout this period prices were repeatedly reduced and only once, in 1941, increased.

At or about the time of the outbreak of World War II [this point of time is taken arbitrarily] we find this industry predominantly occupied in the United States by two producers, NL and DP, who supplied, in 1939, 73,645 tons out of a total of 82,940 tons. The balance of 9,295 tons is produced by American Zirconium, a licensee of both NL and DP and by Virginia Chemical, a licensee of DP[2]. We further find a complete absence of imports of titanium products from abroad, and complete absence of exports from the United States, except to the countries of the Western Hemisphere.

In order to understand how this condition of affairs came to be, it is necessary to review the provisions of the mentioned contract of 1920 and briefly to relate the history of the persistence of its principles in more than 60 agreements subsequently executed.

The 1920 agreement between TP and TAS provided:

The preamble recited that each of the parties owned and expected to own certain patents and that each desired to

obtain rights under the patents owned by the other, within the "licensed field".

"Licensed field" was defined to include all substances consisting of or containing above two per cent. of titanium, or a compound or compounds thereof, unless such substances contained by weight more than five per cent. of a metal other than titanium in its purely metallic state, and all apparatus, methods, and processes useful in the obtainment or manufacture or use of said substances.

TP agreed to grant to TAS and TAS accepted a license, exclusive of all others including TP, to manufacture, use, and sell each and every invention improvement, or subject matter in the licensed field, under existing or future letters patent; but only in or for territories outside of North America and South America.

TAS agreed to grant to TP and TP accepted a license, exclusive of all others, including TAS, identical in scope and extent except that it was limited to and for the territories within North America (defined to include Central America and Panama).

Each party granted the other a non-exclusive license to use or sell, under patents issued by South American countries, but only in South America.

The parties agreed to make available to each other copies of patent applications; and detailed provision was made for the prosecution of patent applications and the maintenance of patents within the territory of each party respectively.

Each party agreed never to question the validity of the patents of the other.

TAS appointed TP its sole agent for the introduction into and sale in North America of *all products of TAS in*

the licensed field. Such importation into the United States could take place only upon the order of the agent; and the sales in North America were to be made at prices and upon conditions fixed by the agent.

TP similarly appointed TAS its sole agent for introduction and sale, outside of North and South American of all TP products in the licensed field.

Each party was permitted to import into the territory of the other finished articles, such as point, glass, rubber, in which a titanium product had been used as a raw material—but only when the titanium product did not constitute such an important part of the finished article that its sale would substantially interfere with sales of its own products by the other party within its own territory.

Each party agreed to impart to the other full and accurate technological information relating to the licensed field, and to permit plant inspection (exclusive of research laboratories).

Article XIV of the agreement conferred upon each party the right to grant licenses under its own patents or sublicenses under the other's patents, on condition that every such licensee or sublicensee would

a) grant to the party to the 1920 agreement, other than its licensor, exclusive licenses under all its patents, present and future, in the licensed field, identical in character, territorial scope, and duration to the rights granted by the 1920 agreement by the parties thereto;

b) appoint such other party its sole agent on the same terms as obtained between the parties to the 1920 agreement;

c) would impart to such other party technological information to the same extent as obtained between the parties to the 1920 agreement;

d) would abide by the territorial allocation of the 1920 agreement.

The agreement of 1920 was to continue in effect until 1936, and was then to be automatically renewed for successive ten year periods, each party having the right to cause a termination by notice given at least five years before the end of such period.

By an agreement executed simultaneously with TP and TAS, NL bound itself to respect the contract of 1920, promptly to assign to TP all its then owned or thereafter acquired patents, inventions and improvements relating to the licensed field, throughout the world, and to communicate to TP all its technical information in the licensed field.

It is manifest that by the terms of this agreement the parties had divided the world into two trade areas or territories; that each party agreed not to trespass into the territory allotted to the other; and that all commerce between the two territories in titanium products was, as far as these parties were concerned, interdicted and could proceed only by the grace of their mutual consent. The suppression of this commerce was not limited to patented articles or to articles produced by patented processes but extended to all products within the "licensed field".

The objects of this arrangement have not been left unstated, to be ascertained by inference and deduction. They are disclosed by a large volume of written correspondence, unhibited by any respect for, or indeed any apparent awareness of the prohibitions of the anti-trust laws.

These explicitly stated objects are: 1, the elimination of competition; 2, the advancement of the art through the exchange of technology. It was the belief of the architects of this foundation of the industrial structure they hoped to build thereon, that the second object could not be attained except in a climate of cooperation engendered by the achievement of the first object. And it was their intention that the advance in the art, accelerated by the exchange of patents, patent applications and "know how", should as far as possible remain the private prize of the parties, and constitute their shield and weapon against outsiders.

This intention was carried into effect.

An examination of the evidence reveals the perpetuation of what the parties called the principles of the 1920 contract by a network of agreements which have confined the international trade in titanium products within the preordained channels where-through it moves only by the grace and under the regulation of NL and its foreign associates. It is unnecessary to rehearse the history and detail of that development. Both are recited in the Findings of Fact. A very brief summarization is all that will be attempted here.

In 1927 NL acquired 87% of the stock of TAS. Jebsen retained 13%.

In 1929 NL organized Tinc, which thereupon acquired the rights and assumed the liabilities of TAS under the 1920 Contract. Tinc became NL's corporate pocket for the deposit of its holdings in foreign titanium enterprises. By 1932 NL had acquired all of the stock of TP and in 1936 it acquired all its assets and assumed its obligations.

On May 1, 1925, by agreement between TAS and French interests, SIT, a French corporation, was estab-

lished to manufacture and distribute titanium products but only within the territory of France and its colonies (except those appurtenant to North and South America). Both TAS and NL acquired substantial interests in SIT. On March 3, 1927, the arrangements between TAS and SIT were confirmed and elaborated to give explicit expression to the provisions of the 1920 Contract relating to territory, competition and technological collaboration.

In 1927, by agreement between TAS (acting also in behalf of and in the interest of NL) and IG, a German corporation was established, called TG. IG and TAS became the joint owners of TG. IG agreed that it would not engage in the titanium business except through TG, to whom it assigned all its titanium patents and to whom it agreed to assign all its future titanium patents. To TG was assigned a territory consisting of Germany, Russia, Austria, Hungary, Czechoslavakia, Switzerland, Roumania, Serbia, Croatia, Slovenia, Bulgaria, Greece, Turkey, Japan, China, and Spain. TAS and TG simultaneously entered into an agreement which embodied the principles of the 1920 Contract.

NL was in good part motivated in bringing about these German agreements by the desire to be free of the potentially very dangerous competition of so powerful a producer as IG. The evidence is incapable of any other inference.

By 1933 NL was acting in the foreign field through Tinc. By a series of agreements entered into in February and March, 1933, production and distribution of titanium products within the British Empire (exclusive of North and South America) were brought within the orbit and subjected to the regulation of the principles of the 1920 Con-

tract. The agreements were among Tinc, JCI, ISC and GW. Pursuant to these agreements BTP was formed and became the assignee and licensee of existing and future titanium patents of the parties to the agreement; it also became subject to and beneficiary of the principles of exclusive territorial allocation and patent and technological collaboration of the 1920 Contract.

Meanwhile, significant events were taking place within the sphere of relations between the producers already mentioned and other producers, both American and foreign, whose processes stemmed from the inventions of Joseph Blumenfeld. But I shall depart from the chronological order in order to complete the recitation of events pertinent to the producers whose processes were rooted in the Jebsen-Barton and Rossi inventions.

Canada was NL's territory under the 1920 Contract. But danger of independent competition in that market developed from the plans of Laporte. In 1937, NL and CIL entered into agreements for the formation of CTP, to whom Canada was assigned as its exclusive territory. CTP became the beneficiary of all present and future titanium patents of both its founders. It was subjected to the restrictions and given the benefits of the principles of the 1920 Contract. The threat of Laporte's competition was eliminated by an agreement under which Laporte's Canadian business and patents were purchased and Laporte covenanted to stay out of the titanium business in Canada for 15 years.

In 1936, Tinc, IG and TG, a Blumenfeld company, TR and a Japanese company, KK, joined in the formation of TK to engage in the manufacture and sale of titanium products. The territory assigned to TK was the Japanese

Empire. This agreement departed in some respects from the principles of the 1920 Contract but it adhered strictly to the principles of exclusive territorial allocation and the elimination of competition between territories. In the new Japanese company ownership was divided as follows: 50% to KK; of the remaining 50%, TR got 30% and Tinc and IG 70%. This division of interest between Tinc and IG on one side and the Blumenfeld companies on the other was dictated by agreements previously entered into which need now to be briefly mentioned.

It has already been stated that Joseph Blumenfeld had assigned his titanium patents to TR. TR in turn assigned or licensed them to Aussig of Czechoslovakia, Montecatini of Italy, Thann of France, Laporte of Great Britain and Commercial Pigments of the United States, who severally were engaged in the production of titanium products and exploited various markets in competition with the producers, already mentioned, who utilized the Barton-Rossi and Jebsen processes. Beginning in 1933, a series of agreements were negotiated and executed, the object of which was to bring this competition under the control of the parties.

i. The first of these was the Aussig agreement, made in 1933, by TG and Aussig. This agreement regulated production, territory of sale, sales quotas, prices and patent exchange.

ii. The Contrat a Quatre was executed in 1935 to take effect as of May 1, 1934. The parties were Thann and TR on one hand, and SIT and Tinc on the other. It regulated sales quotas, prices and patent exchange.

iii. The Contrat de Livraisons was executed in 1935 by the same parties. To prevent the expansion of

producing capacity, the contract provided that each would supply the other with its surplus product to satisfy the other's deficiency.

iv. The Contrat a Six was executed at the same time. The parties were Thann, TR, Montecatini, Tinc, SIT, and TG. It regulated sales-territories and sales-quotas of each of the parties. All the parties agreed to give neither technical nor commercial assistance or assign any patent or grant any license to any outsider who intruded into the territories covered by the agreement. This agreement was renounced by Montecatini on December 31, 1938.

v. The British Empire was not embraced within the forementioned agreements. Sometime in 1936, BTP and Laporte entered into agreements whereby Laporte withdrew from the world market outside the British Empire and uniform prices were established in the British market. In 1941, BTP and Laporte entered into a quota arrangement with Laporte, establishing 80% as BTP's share and 20% as Laporte's share of the British market.

I return now to the United States and take up the thread of the story in 1931. Since this aspect of the case will require more detailed analysis, I shall but sketch its outlines to serve as a frame of reference for the discussion which is to follow. As already indicated, Commercial Pigments held the American rights under the Blumenfeld patents. Until 1931, the company engaged in manufacturing and selling pure TiO_2. In 1931, these rights were acquired by Krebs, a corporation organized by DP and Commercial Solvents Corporation. DP acquired 70% of the stock of Krebs.

Krebs manufactured and sold titanium compounds until 1935, when DP acquired all its assets. Thereafter and to date, DP engaged directly in manufacture of titanium compounds. After a protracted period of negotiation between NL and DP, their respective titanium subsidiaries TP and Krebs, entered into a written agreement, dated January 1, 1933, which was executed in July of 1933. By the terms of this agreement they

i. exchanged irrevocable, non exclusive licenses, within the United States, to use all processes, methods, and apparatus relating to or in the "licensed field"[3], whether or not patented or subject to patent, then or thereafter owned by them or otherwise at their disposal, with the right to sell products resulting from the exercise of such licenses in the United States, its colonies and possessions, Mexico, Central America, the West Indies and South America;

ii. agreed to exchange technical information and experience;

iii. agreed to assist each other to acquire an irrevocable, non-exclusive license, for the territory above described, under any patent or application owned by or otherwise at the disposal of third parties, under which one of them was itself licensed; and Krebs agreed that it would offer to any foreign associate of TP, before offering to any other person, the opportunity to acquire, upon mutually satisfactory terms, an irrevocable, non-exclusive license under any patent, then or thereafter owned or at the disposal of Krebs, relating to the "licensed field", issued in any country of Europe or in Great Britain;

iv. released each other from infringement claims;

v. agreed that the agreement might be terminated after December 31, 1933, on three years notice.

Before this agreement was executed there was an exchange of oral and written communications between NL and DP, of which more will be said hereafter. It is sufficient to indicate at this point that the DP agreement departed in several important respects from the requirements of Art. XIV of the 1920 Contract.

In each of the years 1937 to 1941, inclusive, DP and Tinc entered into agreements whereby DP granted to Tinc licenses, exclusive except as to DP, under specified titanium patents and applications of DP, in specified countries, with the right to grant sublicenses to TG, BTP, SIT and from 1939, to TK; and Tinc, with the consent of NL, granted DP non-exclusive licenses under specified United States patents and applications.

On or about May 1, 1940, the exchange of technical information between NL and DP was discontinued; and by agreement of January 1, 1941, the 1933 agreement was amended accordingly.

As already noted, there are in the United States only two other producers of titanium products, American Zirconium and Virginia Chemical.

American Zirconium began the manufacture of titanium compounds in 1934. NL and DP severally notified American Zirconium that it was probably infringing. On May 6, 1935, NL (through TP) entered into an agreement with American Zirconium for the cross-licensing of patents. The agreement in all material respects embodied the principles of the 1920 Contract. In lieu of royalties NL received 10% of the stock of American Zirconium.

In April, 1944, the agreement was cancelled and NL assigned its American Zirconium stock to the latter's parent corporation.

In July, 1935, DP and American Zirconium entered into an agreement dated January 1, 1935, whereby DP granted American Zirconium a non-exclusive license under specified patents, subject to a royalty on the "total quantity of titanium dioxide produced" and subject to a quantity limitation on the tonnage of "titanium dioxide made wholly or partly under the license". The quantity limitation was graduated from 3,000 tons at the inception of the contract to 9,000 tons in 1944 and thereafter. The limitation was from time to time somewhat relaxed and was cancelled on November 10, 1944, on recommendation of DP's Legal Department.

Virginia Chemical received a license from DP on August 5, 1937. Its terms were substantially similar to those of the American Zirconium license.[4] The quantity limitations were eliminated at the same time and under the same circumstances as the corresponding change was made in the license to American Zirconium.

This concludes the barest outline of the history of the titanium industry. In detail, the elapsed quarter century is crowded with negotiations, conferences, correspondence and agreements. The men who participated in these were all articulate, literate and, with the exception of DP's Ruprecht, recorded what they saw, heard, said and thought with Boswellian fidelity. When the story is seen as a whole, there is no blinking the fact that there is no free commerce in titanium. Every pound of it is trammelled by privately imposed regulation. The channels of this commerce have not been formed by the winds and currents of competition.

They are, in large measure, artificial canals privately constructed. The borders of the private domain in titanium are guarded by hundreds of patents, procured without opposition, and maintained without litigation. The accumulated power of this private empire, at the outbreak of World War II, was tremendous. It was more difficult for the independent outside to enter this business than for the camel to make its proverbial passage through the eye of a needle.

For the purpose of the discussion which follows, it is convenient to segregate DP's relations with NL and the foreign producers from NL's relations with the foreign producers.

I. The case against NL and Tinc.

At the outbreak of World War II we find that NL and Tinc are, by virtue of agreement, members of a world-wide combination. The more intimate members of that combination are NL, Tinc, TAS, SIT, TG, BTP, TK and CTP. Among these, the closest cooperation prevails. Territories are allocated; patents and patent applications are interchanged and cross licensed; technological information or "know-how" of one is promptly made available to the others (except TK). Each operates in its own exclusive territory. When there is suspicion that a customer of one is shipping into the territory of another, investigation is promptly made with a view to suppressing the "illicit" traffic. Competition among them is non-existent.

A less intimate bond unites the members of this Titan family with the Blumenfeld group. No member of the latter group exports into NL's exclusive territory. NL does not export outside of the Western Hemisphere. For

the territory beyond NL's frontiers, quota arrangements and price agreements assure the absence of competition between the Titan family and the Blumenfeld group. In Japan both groups unite in a common enterprise.

And all this is the product of agreements.

Clearly this combination affects the interstate and foreign commerce of the United States. No titanium pigments enter the United States except with the consent of NL. No foreign titanium pigments move in interstate commerce except with like approval. No titanium pigment produced by NL may leave the ports of the United States for points outside the Western Hemisphere.

One of the objects of the combination is to suppress competition.

On January 12, 1927, the president of NL writes to Evans McCarty, its vice-president, and one of the chief architects of the combination:

> "The titanium patents expire in 1936 unless extended in ways not at present known to us. . . . Therefore, with us in the United States and with the Norwegian Company, there is a common need to exploit titanium pigments and, at the same time, protect ourselves; so that after the expiration of patent rights, we may have the manufacture and sale thereof under our control so as to continue to reap the harvest from the seed we are now sowing. If you, therefore, could formulate a plan satisfactory to Dr. Jebsen, whereby we could arrange to pay a royalty to the Norwegian Company similar to that he proposed to ask from the German Company, under an agreement that the National Lead Company would endeavor to organize companies in Germany, England and such other European countries as it

> desired—in each of which companies the National Lead Company should acquire and own at least one-half of the capital stock outstanding—I would personally look with favor upon such an arrangement". (Pl. Ex. 70).

On April 27, 1932, Jebsen writes to Major Barley, of Imperial Chemical Industries, Ltd., proposing the formation of a British company in keeping with the suggestion of NL's president. Therein he refers to the 1920 Contract and adds:

> "In order to avoid competition and friction, it was agreed that each company should confine its activity of manufacture and sales to a definite territory". (Pl. Ex. 112).

Prior thereto, on September 16, 1930, Jebsen reported to McCarty concerning the early conversations with Aussig:

> "I presented for discussion your suggestion of a pooling of the patents. It is not quite clear to me what is meant by this. We thought, however, that the idea was mutual cooperation and possible joint action to keep third parties out", (Pl. Ex. 522).

He pointed out a number of obstacles in the path of such a scheme—but these were in fact overcome.

In April, 1931, Cornish, president of NL, finds himself obliged to contribute to the correspondence by reason of McCarty's illness. The subject under discussion is apparently the proposed arrangement with the Blumenfeld companies:

> "May I call the proposed combination, for simplicity, a cartel?"

And he defines it.

> "The whole purpose of the cartel is to obtain a monopoly of patents so that no one can manufacture it excepting the members of the cartel, and so can raise the prices by reason of such monopoly to a point that would give us much more profit on our present tonnage, but also prevent a growth in tonnage that would interfere with their greater profits in lithopone". (Pl. Ex. 183).

He voices objections based on business, not legal, grounds. His objections, however, were apparently not pressed.

Such was the purpose for which, and such were the means by which, NL, McCarty and Jebsen built their closed system. To have access to the patents of the combination, the stranger must not only have the consent of the member of the combination in whose "territory" he would operate, but he must adhere to the principles of the combination. The cornerstone of the system was the private regulation of international trade. The suppression of competition was the cement which held the superstructure in place.

Whether the form of association they created be called a cartel, an international cartel, a patent pool, or "a technical and commercial cooperation", is of little significance. It is a combination and conspiracy in restraint of trade; and the restraint is unreasonable. As such it is outlawed by Section 1 of the Sherman Act; and it is unimportant whether it also violates Section 2.

No citation of authority is any longer necessary to support the proposition that a combination of competitors, which by agreement divides the world into exclusive trade areas, and suppresses all competition among the members

of the combination, offends the Sherman Act. Hence we need only consider the adequacy of the defenses asserted against the case established by the plaintiff.

The system of territorial allocation and suppression of trans-Atlantic traffic in titanium compounds and pigments cannot be justified as ancillary to the grant of a license under a patent. True, the network of agreements did involve cross-licensing of patents—but it was not limited thereto. The agreements applied to patents not yet issued and to inventions not yet imagined. They applied to commerce beyond the scope of any patents. They extended to a time beyond the duration of any then-existing patent.

Ethyl Gasoline Corp. v. *U. S.*, 1940, 309 U. S. 436, 456.

They embraced acknowledgement of patent validity with respect to patents not yet issued, nor applied for, and concerning inventions not yet conceived,

Pope Mfg. Co. v. *Gormully*, 1892, 144 U. S. 224;

U. S. v. *Hartford-Empire Co.*, N. D. Ohio, 1942, 46 Fed. Supp. 541, 615.

They extended to countries, such as China, where no system of patent monopolies exists.

Interstate Circuit, Inc. v. *U. S.*, 1939, 306 U. S. 208.

They regulated the disposition of the products after sale by the licensees,

U. S. v. *Univis Lens Co.*, 1942, 316 U. S. 241;

U. S. v. *Bausch and Lomb Optical Co.*, 1944, 321 U. S. 707.

While it has been held that the owner of a patent may license whom he will or refuse to license;

Continental Paper Bag Co. v. *Eastern Paper Bag Co.*, 1908, 210 U. S. 405,

it is now well settled that a license may not be used to extend the patent monopoly beyond its terms,

Morton Salt Co. v. *Suppiger Co.*, 1942, 314 U. S. 488;

Ethyl Gasoline Corp. v. *U. S.*, supra, 456.

And where there is a refusal to license (or refusal to license except on specified conditions which would extend the patent monopoly) which is the product of agreement or conspiracy, on part of the owners of competing patents, I believe, the law is offended to the same extent as the law is violated when several combine and agree not to do business with a particular customer or class of customers,

U. S. v. *Colgate & Co.*, 1919, 250 U. S. 300;

U. S. v. *A. Schrader's Sons, Inc.*, 1920, 252 U. S. 85;

U. S. v. *Waltham Watch Co.*, S. D. N. Y. 1942, 47 Fed. Supp. 524, 531.

The agreements here involved offend in that respect, as well.

It is suggested that the 1920 Contract may escape the condemnation of the Sherman Act by recourse to the doctrine which validates covenants in restraint of trade when reasonably ancillary to a lawful principal purpose, such as the sale of a business;

U. S. v. *Addyston Pipe and Steel Co.*, C. C. A. 6, 1898, 85 Fed. 271, affd. 175 U. S. 211.

Such a principal purpose is, in the case at bar, supposed to be the sale by TAS of its American business to TP, accompanied by a license under its patents; and conversely, the sale by TP of its foreign business to TAS, accompanied by a license under its patents.

The shortest answer to this suggestion is that, in fact, TAS had no American business to sell, and that TP had no foreign business to dispose of. At best, each had an opportunity and a hope. Certainly the world-wide territorial allocation was unreasonable in scope when measured against the business actualities. This is a case where if not the sole, at least one of the principal objects was "to restrain trade in order to avoid the competition which it has always been the policy of the common law to foster",

U. S. v. Addyston Pipe and Steel Co., 1898, 85 Fed. 271, 282;

Greater New York Live Poultry Co. of C. v. U. S., C. C. A. 2, 1931, 47 Fed. 2d 156, cert. den. 283 U. S. 837.

In each of the subsequent agreements which resulted in the creation of SIT, TG, BTP, CTP and TK, the same purpose, to restrain trade in order to avoid competition, was paramount.

It is suggested that this Court is without jurisdiction to consider conduct abroad, on part of foreign corporations, relating to the commerce of foreign nations. Unquestionably, if the gravamen of the complaint were to impeach the Aussig agreement as such, or the BTP-Laporte quota arrangement as such, the point would be well taken. But that is not the gist of the complaint. On the contrary, it has been alleged and proved that a conspiracy was entered into, in the United States, to restrain and control the com-

merce of the world, including the foreign commerce of the United States. The several agreements relating to manufacture and trade within the European markets are but some of the links in the chain which was designed to enthral the entire commerce in titanium. The object of the government's attack is a conspiracy in the United States affecting American commerce, by acts done in the United States as well as abroad. It follows that the Sisal case[6] rather than the Banana[7] case is the pertinent analogue.

The argument has been advanced that this court cannot invalidate contracts with parties who are not within the court's jurisdiction and amenable to its order.[8]

The absence of NL's foreign associates will, of course, place a practical limitation upon the scope of the court's decree; it does not prevent the court from finding a violation as the facts warrant, and from restraining those within the reach of its mandate from continuing a conspiracy in defiance of the Sherman Act.

It is suggested that plaintiff has failed to establish injury to the public interest,

Appalachian Coals, Inc. v. *U. S.*, 1933, 286 U. S. 344;

and that the defendants have proved substantial public benefit.[9] The latter proposition, defendants derive from two lines of evidence. The first is that during the regime of the combination, the art has rapidly advanced, production has increased enormously and prices have sharply declined. The evidence does show as much; but it does not follow that the public interest has not been abused. Indeed, the major premise of the Sherman Act is that the suppression of competition in international trade is in and of itself a public injury; or at any rate, that such suppression is a greater

price than we want to pay for the benefits it sometimes secures. Nor does it necessarily follow that the advance of the art, the rise in production and the decline of prices are attributable to the effects of the combination. *Post hoc, propter hoc,* is an invalid argument whether used by the plaintiff or the defendant. Anyone is free to speculate whether, in the absence of the arrangement, the stimulus of competition might not have produced far greater strides in these beneficial directions. The economic theory underlying the Sherman Act is that, in the long run, competition is a more effective prod to production and a more trustworthy regulator of prices than even an enlightened combination.

The second line of evidence is that American producers cannot do business successfully in a cartelized world except on cartel terms; and that, to abstain from such business, would amount to a greater restraint on trade than is involved in joining the cartel; see,

> Cartels: What Shall We Do About Them? Milo Perkins, Harper's Magazine, November, 1944.

The validity of this argument has been the subject of congressional inquiry: Temporary National Economic Committee, 76th Congress, Monograph No. 40; Economic and Political Aspects of International Cartels, Committee on Military Affairs, U. S. Senate, 78th Congress, 2d Session. That kind of inquiry, rather than a judicial one, is appropriate to the evaluation of the merits of the proposition. For the courts it is conclusive that Congress has not yet validated such a solution to the problem. Until it does, private agreement and combination and private regulation may not substitute for legislation. Only Congress, not the courts, may grant the required immunity.

It is suggested that the truly vital issues of this case have become moot by the intervention of war with Germany, Japan and Italy; and that the complaint should be dismissed. Reliance is placed upon *U. S.* v. *Hamburg-Amerikanische Packetfahrt A.G.*, 1916, 239 U. S. 466. Several reasons dictate the rejection of this argument.

(1) The Hamburg case rests upon its own peculiar facts. The offending contract had come to an end by its own terms; as far as the Germans were concerned, it had also terminated by reason of war; and as far as the others were concerned, by the withdrawal of the Germans;

> *U. S.* v. *Aluminum Company of America*, C.C.A. 2, March 12, 1945, slip opinion, p. 1256.
>
> "Besides, the contract was of such a kind that the exclusion of the German lines probably made impossible the realization of its purposes in any part;" ibid.

In the instant case, the contracts with the Germans had not expired by their terms; and, at least to the moment of America's entry into the war, the parties did not intend or expect that war should or would involve a permanent divorce.

(2) This case abounds with evidence that the parties foresaw the possibility of interruption *causa belli* and made provision for dealing with the interlude and for resumption thereafter. At least this can be said with complete assurance that until the entry of the United States into the war, the contracting parties regarded the war as a tempo-

rary interruption, for which they would, after cessation of hostilities, make adjustments in a spirit of fairness and amity.

Peculiarly revelatory in this connection is plaintiff's Exhibit 512. It is the draft of a letter preserved in the files of Tinc, entitled, "Draft of letter from Titan Co., Inc. to be sent later, presumably after the war, to: I. G. Farbenindustrie, Titangesellschaft, British Titan Products Company and Ste. Inc. du Titane." The letter reports the amendment of January 1, 1941, to the NL-DP agreement of 1933, explains that war conditions rendered consultation with the addresses impractical and expresses a desire for their approval. When this was written, the United States was not at war; but England, France, Germany, and Italy were at war. One can not read Exhibit 512 without sensing the expectation, indeed the assumption, that the war may have interrupted the execution of the several agreements among the parties, it had not permanently disarranged the relations of the parties, and that the return of peace would bring a resumption of the established "cooperation". Much other evidence points in the same direction; and none of the evidentiary material created *ante litem motam* points in a conflicting direction. Upon the trial in the midst of war, the future resumption of relations with the Germans was emphatically repudiated.

The inference I draw is that there is a preponderant probability that the underlying combination or conspiracy persists and that, but for these proceedings, would resume the exercise of its restraining force on commerce to the extent that international conditions permitted.

(3) That some of the contracts have been terminated by war, it seems to me, is of relatively little significance.

For in a legal sense we mean no more thereby than that the contracts have become unenforcible. But these contracts, being in restraint of trade and violative of the anti-trust laws, were never enforcible. If the non-enforcibility of the contract were to render an action under the anti-trust laws moot, we would face the absurd result that only innocent combinations would remain available for judicial scrutiny.

It is suggested that the validity of the British and Canadian contracts has become moot by the application of the doctrine that cancellation or abandonment of provisions of a contract prior to final decree renders the question of the validity of such provisions moot.

Standard Oil Co. v. *U. S.*, 1931, 283 U. S. 163;
U. S. v. *U. S. Steel Corporation,* 1920, 251 U. S. 417, 445.

It should be noted that the authorities do not justify the statement of the rule in quite such broad terms.

U. S. v. *Trans-Missouri Freight Assn.,* 1897, 166 U. S. 290;
U. S. v. *Sugar Institute, Inc.,* S. D. N. Y. 1934, 15 Fed. Supp. 817, mod. 297 U. S. 553.

Injunctions, of course, relate to future conduct. The formal cancellation of a contract, or of a provision of a contract is a fact to be considered in determining whether, under all the circumstances, the unlawful action of the past is likely to recur in the future; the issue is the likelihood of continuance;

Swift & Co. v. U. S., 1905, 196 U. S. 375, 396.

The facts in the instant case with respect to the British and Canadian contracts are briefly these. At a pretrial conference held in this case on October 30, 1944, counsel for NL called attention to the existence of a new form of contract, then in a state of negotiation between NL and the British companies. At the trial, a copy of such a proposed agreement, not yet executed by the parties, was received in evidence. The named parties were ICI, ISC, GW, Tinc, BTP and NL. Similarly, there was testimony that negotiations were in progress among NL, CIL and CTP to revise the Canadian agreements.

This evidence shows that there is a disposition on part of defendants NL and Tinc to abandon illegal practices; it does not rise to the dignity of proof of abandonment. Nor is it necessary to recite here the precise changes which the parties are willing to introduce into their relations. To my mind these proposed agreements amount to little more than a statement of what defendants are willing to accept. Apparently, execution of the new agreements is awaiting some word of approval by the court. It seems, under the circumstances, that it would be more appropriate to examine them in connection with the framing of a decree, rather than as bearing on the question whether any decree is to be made for injunctive relief.

This branch of the case may be briefly summarized thus:

Agreements creating a world-wide patent pool of all present and future patents of the parties, covering an entire industry, and embracing a division of the world into exclusive territories within which each of the parties is to confine its business activities, with respect to patent protected commodities, as well as unpatented, for the purpose

and with the effect of suppressing imports into and exports from the United States, are unlawful under the Sherman Act; they constitute an unreasonable restraint of trade.

II. DP's part in the international cartel.

As to DP, the facts are by no means as clear. Stoutly it denies any complicity in the combination; and much of the evidence supports its denial. It did not subscribe to the 1920 agreement; the agreement it did sign, in 1933, deviated sharply from the form and from the principles of the 1920 agreement. In 1940, it withdrew from the exchange of technological information with NL. It competed with NL for the American market. It was never regarded by the Titan group as a full fledged member of their family. Its anomalous position was the subject of frequent discussion and apprehension among the Titan members, and efforts were made to convert DP into a fully conforming member.

In sharp contrast with NL DP exhibited, from the very beginning of its interest in titanium, an alert consciousness of the anti-trust laws and moved cautiously and under the guidance of trained anti-trust lawyers. The question is whether it succeeded in avoiding not only the form but also the substance of transgression. I have concluded that it has not; and I arrive at that conclusion by the following analysis of the facts:

DP was manifestly eager to obtain access to NL's patents and skill in the titanium field. NL was equally eager to grant such access. NL's motives for this eagerness are not too important. It matters little whether it sought the reciprocal advantage of DP's patents and re-

search; or whether it feared DP's hostile competition more than it feared its friendly, though competitive, collaboration; or whether it anticipated that NL and DP together would constitute an alliance so formidable as to preclude any other important competition. Whatever its motive, NL was willing; but its liberty of action was sharply circumscribed by the agreement of 1920. That required that, before NL could license DP under its patents, DP must adhere to the principles of the 1920 agreement. Such adherence, DP refused. The reasons assigned by DP for its refusal were several, and varied from time to time, but always conspicuous among them was the claim that its adherence was forbidden by the anti-trust laws.[10] In this troubled atmosphere, the 1933 agreement was drawn, after long negotiation, by lawyers who were aware of the then recent decision in the Gasoline Cracking case. *Standard Oil Co. v. U. S.*, 1931, 283 U. S. 163.

Carefully, they cast the agreement into the form of a settlement of patent disputes. The disturbing fact about that instrument is that despite the high professional skill expended upon it, its terms are, in important respects, so vague that upon the trial, counsel for NL and counsel for DP did not agree upon its meaning. It is clear, and I believe not disputed, that the 1933 writing is far from the lawyer's ideal of clarity and precision. The only explanation which the record affords for this unexpected obscurity is contained in a letter from Mr. Beschorman to NL's English associates, that the vagueness in the writing is deliberate and the product of fear of the anti-trust laws.

That, of course, does not affirmatively show that the law was violated; moreover, it is true that no evidence is available that DP knew of Beschorman's letter. Conse-

quently, I draw no inference therefrom against DP; but I do draw an inference as to NL's frame of mind in its negotiations with DP.

To return to the negotiation: NL was not at liberty to enter into the 1933 agreement unless and until its foreign associates consented. TG objected. It was particularly concerned lest, as a result of this agreement, TG should find itself in competition, in its own "territory", with DP, the latter armed with TG's own skill, acquired by DP, via NL—a state of affairs which TG regarded as intolerable. To overcome the obstacle of TG's objection, conversations were had between Rupprecht, on behalf of DP, with Beschorman, on behalf of NL, and also between Rupprecht and Jebsen; and as a result of these conversations two letters were written, one by DP to NL with the intention that it be transmitted to TG; and the other by NL to TG to accompany DP's letter.

If DP is bound by the second letter, it unquestionably joined the conspiracy then in effect between NL and its foreign associates. The text of the two letters is set out in the margin.[11]

I believe that DP is bound by the second letter because (1) DP asked NL to persuade TG to consent. Rupprecht told Beschorman,

> "that it was a selling job for them [NL] to make I.G. realize that they were putting their interests in National Lead's hands, and that they would be well taken care of"; (Pl. Ex. 268).

(2) Rupprecht was shown the Beschorman letter before it was mailed; and a copy thereof was later sent to him "for your files".[12] There was no repudiation by Rupprecht; or at least, the record shows none; and at this point the

burden of going forward with proof of such repudiation shifted to DP;

Interstate Circuit, Inc. v. U. S., 1939, 306 U. S. 208, 225.

Such quiescence on the part of DP can only be construed as ratification. It follows that the assurance that "Du Pont will loyally respect the territory of T.G." which TG discovered in the communications from Rupprecht and Beschorman was an assurance which must be attributed to DP, despite the painstaking efforts on its part to sever the line of imputation. At least then as to territorial delimitations of the titanium pigment business, DP joined the combination.[18]

U. S. v. *Masonite Corp.*, 1942, 316 U. S. 265.

It may well be, and I take it as a fact, that in giving the assurance not to manfuacture in or sell in TG's territory, DP was not making a promise; it was doing no more than giving expression to its then existing busines policy not to manufacture or sell in Germany and other TG territory; and it may well be that in any event, DP could not successfully compete in Germany. While much has been made of this point, it does not cover the whole issue either factually or legally. Factually it is inadequate, because TG's exclusive territory extended very considerably beyond Germany and included territories where DP might have competed. Legally it is insufficient, because concerted abstinence from commerce is proscribed even where there are valid unilateral reasons for abstaining;[14] and also because DP's assurance, in part, formed the consideration

for the continued abstinence of the European producers from exporting to the United States.

It is idle to speculate as to what might have happened had NL and DP insisted on making their agreement without regard to TG's objections. Presumably, had such an event occurred, TG would have been relieved of its promise not to export to the United States. In a very important way, DP's assurance closed the breach which was in the making in the wall built around the titanium business by NL and its foreign associates. It also removed the last obstacle to the establishment of a commercial collaboration between the Titan group and the Blumenfeld companies. True, Rupprecht did not go as far with Blumenfeld as he did with NL. Not as much was necessary. Indeed, no action on his part was necessary since he sought nothing from Blumenfeld. From the somewhat conflicting testimony as to the nature of Rupprecht's conversations with Blumenfeld, I conclude that Rupprecht made no promise; but that he did explain to Blumenfeld DP's policy with respect to the European market, a policy made unilaterally in many respects, but undoubtedly strengthened and territorially extended as a result of the assurances to NL.

This description of DP's position in 1933 is consistent with subsequent developments. To Jebsen, devotee of the precise covenant, advocate and practitioner of clarity and definition in language and obligation, such vague and Janus-faced language was a source of disquiet and apprehension. But he hoped for the best. He regarded Rupprecht as one who rarely descended from "sound to things". But he appraised DP as an organization that would not repudiate an unwritten obligation. Rupprecht, on the other hand, found the business of practicing one code, and writing another,

rather strenuous and emotionally confusing. No wonder that communication between DP and NL became somewhat difficult; and, at times, NL's and Tinc's representatives left a conference with very different impressions of what had been agreed to from those entertained by Mr. Rupprecht.

The point is made in behalf of DP that there is no evidence that its Executive Committee knew of Rupprecht's commitments. It is true that no direct evidence of such knowledge is in the record, and I need not trouble to decide whether the circumstances warrant an inference of knowledge. There is abundant evidence that Rupprecht's authority was broad enough to justify charging the corporation with his acts in its behalf.

My general summary of the evidence on this issue is that DP was a member of the combination—true, a special member, with a status, rights and obligations, different from that of the other members, but a member nonetheless.

At this point, DP advances the argument that it had no choice but to do business with the cartel unless it was content to stay out of the titanium field. To put it in the words of DP's counsel,

> "We respectfully submit in conclusion that it cannot be the law of the United States that it is the function of the Courts themselves to impose that form of restraint of competition which must result from a ruling that whenever a European company has a monopoly in its own country (and practically all of them do), and then has a relation in the nature of a common enterprise with some American company, it becomes the duty of all other American companies to renounce and forego access to the inventions and developments controlled by those foreign companies, and to leave them as the exclusive

property of its American competitor, the partner of those foreign companies".

Perhaps, the answer is that DP, having discovered the conspiracy, should have asked the Attorney General to break it up. Confessedly, the chances of DP getting NL's patents and know-how after such a hostile act would be, to say the least, dubious. But in any event the courts may not validate unlawful conduct because in a particular instance there may be social losses involved in enforcing the law. The paradox which DP discovers, even if it were a genuine one, would be of interest to Congress, not to the courts. But the paradox is not genuine. The conflict is a specious one. Judicial intervention to break up a combination in restraint of trade is not in itself a restraint of trade, although for a time the established channels of commerce may be disarranged. To prohibit adherence to conspiratorial trade restraints hampers trade in about the same way that the prohibition against the circulation of counterfeit money hampers it. It may prevent the consummation of a particular transaction but in the long run it frees business from private regimentation and secures it against those who would trammel it.

III. DP's relations to American Producers.

The case also presents the question whether the contract between NL and DP is offensive to the anti-trust laws independently of the relation of that contract and the parties thereto to the foreign producers.

There are two competing producers who, at the time their agreement is made, between them control 100% of the commerce in titanium products in the United States.

They agree not only to settle their conflicting patent claims —which presumably they may do under the Gasoline Cracking case—but they agree to exchange all future patents, patent applications and know-how. Though these exchanges are not on an exclusive basis, is it not clear, however, that the capacity of such a combination to dominate the market is vastly increased, that the capacity for the exclusion of outsiders from the industry is multiplied? In other words, was not Mr. Ewing, DP's London manager, (whose disavowal of authority to make the following statement I accept) saying no more than the obvious when he wrote in 1933, concerning the NL-DP agreement:

> "We look upon this patent pool as a definite advance in cooperation and the strengthening of both parties' position to the exclusion of outsiders"?

I think so.

When the effect of an arrangement is obvious it is fair inference that the parties intended that effect. The accumulation of great power to restrain trade may in itself be an evil;

> *U. S.* v. *American Tobacco Co.*, 1911, 221 U. S. 106, 175.

When the power thus acquired is exerted to accomplish unreasonable restraints of trade, it is surely an evil. A pertinent question is, therefore, how did NL and DP exercise the great power they acquired.[15]

NL licensed one American producer, American Zirconium, and on conditions which required submission to the illegal 1920 contract. It never did license Virginia Chemical; and the evidence is rather persuasive that it did not achieve agreement on royalties and could not get from Virginia Chemical written adherence to the 1920 agreement

and that Virginia Chemical was not sufficiently well known to the Europeans to warrant acceptance of its oral assurance.

DP licensed both American Zirconium and Virginia Chemical. In both instances the licenses were subject to a severe tonnage limitation on the product made under the license and to a royalty on all titanium dioxide produced, whether under the licensed patents or not. DP makes much of the fact that the evidence shows that it never refused a license. It is also true, however, that until 1944, DP did refuse licenses unencumbered by tonnage limitations.

Another inevitable consequence of the NL-DP agreement has been the proliferation of patents. The chief spur to private resistance to the grant of patent monopolies has been withdrawn from the parties who, ordinarily, would be chiefly concerned. It is not without significance that, despite the jaundiced eye with which the courts have been examining and rejecting patents in recent years, not a single one of the hundreds of patents here involved has ever been litigated. The result of that is that the newcomer is confronted by a veritable jungle of patent claims through which only the very powerful and stouthearted would venture, having a regard for the large initial investment which this business requires. These patents, through the agreements in which they are enmeshed and the manner in which they have been used, have, in fact, been forged into instruments of domination of an entire industry. The net effect is that a business, originally founded upon patents which have long since expired, is today less accessible to free enterprise than when it was first launched.

The exchange of know-how between NL and DP was abandoned in 1940 when, as DP says, the industry matured. The exchange of patents and patent applications continues.

The tonnage limitations in the licenses of American Zirconium and Virginia Chemical was eliminated in 1944. The power of concerted action is still there.

I need not consider whether an exchange of patents, present and future, between competitors, is violative of the Sherman Act. I assume that such an exchange standing alone is innocent. But in the context of the present case,

Associated Press v. U. S., June 18, 1945, ... U. S. ....,

this exchange between two corporations, who between them controlled the entire market, becomes an instrument of restraint, available for use and used, to continue the mastery of the market which NL and DP achieved by means of the illegal international agreements.

In order to give effect to the Sherman Act, plaintiff is entitled to a decree which will restore titanium to the system of free competition; the means of preventing such a development must be destroyed and the power to prevent it must be shorn from those who, by combination, have acquired it.

It is, perhaps, not customary to express, in an opinion, the praise which the attorneys who tried this case deserve for the very high order of professional learning which they brought to it. Nothing, however, restrains me from commenting favorably upon the cooperative attitude exhibited by them which resulted in shortening the trial by many months.[18]

A decree will be entered for the plaintiff.

Dated: July 5th, 1945.

SIMON H. RIFKIND
U. S. D. J.

1) The following abbreviations will be used to identify the defendants and co-conspirators:

NL	National Lead
Tinc	Titan Company, Inc.
DP	E. I. du Pont de Nemours and Company, Inc.
TP	The Titanium Pigment Company, Inc.
Krebs	Krebs Pigment & Color Corporation
TAS	Titan Co. A/S
IG	Interessengemeinschaft Farbenindustrie Aktiengesellschaft
TG	Titangesellschaft, g.m.b.h.
SIT	Societe Industrielle du Titane
ICI	Imperial Chemical Industries, Ltd.
GW	Goodlass Wall and Lead Industries, Ltd.
ISC	Imperial Smelting Corporation
BTP	British Titan Products, Ltd.
NTP or Laporte	National Titanium Pigments, Ltd.
CIL	Canadian Industries, Ltd.
CTP	Canadian Titanium Pigments, Ltd.
Kokusan or KK	Kokusan Kogyo Kabushiki Kaisha
TK	Titan Kogyo Kabushiki Kaisha
Terres Rares	Societe de Produits Chemiques des Terres Rares
Thann	Fabriques de Produits Chemiques de Thann et de Mulhouse
Montecatini	Societa Anonima Titanium
Aussig	Verein fur Chemische und Metallurgische Produktion Aussig

2) American Zirconium and Virginia Chemical engaged in the production of only pure TiO_2. Of extended titanium pigments, NL and DP produced 100% of the amount consumed in the American market.

3) "Licensed field" was defined to mean "(1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds, containing two per cent. (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adapted for other uses, and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses".

4) Virginia Chemical also licensed DP under one of its patents and applications. TiO_2 produced by Virginia Chemical by the process disclosed in this patent and application was expressly exempted from the quantity and royalty provisions.

5) The attorney for the United States has suggested the following definition: "A combination of producers of any product joined together to control its production, sale and price, and to obtain a monopoly in any particular industry or commodity".

Words and Phrases (Permanent Edition) contains no definition of the word; neither does the Federal Digest. Bouvier's Law Dictionary defines cartel thus: Agreements between belligerents authorizing certain non-hostile intercourse between one another, which would otherwise be prevented by the state of war..

In Monograph No. 1, of the Subcommittee on War Mobilization of the Committee on Military Affairs, U. S. Senate, 78th Congress, 2d Session (commonly called the Kilgore Committee) the following is presented:

"Cartels have been defined by two of the foremost members and advocates of such bodies. In the words of Sir Alfred Mond, organizer of Imperial Chemical Industries:

'I use the word cartel to include fusion, pooling arrangement quota arrangement and price convention, because a cartel is protean in its form. * * * In an ultra-technical way, a cartel might be defined as a combination of producers for the purpose of regulating, as a rule, production, and, frequently, prices. That does not involve giving up the identity of the different firms. It is not usually made for a period lasting more than a limited time. It does not necessarily carry with it, though in some cases it does, joint selling agencies. Sometimes, too, it carries with it quotas of production. But all this is, perhaps, too narrow a definition. The Germans have a term *Interessen-gemeinschaft* * * * a union or similiarity of interest. The great German Dye Trust started with what they call *Interessen-gemeinschaft*. When first formed it was a fairly loose combination to regulate production and prices. It has been substituted since by an absolute and complete fusion and exchange of shares—what we should call a complete amalgamation—which is the final and most complete form of any kind of cartel which can be imagined.'

"In the words of Sir Felix J. C. Pole, chairman of Associated Electrical Industries, Ltd.:

'A cartel or association usually means an association by agreement of companies or sections of companies having common interests. It is designed to prevent extreme or unfair competition and allocate markets, and it may also extend to interchange of knowledge resulting from scientific and technical research, exchange of patent rights, standardization of products, etc. Competition is not eliminated, but it is regulated. Competition in quality, efficiency, and service takes the place of the crude method of price cutting.'

"These quotations both emphasize the central fact that cartel activities are arrangements among business

enterprises engaged in the same type of industry to avoid some or all forms of competition. Cartel activities are designed to maximize the profits of participants by directly or indirectly maintaining prices at the level of greatest net return.

"International cartels are, of course, cartels which include business enterprises domiciled under more than one government and doing business across national frontiers. A cartel of this type may include the major enterprises operating in a given industrial field throughout the world, and may determine trade policies in that field in most, if not all, of the world's principal markets."

6) *U. S.* v. *Sisal Sales Corporation*, 1927, 274 U. S. 268.

7) *American Banana Co.* v. *United Fruit Co.*, 1909, 213 U. S. 347.

8) *Shields* v. *Barrow*, 1854, 17 How. 129; *Minnesota* v. *Northern Securities Co.*, 1902, 184 U. S. 199; *Garzot* v. *De Rubio*, 1908, 209 U. S. 283; *U. S.* v. *Northern Pacific R. Co.*, C.C.A. 8, 1905, 134 Fed. 715; *Cf. United Shoe Machinery Corp.* v. *U. S.*, 1922, 258 U. S. 451.

Whatever may be the scope of this rule, it has not interfered with the action of the courts in striking down systems deemed violative of the anti-trust laws even though such systems included leases, licenses, and other forms of agreements, and the lessees, licensees, and other parties to the agreements were not before the court.

Paramount Famous Lasky Corp., 1930, 282 U. S. 30; *Interstate Circuit* v. *U. S.*, 1939, 306 U. S. 208; *Ethyl Gasoline Corp.* v. *U. S.*, 1940, 309 U. S. 436; *U. S.* v.

Univis Lens Co., 1942, 316 U. S. 241; *U. S.* v. *Hartford-Empire Co.*, April 21, 1945, ... U. S. ....

Nor were these all cases like United Shoe Machinery Corp. v. U. S., 1922, 258 U. S. 451, where the enjoined covenants were all for the benefit of the lessor, and the injunction did not adversely affect the lessees.

Paramount Famous Lasky Corp. v. *U. S., supra; Interstate Circuit* v. *U. S., supra; Ethyl Gasoline Corp.* v. *U. S., supra.*

Were the rule advocated by NL allowed to operate in the field of restraints upon the foreign commerce of the United States, it would paralyze the enforcement of the law in all cases where one or more of the parties to the conspiracy was an alien corporation over whom the court could acquire no personal jurisdiction. The courts do not so readily permit a frustration of valid national policy. The flexibility of the decree which the court can frame allows for a great degree of accommodation. An example of that is *J. I. Case Co.* v. *N. L. R. B.*, 1944, 321 U. S. 332.

9) This argument is distinct from the "good intention and noble motive" argument which was rejected in *Thomsen* v. *Cayser*, 1917, 243 U. S. 66, 85.

10) Jebsen, unfamiliar with American laws, would not credit this reason, for he could not understand how NL had undertaken to do that which the DP lawyers claimed was prohibited. But perhaps NL was right after all, since for twenty five years it proceeded unmolested and succeeded, with the aid of the unlawful conspiracy, to build a highly profitable business and to retain a dominant position in the industry.

11) KREBS PIGMENT & COLOR CORPORATION

June 28, 1933.

CONFIDENTIAL

W. C. BESCHORMAN, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:-

We have considered the various points raised by I. G. in their cable to you with the desire, if possible, to comply with its request.

As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article II of the Krebs-Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

The I. G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclusive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis. Since all licenses received from Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all par-

ties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally, we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of much care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Very truly yours,

C. H. RUPPRECHT,
President.

July 12, 1933

I. G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Gruneburgplats.

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, a copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you a copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to

create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subsequently to the points brought out in your letter of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both as to use, manufacture and selling to the territory granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good cooperation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outside of their territory which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licenses in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in a position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these

respects, which are also our own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your interests than to complicate the situation with a separate contract.

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advice from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours,

W. C. BESCHORMAN,
Executive Vice President.

Copy to—Dr. Kuhne
Dr. Jebsen
Mr. Rupprecht
Mr. Tasker, Vice Chairman, British T. P. Co.

This letter was sent on July 21, 1933.

12) The letter was not found in DP's files.

13) In view of this finding, I do not reach the question whether doing business with an illegal combination constitutes joining the combination; see *Virtue* v. *Creamery Package Mfg. Co.*, 1913, 227 U. S. 8; cf. *Direct Sales Co.* v. *U. S.*, 1943, 319 U. S. 703.

14) Compare, *U. S.* v. *Colgate & Co.*, 1919, 250 U. S. 300; *U. S.* v. *Schrader's Son, Inc.*, 1920, 252 U. S. 85.

15) "In the case at bar, the primary defendants own competing patented processes for manufacturing an unpatented product which is sold in interstate commerce; and agreements concerning such processes are likely to engender the evils to which the Sherman Act was directed" *Standard Oil Co.* v. *U. S.*, 1931, 283 U. S. 163, 175.

16) Over 1400 exhibits were received in evidence.

IN THE

District Court of the United States

FOR THE SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA, *Plaintiff*, *against* NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, *Defendants.*	Civil No. 26-258

FINDINGS OF FACT AND CONCLUSIONS OF LAW

FINDINGS OF FACT

1. This is an action by the United States to prevent and restrain alleged violations of Sections 1 and 2 of the Sherman Antitrust Act, 26 Stat. 209 (1890), 15 U. S. C. §§ 1, 2 (1940). The Court has jurisdiction of the subject matter and of the parties. The defendant National Lead Company (NL) is a New Jersey corporation. The defendants Titan Company, Inc. (Tinc) and E. I. du Pont de Nemours and Company (DP) are Delaware corporations. NL and Tinc have offices and are found and transact business in this District. DP has its office and principal place of business at Wilmington, Delaware, but is found and

transacts business in this District. The business of the defendants and their connection with the activities and violations alleged are described in subsequent findings. The Titanium Pigment Company, Inc. (TP) and Krebs Pigment and Color Corporation (Krebs), both corporations, now dissolved, are co-conspirators but are not made defendants. The following foreign corporations are co-conspirators but are not made defendants:

Titan Co. A/S (TAS)
Interessengemeinschaft Farbenindustrie Aktiengesellschaft (IG)
Titangesellschaft, m.b. H. (TG)
Societe Industrielle du Titane (SIT)
Imperial Chemical Industries, Limited (ICI)
Goodlass Wall and Lead Industries, Limited (GW)
Imperial Smelting Corporation, Limited (ISC)
British Titan Products Company, Limited (BTP)
National Titanium Pigments, Limited (Laporte)
Canadian Industries, Limited (CIL)
Canadian Titanium Pigments, Limited (CTP)
Kokusan Kogyo Kabushiki Kaisha (KK)
Titan Kogyo Kabushiki Kaisha (TK)
Societe de Produits Chimiques des Terres Rares (Terres Rares)
Fabriques de Produits Chimiques de Thann et de Mulhouse (Thann)
Societa Anonima Titanium (Montecatini)
Verein fur Chemische und Metallurgische Produktion (Aussig)

2. The defendants DP and NL are engaged in the business of manufacturing, selling and transporting titanium pigments in commerce among the several states of the United States and between the United States and certain foreign nations.

3. The defendant NL has assets in excess of $100,000,000. It is the largest manufacturer of titanium pigments and compounds in the United States and the largest manufacturer of titanium pigments and compounds in the world, manufacturing and selling 76.5 per cent of composite and 46.4 per cent of pure TiO_2 in the United States in 1943. NL conducted all its activities relating to the manufacture and sale of titanium pigments and compounds through TP until the dissolution of the latter in 1936 and thereafter conducted such operations through its own Titanium Division.

4. The defendant NL owned after December 31, 1927, approximately 87 per cent of the stock of TAS and since January 1944 has owned or controlled approximately 99 per cent of said stock.

5. The defendant NL owned 87 per cent of the stock of Tinc from the date of its incorporation in 1929 to January 28, 1944, at which time it acquired and now owns 100 per cent of said stock.

6. The defendant Tinc since its incorporation in 1929 acquired and now owns the following percentages of voting stock in the following named corporations:

BTP—44%
TG —50%

SIT —57.638%
TK —18.5%

7. The defendant Tinc, in 1929, acquired some of the business assets of TAS and assumed all of the obligations of and was entitled to receive all the benfits of contracts Exhibits A, A-1, A-2, B, B-1, B-3, C, C-3, C-8 and other contracts of TAS.

8. The defendant Tinc, since its incorporation, has owned a number of patents and has held exclusive licenses, with the right to grant sublicenses, under patents pertaining to the manufacture and use of titanium pigments and compounds. A majority of Tinc's officers and directors are and since its organization have been officers and directors of defendant NL.

9. The defendant DP is one of the largest chemical companies in the United States with assets in excess of $1,000,000,000. The defendant DP is also one of the largest manufacturers of titanium pigments in the United States, manufacturing and selling approximately 23.5 per cent of the composite pigments made in the United States and 45.1 per cent of the pure TiO_2 made in the United States in 1943. It is also the second largest manufacturer of titanium pigments and compounds in the world. The defendant DP entered the titanium pigment business in July, 1931, and until January 1, 1936, conducted all its activities relating to the manufacture and sale of titanium pigments and compounds through Krebs, after which time it conducted its titanium pigment activities through the Krebs Division of DP.

10. Krebs was a Delaware corporation formed in July, 1931, by the defendant DP, the Grasselli Chemical Co., a wholly-owned subsidiary of DP, and the Commercial Solvents Corporation to acquire the business of Commercial Pigments Company (referred to herein as CP), the Krebs Pigment & Chemical Co. and the pigment business of the Grasselli Chemical Co. CP was the only one of the foregoing companies engaged in the manufacture and sale of titanium pigments and compounds prior to the acquisition of its business by Krebs. The defendant DP acquired a 70 per cent stock interest in Krebs at that time and committed itself to engage in the titanium pigment business only through Krebs. The defendant DP acquired the remaining 30 per cent of the stock of Krebs in December 31, 1934. On December 31, 1935, defendant DP acquired all the assets of Krebs and assumed all the obligations of Krebs, thereafter operating the titanium pigment and compound business of said Krebs directly through the Krebs Division of the defendant DP. Krebs continued to operate under the Blumenfeld United States patents and process after it acquired the assets of CP in July, 1931, as has the defendant DP at all times since December 31, 1935. In August, 1933, Krebs acquired by license the right to use all United States patents owned or thereafter acquired by TP or NL which related to the manufacture and use of titanium pigments; and subsequently, as will appear, it acquired by licenses additional United States patent rights from NL's foreign associates. C. H. Rupprecht was a director and president of Krebs from its incorporation until its dissolution and was in charge of the titanium pigment operations of the defendant DP from July, 1931, until his decease September 10, 1944. Krebs also owned a substan-

tial stock interest in Travancore Minerals Company, Ltd., which held rights in extensive ilmenite sand deposits in India. This stock was among the assets of CP acquired by Krebs.

11. TP was a Maine corporation organized in 1916 and was engaged in the manufacture of titanium pigments and compounds from 1920 until its dissolution in 1936. After 1920 the defendant NL acquired stock in said company until December 30, 1932, at which time NL owned all the stock of TP. NL controlled all the activities and policies of TP after 1920 until its dissolution in 1936, at which time all of the assets and liabilities of TP were taken over and its titanium business continued by the defendant NL as a division of NL. TP owned and was the exclusive licensee of many patents relating to the manufacture and use of titanium pigments and compounds, including the Barton-Rossi and Jebsen patents and processes. TP manufactured composite pigments principally; but it also began manufacturing a pure TiO_2 after 1928 in competition with CP.

12. CP was a corporation formed by Commercial Solvents Corporation in 1928. CP acquired the Blumenfeld and other patents in the United States relating to the manufacture and sale of titanium pigments and compounds and from 1928 was engaged in the manufacture of titanium pigments in the United States, operating a plant at Baltimore, Md. It manufactured a pure TiO_2 pigment only and sold it in competition with TP. All its assets were acquired and some of its obligations were assumed by Krebs in July, 1931.

13. TAS was a Norwegian Corporation with its principal place of business at Fredrikstad, Norway, and from

some time prior to 1920 until about 1929 was engaged in the manufacture of titanium pigments and compounds in Norway. Said TAS owned the Jebsen and other patents relating to the manufacture of titanium pigments and compounds and also controlled through A/S Titania large deposits of ilmenite in Norway. It was authorized by TP to use the Barton-Rossi and other patents and processes relating to the manufacture and use of titanium pigments and compounds in 1920. Its activities and policies have been controlled by the defendant NL since 1927. It ceased the manufacture of titanium pigments and compounds in 1929. Thereafter, substantially all titanium pigments and compounds sold by TAS were purchased from TG. TAS continued to function as selling agency for defendant Tinc in part of the territory reserved to Tinc after 1929.

14. IG is a German corporation with its principal place of business in Frankfurt, Germany, and is one of the largest corporations in Germany and one of the largest chemical companies in the world.

15. TG is a German corporation with its principal place of business at Leverkusen, Germany, and was organized in October, 1927, by TAS and IG and in 1939 was the largest producer of titanium pigments and compounds in Europe. TG was licensed to use the Barton-Rossi and Jebsen patents and processes and owns and is licensed to use other patents relating to the manufacture and use of titanium pigments. TG has a right to use some of the DP patents relating to the manufacture and use of titanium pigments and compounds.

16. SIT is a French corporation with its principal place of business at Paris, France. It received a license

from TAS in 1927 to manufacture titanium pigments and compounds in France under the Barton-Rossi and Jebsen patents. No factory was ever erected by the said company to manufacture titanium pigments or compounds in France. In 1927 defendant NL purchased a controlling interest in SIT. SIT has a right to use some of DP's patents relating to the manufacture and use of titanium pigments and compounds.

17. ICI is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at London, England, and is the largest manufacturer of chemicals in the British Empire with assets in excess of £100,000,000.

18. GW is a corporation organized under the laws of the United Kingdom with its principal office and place of business in London, England, and is the largest producer of lead and lead pigments in the British Empire.

19. ISC is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business in London, England, and is one of the largest producers of pigments in the British Empire.

20. BTP is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at Billingham, England, and was registered in August, 1930, by ISC with the knowledge and approval of the defendants NL and Tinc. BTP is the largest manufacturer of titanium pigments and compounds in the British Empire. BTP is licensed to use the Barton-Rossi and Jebsen patents and processes and owns and is licensed to use other patents relating to the manufacture of titanium pig-

ments and compounds. BTP also has a right to use some of the DP patents relating to the manufacture and use of titanium pigments and compounds.

21. ICI, GW, and ISC subscribed to and each owns 17 per cent of the stock of BTP. Each acquired said stock on or about the time said BTP commenced active operations in the titanium pigment and compound business in the British Empire in February, 1933.

22. Laporte is a corporation organized and existing under the laws of the United Kingdom with its office and principal place of business at Luton, England, and is the only other producer of titanium pigments and compounds in the British Empire and manufactures titanium pigments and compounds under the Blumenfeld patents and process in England.

23. CIL is a corporation organized and existing under the laws of the Dominion of Canada with its office and principal place of business at Montreal, Canada, and is the largest chemical manufacturer in Canada. Approximately 43 per cent of its stock is and has been owned by the defendant DP since 1928 and approximately 43 per cent of its stock is and has been owned by ICI since 1928.

24. CTP is a corporation organized in January, 1937, and existing under the laws of the Dominion of Canada with its office and principal place of business at Montreal, Canada. Defendant NL has since the incorporation of CTP owned 49 per cent of the voting stock of CTP. The balance of the voting stock is owned by CIL. CTP is the only company engaged in the titanium business in Canada

and owns and/or is licensed to manufacture titanium pigments under the Blumenfeld, Barton-Rossi, Jebsen and other patents in Canada. Said CTP is not now manufacturing titanium pigments and compounds in Canada; since 1939 it purchased all of its requirements for sale in the Dominion of Canada from NL and to a slight extent from DP. NL is required to supply the requirements of CTP on a cost plus basis until CTP commences the manufacture of titanium pigments or compounds.

25. KK is a Japanese organization and is the largest manufacturer of paints in Japan and is a subsidiary of Nippon Sangyo, one of the largest industrial enterprises in Japan.

26. TK is a Japanese organization existing under the laws of Japan with its office and principal place of business in Tokyo, Japan. TK was organized in 1936 by Tinc, IG, TG. Terres Rares, and Thann. Since its organization approximately 50 per cent of the stock of TK has been owned by KK, 18½ per cent by Tinc, 16½ per cent by IG, and 15 per cent by Terres Rares and Thann. TK is the largest manufacturer of titanium pigments and compounds in Japan, owns many patents relating to the manufacture and use of titanium pigments and compounds, and is licensed to use the Barton-Rossi, Jebsen and Blumenfeld patents and processes in the Japanese Empire. TK also has a right to use some of the DP patents relating to the manufacture and use of titanium pigments and compounds.

27. Terres Rares is a French corporation with its principal place of business at Paris, France; it acquired the Blumenfeld and other patents relating to the manufacture

and use of titanium pigments and compounds in or about the year 1920.

28. Thann is a French corporation with its office and principal place of business at Paris, France, and is the only manufacturer of titanium pigments and compounds in France. It manufactures such pigments and compounds under the Blumenfeld patents and process.

29. Montecatini is an Italian corporation with its office and principal place of business at Milan, Italy, and is a subsidiary of the largest manufacturer of chemicals in Italy. Montecatini is the only manufacturer of titanium pigments and compounds in Italy and is licensed to use the Blumenfeld patents and process.

30. Aussig is a corporation organized under the laws of Czechoslovakia with its office and principal place of business at Prague, Czechoslovakia. It is the largest chemical company in Central Europe and is the only manufacturer of titanium pigments and compounds in Czechoslovakia and is licensed to use the Blumenfeld patents and processes.

31. American Zirconium Corporation (referred to herein as Zirconium) is a subsidiary of the Glidden Co. and sells and ships TiO_2 from its Baltimore, Md., factory into other states in the United States. Zirconium owned certain patents relating to the manufacture of titanium pigments and compounds prior to 1934. It was first licensed to use certain TiO_2 patents by DP on August 19, 1935, by license agreement dated January 1, 1935. Zirconium was licensed by NL to use all of its patents relating to the manufacture of titanium pigments and compounds

on May 6, 1935. The license from the defendant NL to Zirconium was cancelled by agreement (Ex. NL 29) on March 9, 1944. Zirconium manufactures only pure TiO_2. It produced less than 5 per cent of the aggregate production of TiO_2 produced in the United States between 1935 and 1943.

32. Virginia Chemical Corporation (referred to herein as VC) is a subsidiary of American Cyanimid Company and formerly a subsidiary of Interchemical Company and sells and ships TiO_2 between some of the states of the United States. VC was organized in 1935 to manufacture titanium pigments. It owned certain patents relating to the manufacture and use of titanium pigments and compounds. The defendant DP first licensed VC to use certain of its TiO_2 patents on August 5, 1937. VC produces only pure TiO_2 and produced less than 5 per cent of the aggregate production of TiO_2 in the United States between 1936 and 1943.

33. Titanium pigments and compounds are manufactured from titanium which is the ninth most abundant element on the earth's surface. Titanium is contained in ilmenite and other minerals. Sands and rock formations containing ilmenite are found in India, the United States, Norway, Brazil, and elsewhere throughout the world. Titanium pigments are possessed of great opacity, hiding power and chemical inertness, and are largely displacing other pigments such as lithopone and white lead. Titanium pigments are used in the manufacture of paints and are also used in the manufacture of rubber, glass, paper, vitreous enamels, and many other products. Titanium pigments are sold in the United States and abroad in competition

with other forms of white pigments, notably lithopone and white lead, which are sold in the United States in substantial quantities by a number of commercial concerns other than the defendants and some of which are sold by the defendants.

In and before 1920 there was no substantial trade or commerce in, and no commercial manufacture of, titanium pigments for use in paint, paper, rubber, or other products; pigments used for such purposes were lithopone, white lead, and zinc oxide. The use of metallic titanium in alloys was under development by Titanium Alloy Manufacturing Company at Niagara Falls, N. Y., and chemists engaged in that work (principally Barton and Rossi) were aware of the possibilities of titanium dioxide as a pigment; several important patents on processes and products had been taken out by them, largely for the manufacture of composite titanium pigments; and a subsidiary, TP, had been formed by Titanium Alloy to engage in further research, development, and promotion in the pigment field. Before 1920 tests and demonstrations conducted by TP had attracted the attention of large manufacturers of pigments and paints,—Pittsburgh Plate Glass (paints), New Jersey Zinc (pigments), the defendant DP (pigments and paints), and the defendant NL (pigments),—who investigated TP's processes and products; and this led in 1920 to purchase by NL of 10% of the stock of TP, with an option to purchase up to 50%.

While the research and experimental work described was going on in the United States, Gustav Jebsen, a Norwegian chemist and business man, was making a similar investigation, albeit along different lines, in Norway—this in connection with his search for means of putting to industrial use large deposits of Norwegian ilmenite-bearing ore.

By 1920 Jebsen and his associates had perfected processes patented in Norway, the United States, England, Germany, and in other countries, an important feature of which was disclosure of means for producing relatively pure titanium dioxide pigments by direct application of relatively small quantities of sulphuric acid—a process much less costly than that then developed and in use experimentally at Niagara Falls. Though the Norwegian chemists were aware of the possibilities of composite pigments, they had not perfected processes for the manufacture of such products. In 1920 the process and product patents of Jebsen and his associates were held by TAS, a Norwegian Company.

34. Joseph Blumenfeld, a chemist and managing director of Terres Rares, in or about 1922 obtained patents relating to the manufacture of titanium compounds which he assigned to Terres Rares. Blumenfeld patents issued both in the United States and various foreign countries. While CP was entitled to receive rights under all Blumenfeld titanium pigment inventions patentable in the United States, it was not licensed under and did not own any Blumenfeld patents which issued in foreign countries.

35. The production of titanium pigments in the United States has risen from 100 tons (on the basis of pure TiO_2 content) in 1920 to approximately 110,000 tons in 1943 with a peak production of approximately 128,000 tons in the United States in 1941. The total production of titanium pigments and compounds outside of the United States has shown less growth, the estimated foreign production of titanium pigments and compounds being approximately 1,000 tons in 1920 and approximately 23,000 tons in 1938.

36. Before World War II the leading American manufacturers of titanium pigments, the defendants NL and DP, obtained their supplies of ilmenite from India. Since about August, 1942, however, their supplies have come mainly from a New York deposit owned by NL and operated by NL pursuant to and in accordance with a directive of Office of Production Management approved by the Attorney General of the United States. NL was directed to, and did, offer participation in this project to each of the other producers of titanium pigments in the United States. The offer was accepted by DP. NL invested more than $10,000,000 in this enterprise.

37. Prior to 1930 the principal producers and sellers of titanium pigments in the world were divided into two groups, the NL group and the Blumenfeld group. The NL group included TP, TAS, SIT, TG, and TINC and were using principally the Barton-Rossi and Jebsen patents and processes for the manufacture of titanium pigments. Each of the companies named had been allocated exclusive marketing territories throughout the world by agreements. The Barton-Rossi patents were and are owned either by TP or NL. The Jebsen patents were and are owned either by TAS or TINC. The patents upon which NL's titanium business was originally founded in 1920 were Barton-Rossi and Jebsen patents. DP and NL were of the opinion that these would expire by the end of 1934. The Blumenfeld group consisted of Terres Rares, Thann, Aussig, Montecatini, and CP to each of which companies Terres Rares had allocated exclusive territories throughout the world. A number of United States titanium pigment patents issued other than the Barton-Rossi and Jebsen patents, including the United States patents covering the Blumenfeld process,

some of which do not expire until 1948 or thereafter. All of the companies engaged in the manufacture of titanium pigments in the United States on a commercial basis use a sulfuric acid process based on the Barton-Rossi, Jebsen, and Blumenfeld patents. The patents relating to titanium pigments and compounds comprise considerably more process claims than product claims. The process claims, with the exception of those of the so-called Rutiox patents which relate to the production of rutile-type titanium pigments, cover for the most part improvements in manufacturing processes originally disclosed in the Barton-Rossi, Jebsen, and Blumenfeld patents, which improvements have led to the improved present-day commercial titanium pigments. The product claims cover practically all such improved titanium pigments; thus, of 23 different grades of titanium pigments (i.e. different products) sold by NL, 21 are covered by unexpired patents. The validity of none of these patents was ever passed upon by any court of record in the United States.

38. The Auer Company developed a process for the manufacture of titanium pigments and compounds in Germany in the early 1920's, was not successful, and ceased manufacturing in 1931. The Auer patents were acquired in November, 1932, by Krebs. They were not of much consequence.

39. TP, on January 1, 1933, owned approximately 67 United States patents and 22 patent applications relating to the manufacture and use of titanium pigments and compounds. It also had the right to use by exclusive license 34 United States patents and 13 patent applications of its foreign associates. TP owned 229 patents in 24 foreign

countries prior to January 1, 1933. TP commercially used only 25 patents and patent applications out of a total of 136 patents and patent applications (18 per cent) which it owned or had the right to use prior to January 1, 1933.

40. NL now owns or controls 75 United States patents and 28 patent applications relating to the manufacture and use of titanium pigments and compounds and has exclusive licenses on 2 TAS, 18 Tinc, 17 IG and 1 TG patents and 4 TG patent applications. It also owns 3 patents in Canada and has non-exclusive licenses on 7 patents in South and Central American countries. NL is also licensed to use 156 DP patents and 30 DP applications and is accordingly entitled to use approximately 269 United States patents and 63 applications. It commercially uses only 66 patents and applications out of a total of approximately 332 which it owns or has the right to use or approximately 20 per cent. There is no evidence that NL obtained patents for the purpose of "blocking" or "fencing".

41. Krebs owned approximately 30 United States patents and 24 applications relating to the manufacture and use of titanium pigments and compounds and owned no foreign patents or applications prior to January 1, 1933. Krebs commercially used a total of 18 such patents and applications or approximately 33 per cent of the total which it had the right to use. DP now owns approximately 174 United States patents and 32 applications. It also owns 48 patents and 14 applications in Canada, 13 patents and 9 applications in England, 20 other patents in 7 other countries including 8 in Japan. It is licensed to use 96 patents and 27 applications of NL or its foreign associates in the United States. It accordingly now owns or has the right to use approxi-

mately 270 United States patents and 59 applications. It uses commercially approximately 70 such patents and applications or about 20 per cent. There is no evidence that Krebs or DP obtained patents for the purpose of "blocking" or "fencing".

42. There are now four producers of titanium pigments in the United States: NL, DP, American Zirconium and VC. As will hereinafter appear, NL and DP have cross licensed each other under their respective patents. Zirconium entered the field in 1935 with licenses from both NL and DP; the NL license was cancelled by agreement in 1944. VC entered the field in 1937 with a license from DP.

43. At no time were there imports of any consequence from abroad. In and after 1922 the tariff applicable to titanium compounds was 30% ad valorem.

44. On July 30, 1920, TP and TAS entered into an agreement, in writing, Ex. A which is uncancelled. This agreement was negotiated on behalf of TP by McCarty, a vice president of NL, now dead, and on behalf of TAS, by Jebsen, who testified at the trial.

The essential features of the agreement are:

(a) The field to which the contract was to apply was defined as including all substances containing above 2% of titanium (unless such substances contained by weight more than 5% of a metal other than titanium in its purely metallic state) and all apparatus, methods, and processes useful in obtaining or manufacturing such substances (except as stated). The intention was to cover processes, substances, and apparatus in the titanium and titanium compound field.

(b) TAS agreed to grant to TP and the latter agreed to accept "a license exclusive of all others including" TAS under all "existing or future" patents of the Norwegian company; but only in or for territories within North America (defined as including the continent of that name, Central America, and Panama); and TP agreed to grant to TAS the correlative rights, but only outside North America, under the existing or future patents of TP. The parties agreed not to sell outside their respective territories, except that reciprocal non-exclusive rights of sale were reserved for South America.

(c) Detailed provision was made for exchange of copies of applications for patents filed by the parties or their other licensees, and for the filing and payment of expenses incidental to the prosecution of such applications and maintenance of patents in territories outside the territory of each; and there was provision for assignment by each company to the other in case either party elected not to prosecute applications or maintain patents outside its territory.

Neither party would ever question or contest the validity of any patent of the other under which it is licensed (within the licensed field).

(d) TAS made TP the exclusive agent of TAS for sales by TAS in North America, such sales to be at prices and on terms determined by the agent, and TP similarly made TAS its sole agent for sales by TP outside North America and South America. (With a view to "the widest possible development of titanium products in the 'Licensed Field'", it was agreed that, notwithstanding the agencies provided for, importations of "finished articles"—that is, paint, paper, rubber, glass, etc.—containing titanium prod-

ucts of the principal, its licensees or sublicensees, would be permitted provided such products did not constitute such an important part of such finished articles that sales within the agent's territory would substantially interfere with the agent's sales of its own titanium products.)

(e) Each party would impart semi-annually to the other full and accurate information in detail as to knowledge obtained in and applicable to the "licensed field"; and would permit the other to inspect and study operations at its plants (exclusive of research laboratories).

(f) The reciprocal grants of exclusive licenses would extend to December 31, 1936, and thereafter for periods of ten years each, with provision for termination by notice to be given at least five years before the end of any such period; and it was agreed that upon such termination each would receive for itself and its licensees within its territory a non-exclusive license under inventions covered by existing patents or applications of the other, but that in other respects the obligations, liabilities, and benefits would cease. (Notice of termination has never been given).

(g) In Article XIV of the 1920 agreement (mentioned by number because of its significance in connection with later agreements) it was provided that each company would have the right, so long as it held an exclusive license from the other under the 1920 agreement, to grant licenses under its own patents and sublicenses under the other's patents on condition, nevertheless, that every such licensee or sublicensee would (i) grant to the party to the 1920 agreement other than its licensor its patent rights in the "licensed field" identical in character, territorial scope, and duration

to those given by its licensor to the other party to the 1920 agreement, (ii) would appoint such other party its sole agent as specified above in respect of its licensor, and (iii) would impart technical information to such other party in the same manner and to the same extent as its licensor. The obligations of TP under this contract were assumed by NL in 1936. The obligations of TAS under this contract were assumed by Tinc in 1929.

45. Simultaneously with the execution of the contract Exhibit A, defendant NL entered into a contract with TAS and TP, Exhibit A-1, which has not been cancelled. NL agreed to respect the provisions of contract Exhibit A and to promptly assign to TP all patents, inventions and improvements relating to titanium pigments or compounds which it then used or might thereafter acquire or whichever should be at its disposal throughout the world. In a separate contract, Titanium Alloy, also a stockholder in TP, agreed with TP and TAS to assume the same obligations as NL.

46. Defendant NL and TAS had a three fold purpose in bringing about and entering into the aforementioned agreements of 1920. The first was to promote the more rapid development of the titanium business by securing to each the right immediately to use the processes and products covered by the patents held by the other, together with future developments and technological improvements and "know how", and consequently the licenses received by each company could be fully utilized, and neither would be inclined nor able to withhold information from the other, nor make use of inventions or developments of the other for or in connection with further inventions or developments not

fully shared with the other. The second was to keep these patent rights and technological know-how as the exclusive possession of the contracting parties and their respective sublicensees under Article XIV. The third was to prevent competition between the parties to the agreement and between their respective sublicensees and between each of the parties and the sublicensees of the other. The agreements had their intended effect.

47. Between 1920 and 1927 TAS suffered business and financial difficulties which led in 1927 (when IG was negotiating for the purchase of its stock, then controlled by Norwegian banks) to the purchase by NL of 87% of the stock of TAS (Jebsen retaining 13%). Since 1929 the rights and obligations of TAS under the 1920 agreement have been held by Tinc, a Delaware company in which NL now owns all the stock. The intended purpose of the acquisition of control of TAS by NL was to utilize TAS and the contract of 1920 to further control competition in the manufacture of titanium pigments and compounds in all markets of the world including the United States.

48. This purpose was accomplished. The defendant NL and TAS agreed to have TAS and subsequently defendant Tinc form in each of the important industrial countries of the world, in association with a local corporation or firm which contemplated the manufacture and sale of titanium pigments and compounds or which could contribute to the technical or commercial development or which threatened to be a serious competitor of NL and TAS, a new company in which NL or TAS were to have a part interest. Any new company so formed was to be given certain territory in which it would have the exclusive right

to manufacture and sell titanium pigments and compounds free from any exports into said territory by NL. The new company so organized was to refrain from competing with NL in its territory (the United States and other countries of North America) or in the territory of any other company associated with NL. TAS and subsequently defendant Tinc were to make said contracts providing for the formation of the new companies and NL was to be bound to adhere to all of the territorial restrictions placed on TAS and subsequently defendant Tinc in such contracts by virtue of contract Exhibit A. All the present and future patents belonging to NL or TAS or any of the companies associated with either in the formation of such new companies, as well as those of the new companies to be organized, were to be licensed exclusively to NL for North America and to the new companies to be organized for their respective exclusive territories and to TAS and subsequently defendant Tinc for the rest of the world.

49. On or about March 3, 1927, TAS entered into a written contract, Ex. B, under which TAS allocated France and its territories, except those appurtenant to the territories of North and South America, to SIT as its exclusive territory in which to engage in the titanium pigment business. SIT assumed all the obligations imposed upon TAS by Exhibit A for the territory allocated to SIT and was entitled to receive all of the benefits for this territory to which TAS was entitled by Exhibit A. This contract Exhibit B is still uncancelled and by its terms is not to be terminated before 1951. (TAS owned about 20% of the French company; NL acquired an additional 58%, which in 1929 was transferred to Tinc; the remainder was held in France by members of the public.)

50. The hope that the French company would use its license from the Norwegian company to manufacture in France, and thus contribute to the fund of processes and technical information available to TAS and TP, was not realized; SIT served merely as a local selling agency for titanium pigments produced elsewhere.

51. Prior to 1927, NL regarded IG as either a potentially invincible competitor or the most powerful ally. NL and TAS entered into negotiations with IG in 1927 and in or about October, 1927, nine separate contracts were entered into (Exs. C to C-8, inclusive). TAS entered into a contract with IG to create TG. IG agreed to engage in the titanium pigment business only through TG and TAS agreed not to engage in the titanium pigment business in the territory allocated to TG except through TG.

In a series of ancillary agreements IG undertook (i) to provide a factory site and building near its Leverkusen works (rent at 6% of the value of the building); (ii) to furnish steam, gas, water, and electricity (at cost), (iii) to supply transportation facilities (at reasonable prices), and (iv) to deliver raw materials (at cost plus 10%, but not more than the competition charged, with provision for "most-favored" customer. treatment). IG was appointed agent of TG for sales in the territory allocated to TG. TG agreed to satisfy its ore requirements by purchases from TAS at cost plus 30-50%.

TG was to confine its manufacturing and selling operations to the exclusive territory allocated to it by TAS, to wit, Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Serbia, Croatia, Slovenia, Bulgaria, Greece, Turkey, Japan, China and Spain. TAS was granted the rest of the world as its territory.

IG agreed to grant exclusive licenses to TG on all patents it then owned or thereafter acquired, methods and experience relating in any way to the manufacture or use of titanium pigments or compounds, as defined within the limits of the licensed field in said contract (Ex. C-2). "Licensed field" was defined as "all methods and processes in the field of manufacture of titanium compounds containing two per cent (2%) or more of the element titanium as well as the titanium compounds themselves". TAS was given the right to acquire such titanium pigments and compounds as it desired for sale in its territory from TG at cost. Such pigments or compounds so purchased by TAS could only be sold outside TG's territory. TAS granted an exclusive license to TG of all its then owned or thereafter acquired patents, methods and experience relating in any way to the manufacture or use of titanium pigments or compounds, as defined within the limits of the licensed field in said contract, for use in the territory assigned to TG. TG granted to TAS for its territory (the rest of the world exclusive of the territory allocated to TG) an exclusive license of its then owned or thereafter acquired patents, methods and experiences relating in any way to the manufacture or use of titanium pigments or compounds as defined within the limits of the licensed field in said contract.

Both TG and TAS agreed not to export titanium pigments into the territory of the other party without its consent and to impose the same obligations upon their customers.

TG and TAS each agreed not to import into the territory of the other party finished articles (e.g. paint, rubber, glass) manufactured by it; but to permit the importation of finished articles by customers purchasing titanium pig-

ments or compounds from it, subject to the limitations on imports of finished articles into North and South America under the agreement of 1920, Ex. A.

Both TAS and TG were allowed to grant to others licenses of their own or licensed patents provided the licensee or sub-licensee agreed to grant to the other party to the contract an exclusive license under all such licensee's or sublicensee's present and future patents relating to the manufacture and sale of titanium pigments or compounds for the territory of such other party (TAS or TG) and to exchange all technological experience and information and provided further that such licensee or sublicensee agreed to respect the exclusive territory of such other party and to assume the same obligations imposed by contract Exhibit C-3 on both TAS and TG with respect to imports and sales into each other's territory.

These arrangements were to run until 1957 and are automatically renewable for 10-year periods thereafter. They have not been cancelled by the parties.

After the execution of the contract Exhibit C, TG erected a factory for the manufacture of titanium pigments at Leverkusen, Germany, and the business was conducted in accordance with the provisions of these contracts (Exs. C to C-7, inclusive).

52. Prior to 1933, NL and Tinc believed that ICI and GW were planning to engage in the manufacture of titanium pigments and compounds in Great Britain, and ICI had begun development work preparatory to engaging in the manufacture and sale of titanium pigments and compounds. NL and Tinc were apprehensive of their competition, especially as ICI was a very powerful corporation,

although it had never manufactured pigments. Defendant Tinc was engaged in selling titanium pigments in Great Britain since 1928 to a modest extent. NL and Tinc entered into negotiations with ICI, GW and ISC to create BTP through which NL, Tinc, ICI, GW, and ISC would jointly engage in the titanium pigment business in the British Empire (exclusive of North America). Defendant Tinc on or about March, 1933, entered into the contracts (Exs. F to F-6, inclusive). Tinc agreed that it would not conduct any operations relating to the manufacture and sale of titanium pigments and compounds within the British Empire as defined in said agreements except through BTP; and ICI, ISC, and GW agreed to conduct any of their operations, relating in any way to the manufacture and sale of titanium pigments and compounds, anywhere through BTP exclusively. Subject to restrictions on transfer, the voting shares of BTP were distributed among Tinc—49% (with the right to allot 5% to R. W. Greef & Co., Ltd., which had been the British sales agent of TAS and, later, Tinc), ICI—17%, ISC—17%, and GW—17%. Tinc received the right to name three of the six directors, but it was stipulated that the chairman must be one of the directors named by the British shareholders. The agreement was for thirty years, with severely limited provisions for retirement. BTP was to confine all its operations relating to the manufacture and sale of titanium pigments and compounds to the British Empire, exclusive of any portions thereof within or appurtentant to North and South America. ICI, ISC, and GW each granted and agreed to grant to BTP an exclusive license, or where it was not entitled to do so, a non-exclusive license, to all its present and future patents, processes and subject matter within

the licensed field, defined to mean "all methods and processes in the field of the manufacture of titanium compounds containing two per cent (2%) or more of the element titanium as well as the titanium compounds themselves" (but limited in case of ICI to titanium oxide and titanium pigments); with the right to grant sublicenses; and each grantor agreed that it would supply BTP with copies of its applications for patents in the "licensed field" and, at the request and expense of BTP, would prosecute similar applications in countries designated by BTP.

It was agreed by Tinc and BTP that they would exchange licenses, patent applications, and technical information, and conduct their operations in and with reference to the British Empire (excluding Canada, Newfoundland, and certain other areas), in accordance with the principles of the 1920 agreement above described.

Tinc granted and agreed to grant BTP an exclusive license for the manufacture and sale of titanium pigments and compounds, in the territory allocated to BTP, under all its then owned or thereafter acquired patents, processes and subject matter within the scope of the licensed field. BTP granted and agreed to grant Tinc for the territory of Tinc (the rest of the world) a similar exclusive license of its present and future patents and subject matter within the scope of the licensed field. Both BTP and Tinc agreed not to export any titanium pigments or compounds into the territory of the other without the latter's consent, and further agreed to impose the same obligation upon their customers. Each party agreed not to import into the territory of the other finished articles manufactured by the former; customers of each and of exclusive licensees and sublicensees were permitted to make such importations pro-

vided the importation of such finished articles did not interfere substantially with the sale of titanium pigments or compounds by the other party in its own territory. Each party was allowed to grant sublicenses within its territory provided that neither party could grant licenses under its own patents or under any patents licensed to it under contract Exhibit F-1 unless the licensee or sublicensee agreed to grant to the other party to the contract (BTP or Tinc) an exclusive license under all the present and future patents of such licensee or sublicensee relating to the manufacture and sale of titanium pigments or compounds for the territory of such other party (Tinc or BTP) and unless the licensor (BTP or Tinc) required the licensee or sublicensee to agree to respect the territory of the other party and to impose upon such licensee or sublicensee all of the obligations imposed upon the other party (BTP or Tinc) with respect to the territory of the other in its contract Exhibit F-1. Tinc transferred to BTP all of its British Empire titanium pigment business pursuant to said contract. The contract Exhibit F-1 is by its term to run until 1963 and is uncancelled. The right of TAS to buy 50% of the TG production at cost (and more at cost plus 10%) having been transferred to Tinc, the latter agreed until such time as BTP commenced to manufacture, and for two years thereafter, to supply BTP's requirements at cost. TG supplied BTP with titanium pigments for its markets until BTP constructed a factory. BTP erected a factory for the manufacture of titanium pigments at Billingham and BTP became the largest manufacturer of titanium pigments in the British Empire. The defendant DP had knowledge of the negotiations between ICI and Tinc which culminated in contracts Exhibits F to F-6, inclusive. Tita-

nium was excluded from the Patents and Process Agreement of 1929 between DP and ICI.

53. In February, March, and April, 1943, there were conversations between representatives of NL and members of the Antitrust Division, Department of Justice, relating to a proposed consent decree. The conversations were suggested by the Division's pending investigation of the titanium pigments industry and antedated the indictment against the defendants herein and Messrs. Rockwell, Garesche, and Jebsen of NL, and another, returned in this District June 28, 1943. At a pre-trial conference in this case held October 30, 1944, counsel for NL tendered a form of contract agreed to, but not executed, by NL and the British companies. A copy of the proposed agreement was received in evidence at the trial, NL Ex. 30. The parties are ICI, ISC, GW, Tinc, BTP, and NL, and the proposed agreement provides in substance as follows:

(a) Licenses exchanged by BTP and NL (Tinc) will be non-exclusive and royalty free, with the right to grant non-exclusive sublicenses but only to parties who will license BTP or NL, as the case may be, on a non-exclusive, royalty free basis under the patents and applications of such sublicensees.

(b) The licenses will be without restriction as to production, shipment, sale, or use of titanium compounds; and it is provided that neither the 1933 British agreements nor the 1920 agreement will preclude BTP or NL (or Tinc) from manufacturing, selling, or using in, or from shipping from or to, any place in the world, titanium compounds or any product, finished or unfinished, or from otherwise fully exercising the grants made by them.

(c) It is agreed that the holdings of voting shares in BTP will be rearranged so as to insure that NL (or Tinc), ICI, ISC, and GW will each hold the same number of shares.

(d) The right of NL to name three directors of BTP is cancelled, and NL has agreed to refrain from taking any part in or exercising any influence in respect of deliberations or decisions of BTP concerning any business of BTP within, from, or to the United States.

(e) All restrictions on the disposition by NL of its shares of BTP contained in the 1933 agreements are cancelled, and it is agreed that the Articles of Association will be amended to remove therefrom all such restrictions.

(f) The proposed agreement supersedes, in so far as inconsistent therewith, the 1933 agreements, and to the extent that any provision or provisions of the 1933 agreements are inconsistent therewith they are deemed to be amended.

(g) The license agreement (Ex. F-1) between Tinc and BTP made in March 1933 is cancelled.

(h) The agreement for exchange of licenses under patent rights hereafter acquired may be terminated by BTP and NL at the end of any year by three years previous notice in writing, or by NL by notice given at any time pursuant to order of this Court, or by BTP by notice given at any time pursuant to order of competent authority in Great Britain pursuant to the Defense Regulations 1941 or pursuant to the order of any competent court in Great Britain.

54. Prior to 1936 local Japanese companies were planning to manufacture and sell titanium pigments and com-

pounds in Japan. NL, Tinc, IG, and TG believed that such Japanese companies would engage in exports which would lead to competition in all the markets of the world including the United States. KK had been agent for TAS and subsequently for IG in Japan. Tinc, TG, IG, Terres Rares, Thann, KK and Doitsu as trustee for Tinc, IG, TG, Terres Rares, and Thann entered into agreements (Exs. J to J-4, inclusive, which are uncancelled). KK was to own 50% of a new company, and of the remaining 50% Terres Rares 30% and Tinc 70%. IG was to have an option on one-half of Tinc's shares. TK was the new company created as a result of these contracts for the exclusive purpose of engaging in the titanium pigment business in the Japanese Empire, TK was assigned the Japanse Empire as its territory and the rest of the world was assigned through Doitsu, as trustee, to Tinc, IG and Terres Rares. TK was granted an exclusive license for its territory to manufacture and sell titanium pigments and compounds under all Doitsu's then owned or thereafter acquired patents, processes, and subject matter relating in any way to the manufacture of or use of titanium pigments and compounds, as defined within the limits of the licensed field in said contracts, that is, all methods, processes and apparatus in the field of manufacture of all titanium compounds, containing two per cent (2%) or more of the element titanium in a chemically, mechanically or physically combined state and mixtures thereof, which can be used as pigments, whether or not adapted for other uses and all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses. TK granted Doitsu, as trustee for Tinc, IG, TG and Thann a similar exclusive license of its present and future titanium pigment patents,

processes and subject matter relating in any way to the manufacture or use of titanium pigments or compounds, as defined within the limits of the licensed field in said contract. TK and Doitsu each agreed not to import titanium pigments and compounds into the territory of the other without the consent of the other and agreed to impose the same obligations upon its customers. TK and Doitsu agreed not to import into the territory of the other finished articles manufactured by it; and agreed to prevent such importation by customers purchasing titanium pigments or compounds from it if the importation of such finished articles interfered with the sales of titanium pigments by the other party in its own territory. TK was prohibited from granting sublicenses. Doitsu was permitted to grant sublicenses under any patents licensed to it by TK provided the sublicensee of Doitsu agreed to grant to TK for its territory an exclusive license under all present and future patents of the licensee or sublicensee relating to the manufacture and sale of titanium pigments and compounds, and provided Doitsu required the licensee or sublicensee to agree to respect the exclusive territory of TK and to assume the same obligations with respect to TK's territory as were imposed on Doitsu. TK was given an option on Blumenfeld's Japanese patents in exchange for certain rights to be given Terres Rares and Thann. The contract Exhibit J-1 is to run until 1960 and has not been cancelled by the parties. TG supplied the Japanese market with titanium pigments until the Japanese factory commenced production.

55. Contract Exhibit A allocated the Canadian and North American markets to NL as part of its exclusive territory.

56. NL owned certain Canadian patents and, by virtue of the 1920 agreement, had an exclusive license and the right to grant sublicenses under TAS's Canadian patents. Prior to the year 1934 Laporte was interested in erecting a factory in Canada to manufacture titanium pigments. NL and DP were selling titanium pigments and compounds in the Canadian market at this time. DP had contractual relations with CIL conferring certain rights and imposing certain obligations upon CIL with respect to patents and processes. NL and CIL entered upon negotiations which resulted in the making of four contracts (Pl. Exs. K to K-3, inclusive, which are uncancelled). DP and ICI had knowledge of such negotiations. There is no direct evidence that DP either approved or disapproved these contracts. I infer that it acquiesced in them.

(a) There was an agreement between CIL and NL dated January 1, 1937, under which a new company, CTP was granted the sole right to manufacture and sell under CIL's and NL's titanium patents in Canada and Newfoundland. CTP was to be owned 49% by NL and 51% by CIL. In addition, NL was to receive 8000 shares of non-voting (except under certain conditions) $100 par value stock in consideration of its existing good will, patents and technical information. NL and CIL agreed to subscribe to bonds of CTP for the purpose of erecting a factory; but because of World War II the bonds have not been issued and the factory has not been built. CTP was to have six directors, three nominated by NL and three by CIL; one of the CIL directors was to be president. Until the factory was built NL agreed to supply CTP at cost plus 10% and to use its best efforts to enable CTP to purchase from BTP at cost plus 10%. The agreement was to remain in force for thirty

years, and thereafter could be terminated on twelve months' notice by either party. If at the end of thirty years either party wished to withdraw from the agreement, it was required to offer its shares to the other party at book value. (In determining book value good will, patents, and future earnings were not to be considered.) CTP was to confine its activities relating to the manufacture and sale of titanium pigments and compounds to Canada as its exclusive territory. NL agreed to conduct all of its operations relating to the manufacture and sale of titanium pigments and compounds in Canada through CTP and CIL agreed that it would not conduct any such operations anywhere in the world except through CTP.

(b) CIL agreed to grant an exclusive license, throughout the world, to CTP under all its then owned or thereafter acquired patents, processes and subject matter, relating to the manufacture or use of titanium pigments or compounds.

(c) NL agreed to transfer its Canadian titanium pigment business to CTP.

(d) NL entered into contract Exhibit K-1 with CTP and granted to CTP, for Canada, an exclusive license on all of NL's patents, then owned or thereafter acquired, processes and subject matter relating to the manufacture or use of titanium pigments or compounds. NL was allocated the rest of the world as its territory. CTP granted to NL an exclusive license for the world outside of Canada, in respect of then owned or thereafter acquired patents, processes and subject matter relating to the manufacture, sale and use of titanium pigments, provided that NL was to grant to DP a non-exclusive license for North and South America under

any such patents licensed to NL by CTP. NL and CTP agreed not to export titanium pigments or compounds into the territory of the other without the consent of the other party and agreed to impose the same obligation upon its customers. NL agreed not to export into CTP's territory any finished articles manufactured by NL, and CTP made the correlated agreement. No such restriction was put upon their customers. CTP could grant sublicenses but neither party could grant licenses under its own patents or under any patents licensed to it under Exhibit K-1, (except NL to DP) unless the licensee agreed to grant to the other party to the contract (NL or CTP) an exclusive license under all its present and future patents relating to the manufacture or use of titanium pigments or compounds for the territory of such other party (CTP or NL) and unless such licensor (CTP or NL) compelled the licensee or sublicensee to agree to respect the territory allocated to the parties to the contract (CTP or NL) in Exhibit K-1 with respect to each other's territory. The contract is to run until 1967.

57. In 1935 NL agreed with CIL, BTP and Laporte to maintain prices on American titanium pigments sold by NL in Canada, above the prices charged for titanium pigments manufactured by BTP or Laporte and sold by BTP and Laporte in the Canadian market. This facilitated a price agreement between BTP and Laporte for the British Empire market outside of Canada. There is no evidence as to how long this agreement endured.

58. CTP acquired all of the titanium pigment business of Laporte in Canada in 1937 and said Laporte agreed to

refrain from engaging in the titanium pigment business in Canada until 1952.

BTP (with consent of NL), NL and DP severally supplied the Canadian market until 1939. Since 1939 CTP has acquired its products from DP and NL and will continue to do so until it builds a factory. DP sold its titanium pigment products in Canada prior to the creation of CTP to CIL and since the creation of CTP entirely to CTP. Negotiations are in progress among NL, CIL and CTP to revise the Canadian agreements on lines similar to the revised British agreements.

59. The defendants NL and TINC and their foreign associates, SIT, TG, BTP and TK, agreed in 1939 that, should patents relating to the titanium pigment business but outside the license field be offered by one of the parties to the other, the offer would be subject to the terms and conditions defined in the various contracts under the license field. NL and CTP agreed to extend their obligations to exchange patents, present and future, which in any way related to the titanium pigment business and to other matters, outside the license field on a reciprocal basis.

60. Each and every patent application of NL and NL's foreign associates SIT, TG, BTP, TK, CTP, which related to the licensed field as defined in the various agreements, was immediately available to each other on an exclusive, royalty-free basis under their respective agreements for the respective territories in which the companies operated throughout the world. The expenses of filing and securing said applications and patents were shared equally by the exclusive licensee in whose territory the application was filed and the patent owner.

61. After the outbreak of the present war in 1939 NL, Tinc, and TG believed that if the United States should be at war with Germany and as a consequence the United States Alien Property Custodian should seize the United States patents owned by TG and the German equivalent of the Alien Property Custodian should seize the German patents owned by Tinc and that if such patents were licensed to outsiders there might be competition in the respective markets allocated to the parties to Agreements A and C. NL, Tinc, IG, and TG in order to prevent such potential competion decided that all of the United States patents owned by TG should be transferred to Tinc and the Tinc patents in the exclusive territory of TG as defined in Exhibit C-3 should be transferred to TG provided that none of the other provisions of the several contracts were to be affected in any way. Thereupon TG assigned to Tinc some of its United States patents and applications and Tinc endeavored to transfer all of its German patents and other patents in TG's territory to TG.

62. Defendants NL and Tinc and their foreign associates TG, BTP and TK exchanged complete technical information which in any way related to the manufacture or use of titanium pigments or compounds as defined within the limits of the licensed field in their various agreements. Such information was of inestimable value in developing the business of these associated companies to the exclusion of potential newcomers in competition in the industry.

63. The defendants NL and Tinc and their foreign associates TG, BTP and SIT exchanged full and complete information relating to the sales prices of titanium pig-

ments and the activities of any other companies and potential competitors engaged in the titanium business in any of the markets of the world. Prices for the various markets in Europe were frequently fixed for all titanium pigments below which none of these associated companies was to sell in its respective markets without immediate notice to Tinc.

64. Each and all of the various contracts (Exs. A to A-2 inclusive, B, C to C-8, inclusive, F to F-6, inclusive, J to J-4, inclusive, and K to K-4, inclusive) has had the intended effect of (1) preventing competition among the various parties to said contracts within the exclusive territories allocated to the parties in their respective contracts; (2) creating a world-wide patent pool of many of the patents of commercial value relating to the manufacture of titanium pigments and compounds within the licensed field, as defined in said agreements in which said patents are made available only to the parties to said contracts; (3) creating a world-wide pool of useful technical information, relating to the manufacture and use of titanium pigments, available only to any of the parties to said contracts within their respective exclusive territories; (4) enabling the parties to said contracts outside the United States to facilitate the control of production and prices of all titanium pigments and compounds produced within their respective exclusive territories; (5) completely preventing any patent litigation among the parties (there has been no patent litigation in the titanium pigment field anywhere in the world); and (6) accelerating the spread of improvement in the product and processes throughout the world.

It is a fact, but I am unable to find whether or not it has a causal relationship to these contracts, that production

of titanium pigments has increased both in the United States and abroad [NL alone increased production from a nominal 500-1000 tons in 1920 to 76,788 tons, in terms of TiO_2 content, in 1944 and increased its sales so that in 1943 its sales of titanium pigment exceeded sales in the U. S. of lithopone, zinc oxide and white lead by all producers] and that the price has declined from 40¢ a lb. in 1927 to 14½¢ in 1944.

65. Joseph Blumenfeld, a chemist and managing director of Terres Rares, a French company in which he owned stock, in or about 1922 obtained certain patents relating to the manufacture of titanium compounds which he assigned to Terres Rares. Between 1922 and 1933 Terres Rares granted exclusive licenses to Thann, a French company, for France, its colonies, dependencies, protectorates, and mandated territories; to Montecatini, the largest chemical company in Italy, for Italy, and non-exclusive licenses for Belgium, Holland, Switzerland, Spain, Portugal, and South America, subject to rescission on three months' notice; to Aussig, the largest chemical company in Central Europe, for Czechoslovakia, Austria, Hungary, Yugoslavia, Rumania, and, subject to certain obligations, Danzig and Denmark, and non-exclusive licenses for Poland and Russia, and to Laporte for the British Empire. These were the only companies other than TG producing titanium pigments in Europe in 1933. These companies in 1933 were in competition with TG and BTP in the markets allocated to them by contracts Exhibits B, C, F.

66. Jebsen, acting for Tinc, either made or approved agreements among the European producers of titanium as follows:

(a) On November 23, 1933, Aussig and TG entered into an agreement, Ex. G, which established a sales quota of approximately 25% for Aussig and 75% for TG in Germany, Czechoslovakia, Poland, Austria, Hungary, Yugoslavia, Rumania, and Russia. Prices were to be fixed by mutual consent, and were not required to be identical, so that each firm could compete with dealers in other pigments (lithopone, zinc oxide, white lead, etc.) as local conditions might permit. Each gave the other the right to use its product patents, royalty-free, and agreed to support the other in protecting these rights, and to refrain from giving any technical information or aid to potential competitors; and the parties contemplated an agreement on process patents and experience. Aussig agreed to buy from TG at preferential prices any requirements of titanium pigments, above Aussig's then production capacity, which Aussig might need to meet its quota. Said contract was in effect from July 1, 1933, and there is no evidence that it has been cancelled and the effect of the war on its operation is undetermined.

(b) In June, 1935, but to take effect as of May 1, 1934, an agreement known as the Contrat a Quatre (Ex. G-1), was made between Thann and Terres Rares, on the one hand, and SIT and Tinc, on the other, which established a quota of 30% for Thann and Terres Rares and 70% for SIT and Tinc in Belgium, Holland, and "various countries" (Esthonia, Latvia, Lithuania, Abyssinia, Liberia, Arabia, Afghanistan, Persia, and Siam) and a 50% quota for each group in France; prices for these territories were to be fixed by mutual consent; product patents of each party were to be made available to the other parties royalty free.

All parties were to refrain from giving any technical information or aid to potential competitors. No new factories were to be built in the countries of the agreement outside France without the mutual consent of all parties. This agreement could be terminated by a change of sales possibilities resulting from governmental measures, from "new competition", or from "any governmental or legislative measures making it partly or wholly illegal". Otherwise it could not be terminated before December 31, 1938, and then only on six months' notice. There is no evidence that such notice was ever given. Thereafter it was to continue for two-year periods unless notice was given six months before the expiration of any such period. This agreement was related to the Contrat a Six (see below) and could be terminated on three month's notice if that agreement was terminated. There is no evidence that Contrat a Quatre was ever cancelled.

(c) At the same time, in June, 1935, an agreement known as the Contrat de Livraisons (agreement concerning mutual deliveries) was made between the same parties and provided that each group would supply the other with any titanium pigments which it might have available after its own needs were satisfied, at certain fixed prices and on certain terms. It was agreed that goods delivered by one group to the other could not be reexported and that this obligation must be imposed on the customers of the parties.

(d) An agreement known as the Contrat a Six, Ex. G-3, was also entered into at this time by Thann, Terres Rares, Montecatini, Tinc, SIT, and TG, in which territories were allocated and sales allotted on a quota basis, retroactive to May 1, 1934, thus: TG and Aussig were recog-

nized as enjoying exclusive rights of sale and delivery in Germany, Danzig, Czechoslovakia, and Russia; TG, Terres Rares, and Thann in Spain, Portugal, Japan, Switzerland, Bulgaria, Greece, Turkey, China, and South America (subject to TP's rights in South America); Terres Rares, Thann, and SIT in France; Terres Rares, Thann, and Tinc in Belgium, Holland, and "various countries" (as defined above); Montecatini in Italy; Tinc in Norway, Sweden, and Finland; and Tinc and Aussig in Denmark. Each party agreed to respect the others' exclusive rights. Each of the parties to contract Exhibit G-3 agreed to assist each other in preventing third parties from entering the titanium pigment business within their respective territories and each of the parties to contract Exhibit G-3 agreed not to reexport titanium pigments or products from the territories from which they had been ordered and delivered. Sales prices were to be fixed by mutual agreement. Use patent rights were exchanged between the parties on a royalty-free basis. Said contract Exhibit G-3 was in effect until December 31, 1938, when it was cancelled by Montecatini. The intention to continue to cooperate was expressed by the parties to contract Exhibit G-3 after its cancellation.

67. BTP entered into a price agreement with Laporte, in 1934, covering the sale of titanium pigments for the British Empire. Said price agreement is still in effect but has no application to the Canadian market from which Laporte withdrew in 1937. In 1941 BTP and Laporte entered into a quota agreement whereby a quota (Pl. Ex. F-8) of the titanium pigment business in the British market was allocated to each of the said parties. This agree-

ment is uncancelled. Laporte is obligated, by agreement with Blumenfeld, to refrain from exporting titanium pigments to any territory outside of the British Empire and has refrained from making such exports outside the British Empire since 1937.

68. Each and all of the said contracts, Exhibits G, G-1, G-2, G-3, F-8, has and have had the intended effect of helping Tinc and NL to prevent any exports of titanium pigments or compounds to the United States.

69. Defendants NL and Tinc and TG, represented by Jebsen, McCarty and Kuhne, commenced negotiations with CP and the other Blumenfeld companies represented by Blumenfeld, Ticknor, Chase and Burton, to eliminate competition and also to facilitate exchange of technical information and patent rights between the two groups producing titanium pigments in all markets of the world in 1930. The parties believed that no agreement eliminating competition between the two groups in markets outside of the United States and to achieve the other desired ends could be reached unless the parties thereto considered themselves secure against competition from American producers. A tentative understanding had been arrived at between NL's foreign associates and the Blumenfeld interests outside the United States in March, 1931, involving both a technical and commercial cooperation consummation of which required assent of NL in some respects. The negotiators were of the opinion that the making of such an agreement would be facilitated if there were an agreement for technical cooperation between NL and CP. The agreements mentioned in Findings 66 and 67 were essentially for commercial not technical cooperation.

70. By 1931 the titanium pigment art in the United States was already developed. Patent positions were claimed by both NL and CP, the then only existing manufacturers. DP's efforts initiated prior to that time to develop, through research, an independent patent process were still unsuccessful and substantial additional expenditures and time would have been required to complete the program and DP became convinced that if it were to enter the manufacture and sale of titanium pigments as a development of its white pigment business it would be necessary to get into the business as promptly as possible through the acquisition of the patents and the going business of CP.

71. After the purchase of CP by Krebs in July, 1931, defendant NL represented by Jebsen, McCarty, Thompson and Beschorman, and Ticknor and Chase, directors of Krebs until the end of 1934 (the latter two without authority from DP), continued negotiations to reach a world-wide agreement which would eliminate competition in the manufacture of titanium pigments and compounds. Blumenfeld continued to represent the Blumenfeld group exclusive of Krebs. The parties to these negotiations continued to seek means whereby the European producers could be secure against competition by DP or Krebs.

72. DP knew of plans to combine all the European titanium producers and was willing to give its aid to NL in bringing about a patent exchange among the European producers in order to secure one in the United States with NL. NL wished to pool with DP all their patents and technical information relating to the manufacture or use of titanium pigments in the United States in order to settle

its patent controversies with DP and to obtain access to DP's patents and technical facilities and jointly to control and dominate the manufacture and sale of titanium pigments and compounds; and DP had knowledge of this wish. NL had threatened but failed to file suit on any claims it may have had for any alleged infringements of patents owned or controlled by it against CP prior to July 1, 1931. The defendant DP knew at the time it acquired the business of CP in July, 1931, that NL had failed to enforce any claim it might have against CP for any alleged infringement of any patents relating to the manufacture and sale of titanium pigments or compounds which were owned and controlled by TP. Both NL and DP in good faith claimed that each infringed certain of the other's titanium pigment patents and both in good faith denied such infringement claiming, among other things, that the patents alleged to be infringed were of doubtful validity. NL and DP agreed in October, 1932, that the validity of the patents claimed to be infringed should not be questioned except as a last resort and that they should try to arrive at a general understanding. NL advised DP of its contracts with TAS in May of 1932 and of the restricted nature of said license agreements. TP did not own the legal title to 7 of the 9 patents it claimed were infringed by Krebs in 1932; but it held licenses thereunder with the right to grant sub-licenses thereunder subject to the contract of 1920. Krebs did not check the legal title to the patents NL alleged it infringed because it considered that under the agreement with NL (Ex. E) it was obtaining rights under all patents involved in the discussions of patent infringement between it and NL. Both TP and Krebs began to

exchange extensively technical information relating to the manufacture and use of titanium pigments in 1932 and the information so exchanged related to much more than any alleged claims of patent infringement by either company. Blumenfeld and his foreign associates furnished technical aid and assistance to Krebs at its instance from August 1931 until the approximate date at which TP and Krebs commenced the exchange of technical information in 1932. Krebs did not unequivocally notify Blumenfeld of its position that it intended to make no agreement with Blumenfeld or Terres Rares for exchange of patents or information until after contract Exhibit E had been approved by NL's foreign associates and executed by TP and Krebs. Krebs never exchanged patent or patent applications with Blumenfeld and did not furnish Blumenfeld with any technical information.

73. In 1933 TP and Krebs were the only producers of titanium pigments in the United States.

Contract Exhibit A by its terms prevented TP from entering into a contract with Krebs unless Krebs subscribed to the provisions of Article 14 of Contract Exhibit A and particularly unless Krebs agreed not to export into the territories of NL's foreign associates and unless Krebs agreed to grant exclusive licenses to NL's foreign associates under all its present and future patents for titanium pigments and compounds in the territories of the foreign associates.

After extensive negotiation NL and DP formulated an agreement in writing later executed on August 28, 1933, and dated as of January 1, 1933, which is in evidence as Exhibit E. The agreement Exhibit E provided:

1. The parties were TP and Krebs.

2. The licensed field was defined as

> "(1) All methods, processes and apparatus in the field of manufacture and use of all titanium compounds, containing two per cent (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adapted for other uses, and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses".

3. TP granted Krebs (a) a non-exclusive license to use within the United States, its colonies and possessions, and for the licensed field, all processes and apparatus of manufacture, patented or not, which it then used or thereafter used during the term of the agreement, and as to which it was free to grant such license; (b) a non-exclusive license to exploit within the same territory and for the licensed field all U. S. patents then or thereafter owned by it during the term of the agreement; and (c) a non-exclusive license to sell the products resulting from such processes in the U. S., its colonies and possessions, Mexico, Central America, West Indies and South America.

4. Krebs granted the identical rights to TP.

5. Both parties agreed to exchange technical information including patent applications and the aims and results of their research and development work.

6. Each party agreed to help the other obtain a non-exclusive license for the mentioned territory under any U. S. patent under which the other was licensed.

7. Krebs agreed to give TP's foreign associates the first opportunity to acquire from Krebs a non-exclusive license under any patent issued in Europe or Great Britain within the license field, at the disposal of Krebs.

8. The contract was subject to cancellation after December 31, 1933, on three years' notice.

9. The parties released each other from claims for infringement of the U. S. patents then owned or thereafter during the term of the agreement acquired with right to sue for past infringement. Each of the parties also released the customers of the other from past infringement claims.

10. Mutual royalties which could not exceed a total of $40,000 by either party were provided for and no royalties were to be paid by either party after 1936. (And such royalties were paid).

IG objected to this proposed agreement upon the grounds that it failed to provide that Krebs (a) shall not manufacture in TG's territory; (b) shall not sell in TG's territory; (c) shall require its customers not to sell in TG's territory; (d) shall not grant sub-licenses except to enterprises outside TG's territory and for use outside TG's territory; (e) shall not exchange experience except with the same limitations,

> "as otherwise the unbearable situation may arise for the T.G. that Krebs competed with T.G. in the latter's territory, with T.G.'s own patent rights and experiences which are transmitted to Krebs through T.P."

In an effort to overcome this obstacle to the making of the agreement of Exhibit E, C. H. Rupprecht, President of Krebs, now deceased, had conversations with W. C. Beschorman, Executive Vice-President of NL.

Rupprecht told Beschorman to make IG realize that they (IG and TG) were putting their interests in NL's hands and that they would be well taken care of; that the anti-trust laws made impossible the incorporation into the agreement of such provisions as IG desired. He also pointed out (a) that the license granted by Exhibit E contained a territorial limitation which excluded TG's territory from the scope of the license; (b) that DP was not then interested in the business of exporting to TG's territory or of manufacturing in TG's territory; (c) that DP had a general policy of not granting licenses which were exclusive as to DP. . . .

In order to assist further in persuading IG to withdraw its objections, Krebs, on June 28, 1933, delivered a letter, drafted by its counsel, to NL for transmittal to IG. In that letter (Pl. Ex. 267)* DP (1) expressed its desire

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Blind copies to
E. C. Thompson—Cleveland
Wm. Richter —Wil.
T. R. Hanley — "

June 28, 1933

CONFIDENTIAL

W. C. Beschorman, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

We have considered the various points raised by I. G. in their cable to you with the desire, if possible, to comply with its request.

to comply with IG's request if possible; (2) stated that the antitrust laws prevented DP from making any commitments respecting the territories of TG and Tinc; (3) called attention to the territorial limitation in the proposed license agreements and stated that with such limitation, "we think the result will be eminently satisfactory to your foreign associates"; (4) stated that legally and practically there was

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"As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article II of the Krebs-Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

The I.G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclusive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis. Since all licenses received by Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally, we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of much care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Very truly yours,

President

CHR:s

great difficulty in controlling its customers in the disposition of its products; (5) refused to bind itself not to license others than TG in TG's territory; but expressed the belief that in the prospective negotiations for any foreign patents owned by DP a solution would be worked out which would be "acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates", and that exchange of experience would be treated in the same manner as patents.

On July 21, 1933, after further conversations between Rupprecht and Beschorman and also between Rupprecht and Jebsen, Beschorman sent a letter dated July 12, 1933, transmitting the Krebs letter of June 28th. In his letter of July 12th (Pl. Ex. 273)* Beschorman wrote (1) experience

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*

July 12, 1933.

I. G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Grüneburgplatz

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws

will prove that Krebs is trying to meet your views; (2) the use of the phrase "non exclusive license" in Article V of

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and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subseqently to the points brought out in your letter of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both as to use, manufacture and selling to the territory granted to them by the agreement. While this agreement do not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good co-operation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outside of their territory which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licences in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these respects, which are also our own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your interests than to complicate the situation with a separate contract.

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

the Agreement is simply to comply with the anti-trust laws and in practice the licenses will prove to be, to all intents and purposes, exclusive; (3) while the agreement does not specifically prevent Krebs from exporting into TG's territory products not manufactured under TP patents, it will be difficult to discriminate between such manufacture and manufacture under their own patents and maintain close and good cooperation, and the practical effect will be that Krebs will refrain from such export; (4) Krebs will use its efforts to prevent export by its customers; (5) NL will look after your interest in these respects—a method preferable to making a direct contract between Krebs and TG.

A copy of Beschorman's letter of July 12th was, before it was sent to IG, shown to Rupprecht and on July 17, 1933, a copy was sent to him for Krebs' records.

There is no evidence that Rupprecht remonstrated against the sending of Beschorman's letter to IG. Krebs and DP through Rupprecht acquiesced in and ratified the assurance made by Beschorman to IG as to territorial delimitations of the titanium pigment business. In acquiescing in such assurance that DP would not manufacture in or sell in TG's territory, DP was not making a promise; it

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May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advice from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours

Exechtive Vice President.

Copy to—Dr. Kuhne
Dr. Jebsen
Mr. Rupprecht
Mr. Tasker, Vice Chairman, British T.P.Co.

was doing no more than giving expression to its then existing policy not to manufacture or sell in Germany and other TG territory. DP's aforesaid assurance in part formed the consideration for continued abstinence of the European producers from exporting to the United States.

IG construed the communications to mean that Krebs "will loyally respect the territorial deliniitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement" between Tinc and TG; and in reliance thereon, withdrew its objections to the agreement Exhibit E. There is no evidence that the aforesaid construction was communicated to DP.

DP did not agree with TP or NL that it would refrain from exporting titanium pigments into TG's territory; but it assured TP and NL that, as a practical matter, such exports would not take place.

DP did not agree with TP or NL that it would grant NL's foreign associates exclusive licenses under DP's foreign patents; but it gave assurances that the practical effect of its conduct would produce substantially identical results as if it did so agree.

Tinc and NL's other foreign associates approved the agreement between TP and Krebs on the basis of the DP assurances.

NL agreed with DP that all of NL's titanium pigment business would be done exclusively through TP, and DP agreed with NL that it would only engage in the titanium pigment business through Krebs. The conduct of DP of its titanium business after January 1, 1936, through the Krebs Division of DP did not breach or violate this agreement or any assurance previously given by DP through Krebs.

DP, through Rupprecht and Krebs, by these assurances and Exhibit E, joined the conspiracy found herein to exist between, NL and its foreign associates. DP's status rights and obligations were different from those of the other members of the combination. DP did not thereafter withdraw.

In July, 1933, Blumenfeld conferred with Rupprecht, President of Krebs, and the former requested Krebs to agree not to export into the territory of the European producers so as to facilitate the making of an agreement for commercial cooperation among the European producers. Rupprecht stated that he would make no such agreement but he explained to Blumenfeld that DP was not interested in the export business.

Neither Krebs nor DP exported any titanium pigments to the territory of TG, BTP, SIT, TK, Terres Rares, Thann, Aussig or Montecatini.

In 1936, DP received an order from BTP for 50 pounds of titanium pigment. Rupprecht telephoned the President of NL and advised that he was sending the requested merchandise as a free sample, "not wanting to have any question raised about * * * selling outside the United States".

74. Blumenfeld's foreign associates, Terres Rares, Aussig, Thann and Montecatini imported no titanium pigments or compounds into the United States.

75. DP and NL exchanged technical information relating in any manner to the manufacturing or use of titanium pigments or compounds from about April, 1932, until April, 1940.

As of about May 1, 1940, the exchange of technical information between NL and DP was discontinued; and the

1933 agreement between TP and Krebs, which had been assumed by NL and DP, respectively, was, by an agreement between NL and DP dated January 1, 1941, (Ex. E-3) amended to eliminate provisions for exchange of technical information.

76. The aforesaid agreement, Ex. E, was further amended to include extender pigments, theretofore included by implication and practice. The agreement, Ex. E, as thus amended has not been terminated.

77. From August, 1933, to January 1, 1941, all patents and patent applications owned or filed by TP, NL, Krebs or DP which in any way related to titanium pigments or compounds within the licensed field of contract Exhibit E, were immediately available to each other on acquisition or filing. From and after January 1, 1941, all United States patent applications of either NL or DP were made available and still are available for the use of the other company after six months from the date of the filing of applications. All United States patents issued to or acquired by either DP or NL within the licensed field from and after January 1, 1941, continued to be and still are available to either company on a royalty-free basis immediately on issue or acquisition.

78. From 1933 on there was active competition between NL and DP for customers. There has been a vast increase in sales; and repeated reductions in the price of titanium pigments have taken place and a very few increases. DP entered the titanium pigment business in 1931 and since that date it has made frequent plant expansions for the manufacture of pure and composite TiO_2

and its production increased from 20,027 tons in 1935 to 50,674 tons in 1941 and then decreased to 42,843 tons in 1943.

NL and DP have endeavored to match each other's titanium products; but each also manufactures certain titanium pigments having special applications not manufactured by the other.

There is no allocation of territory or customers between NL and DP; and each maintains a large, highly trained technical sales force engaged in endeavoring to sell titanium pigments. To a very large extent the salesmen of the two companies are chemists whose contact with consumers (that is, manufacturers of paint, rubber, glass, etc.) consists in endeavoring to demonstrate that their products merit acceptance on the basis of technical superiority. The buyers of titanium pigments are mainly well-informed, experienced purchasing agents. NL and DP sell for identical prices; there is no evidence that such price identity is the product of agreement or collusion.

79. In entering into the agreement, Ex. E, NL had several purposes:

1) For about a year prior to the making of Ex. E officials of NL had been concerned by the early expiration dates of many of the patents upon which NL relied. By exchanging patents and technology with DP, a large and powerful corporation, possessed of great research facilities, NL expected to strengthen the patent monopoly of NL and DP jointly, as against newcomers in the titanium pigment business.

2) NL intended by its agreement with DP to avoid the expense and the risks of patent litigation and to obtain

access to the Blumenfeld patents and DP's research capacity.

3) NL expected to obtain the benefits of a friendly and cooperative competitor rather than that of a hostile competitor.

4) From the assurances given by DP on the request of IG, NL expected to obtain freedom from interference by DP in the arrangement made with the European producers.

DP's purposes in entering into the agreement Ex. E were:

1) To avoid the expense and risks of patent litigation.

2) To avoid the research expense in trying to avoid infringement of NL valid patents.

3) To obtain access to NL's technical experience and patents in the titanium pigment field as well as the patents and the experience of NL's foreign associates.

4) To strengthen its own patent position in the titanium pigment field to the exclusion of others than NL by pooling its patents with NL.

The necessary effects of the agreement Ex. E. and of DP assurances have been

1) The achievement of NL purposes.

2) The achievement of DP's purposes.

3) To give NL and DP together domination and control over the titanium pigment business in the U. S.

4) To remove obstacles from the execution of the TG-Aussig agreement—Ex. G, the Blumenfeld agreements G-1, G-2, G-3, the Japanese agreement Ex. J, the Canadian agreement Ex. K and the price agreement between BTP and Laporte for the British Empire.

5) A proliferation of patents.

6) To restrict and obstruct exports from the U. S. outside of Western Hemisphere.

7) To restrict and obstruct imports into the U. S.

8) To settle the existing and potential patent disputes and to promote the more rapid development of the titanium business and a greater freedom of action for the parties under titanium pigment patents and developments.

80. In 1934 defendants NL and DP jointly purchased the Leuchs patent relating to the manufacture of titanium pigments each contributing one-half of the cost. Shortly thereafter DP acquired NL's half interest and granted NL a non-exclusive license thereunder royalty free. At time of purchase NL's technical director advised that in his opinion the patent was invalid but he thought it might anticipate a Blumenfeld patent. The patent was reissued with broader claims. Said patent was never used by either DP or NL. The patent was included among those licensed to VC and Zirconium.

81. In 1939 National Lead undertook to adapt a patented machine known as the Micronizer Reduction Mill for use in the manufacture of titanium pigments. Following developments and changes by NL, the machine proved of substantial value as a means of improving the texture of

titanium pigments; and NL secured an exclusive license (Ex. P), with the right to grant sublicenses, for titanium pigments manufacture, from the patentee, International Pulverizing Corporation. NL granted DP pursuant to Ex. E the non-exclusive right to use this apparatus on the same terms and conditions as those granted to NL under its exclusive license from International Pulverizing Corporation. The license from NL to DP was granted at about the same time NL secured an exclusive license from International Pulverizing Corporation to use this apparatus. DP regarded this apparatus essential to enable it to make a pigment comparable to one produced by NL, which was using the apparatus. At its request Zirconium was granted by NL the right to use this apparatus about eighteen months later on the same terms and conditions as DP. NL refused a license of the "Micronizing Apparatus" to VC and Sherwin-Williams Company, who also desired to use this apparatus. In October, 1944, NL relinquished its exclusive license and took a non-exclusive license.

82. DP's method of doing business was to sell titanium pigments to manufacturing consumers. The form of sales contract used by DP contained the phrase "for the buyer's own consumption." The evidence does not establish that this phrase was used pursuant to any agreement with NL, rather than that it was used to express a usual term of a requirements contract.

NL's form of sales contract in 1939, 1940, 1941 and 1942 contained an identical clause.

There is evidence that such a clause is common in the chemical industry and that DP had employed it before the 1933 contract.

83. The only licenses granted by DP of any of its titanium pigment patents were the licenses described herein. No other company or person ever requested such a license from DP.

84. Early in 1934 Zirconium, which was owned by Glidden Company and by Metal and Thermit Corporation in equal shares, began to manufacture titanium dioxide. It owned some patents relating to such manufacture which it had acquired from its parent corporations. On January 8, 1934, DP notified Zirconium that such manufacture might infringe patents owned by DP. Negotiations ensued which resulted in a license agreement from DP to Zirconium dated January 1, 1935, and signed on August 19, 1935, Ex. I. Thereby DP granted Zirconium a non-exclusive license under specified patents, for the life of the patents, subject to the payment of a royalty on *all* TiO_2 produced and subject to a limitation on tonnage of 3,000 tons in 1935, to 9,000 in 1944 and thereafter, of titanium dioxide produced under the license.

On March 7, 1943, DP licensed Zirconium under additional patents without additional royalty. On November 10, 1944, the tonnage limitations were cancelled. DP has collected in royalty from Zirconium $196,655.86 to July 1, 1944.

On May 17, 1934, NL sent a notice to Zirconium of probable infringement. Negotiations followed which resulted in an agreement dated May 6, 1935, Ex. H, whereby NL in lieu of royalties received 10% of the stock of Zirconium, had its president elected to Zirconium's Board of Directors and NL and Zirconium cross licensed each other under all patents in the titanium pigment field, then owned

or thereafter acquired, and both parties agreed to exchange technical information and experience. Zirconium assumed obligations substantially like those of Article XIV of the 1920 agreement, Ex. A, including restriction on its exports. The agreement was to endure until August 7, 1951.

NL became discontented with the management of Zirconium. Glidden and Zirconium were dissatisfied with NL's refusal to invest more money in the development of Zirconium.

In April, 1944, the agreement was cancelled, the parties exchanged releases and NL assigned its shares of Zirconium to Glidden.

Zirconium produced only pure TiO_2. From May 6, 1935, to July 1, 1944, its total production was 33,667 tons. NL did render some engineering assistance to Zirconium in connection with the installation and use of its processes and imparted some technical information but frequently it refused to convey such technology to Zirconium on the ground that it was prevented by other agreements from so doing.

In the Spring of 1935 there was a conversation between Rupprecht for DP and Beschorman for NL respecting Zirconium's patents. The evidence does not show what the conversation was.

On occasions before 1940 there was exchange of information between DP and NL relative to Zirconium's production. The evidence does not warrant the inference that the licenses granted by DP to Zirconium and the cross licensing agreement between NL and Zirconium were made pursuant to a common plan of NL and DP or as a result of concerted action by them.

The necessary effect of the two agreements was to restrict the domestic production and foreign exports of Zirconium.

85. VC was organized in 1935 to manufacture titanium pigments in the United States.

On November 19, 1936, DP notified VC of its patent holdings in the titanium field and suggested conference. Negotiations followed and resulted in an agreement, Ex L, executed August 5, 1937.

By this agreement DP granted VC a non exclusive license under a specified list of U. S. patents subject to royalty payment on all production of TiO_2 and subject to limitation on the quantity produced under the license ranging from 3000 tons of TiO_2 content for the year 1937-8 to 9,000 tons for 1946 and any year thereafter. VC granted DP a non exclusive, royalty free license under a named patent.

In November, 1940, DP granted VC a similar license under another patent in this field for an additional royalty.

On July 22, 1943, DP granted VC a similar license under its patents for rutile pigments, without additional royalty.

In November, 1944, DP cancelled the quantity limitations in the licenses.

VC paid DP in royalties to July 1, 1944, $193,875.24.

VC produced only pure TiO_2. VC's total tonnage from August 5, 1937 to June 30, 1944, was 36,576 tons.

The necessary effect of this license was to restrict the production of VC.

Early in 1937 NL and VC discussed the possibility of VC infringing NL patents in the titanium field.

Extensive negotiations ensued which did not result in agreement. During these negotiations which extended over several years, VC was willing in 1938 to make an agreement for a reciprocal exchange of licenses and ex-

perience on a royalty free basis. NL desired VC to pay a 2% royalty which VC refused. NL explained its obligations under Art. XIV of the Agreement Ex. A, and was concerned about "the manner of expressing" the obligation of VC not to compete with NL foreign associates, in view of the anti-trust laws.

In a communication to Jebsen on September 13, 1938, NL adverted to this problem and stated that "in this case" a purely verbal understanding was not desirable. Mr. Jebsen replied that the foreign associates would not welcome a verbal understanding, "in the present case".

NL has not instituted any action against VC to enforce its claim of infringement.

There is no evidence that the action of NL and DP with respect to VC was the result of agreement between NL and DP.

86. After the execution of Exhibit E, representatives of DP and NL's foreign associates enjoyed the privilege of visiting each other's titanium pigment plants and obtaining any and all technical information desired by either as regards plant operations and plant equipment from August, 1933, to September, 1938. This exchange was a matter of courtesy and not of agreement; but it was a courtesy DP and NL's foreign associates expected to receive. Similar courtesies were refused to a representative of Aussig.

An exchange of technical information was also agreed upon in principle between DP and NL's foreign associates on June 8, 1938, but not in detail, but this was repudiated by Rupprecht on September 16, 1938. No experience was ever exchanged pursuant thereto. DP continued agreeable to permit plant visits from the representatives of NL's for-

eign associates, but excluded all research and development information from said exchange arrangement. NL and DP were not exchanging this type of technical information at that time.

The 1933 agreement between TP and Krebs (Ex. E) and the evidence relating thereto does not distinctly disclose what rights and obligations Krebs acquired and assumed with respect to Tinc through TP; specifically, whether Krebs acquired from TP a sublicense to Tinc U.S. patents, and the right to receive Tinc's experience (obtained from TG) conveyed to TP.

Upon the trial NL stated that Krebs obtained by the 1933 agreement sublicenses to all the U. S. patents available to NL, although in 1934 Jebsen claimed that this did not include the United States patents of TAS and Tinc. At the trial DP claimed that by virtue of the 1933 agreement Krebs acquired sublicenses to the U. S. patents of TAS and Tinc provided such patents were then "used" by TP.

The language of the 1933 agreement does not contain a restriction of the grants to patents "used".

The labelling of its products by Krebs immediately after the execution of Ex. E indicates the belief of Krebs that it did obtain sublicenses under at least some Tinc U. S. patents.

87. DP's first offer to NL's foreign associates of a license under Article V of Exhibit E covered the "Ti-Tint" patent application filed in the United States by DP in 1934. The royalties asked by DP of NL's foreign associates for its proposed license were unsatisfactory and no patent application covering this invention was ever filed in any foreign country by DP or NL's foreign associates. In 1935 DP filed applications for foreign patents on its Blended Pig-

ments invention, upon which various foreign patents issued. These were the only titanium pigment patents filed by DP in the territory of NL's foreign associates without their specific request for filing. DP granted royalty-free licenses to NL's foreign associates on such patents and applications exclusive except as to DP and ICI. All expenses for maintaining (but not for securing) such patents were paid by NL's foreign associates.

88. The foreign associates of NL desired a general arrangement covering the exchange of patents between DP and themselves in order to eliminate the details of negotiating licenses of specific patents in specific agreements as required by Article V of Exhibit E. The contract between Blumenfeld, Terres Rares and CP provided for the exchange of future patents and technical information relating to the manufacture and use of titanium pigments between CP, Terres Rares, and its associated companies engaged in the manufacture and sale of titanium pigments outside the United States. Before 1933 Krebs disclaimed any obligation to Terres Rares and Blumenfeld under the CP, Terres Rares, Blumenfeld contract. In 1935, Krebs stated that it did not wish to enter into a general cross-licensing agreement with the foreign associates of NL until it was reasonably certain that it would have no further difficulties with Terres Rares and Blumenfeld under their contract with CP.

89. Negotiations for a general exchange of patents continued between DP and NL's foreign associates in 1938. DP refused to make a written general agreement for the exchange of licenses on present and future patents between

itself and NL's foreign associates because of the United States anti-trust laws. An oral understanding was reached between DP and NL's foreign associates on June 8, 1938, whereby each of said parties agreed to exchange such of its patents and applications as related to the manufacture and use of titanium pigments within the licensed field of Exhibit E with each other as might be desired by each from the other. Such of each other's patents and applications as were desired by DP and NL's foreign associates were to be licensed on a royalty-free basis in separate annual license agreements. Licenses so granted by DP to NL's foreign associates were to be exclusive except as to DP and in England as to ICI. Rupprecht expressed to NL and Tinc the view that the reservation was in fact without practical importance. All licenses granted DP by NL's foreign associates were subject to the approval of NL and were non-exclusive. All expenses for filing and maintaining DP patents in territories of NL's foreign associates were paid for by the foreign associates in whose territory the patent applications were filed.

90. DP acting in accordance with said oral understanding of June, 1938, granted royalty-free licenses to Tinc with the right to sublicense NL's foreign associates on June 20, 1938, April 21, 1939, May 10, 1940, and June 23, 1941 (Pl. Exs. N, Q, R, S, which licenses are uncancelled), and continued to make available to NL's foreign associates on a royalty-free basis all patent applications filed by it in the United States relating to the manufacture and use of titanium pigments until a short time before the transmission of such applications was made dependent on the securing of governmental permission. NL's foreign associates act-

ing in accordance with said oral understanding of June, 1938, made all of their United States patents and patent applications relating to the manufacture and use of titanium pigments available to DP and via Tinc entered into cross licensing agreements with DP (Pl. Exs. Q, R and S) in 1939, 1940 and 1941. Certain patents and applications obtained under these agreements by DP were of significance to DP's operations. No licenses under the applications of NL's foreign associates were granted to any other producer in the United States, except NL and DP. No licenses under the patents of NL's foreign associates were granted to any producer in the United States, except NL, DP and Zirconium. All of said license agreements were granted with the consent of NL. The licenses granted to NL's foreign associates by DP in Exs. M, N, Q, R and S on any patents issued in the name of DP in the territories of the foreign associates of NL were and are exclusive except for a reservation in favor of DP and ICI. Neither DP nor ICI ever made or attempted to make any use of said patents or applications in the territories of NL's foreign associates. The exchange of DP patent applications with NL's foreign associates has been suspended since 1941 during the present emergency, and "until the present emergency terminates".

91. The filing of DP's foreign applications in the territory of NL's foreign associates is under the complete control of NL's foreign associates and all expenses incurred in filing and maintaining said patents are borne by NL's foreign associates who may abandon said patents or applications licensed to them by DP at will upon notifying DP of its intention to so abandon in which event DP may

elect to maintain the patent on its own account. There is no evidence that DP would have maintained the patent applications and patents abroad if NL's foreign associates had not carried the costs. DP patents issued in the name of DP in the territory of NL's foreign associates were sublicensed only if the sublicensees agreed not to export from the territory of the foreign associate.

92. No royalties were ever paid by DP to NL or by NL to DP (under the agreement made between NL and its foreign associates in 1937), and neither DP nor NL's foreign associates ever paid any royalties to each other for the use of the patents licensed by them in Exhibits M, N, Q, R, S.

93. The DP-Tinc licensing agreements of 1940 and 1941 did restrict and were intended to restrict the use and export of titanium pigments manufactured under any of said patents by purchasers of said pigments.

94. It is not claimed nor is there evidence that the defendants have controlled the supply of or restrained trade in ilmenite ore used in the commercial manufacture of titanium pigments in the United States.

95. The agreements and understandings entered into between the defendants and the other corporations herein named in Finding 1 have had the following necessary effects:

1. The defendant NL has refrained from competing with the other titanium pigment producers of the world outside of the Western Hemisphere and has not exported any titanium pigments or compounds outside

the Western Hemisphere unless requested so to do by its foreign associates.

2. DP has refrained from exporting titanium pigments or compounds outside the Western Hemisphere and has refrained from competing outside the Western Hemisphere with any of the co-conspirators in their respective exclusive territories.

3. All of the companies engaged in the manufacture of titanium pigments and compounds outside of the United States have refrained from importing such pigments or compounds into the United States and have refrained from competing with the defendants NL and DP in the United States.

4. The defendants NL, DP, and Tinc, have imposed restrictions on resales by purchasers of titanium pigments; but except to the extent found in Finding 93, the evidence does not establish as to DP that such restrictions were the result or effect of its agreements with NL or Tinc.

5. Prices of titanium pigments and compounds in the United States have been maintained at uniform levels and all competition with foreign producers in the manufacture and sale of titanium pigments and compounds in the United States has been eliminated.

6. The defendant DP has restricted the production of titanium pigments by its licensees Zirconium and VC to limit the competition of said licensees. Defendant NL has restricted the market of its licensee Zirconium.

7. The defendants NL and DP control and dominate the manufacture and sale of titanium pigments

and compounds in the United States to the exclusion of all actual or potential competition from any other potential entrant into the titanium pigment business in the United States.

8. The defendants NL and DP secured a monopoly on technical information relating to the manufacture and use of titanium pigments and certain apparatus and equipment necessary to the manufacture of certain titanium pigments to the exclusion and detriment of other producers now engaged in the titanium pigment business in the United States; when NL and DP ceased exchanging technical information, the titanium pigment business was a mature industry.

9. The defendants NL, DP and Tinc have utilized their patents which relate to the manufacture and use of titanium pigments to control and regulate the manufacture and sale of titanium pigments and compounds in the United States; and NL and Tinc with the cooperation of DP have done so throughout the rest of the world.

10. The defendants NL and Tinc, in cooperation with the European producers, have controlled the production of titanium pigments and compounds throughout the rest of the world outside of the United States and refrained from competing with their associated companies in markets allocated to said companies after the outbreak of hostilities in Europe in 1939, serving said allocated markets only at the request of their foreign associates and holding any profits therefrom in the markets so served for the associate to which said exclusive territory was allocated.

11. All of the patents and patent applications of NL's foreign associates in the United States which relate to the manufacture and use of titanium pigments have been and are available to DP on a royalty-free basis and similarly all of DP's patents and applications which relate to the manufacture and use of titanium pigments are available to NL's foreign associates in their respective exclusive territories throughout the rest of the world.

96. The intended effects of the acts of the defendants and the other members of the combination will probably continue to the extent that the post war conditions make possible.

CONCLUSIONS OF LAW

1. Beginning on or about July 30, 1920, NL and co-conspirator TAS and on various dates thereafter Tinc, DP and the others found herein to be co-conspirators continuing at all times thereafter to the date of these findings have been continuously engaged in a combination and conspiracy in restraint of trade and commerce in titanium pigments and compounds among the several states of the United States and with foreign nations and have been and are now parties to contracts, agreements and understandings in restraint of such trade and commerce.

2. Plaintiff is entitled to a decree.

SIMON H. RIFKIND,
U. S. District Judge.

IN THE

District Court of the United States

FOR THE SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA, *Plaintiff,* *against* NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, *Defendants.*	Civil No. 26-258

FINAL DECREE

This cause came on to be heard upon the complaint and the answers thereto upon the evidence and upon argument of counsel. The Court having thereafter rendered and filed its opinion and having made and entered findings of fact and conclusions of law wherein the defendants have been found to have been engaged in a combination in restraint of trade and commerce in titanium pigments among the several states of the United States and of foreign nations, and that the defendants have been and now are parties to contracts, agreements, and understandings in restraint of such trade and commerce in violation of Section 1 of the Sherman Act (26 Stat. 209, 15 U. S. C. § 1);

Now, therefore, upon motion of plaintiff by Wendell Berge, Assistant Attorney General, Herbert Berman and William C. Dixon, Special Assistants to the Attorney General, Julian Caplan and Ephraim Jacobs, Special Attorneys,

and John F. X. McGohey, United States Attorney, for relief in accordance with the prayer of the complaint, and the defendants having severally appeared by counsel, it is ORDERED, ADJUDGED and DECREED as follows:

1. The term "titanium pigments" as used herein shall mean any product containing two percent (2%) or more of the element titanium in a chemically, mechanically or physically combined state and mixtures thereof which can be used as pigments, whether or not adapted for other uses, and also extenders to be used in conjunction with any such product.

2. The term "defendants" shall mean the corporations hereinafter listed who may be identified by the designated abbreviations:

NL	National Lead Company
Tinc	Titan Company, Inc.
DP	E. I. du Pont de Nemours and Company

3. The term "co-conspirators" shall mean the corporations hereinafter listed, who may be identified by the designated abbreviations:

TP	The Titanium Pigment Company, Inc.
Krebs	Krebs Pigment & Color Corporation
TAS	Titan Co. A/S
IG	Interessengemeinschaft Farbenindustrie Aktiengesellschaft
TG	Titangesellschaft m.b.H.
SIT	Société Industrielle du Titane
ICI	Imperial Chemical Industries, Ltd.
GW	Goodlass Wall and Lead Industries, Ltd.
ISC	Imperial Smelting Corporation, Ltd.
BTP	British Titan Products Company, Ltd.

NTP or Laporte	National Titanium Pigments, Ltd.
CIL	Canadian Industries, Ltd.
CTP	Canadian Titanium Pigments, Ltd.
Kokusan or KK	Kokusan Kogyo Kabushiki Kaisha
TK	Titan Kogyo Kabushiki Kaisha
Terres Rares	Société des Produits Chimiques des Terres Rares
Thann	Fabriques des Produits Chimiques de Thann et de Mulhouse
Montecatini	Societa Anonima Titanium
Aussig	Verein fur Chemische und Metallurgische Produktion.

4. The term "patents as herein defined" shall mean United States letters patent and applications as follows: (a) the letters patent and patent applications listed in Appendix A hereof; (b) all divisions, continuations or reissues of any of the foregoing patents and applications; (c) all patents issued upon such applications; (d) all patents which cover any titanium pigments or any process for the manufacture of titanium pigments issued to any of the defendants within five years from the date of this decree; and all such patents which any of the defendants acquires within such five years; and all such patents of which any of the defendants becomes the exclusive licensee within such five years with power to sublicense.

5. The following agreements are hereby adjudged to be unlawful under Section 1 of the Sherman Act and each of them is hereby cancelled and the defendants and each of them and all persons acting or claiming to act through, for or under them and all successors and subsidiaries of any

of the defendants are hereby enjoined and restrained from the further performance of any of the provisions of said agreements and of any agreements amendatory thereof or supplemental thereto:

Agreement dated July 30, 1920, between TP and TAS (Exhibit A);

Agreement between TP and Krebs dated January 1, 1933, as amended January 1, 1941 (Exhibits E and E-3);

Agreements dated July 30, 1920, between NL, TP, The Titanium Alloy Manufacturing Company and TAS (Exhibits A-1 and A-2);

Agreement between TAS and SIT dated March 3, 1927 (Exhibit B);

Agreement between TAS and IG dated October 3 and 20, 1927 (Exhibit C);

Agreement between TAS and IG signed June 24 and October 20, 1927 (Exhibit C-1);

Agreement between TAS and TG signed October 3 and 20, 1927 (Exhibit C-3);

Agreement between TG and TAS dated October 3 and 20, 1927 (Exhibit C-7);

Agreement between TG and TAS dated October 3 and 20, 1927 (Exhibit C-8);

Agreement dated February 16, 1933 between ICI, ISC, GW and TINC (Exhibit F);

Agreements between TINC, SIT, TERRES RARES, and Thann dated June 5 and 17, 1935 (Exhibits G-1 and G-2);

Agreements between TINC, TERRES RARES, and IG, and between TINC, Terres Rares, IG, TG, Thann, and Doitsu both dated January 18, 1936 (Exhibits J and J-2);

Agreement between NL and CIL dated January 1, 1937 (Exhibit K);

Agreement between NL and CTP dated January 1, 1937, as amended February 27, 1939 (Exhibits K-1 and K-5);

Agreements between DP and TINC dated July 27, 1937, June 20, 1938, April 21, 1939, May 10, 1940, and June 23, 1941 (Exhibits M, N, Q, R and S), and the

"License Field Extender" agreements to which NL or TINC were parties, including the agreement between NL and TINC dated March 28, 1939 (Exhibit O);

provided, however, that the provisions of this paragraph with respect to the agreements between TP and Krebs dated January 1, 1933, as amended January 1, 1941 (Exhibits E and E-3) shall not go into effect until the expiration of nine months from the date of this decree.

6. Each of the defendants and each of their directors, officers, agents, employees, successors and subsidiaries and all persons acting, or claiming to act under, through or for them or any of them are hereby enjoined and restrained (a) from entering into, adhering to, maintaining or furthering, directly or indirectly, or claiming any rights under any contract, agreement, understanding, plan or program among themselves, the co-conspirators, or with any other person, partnership or corporation, which has as its pur-

pose or effect the continuing or renewing of any of the agreements listed in paragraph 5 hereof; (b) from entering into, adhering to, maintaining or furthering, directly or indirectly, any contract, agreement, undertaking, plan or program with any other producer or dealer relating to titanium pigments which has as its purpose or effect (1) to divide sales or manufacturing territories, (2) to allocate markets, (3) to limit or prevent United States imports or exports, (4) to grant to any third party any market as its exclusive territory, (5) to keep any third party out of any market; provided, however, that nothing contained in this subdivision (b) of this paragraph 6 shall prohibit any normal and usual arrangements between any defendant and its directors, officers, employees, agents, subsidiaries, or any dealer or distributor, whether or not a co-conspirator; (c) from restricting any purchaser of titanium pigments in the use thereof.

7. Each of the defendants is ordered to grant to any applicant therefor, including any defendant or co-conspirator, a non-exclusive license under any or all of the patents as herein defined at a uniform, reasonable royalty. Such grant may, at the option of the licensor, be conditioned upon the reciprocal grant of a license by the applicant, at a reasonable royalty, under any and all patents covering titanium pigments or their manufacture, now issued or pending, or issued within five years from the date of this decree, if any, owned or controlled by such applicant. Such license or reciprocal license may, at the option of either party, contain a provision for the inspection of the books and records of the licensee by an independent auditor who shall report to the licensor only the amount of royalty due and

payable and no other information. During a period of three years from the date of this decree such license or reciprocal license may at the option of either party contain a provision for the imparting in writing at a reasonable charge, by the licensor to the licensee, of the methods and processes used by the former at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments. The Court reserves jurisdiction to pass upon the reasonableness of any royalty or charge herein directed to be reasonable. Defendants are restrained from attempting to enforce any rights under any foreign patents owned by them or under which they are the exclusive licensees to prevent the exportation of titanium pigments from the United States to any foreign country.

8. Within one year from the date of this decree, defendants NL and Tinc shall present to the Court for its approval a plan for divesting themselves of their stock holdings and other financial interests, direct and indirect, in BTP, CTP, TG and TK, or for the purchase of the entire stock holdings and other financial interests, direct and indirect, in said companies or any of them. Such plan of sale shall not provide for the transfer of such stock or interest to any other defendant or to any corporation in which any defendant will, upon consummation of the plan, have any interest, provided that this provision shall not preclude transfer of said defendants' stock holdings in BTP to ISC, GW, and ICI, or any of them, or preclude transfer of said defendants' stock holdings in CTP to CIL. The plan shall provide for its completion within two years from the date of this decree.

9. Either American Zirconium Corporation or Virginia Chemical Corporation, their successors or assigns, may at

their option, if exercised within six months from the date of this decree, apply for licenses from DP under the provisions of paragraph 7. In the event American Zirconium Corporation, Virginia Chemical Corporation or their respective successors or assigns exercise the foregoing option, DP is enjoined from collecting royalties under any existing license agreement relating to titanium pigments between it and the person exercising the option in respect of any period subsequent to such exercise. Defendants NL, Tinc and DP are hereby enjoined from bringing, or threatening to bring, any action against any person or corporation for the alleged infringement prior to the date of this decree of any patent as herein defined.

10. The Attorney General of the United States or his proper representative shall, for the purpose of securing compliance with this decree, be permitted (1) access, during the office hours of the defendants, to all books, ledgers, accounts, correspondence, memoranda, and other records and documents in the possession or under the control of the defendants, relating to any matters contained in this decree, (2) subject to any legally recognized privilege, without restraint or interference from the defendants, to interview officers or employees of the defendants, who may have counsel present, regarding any such matters; provided, however, that information obtained by the means permitted in this paragraph shall not be divulged by any representative of the Department of Justice to any person other than a duly authorized representative of the Department of Justice except in the course of legal proceedings for the purpose of securing compliance with this decree in which the United States is a party or as otherwise required by law.

11. Judgment is entered against the defendants for all costs to be taxed in this proceeding.

12. The cancellations, injunctions and all executory action provided for under this decree shall not become effective or operative until ninety days from the date of this decree.

13. Jurisdiction of this cause, and of the parties hereto, is retained by the Court for the purpose of enabling any of the parties to this decree, or any other person or corporation that may hereafter become bound, in whole or in part, thereby to apply to the Court at any time for such further orders, modifications, vacations or directions as may be necessary or appropriate

(1) for the construction or carrying out of this decree, and

(2) for the enforcement of compliance therewith and the punishment of violations thereof.

Dated at New York,
October 11, 1945.

SIMON H. RIFKIND,
District Judge.

APPENDIX A

I. *National Lead Company:*

A. Patents.

Patent No.	Date of Issue
1,695,270	Dec. 18, 1928
1,697,929	Jan. 8, 1929
1,738,765	Dec. 10, 1929
1,758,472	May 13, 1930
1,773,727	Aug. 26, 1930
1,820,987	Sept. 1, 1931
1,820,988	Sept. 1, 1931
1,831,852	Nov. 17, 1931
1,847,539	Mar. 1, 1932
1,856,565	May 3, 1932
1,889,027	Nov. 29, 1932
1,906,729	May 2, 1933
1,906,730	May 2, 1933
1,916,236	July 4, 1933
1,929,521	Oct. 10, 1933
1,957,528	May 8, 1934
1,969,061	Aug. 7, 1934
2,034,923	Mar. 24, 1936
2,039,432	May 5, 1936
2,055,222	Sept. 22, 1936
2,084,826	June 22, 1937
2,084,917	June 22, 1937
2,084,918	June 22, 1937
2,091,799	Aug. 31, 1937
2,098,278	Nov. 9, 1937
2,113,945	Apr. 12, 1938
2,113,946	Apr. 12, 1938
Re. 21,693	Jan. 14, 1941
2,130,560	Sept. 20, 1938

Patent No.	Date of Issue
2,130,565	Sept. 20, 1938
2,132,491	Oct. 11, 1938
2,133,251	Oct. 11, 1938
2,140,222	Dec. 13, 1938
2,148,283	Feb. 21, 1939
2,154,130	Apr. 11, 1939
2,166,082	July 11, 1939
2,167,626	Aug. 1, 1939
2,167,627	Aug. 1, 1939
2,167,628	Aug. 1, 1939
2,170,800	Aug. 29, 1939
2,170,940	Aug. 29, 1939
2,176,875	Oct. 24, 1939
2,176,876	Oct. 24, 1939
2,176,877	Oct. 24, 1939
2,184,938	Dec. 26, 1939
2,202,594	May 28, 1940
2,211,828	Aug. 20, 1940
2,212,629	Aug. 27, 1940
2,215,857	Sept. 24, 1940
2,215,866	Sept. 24, 1940
2,222,385	Nov. 19, 1940
2,227,239	Dec. 31, 1940
2,234,681	Mar. 11, 1941
2,244,258	June 3, 1941
2,246,062	June 17, 1941
2,278,709	Apr. 7, 1942
2,280,795	Apr. 28, 1942
2,285,485	June 9, 1942
2,285,486	June 9, 1942
2,285,894	June 9, 1942
2,290,539	July 21, 1942
2,291,091	July 28, 1942
2,291,082	July 28, 1942

Patent No.	Date of Issue
2,316,840	Apr. 20, 1943
2,316,841	Apr. 20, 1943
2,329,641	Sept. 14, 1943
2,334,663	Nov. 16, 1943
2,341,994	Feb. 15, 1944
2,344,265	Mar. 14, 1944
2,344,288	Mar. 14, 1944
2,344,319	Mar. 14, 1944
2,346,296	Apr. 11, 1944
2,346,320	Apr. 11, 1944
2,346,188	Apr. 11, 1944
2,346,322	Apr. 11, 1944
2,365,559	Dec. 19, 1944
2,365,560	Dec. 19, 1944
2,367,738	Jan. 9, 1945
2,368,591	Jan. 30, 1945
2,369,468	Feb. 13, 1945
2,378,675	June 19, 1945
2,378,790	June 19, 1945

B. Patent Applications.

Serial No.	Filing Date	Inventor
364,986	Nov. 9, 1940	S. W. Martin
441,990	May 6, 1942	W. Grave et al.
453,300	Aug. 1, 1942	J. L. Turner et al.
454,185	Aug. 8, 1942	H. V. Alessandroni
454,193	Aug. 8, 1942	S. S. Cole et al.
454,194	Aug. 8, 1942	W. Y. Agnew
459,026	Sept. 19, 1942	C. W. Rau et al.
489,576	June 3, 1943	F. L. Kingsbury
500,921	Sept. 2, 1943	W. Y. Agnew
505,082	Oct. 5, 1943	A. P. Honchar
522,845	Feb. 17, 1944	S. G. Tinsley
526,130	Mar. 11, 1944	F. L. Kingsbury et al.
538,549	June 2, 1944	A. P. Honchar

Serial No.	Filing Date	Inventor
539,332	June 8, 1944	J. M. O'Shaughnessy
546,903	July 27, 1944	J. Barksdale
555,902	Sept. 26, 1944	S. S. Cole
572,658	Jan. 13, 1945	J. L. Turner et al.
585,812	Mar. 30, 1945	W. F. Meister
599,129	June 12, 1945	S. S. Cole
605,627	July 17, 1945	R. W. Ancrum

II. *Titan Company Inc:*

A. Patents.

Patent No.	Date of Issue
2,055,221	Sept. 22, 1936
2,111,460	Mar. 15, 1938
*2,121,215	June 21, 1938
2,130,554	Sept. 30, 1938
2,139,686	Dec. 13, 1938
2,140,235	Dec. 13, 1938
2,140,236	Dec. 13, 1938
2,161,755	June 6, 1939
2,200,373	May 14, 1940
*2,224,987	Dec. 17, 1940
2,242,320	May 20, 1941
2,246,030	June 17, 1941
*2,260,177	Oct. 21, 1941
*2,303,305	Nov. 24, 1942
*2,303,306	Nov. 24, 1942
*2,303,307	Nov. 24, 1942
*2,339,793	Jan. 25, 1944
2,339,808	Jan. 25, 1944
2,365,135	Dec. 12, 1944

B. Patent Applications.

Serial No.	Filing Date	Inventor
495,946	July 23, 1943	R. W. Ancrum

*Vested in Alien Property Custodian.

III. *Titan Company A/S:* Exclusively licensed to National Lead Co.

A. Patents.

Patent No.	Date of Issue
*1,852,510	Apr. 5, 1932
*1,919,425	July 25, 1933

IV. *I. G. Farbenindustrie:* Exclusively licensed to National Lead Co.

A. Patents.

Patent No.	Date of Issue
*1,813,649	July 7, 1931
1,816,388	July 28, 1931
*1,849,153	Mar. 15, 1932
*1,850,154	Mar. 22, 1932
*1,850,286	Mar. 22, 1932
*1,878,013	Sept. 20, 1932
*1,891,210	Dec. 13, 1932
*1,891,911	Dec. 27, 1932
*1,934,778	Nov. 14, 1933
*1,941,285	Dec. 26, 1933
*1,995,580	Mar. 26, 1935
*2,068,294	Jan. 19, 1937
*2,118,916	May 31, 1938
*2,121,408	June 21, 1938
*2,122,180	June 28, 1938
*2,138,384	Nov. 29, 1938
*2,144,577	Jan. 17, 1939
*2,158,520	May 16, 1939
*2,161,975	June 13, 1939
*2,187,821	Jan. 23, 1940
*2,280,223	Apr. 21, 1942
*2,337,103	Dec. 21, 1943

*Vested in Alien Property Custodian.

V. *Titangesellschaft:* Exclusively licensed to National Lead Co.

Patent No.	Date of Issue
*2,275,856	Mar. 10, 1942
*2,367,118	Jan. 9, 1945

VI. *DuPont:*

A. Patents.

Patent No.	Date of Issue
1,707,248	Apr. 2, 1929
1,707,257	Apr. 2, 1929
1,709,999	Apr. 23, 1929
1,750,287	Mar. 11, 1930
Re. 18,790	Apr. 4, 1933
Re. 18,854	May 30, 1933
1,766,592	June 24, 1930
1,797,760	Mar. 24, 1931
1,827,691	Oct. 13, 1931
1,832,666	Nov. 17, 1931
1,836,275	Dec. 15, 1931
1,845,633	Feb. 16, 1932
1,846,188	Feb. 23, 1932
1,851,487	Mar. 29, 1932
Re. 19,594	May 28, 1935
1,864,504	June 21, 1932
1,885,187	Nov. 1, 1932
1,885,921	Nov. 1, 1932
1,885,934	Nov. 1, 1932
1,892,693	Jan. 3, 1933
1,899,572	Feb. 28, 1933
1,899,573	Feb. 28, 1933
1,899,574	Feb. 28, 1933
1,902,203	Mar. 21, 1933

*Vested in Alien Property Custodian.

Patent No.	Date of Issue
1,902,204	Mar. 21, 1933
1,915,393	June 27, 1933
1,922,816	Aug. 15, 1933
1,931,380	Oct. 17, 1933
1,931,381	Oct. 17, 1933
1,937,037	Nov. 28, 1933
1,943,497	Jan. 16, 1934
1,975,339	Oct. 2, 1934
1,977,577	Oct. 16, 1934
1,977,582	Oct. 16, 1934
2,006,342	July 2, 1935
2,018,955	Oct. 29, 1935
2,026,862	Jan. 7, 1936
2,031,750	Feb. 25, 1936
2,044,941	June 23, 1936
2,044,942	June 23, 1936
2,045,836	June 30, 1936
2,046,054	June 30, 1936
2,047,208	July 14, 1936
2,049,504	Aug. 4, 1936
2,062,133	Nov. 24, 1936
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CHARLES ELMORE CROPLEY
CLERK

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1945

No. [redacted] 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC.,

Appellants,

vs.

THE UNITED STATES OF AMERICA

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

STATEMENT AS TO JURISDICTION

BETHUEL M. WEBSTER,
CLIFTON P. WILLIAMSON,
Counsel for Appellants.

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DISTRICT COURT OF THE UNITED STATE, FOR THE SOUHTERN DISTRICT OF NEW YORK

Civil No. 26-258

UNITED STATES OF AMERICA,

Plaintiff,

against

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, INC.,

Defendants

STATEMENT AS TO JURISDICTION

In compliance with Rule 12 of the Rules of the Supreme Court of the United States, as amended, the defendants National Lead Company and Titan Company, Inc. submit herewith their statement particularly disclosing the basis upon which the Supreme Court has jurisdiction on appeal to review the judgment of the District Court entered in this cause on October 11, 1945. A petition for appeal was filed on December 10, 1945, and is presented to the District Court herewith.

Jurisdiction

The jurisdiction of the Supreme Court to review by direct appeal the judgment entered in this cause is con-

ferred by Section 2 of the Expediting Act of February 11, 1903, as amended (32 Stat. 823; 36 Stat. 1167; 15 U. S. C. 29), and Section 238 of the Judicial Code, as amended (36 Stat. 1157; 38 Stat. 804; 43 Stat. 938; 28 U. S. C. 345).

The following decisions sustain the jurisdiction of the Supreme Court to review the judgment in this cause on direct appeal: *Hartford Empire Company et al.* v. *United States*, 323 U. S. 386 (1945); *United States* v. *Crescent Amusement Company et al.*, 323 U. S. 173 (1944); *United States* v. *Bausch & Lomb Optical Company et al.*, 321 U. S. 707 (1944); *United States* v. *Univis Lens Company, Inc. et al.*, 316 U. S. 241 (1942); *Ethyl Gasoline Corporation et al.* v. *United States*, 309 U. S. 436 (1940).

Statutes Involved

The Sherman Act of July 2, 1890, 26 Stat. 209, as amended (15 U. S. C. 1 and 2) provides:

> "§ 1. Trusts, etc., in restraint of trade illegal; exception of resale price agreements; penalty
>
> "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal: *Provided*, That nothing contained in sections 1-7 of this title shall render illegal, contracts or agreements prescribing minimum prices for the resale of a commodity which bears, or the label or container of which bears, the trade mark, brand, or name of the producer or distributor of such commodity and which is in free and open competition with commodities of the same general class produced or distributed by others, when contracts or agreements of that description are lawful as applied to intrastate transactions, under any statute, law, or public policy now or hereafter in effect in any State, Territory, or the District of Columbia in which

such resale is to be made, or to which the commodity is to be transported for such resale, and the making of such contracts or agreements shall not be an unfair method of competition under section 45, as amended and supplemented, of this title: *Provided further*, That the preceding proviso shall not make lawful any contract or agreement, providing for the establishment or maintenance of minimum resale prices on any commodity herein involved, between manufacturers, or between producers, or between wholesalers, or between brokers, or between factors, or between retailers, or between persons, firms, or "corporations in competition with each other. Every person who shall make any contract or engage in any combination or conspiracy declared by sections 1-7 of this title to be illegal shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding $5,000, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court. July 2, 1890, c. 647, § 1, 26 Stat. 209; Aug. 17, 1937, c. 690, Title VIII, 50 Stat. 693.

"§ 2. Monopolizing trade a misdemeanor; penalty

"Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding $5,000, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court. July 2, 1890, c. 647, § 2, 26 Stat. 209."

The Issues and the Ruling Below

On June 24, 1944, the United States filed its complaint charging National Lead Company, Titan Company, Inc. and E. I. du Pont de Nemours and Company with violations of Sections 1 and 2 of the Sherman Act and praying that

such violations be enjoined and for certain other relief.

The facts may be summarized as follows:

The defendants National Lead Company (hereinafter designated as NL) and E. I. du Pont de Nemours and Company, Inc. (hereinafter designated as DP) are manufacturers and producers of titanium pigments in the United States; and Titan Company, Inc. (hereinafter designated as Tinc), which is wholly owned by NL, is in turn the owner of usbstantial stock interests in certain foreign companies.

Titanium is an element contained in ilmenite and other minerals. In and before 1920 there was no substantial trade or commerce in, and no commercial manufacture of, titanium pigments for use in paint, paper, rubber or other products; pigments used for such purposes were lithopone, white lead and zinc oxide. In 1920 the Titanium Pigment Company (predecessor in interest of NL) and Titan A/S (a Norwegian company, predecessor in interest of Tinc) made an agreement whereby the American company was exclusively licensed under the Norwegian owned patents for North America, with the right to grant sublicenses, and the Norwegian company was similarly licensed under the American owned patents outside North America. The parties agreed to make available to each other copies of patent applications and the validity of patents was not to be questioned. Each party appointed the other as its sole agent for the other's territory within the licensed field (which was defined in the agreement) and each party agreed to impart to the other full technological information relating to the licensed field. Licensees and sublicensees were required to agree to the terms of this 1920 agreement. On the basis of this agreement, and utilizing the Norwegian as well as its own United States patents, Titanium Pigment (then and thereafter financed and in 1936 fully acquired

by NL) undertook a program for the development and promotion of titanium pigments as an economical and otherwise desirable substitute for the pigments then on the market.

By 1933 DP had obtained rights under the Blumenfeld patents (hereinafter more fully described) which disclosed processes having certain substantial advantages in respect of manufacture of pure titanium dioxide. After a period of negotiation, and in view of genuine fear of prolonged, costly, and wasteful patent controversy, DP and NL exchanged licenses.

American Zirconium Company entered the field in 1935 with a license from both DP and NL. In 1937 Virginia Chemical Company entered the business with a license from DP but not from NL.

Meanwhile the Norwegian company attempted to exploit its position in Europe. Little was accomplished, however, until 1927 when National Lead purchased 87% of Titan A/S which at that time was heavily indebted to certain Norwegian banks. Shortly before this purchase I. G. Farbenindustrie, a German company, was endeavoring to purchase the Norwegian company. After NL's purchase an agreement was made between the Norwegian company and I. G. Farbenindustrie to form a new German company, Titangesellschaft, which was to have the exclusive license of the parties' patents for Germany and certain other territory. A similar procedure was followed later in forming a British company and, with certain modifications, a Canadian company. A Japanese company was formed under different circumstances but incorporating the same general principles.

As each new company was formed contracts were entered into similar in most respects to the original contract between Titanium Pigment Company and Titan A/S.

Meanwhile Joseph Blumenfeld, a chemist and managing director of Societe du Produits de Chemiques des Terres Rares, a French company in which he owned stock, had obtained certain patents relating to the manufacture of titanium compounds which he had assigned to Terres Rares. Between 1922 and 1933 Terres Rares granted exclusive licenses to a French Company for France, an Italian company for Italy, a Czechslovakian company for Czechslovakia and Central Europe, and to Laporte for the British Empire. Terres Rares sold its United States titanium patents to Commercial Pigments Company (predecessor in interest of DP).

Agreements were made between the Blumenfeld licensees and the TINC companies in Europe of a strictly commercial nature, dealing with prices, production, etc. There was no patent or technological exchange.

The Government contended—

a) that all the contracts to which National Lead Company or Titan Company, Inc. were parties were unlawful and that their performance should be enjoined;

b) that the defendants had combined and conspired to restrain foreign and domestic trade and commerce with the United States in titanium compounds in violation of Section 1 of the Sherman Act;

c) that the defendants had combined and conspired to monopolize trade and commerce in titanium compounds among the several states of the United States and with foreign nations in violation of Section 2 of the Sherman Act;

d) that the Court should perpetually enjoin the defendants and their representatives from combining and

conspiring or agreeing to restrain and monopolize trade and commerce among the several states of the United States or with foreign nations with respect to titanium compounds and that they be perpetually enjoined from engaging in or participating in practices, contracts, relationships, or understandings having the purpose or effect of continuing, reviving, or renewing any violation of the Sherman Act;

e) that the Court should order the defendants to grant upon request of any third person a royalty free license to make, use or sell any invention or inventions which defendants have used in carrying out the alleged illegal agreements and to furnish such third person all technical information appropriate to practice said invention.

On July 5, 1945, after a full hearing, the District Court rendered its opinion, and, on October 2, 1945, it entered its findings of fact and conclusions of law. It held that the defendants had violated Section 1 of the Sherman Act and that the Government was entitled to a decree which would restore titanium to the system of free competition and destroy the means of preventing such competition.

Accordingly, the District Court by its final decree—

1. Adjudged the agreements to be unlawful under Section 1 of the Sherman Act, canceled said agreements and enjoined the defendants and any person acting or claiming to act through or for them from the further performance of any of the provisions of said agreements.

2. Enjoined the defendants from (a) entering into, adhering to, or claiming any rights under any contract, agreement, undertaking, plan or program among themselves, the co-conspirators or with any other person, partnership or

corporation which has as its purpose a renewing of any of said agreements; (b) from entering into, adhering to, maintaining or furthering, directly or indirectly, any contract, agreement, undertaking, plan or program with any other producer or dealer relating to titanium pigments which has as its purpose or effect (i) to divide sales or manufacturing performance, (ii) to allocate markets, (iii) to limit or prevent United States imports or exports; (iv) to grant any third party any market as its exclusive territory; (v) to keep any third party out of any market; (c) from restricting any purchaser of titanium pigments in the use thereof.

3. Ordered the defendants to grant to any applicant a non-exclusive license on a uniform reasonable royalty basis under any existing United States patent and patent application owned by them and under all United States patents issued to them within a period of five years from the date of the Final Decree and also for a period of five years under any patent under which they became exclusive licensees with the right to grant sublicenses.

4. Ordered the defendants at their option or at the option of the licensee to impart in writing, at a reasonable charge, the methods and processes used by the licensor at the date of the license in its commercial practice and under the license patents in connection with the production of titanium pigments.

5. Ordered the defendants National Lead Company and Titan Company, Inc. to present within one year from the date of the Final Decree to the court for its approval a plan for divesting themselves of their stock holdings and financial interests, direct or indirect, in certain foreign companies, or of the purchase of the entire stock holdings of

other financial interests in said company. The plan is to provide for its completion within two years from the date of the Final Decree.

6. Enjoined the defendants from bringing or threatening to bring any action against any person or corporation for the infringement prior to the date of the Final Decree of any patent as defined in the Final Decree.

The Questions Are Substantial

We believe that the District Court erred in holding that the agreements were illegal under Section 1 of the Sherman Act. Exclusive, restricted licenses have been upheld by this Court in *Bement* v. *National Harrow Company*, 186 U. S. 70, 94. Cross-license agreements defining a "licensed field", containing provisions for the license of future patents, and fixing the terms under which licenses and sub-licenses were to be granted have been approved in *Standard Oil Company (Indiana) et al.* v. *United States*, 33 F. (2d) 617, 626 (N. D. Ill.), rev'd 283 U. S. 163. Exclusive agency: *Schnerb et al.* v. *Caterpillar Tractor Co.*, 43 F. (2d) 920, 921 (C. C. A. 2d), cert. denied 282 U. S. 898; *Baran* v. *Goodyear Tire & Rubber Co. et al.*, 256 Fed. 571, 572 (S. D. N. Y.). Exchange of information: *Maple Flooring Manufacturers Assn. et al.* v. *United States*, 268 U. S. 563. Allocation of territory: *Phillips* v. *Iola Portland Cement Co.*, 125 Fed. 593, 595 (C. C. A. 8th), cert. denied 192 U. S. 606; *Kentucky Natural Gas Corporation* v. *Indiana Gas & Chemical Corporation et al.*, 118 F. (2d) 831, 834 (C. C. A. 7th); *Thoms* v. *Sutherland et al.*, 52 F. (2d) 592, 596 (C. C. A. 3rd). The agreements were a reasonable exercise of patent rights and therefore do not violate the Sherman Act even though they contain provisions for the exchange of technical information (*Appalachian Coals, Inc.* v. *United States*, 288 U. S. 344,

374; *Bee Mach. Company, Inc.* v. *Freeman*, 131 F. (2d) 190 (C. C. A. 1), aff'd 319 U. S. 448, rehearing denied 320 U. S. 809); territorial restrictions (*Becton, Dickinson & Company* v. *Eisele & Company*, 86 F. (2d) 267 (C. C. A. 6), cert. den. 300 U. S. 667), and provisions for exclusive sales agencies (*Virtue* v. *Creamery Package, etc.*, 227 U. S. 8, 32). The purpose and effect of the agreements were "to promote the progress of science and useful arts" and to stimulate commercial development of the inventions licensed. Const., Art. I, sec. 8; see also *Motion Picture Patents Company* v. *Universal Film, etc.*, 243 U. S. 502, 511.

The Court was without jurisdiction to consider the conduct abroad of foreign corporations relating to commerce of foreign nations, and therefore could not invalidate certain of the contracts which have been canceled and declared illegal, even though an American company was a party to said contracts. *American Banana Company* v. *United Fruit Company*, 213 U. S. 347. The facts and issues in this case can be clearly distinguished from those in *United States* v. *Sisal Sales Corporation*, 274 U. S. 268. The issues have become moot by the intervention of war in Germany, Japan and Italy, at least to the extent that agreements with nationals of these countries are concerned, and the complaint should have been dismissed as to those contracts. *United States* v. *Hamburg-Amerikanische Packetfahrt A. G.*, 239 U. S. 466 (1916). As to the British and Canadian agreements the issues have become moot because new agreements were presented to the Court omitting any territorial restrictions or exclusive licenses. *Standard Oil Company* v. *United States*, 283 U. S. 163; *United States* v. *United States Steel Corporation*, 251 U. S. 417.

In any event the issues in this case are of substance and call for review by the Supreme Court.

A copy of the opinion in the District Court dated October 11, 1945, is appended hereto.*

Dated, December 10, 1945.

BETHUEL M. WEBSTER,
15 Broad Street,
New York 5, N. Y.;
CLIFTON P. WILLIAMSON,
120 Broadway,
New York 5, N. Y.;
Counsel for National Lead Company and Titan Company, Inc.

*(Clerk's Note. The opinion, findings of fact, conclusions of law and final decree are printed as appendices to the Jurisdictional Statement in No. 1030 and are not reprinted here.)

In the Supreme Court of the United States

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT

v.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

MOTION BY THE UNITED STATES FOR LEAVE TO AMEND ITS ASSIGNMENT OF ERRORS

The United States moves the Court for leave to amend its first assignment of error so that it should read as follows:

> The court erred in failing to enter an injunction perpetually enjoining the defendants from enforcing the titanium patents presently owned or controlled by them.

This is a civil proceeding brought by the United States under Section 4 of the Sherman Act, in which the district court adjudged that the defendants (present appellees) had violated Section 1 of the Act and entered judgment against them. In the district court the United States

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requested that the court enter a judgment requiring each appellee to make available to any applicant on a royalty-free basis, for the duration of the patents, any or all patents then owned or controlled by it relating to the manufacture or use of titanium pigments or compounds (R. 39–40, 180, 1220). The judgment which was entered did not grant this relief, but required each defendant to grant to any applicant a nonexclusive license under any or all of its existing patents or patent applications for titanium pigments or compounds, at a uniform, reasonable royalty (R. 313–314).

In the appeal taken by the United States it assigned as error, among other things (R. 330, 331):

> 1. The court erred in failing to require each defendant to license its existing titanium pigment patents free of royalty until the court shall have determined, on application by any defendant, that the effects of the defendants' illegal combination, as set forth in the court's findings of fact and conclusions of law, have been fully dissipated.
>
> * * * * *
>
> 7. The court erred in failing to grant to the plaintiff the relief to which it is entitled.

By letters dated October 17, 1946, the United States advised counsel for the respective appellees that it proposed to argue under its seventh assignment of error that the district court erred in

failing to hold that the defendants' existing titanium patents are perpetually unenforceable because of the use made of them in restraining trade beyond the scope of the patent grant and in failing to enter an injunction perpetually enjoining the enforcement of such patents. Counsel were requested to advise whether they would contend that this argument is not within the scope of the Government's assignment of errors. Counsel for appellees National Lead Company and Titan Company, Inc., responded that they would not so contend and counsel for appellee E. I. du Pont de Nemours and Company, Inc., declined to give such assurance. A copy of the Solicitor General's letter of October 17, 1946, and a copy of the two replies from counsel for appellees are attached hereto and marked, respectively, Exhibit A, Exhibit B, and Exhibit C. We are advised by the Clerk that the case will not be reached for oral argument until the week of February 3rd.

The proposed amendment of petitioners' assignment of error cannot prejudice appellee du Pont since it has been given adequate advance notice of the question which the United States proposes to present to the Court and since substantially the entire record in the case is before the Court on the appeal and the omitted portions of the record are not in any respect relevant to this question. The amended assignment is within the

scope of the relief sought in the district court. (R. 39–40, 180, 1220).

In these circumstances, it would seem to be in the interest of justice that there be appellate review of the respects in which the Government deems that the relief granted by the district court was inadequate. It would also seem desirable to remove from the field of controversy dispute as to what is or is not within the scope of the Government's original assignment of errors.

This Court has previously granted motions to amend assignments of errors. *Dayton Power and Light Co.* v. *Public Utilities Commission of Ohio*, 292 U. S. 290, 312; *O'Connell* v. *United States*, 253 U. S. 142, 144, 147.

It is submitted that, for the reasons stated, the Court should grant the Government's motion.

Respectfully submitted.

GEORGE T. WASHINGTON,
Acting Solicitor General.

NOVEMBER 1946.

EXHIBIT A

OFFICE OF THE SOLICITOR GENERAL

WASHINGTON, D. C.

OCTOBER 17, 1946.

Re: *United States* v. *National Lead Co., Titan Co., Inc., and E. I. du Pont de Nemours and Co., Inc., No. 89*

BETHUEL M. WEBSTER, Esq.,
Webster & Garside,
15 Broad Street, New York 5, N. Y.

DEAR MR. WEBSTER: We propose to argue under our seventh assignment of error that the district court erred in failing to hold that the defendants' existing titanium patents are perpetually unenforceable because of the use made of them in restraining trade beyond the scope of the patent grant, and in failing to enter an injunction perpetually enjoining the enforcement of such patents.

We assume that you will not take the position that this argument is not within the scope of the errors which we have assigned. If you intend to make this point would you be good enough to advise us promptly of that fact.

Sincerely yours,

J. HOWARD MCGRATH,
Solicitor General.

EXHIBIT A

OFFICE OF THE SOLICITOR GENERAL

WASHINGTON, D. C.

OCTOBER 17, 1946.

Re: *United States* v. *National Lead Co., Titan Co., Inc., and E. I. du Pont de Nemours and Co., Inc., No. 89*

WM. DWIGHT WHITNEY, ESQ.,
Cravath, Swaine & Moore,
15 Broad Street, New York 5, N. Y.

DEAR MR. WHITNEY: We propose to argue under our seventh assignment of error that the district court erred in failing to hold that the defendants' existing titanium patents are perpetually unenforceable because of the use made of them in restraining trade beyond the scope of the patent grant, and in failing to enter an injunction perpetually enjoining the enforcement of such patents.

We assume that you will not take the position that this argument is not within the scope of the errors which we have assigned. If you intend to make this point would you be good enough to advise us promptly of that fact.

Sincerely yours,

J. HOWARD MCGRATH,
Solicitor General.

EXHIBIT B

WEBSTER & GARSIDE

ATTORNEYS AND COUNSELLORS AT LAW

15 Broad Street

NEW YORK 5

OCTOBER 21, 1946.

Re: *United States* v. *National Lead Company et al., No. 89*

J. HOWARD MCGRATH, Esq.,
Solicitor General, Washington, D. C.

DEAR MR. MCGRATH: Answering your letter of October 17, you are correct in assuming that we shall not take the position that the argument mentioned is not within the scope of the errors assigned by the Government.

Sincerely yours,

BETHUEL M. WEBSTER.

EXHIBIT C

CRAVATH, SWAINE & MOORE

15 Broad Street

NEW YORK 5

OCTOBER 22, 1946.

Re: *U. S.* v. *National Lead Co., Nos. 89–91*

DEAR MR. SOLICITOR GENERAL: I have your letter of October 17. It does, indeed, appear that the proposed modification of Assignment of Error represents a serious modification of the Government's Assignment of Error No. 1, and I regret that I am not, therefore, in a position to consent to it on behalf of my client.

Yours very truly,

WM. DWIGHT WHITNEY.

HON. J. HOWARD MCGRATH,
Solicitor General,
Department of Justice, Washington, D. C.

FF.

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No. 89

In the Supreme Court of the United States

OCTOBER TERM, 1946

THE UNITED STATES OF AMERICA, APPELLANT

v.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

ON APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

BRIEF FOR THE UNITED STATES

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In the Supreme Court of the United States

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT

v.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

ON APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

BRIEF FOR THE UNITED STATES

OPINION BELOW

The opinion of the district court (R. 185) is reported in 63 F. Supp. 513.

STATUTE INVOLVED

The Act of July 2, 1890, 26 Stat. 209, known as the Sherman Act, provides in part as follows:

> SECTION 1 [as amended by the Act of August 17, 1937, 50 Stat. 693]. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is here-

by declared to be illegal: * * * (15 U. S. C. sec. 1.)

SEC. 2. Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, * * * (15 U. S. C, sec. 2)

* * * * *

SEC. 4 [as amended by the Act of March 3, 1911, Sec. 291, 36 Stat. 1167]. The several district courts of the United States are hereby invested with jurisdiction to prevent and restrain violations of this act; and it shall be the duty of the several district attorneys of the United States, in their respective districts, under the direction of the Attorney-General, to institute proceedings in equity to prevent and restrain such violations. * * * (15 U. S. C. sec 4.)

JURISDICTION

The judgment of the district court was entered on October 11, 1945 (R. 307). The Government's petition for appeal and the separate cross appeals of the defendants were all filed and allowed on April 18, 1946 (R. 329, 334, 335, 350).

The jurisdiction of this Court is conferred by Section 2 of the Act of February 11, 1903, 32 Stat. 823, 15 U. S. C. sec. 29, and Section 238 of the Judicial Code, as amended by the Act of

February 13, 1925, 43 Stat. 936, 938, 28 U. S. C. sec. 345. Probable jurisdiction was noted on May 20, 1946 (R. 1289).

QUESTIONS PRESENTED

1. Where a court finds, in a suit under Section 4 of the Sherman Act, that a combination has created and maintained a patent position in violation of the antitrust laws and has illegally extended privileges granted by the patent laws, should the judgment enjoin future enforcement of the misused patent privileges?

2. Whether the judgment below granted adequate relief against the foregoing abuses in permitting the defendants to charge "reasonable royalties" in connection with the requirement for licensing the abused patents to any applicant.

3. Whether the judgment below granted adequate relief by permitting defendants to condition such licensing upon the grant of reciprocal licenses by the applicant under all patents owned by such applicant during the period of five years after the entry of the judgment.

4. Whether a combination which has illegally acquired a monopoly of technological information relating to methods and processes for manufacturing titanium pigments should be required to furnish such information at a reasonable charge to any applicant.

5. Whether two producers of over 90% of the pure titanium dioxide and 100% of titanium com-

posite pigments who by illegal combination have acquired domination and control over the titanium industry, should be required to divest themselves of part of their plant capacity.

TABLE OF ABBREVIATIONS

1. The following abbreviations will be used to identify the defendants and co-conspirators:

NL	National Lead
Tinc	Titan Company, Inc.
DP	E. I. du Pont de Nemours and Company, Inc.
TP	The Titanium Pigment Company, Inc.
Krebs	Krebs Pigment & Color Corporation
TAS	Titan Co. A/S
IG	Interessengemeinschaft Farbenindustrie Aktiengesellschaft
TG	Titangesellschaft, g. m. b. h.
SIT	Societe Industrielle du Titane
ICI	Imperial Chemical Industries, Ltd.
GW	Goodlass Wall and Lead Industries, Ltd.
ISC	Imperial Smelting Corporation
BTP	British Titan Products, Ltd.
NTP or Laporte	National Titanium Pigments, Ltd.
CIL	Canadian Industries, Ltd.
CTP	Canadian Titanium Pigments, Ltd.
Kokusan or KK	Kokusan Kogyo Kabushiki Kaisha
TK	Titan Kogyo Kabushiki Kaisha
Terres Rares	Societe de Produits Chemiques des Terres Rares
Thann	Fabrique de Produits Chemiques de Thann et de Mulhouse
Montecatini	Societa Anonima Titanium
Aussig	Verein für Chemische and Metallurgische Produktion

2. RE refers to Exhibit Volumes of Record.

STATEMENT

THE PROCEEDING

This is a civil action by the United States charging that defendants National Lead Company (NL), its wholly owned subsidiary Titan Com-

pany, Inc. (Tinc), and E. I. du Pont de Nemours and Company (DP), and certain non-defendant co-conspirators, were parties to a combination to restrain and monopolize interstate and foreign commerce in titanium pigments in violation of Sections 1 and 2 of the Sherman Act. The evidence introduced in support of the charges was mainly documentary. After hearing, the trial court rendered an opinion holding that the combination was in violation of Section 1 of the Sherman Act and stating that the United States was entitled to a decree "which will restore titanium to the system of free competition" (R. 222).[1]

The findings of fact (R. 234–306) state that defendants and their foreign co-conspirators were parties to an international agreement, necessarily affecting the interstate and foreign commerce of the United States in titanium pigments. Among these effects were that the defendants have refrained from exporting titanium pigments to certain foreign countries; that all foreign producers have refrained from exporting such pigments to the United States and from competing with the defendants in the United States; that the defendants have imposed restrictions on resales by purchasers of titanium pigments; that prices in the United

[1] The District Court did not deem it necessary to consider whether a violation of Section 2 had been proved (R. 203). That such a violation was proved seems clear. *American Tobacco Co.* v. *United States*, Nos. 18, 19, 20, 1945 Term, decided June 10, 1946.

States have been maintained at uniform levels; that defendants have restricted the production of their two domestic licensees to limit their competition; that defendants control and dominate the manufacture and sale of titanium pigments in the United States to the exclusion of all actual or potential competition from any other potential entrant into the business in the United States; that defendants have secured a monopoly on technical information relating to the manufacture and use of titanium pigments and certain apparatus and equipment necessary to the manufacture of certain titanium pigments to the exclusion and detriment of other producers now engaged in the titanium business in the United States; that defendants have utilized their patents relating to the manufacture and use of titanium pigments to control and regulate the manufacture and sale of such pigments in the United States; and that all of the patents of NL's foreign associates relating to the manufacture and use of titanium pigments have been and are available to DP on a royalty-free basis and similarly all of such patents of DP have been available to NL's foreign associates (R. 303–306). As will appear, another effect is that all of such patents of NL have been and are available to DP on a royalty-free basis and all of such patents of DP have been and are similarly available to NL.

The judgment of the trial court (R. 308–316) included provisions cancelling the agreements be-

tween the defendants and the agreements between NL and Tinc and their foreign co-conspirators found to be illegal (R. 310); and requiring NL and Tinc to submit a plan either for the divestment of their financial interests in the foreign co-conspirators or for the acquisition of the entire stock and other financial interest of the foreign co-conspirators (R. 314). The judgment further required the defendants to grant to any applicant, including any defendant or co-conspirator, a non-exclusive license at a uniform reasonable royalty under any or all patents now owned or acquired within five years relating to titanium pigments or the manufacture or use of such pigments. However, it permitted the defendants to condition the grant of such a license upon the reciprocal grant of a license by the applicant, at a reasonable royalty, under any or all patents owned or acquired within five years by such applicant. The judgment also provided that, for a period of three years, such license or reciprocal license may, at the option of either party, contain a provision for the imparting in writing at a reasonable charge by the licensor to the licensee of the methods and processes used by the former at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments. (R. 313–314.) The judgment also provided that the two present licensees of NL and DP might within

six months apply for licenses from NL and DP on the described basis (R. 314–315).

After the entry of the judgment, all the parties appealed to this Court. Upon the application of NL, this Court on January 2, 1946, suspended the operation of a portion of the judgment pending determination of the appeals.

The appeal by the Government (No. 89) attacks the provisions of the judgment relating to licensing of patents and imparting of technical information on the ground that the relief granted in those respects was insufficient. It also attacks the refusal of the trial court to grant a partial divestiture of the physical properties now owned and operated by NL and DP. (R. 330–331.)

The Facts[3]

Defendant NL has assets in excess of $100,000,000. It is the largest manufacturer of titanium pigments in the world. In 1943, the last year for which figures are found in the record, NL produced 76.5% of the composite and 46.4% of the pure titanium pigments produced in the United States. (R. 236.) NL owns all of the stock of defendant Tinc, a holding company (R. 236). NL owns directly or indirectly through Tinc 99% of the stock of Titan Co. A/S (TAS); 49% of the voting stock of Canadian Titanium Pigments,

[3] This statement is taken in the main from the findings of fact (R. 234–306), which are not challenged by the Government.

Limited (CTP); 44% of the voting stock of British Titan Products Company, Limited (BTP); 50% of the voting stock of Titangesellschaft, g. m. b. h. (TG); 57% of the voting stock of Societe Industrielle du Titane (SIT); and 18.5% of the voting stock of Titan Kogyo Kabushiki Kaisha (TK), all of which are engaged in the titanium pigment business in foreign countries (R. 236–237, 242, 243).

Defendant DP has assets in excess of $1,000,000,000. It is the second largest manufacturer of titanium pigments in the world. In 1943 DP produced 23.5% of the composite and 45.1% of the pure titanium pigments made in the United States. (R. 237.)

Titanium pigments are manufactured from titanium, the ninth most abundant element on the earth's surface. Titanium is contained in ilmenite, which is found in the United States, Norway, India, Brazil, and elsewhere throughout the world. Titanium pigments possess great opacity, hiding power and chemical inertness, and are used in the manufacture of paints, rubber, glass, paper, vitreous enamels, and many other products. They are sold in competition with and are largely displacing other pigments such as lithopone and white lead. (R. 245–246.)* A quantity of titanium dioxide (TiO_2) is approximately three times as

* In 1943, the sales of titanium pigments by NL alone exceeded the sales in the United States of lithopone, zinc oxide and white lead by all producers (R. 273).

effective as the same quantity of lithopone (Ex. 4).[3a] Titanium pigments composed of titanium dioxide in a relatively pure form are described as pure pigments; those composed of titanium dioxide intimately mixed with one or more other pigmentary materials, as compounds or composite pigments (R. 378, 392). Composite pigments are commercially the most important and these have been subject to a 30% *ad valorem* import tariff since 1922 (R. 251).

Prior to 1920 there was no substantial trade or commerce in titanium pigments (R. 246). In that year the total production in the United States was 100 tons (on the basis of pure titanium dioxide content) and this increased to approximately 110,000 tons in 1943, with a peak production of approximately 128,000 tons in 1941 (R. 247). The total production of titanium pigments outside of the United States has shown much less growth, the estimated foreign production of titanium pigment being approximately 1000 tons in 1920 and 23,000 in 1938 (R. 247).

While there was no substantial commerce in titanium pigments prior to 1920, experimental work in this field had been carried on by chemists located in the United States, Norway, and France (R. 246–247). The American chemists, Barton and Rossi, had taken out important

[3a] By stipulation between the parties Exhibit 4 was not reproduced but is a part of the record for all purposes (R. 360).

patents on processes and products largely for the manufacture of composite titanium pigments (R. 246). These patents had been transferred to Titanium Pigment Company, Inc. (TP), a corporation formed to engage in further research development and promotion in the pigment field (R. 246). During the same period Gustav Jebsen, a Norwegian chemist and businessman, perfected processes, patented in Norway, the United States, England, Germany, and in other countries, for producing relatively pure titanium dioxide pigment by direct application of sulphuric acid. While the Norwegian chemist was aware of the possibility of composite pigments, he had not perfected processes for the manufacture of such products. In 1920 the process and product patents of Jebsen and his associates were held by Titan Company A/S (TAS), a Norwegian company. (R. 246–247.) In or about 1922 Joseph Blumenfeld, a French chemist, obtained patents in the United States and foreign countries relating to the manufacture of titanium pigments. These were assigned to Societe de Produits Chemiques des Terres Rares (Terres Rares), a French corporation (R. 247, 243).

In 1920, NL, a manufacturer of pigments, purchased ten percent of the stock of TP with an option to purchase up to fifty percent (R. 246). Thereafter, in July 1920, TP, whose policies were then and thereafter controlled by NL, entered into an agreement with TAS (R. 239, 251). Its pre-

amble recited that each of the parties owned and would thereafter own certain patents and that each desired to obtain rights under these patents (RE. 1). The essential features of the agreement are:

(a) The "licensed field" was defined to include all substances containing above 2% of titanium (unless such substances contained by weight more than 5% of a metal other than titanium in its purely metallic state) and all apparatus, methods, and processes useful in obtaining or manufacturing such substances (except as stated). The intention was to cover processes, substances, and apparatus in the titanium and titanium compound field. (R. 251.)

(b) TAS agreed to grant to TP "upon the terms and conditions, including the covenants and agreements, hereinafter specified" and the latter agreed to accept "a license exclusive of all others including" TAS under all "existing or future" patents of the Norwegian company within the "Licensed Field"; but only in or for territories within North America (defined as including the continent of that name, Central America, and Panama); and TP agreed to grant to TAS upon the same conditions the correlative rights, but only outside North America, under the existing or future patents of TP. The parties agreed not to sell outside their respective territories, except that reciprocal non-exclusive rights of sale were reserved for South America. (R. 252, RE. 3–4.)

(c) Detailed provision was made for exchange of copies of applications for patents filed by the parties or their other licensees, and for the filing and payment of expenses incidental to the prosecution of such applications and maintenance of patents in territories outside the territory of each; and there was provision for assignment by each company to the other in case either party elected not to prosecute applications or maintain patents outside its territory (R. 252).

Neither party would ever question or contest the validity of any patent of the other under which it is licensed (within the licensed field) (R. 252).

(d) TAS made TP the exclusive agent of TAS for sales by TAS in North America, such sales to be at prices and on terms determined by the agent, and TP similarly made TAS its sole agent for sales by TP outside North America and South America. With a view to "the wildest possible development of titanium products in the 'Licensed Field,'" it was agreed that, notwithstanding the agencies provided for, importations of "finished articles"—that is, paint, paper, rubber, glass, etc.—containing titanium products of the principal, its licensees or sublicensees, would be permitted, provided such products did not constitute such an important part of such finished articles that sales within the agent's territory would substantially interfere with the agent's sales of its own titanium products (R. 252–253.)

(e) Each party would impart semi-annually to the other full and accurate information in detail as to knowledge obtained in and applicable to the "licensed field," and would permit the other to inspect and study operations at its plants (exclusive of research laboratories) (R. 253).

(f) The reciprocal grants of exclusive licenses extended to December 31, 1936, and thereafter for periods of ten years each, with provision for termination by notice to be given at least five years before the end of any such period; and it was agreed that upon such termination each would receive for itself and its licensees within its territory a non-exclusive license under inventions covered by existing patents or applications of the other, but that in other respects the obligations, liabilities, and benefits would cease. (Notice of termination was never given.) (R. 253.)

(g) In Article XIV of the 1920 agreement (mentioned by number because of its significance in connection with later agreements) it was provided that each company would have the right, so long as it held an exclusive license from the other under the 1920 agreement, to grant licenses under its own patents and sublicenses under the other's patents on condition, nevertheless, that every such licensee or sublicensee would (i) grant to the party to the 1920 agreement other than its licensor its patent rights in the "licensed field" identical in character, territorial scope, and dura-

tion to those given by its licensor to the other party to the 1920 agreement, (ii) would appoint such other party its sole agent as specified above in respect to its licensor, and (iii) would impart technical information to such other party in the same manner and to the same extent as its licensor. (R. 254).

Simultaneously with the execution of this contract, NL entered into a contract with TAS and TP in which NL agreed to respect its provisions and to assign promptly to TP all patents, inventions, and improvements relating to titanium pigments which it then used or might thereafter acquire or which should be at its disposal throughout the world (R. 254).

The purpose and effect of these agreements were threefold: First, to promote the more rapid development of the business of NL and TAS by securing to each the right to use the processes and products covered by the patents held by the other, together with future developments and technological improvements and "know-how"; second, to keep these patent rights and technological know-how as the exclusive possession of the parties and their sublicensees; and third, to prevent competition in the industry on a world-wide basis (R. 254–255, 922, 924, 927–929, 968–981, RE. 3–7, 10–11, 13, 15–17, 798–802, 1436–1441, 2953–2955). It is significant to note, as the trial court pointed out, that the suppres-

sion of competition was not limited to patented articles or to articles produced by patented process but extended to all products within the "licensed field" (R. 191). Furthermore, no pretense was made of limiting restraints on the parties or on licensees to identified inventions or for the term of any patent. The restraints were co-extensive with all the operations of the industry and were to be maintained by the patent position created by the combination irrespective of the actual scope of the patents included in the pool.

In 1927, NL acquired control of TAS by purchasing 87% of its stock, Jebsen retaining the other 13% (R. 255, 240). NL made this acquisition for the purpose of utilizing TAS and the 1920 contract further to control competition in all markets of the world including the United States. The plan for accomplishing this purpose was as follows: TAS was to form in each of the important industrial countries, in association with a local company which contemplated the manufacture or sale of titanium pigments or which could contribute to the commercial or technical development or which threatened to be a serious competitor of NL or TAS, a new company in which NL or TAS was to have a part interest. Each company so formed was to be given as its exclusive territory a portion of the territory assigned to TAS by the 1920 agreement and was to

refrain from competing with NL in its exclusive territory or in the exclusive territory of any other company associated with NL. All of the present and future patents belonging to NL or TAS or any of the companies associated with either in the formation of such new companies, as well as those of the new companies to be organized, were to be licensed exclusively to NL for North America and to the new companies to be organized for their respective territories and to TAS for the rest of the world. (R. 255–256, RE. 637, 646, 653, 660, 661, 607–610, 619–621.)

The purpose of NL further to control competition was accomplished by a series of agreements entered into pursuant to this plan (R. 255). The first of these agreements was entered into in 1927 by TAS and Societe Industrielle du Titane (SIT), a French corporation. By this agreement SIT was given as its exclusive territory France and its territories except those appurtenant to North and South America. TAS owned about 20% of SIT and NL acquired an additional 58%. (R. 256, 241.)

NL regarded IG Farbenindustrie Aktiengesellschaft (IG), one of the largest chemical companies in the world, which had tried to acquire TAS in 1927, as either a potentially invincible competitor or the most powerful ally (R. 257, 255, 240). NL, therefore, through TAS, made IG an ally. TAS agreed with IG to form Titan-

gesellschaft (TG) to which was granted as its exclusive territory Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Serbia, Croatia, Slovenia, Bulgaria, Greece, Turkey, Japan, China, and Spain. IG agreed to engage in the titanium pigment business only through TG. IG further agreed to transfer exclusively to TG all its patents, methods and experience relating to the manufacture or use of titanium pigments within the "licensed field." TG and TAS agreed to engage in the business only in the territory assigned to them and to exchange know-how. TG and TAS agreed that each might grant sub-licenses under the licensed patents and to exchange know-how with such sub-licensees (R. 257–259). IG and TAS each acquired 50% of the stock of TG (RE. 51–52).

In 1933, NL and Tinc, the successor to TAS,[4] became apprehensive over the threatened competition of Imperial Chemical Industries, Limited (ICI), the largest manufacturer of chemicals in the British Empire, and Goodlass Wall and Lead Industries (GW), the largest producer of lead pigments in the British Empire (R. 259,

[4] NL organized Tinc in 1929. Tinc became NL's corporate pocket for its holdings in foreign titanium enterprises. Tinc assumed all of the obligations of TAS and succeeded to all the benefits running to TAS under the 1920 agreement and the French and German agreements of 1927. NL owned 87% of the stock of Tinc until 1944 when it acquired the remaining 13%. (R. 255, 236, 237.)

241). Therefore, NL and Tinc entered into negotiations with ICI, GW and Imperial Smelting Corporation (ISC), one of the largest producers of pigments in the British Empire, which resulted in the formation of British Titan Products Company, Limited (BTP) and the assignment to it as its exclusive territory of the British Empire exclusive of portions within or appurtenant to North and South America. Tinc agreed not to conduct any operations relating to the manufacture or sale of Titanium pigments within that territory, and ICI, GW, and ISC agreed to conduct all of their operations of that nature anywhere only through BTP which in turn agreed to confine its operations to the territory assigned to it. ICI, GW and ISC further agreed to grant BTP exclusive licenses under all of their patents within the "licensed field." Tinc and BTP agreed to exchange exclusive licenses under their existing and future patents for their respective territories with the right to grant sub-licenses on a reciprocal basis. Each agreed also to exchange know-how. Tinc acquired 49% of the stock of BTP and each of the three British companies acquired 17% (R. 259–262, RE. 725–827, 833, 861).

Prior to 1936 certain Japanese companies were planning to enter the industry. NL, Tinc, IG and TG believed that these companies would export which would lead to competition in all of the markets of the world including the United

States. Therefore, Tinc, IG, TG, and companies operating under the Blumenfeld patents (for reasons which will appear later) entered into an agreement with Kokusan Kogyo Kabushiki Kaisha (KK), the largest manufacturer of paints in Japan, to form a new company, Titan Kogyo Kabushiki Kaisha (TK) to which was allocated as its exclusive territory the Japanese Empire. The agreements with TK were substantially similar to the 1920 and subsequent agreements. Tinc acquired 35% of the new company with IG having an option to purchase one-half of Tinc's share. (R. 264–266, 978–979, RE. 1544–1547; 2313–2338, 2346–2351.)

Under the 1920 agreement, Canada had been allocated to NL as part of its exclusive territory (R. 266). Prior to 1934, National Titanium Pigments, Limited (Laporte), a licensee under the Blumenfeld patents, was interested in erecting a titanium pigment factory. In 1937 NL and Canadian Industries, Limited (CIL),[5] which is owned substantially by DP and ICI, formed a new company, Canadian Titanium Pigments, Limited (CTP), through which NL and CIL agreed to conduct their titanium business in

[5] DP owns 45% of stock of CIL (RE. 2441). ICI owns 45%. DP sold its titanium pigment products in Canada prior to the creation of CTP to CIL and since the creation of CTP entirely to CTP (R. 270). DP and ICI had an agreement which provided that CIL would be used as the proper vehicle for cooperation in Canada (RE. 958).

Canada.[6] NL granted CTP, for Canada, an exclusive license under its present and future patents. CTP granted NL, for the rest of the world, an exclusive license under its present and future patents, with the condition that NL grant DP a nonexclusive license under them for North and South America. NL and CTP agreed to respect each other's territory. CTP then acquired the Canadian titanium business of Laporte with Laporte covenanting not to engage in the business in Canada until 1952. NL acquired 49% of the voting stock of CTP upon its formation (R. 267–270).

The intended effect of all of these agreements has been (1) to prevent among the parties competition in the licensed fields within the exclusive territory assigned to each; (2) to create a world-

[6] CIL agreed with NL that both companies would engage in the titanium pigment business in Canada only through CTP, and CIL agreed with NL not to deal in or manufacture titanium pigment anywhere in the world except at the request of CTP (R. 267–268). Prior to the execution of this contract, NL agreed with CIL, BTP and Laporte to maintain prices on American titanium pigments sold by NL in Canada above the prices charged for titanium pigments manufactured by BTP or Laporte and sold by BTP and Laporte in the Canadian market. This facilitated a price agreement between BTP and Laporte for the British Empire market outside of Canada. (R. 269.) Although the district court refused to find it as a fact, the record shows that on January 4, 1935, NL advised BTP by cable that American titanium *producers* would maintain Canadian prices on the foregoing basis (RE. 2436). DP and NL were the only American producers of titanium pigments at that time.

wide patent pool of many of the patents of commercial value relating to the manufacture of titanium pigments within the licensed fields in which the patents are available only to the parties; (3) to create a world-wide pool of technical information available only to the parties, the information being of inestimable value in developing the business of the parties to the exclusion of potential newcomers in the industry (R. 272, 271); and (4) to prevent entirely any patent litigation among the parties. There has been no patent litigation in the titanium pigment field anywhere in the world. Access to patent rights and technology in the industry has been only on terms established by the combination.

It has already been stated that Blumenfeld, the French chemist, had assigned his titanium pigment patents to Terres Rares (R. 247). Between 1922 and 1933, the latter granted exclusive licenses for specified territories to Fabrique de Produits Chemiques de Thann et de Mulhouse (Thann), a French company, Societa 'Anomina Titanium (Montecatini), an Italian company; Verein fur Chemische und Metallurgische Produktion (Aussig), a Czechoslovakian company; Laporte, a British company. The Commercial Pigment Company (CP), an American company (R. 273, 239) purchased the Blumenfeld patents in the United States. The Blumenfeld group were the only other principal producers and sellers of titan-

ium pigments in the world (R. 248), and they were in competition with the NL group (NL, TAS, SIT, TG, BTP and Tinc) in Europe, the British Empire (R. 273) and the United States (R. 239). NL desired to eliminate this competition and facilitate exchange of patent rights and technical information between the two groups in all markets of the world (R. 277). Negotiations between the NL and Blumenfeld groups to accomplish this objective were begun in 1930 (R. 277, 278).

By March 1931, a tentative understanding had been arrived at between NL's foreign associates and the Blumenfeld interests relating to markets outside the United States, an understanding which embodied both commercial and technical cooperation. The parties believed, however, that no agreement eliminating competition between the two groups in markets outside the United States would be effective unless they were secure against competition from American producers. (R. 277.) Since NL was prevented from exporting by the various agreements discussed above, CP remained the only other United States producer which might upset the world-wide plan by exporting titanium pigments. Through an agreement (Ex. E. R. 69) between TP and CP's successor (Krebs Pigment and Color Corporation [Krebs] at that time owned 70% by DP), the provisions of which will be discussed later (*infra* pp. 26–29), and assurances from DP, NL's foreign associates and the Blumenfeld representatives received adequate

assurances that there would be no exports from the United States (R. 280–289), after which NL's foreign associates and the Blumenfeld Companies entered into specific written agreements which brought under control of the parties thereto any competition theretofore existing in titanium pigments in all markets outside the Western Hemisphere (R. 273–277).

The first of these agreements (all of which Jebsen, acting for Tinc, either made or approved (R. 273)) was the TG-Aussig agreement of November 1933 (R. 274), which established sales quotas for the two companies for a specified territory, regulated prices, provided for the exchange of certain patents royalty-free, and required that both parties refrain from giving any technical information or aid to potential competitors. Aussig agreed to purchase from TG at preferential prices any requirements of titanium pigments, above Aussig's then production capacity, which it might need to meet its quota. A second agreement, the Contrat a Quatre, was executed in 1935 (R. 274), but to take effect as of May 1934 between SIT and Tinc on one hand and Thann and Terres Rares on the other. Here, also, sales quotas for specified territories were established, prices were regulated, certain patents were exchanged royalty-free, and assistance was to be withheld from potential competitors. The Contrat de Livraisons (R. 275) was executed at the

same time by the same parties, and provided that each group would supply the other at fixed prices with any titanium pigments which it might have available after its own needs were satisfied. Titanium pigments so supplied could not be re-exported by the parties or their customers. The Contrat a Six (R. 275) was also entered into at this time by Thann, Terres Rares, Montecatini Tinc, SIT, and TG. The parties' exclusive rights of sale in specified territories were recognized; sales were allotted for these territories on a quota basis; third parties were to be prevented from entering the titanium pigment business within any of the territories; sales prices were to be fixed by mutual consent; certain patent rights were to be exchanged royalty-free.

The British Empire was not included within the above agreements. It will be recalled that Laporte was the Blumenfeld licensee for the British Empire (R. 273), and was obligated under its agreement with Blumenfeld to refrain from exporting outside this territory (R. 277). In 1934 BTP and Laporte entered into a price agreement for the British Empire, and in 1941 they executed a quota agreement, allocating to each a specified share of the titanium pigment business in the British Empire (R. 276). This

[7] Under the Contrat a Six, Terres Rares and Thann were recognized, together with TG, as having exclusive rights of sale in Japan. It was for this reason that the Blumenfeld companies were given a share in the Japanese company, TK, organized in 1936 (R. 265).

did not include Canada, since Laporte withdrew from the Canadian market in 1937 in favor of CTP (R. 269).

These agreements between the foreign associates of NL and Blumenfeld were intended to help NL and Tinc prevent any exports to the United States. This intention was achieved. There have been no exports to the United States by any of Blumenfeld's foreign associates (R. 277, 289, 790–793, 825, 979–980, RE. 706, 1068, 1224, 1264, 2045, 2061–2063, 2081, 2288–2292, 2915–2916).

The agreement with DP[8] and NL in 1933 (Ex. E) which removed the obstacles to the agreements between the foreign associates of NL and the Blumenfeld companies followed negotiations initiated in 1930 between NL and CP, then the only two producers of titanium pigments in the United States (R. 277, 278). In July 1931, the business of CP was acquired by Krebs, a corporation 70% of whose stock was owned by DP (R. 238).[9] Thereafter, negotiations were instituted between NL and Krebs which culminated in the agreement (Ex. E) between TP and Krebs in August 1933

[8] DP, one of the largest lithopone producers, was aware of the threat of titanium pigments to its lithopone business. It had, therefore, prior to 1930, attempted to make some arrangement with NL which would permit it to enter the industry.

[9] DP acquired the remaining 30% in 1934. In 1935 DP acquired all the assets and assumed all the obligations of Krebs and, thereafter, operated the properties through the Krebs Division of DP (R. 238).

(R. 280). Its preamble recited that each desired to obtain from the other "a license of the character and scope and upon and subject to the terms and conditions hereinafter set forth" (R. 69). The essential provisions of this agreement are:

1. The licensed field is defined as "(1) All methods, processes and apparatus in the field of manufacture and use of all titanium compounds containing two per cent (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adapted for other uses, and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses" (R. 281).[10]

2. TP granted Krebs (a) a non-exclusive license to use within the United States, its colonies and possessions, and for the licensed field, all processes and apparatus of manufacture, patented or not, which it then used or thereafter used during the term of the agreement, and as to which it was free to grant such license; (b) a non-exclusive license to exploit within the same territory and for the licensed field all United States patents then or thereafter owned by it during the term of the agreement; and (c) a non-exclusive license to sell the products resulting from

[10] The definition of licensed field" was subsequently amended specifically to include extender pigments, theretofore included by implication and practice (R. 290).

such processes in the United States, its colonies and possessions, Mexico, Central America, West Indies and South America (R. 281).

3. Krebs granted the identical rights to TP (R. 281).

4. Both parties agreed to exchange technical information, including patent applications and the aims and results of their research and development work (R. 281).

5. Each party agreed to help the other obtain a non-exclusive license for the mentioned territory under any United States patent under which the other was licensed (R. 281).

6. Krebs agreed to give TP's foreign associates the first opportunity to acquire from Krebs a non-exclusive license under any patent issued in Europe or Great Britain within the license field, at the disposal of Krebs (R. 282).

7. The contract was subject to cancellation after December 31, 1933, on three years' notice (R. 282).

8. The parties released each other from claims for infringement of the United States patents then owned or thereafter acquired, during the term of the agreement, with right to sue for past infringement. Each of the parties also released the customers of the other from past infringement claims. (R. 282.)

9. Mutual royalties which could not exceed a total of $40,000 by either party were provided for and no royalties were to be paid by either

party after 1936. (And such royalties were paid.) (R. 282.)

Before this agreement could be executed, it was necessary to secure the approval of NL's foreign associates. IG objected to the proposed agreement because it did not comply with the requirements of Article XIV of the 1920 agreement (R. 282). However, IG withdrew its objection upon the receipt of assurances from DP, and the agreement was approved by IG, Tinc and NL's other foreign associates (R. 287–288). These assurances, which related to the protection of IG in its exclusive territory and the grant of licenses, exclusive in effect, to NL's foreign associates, formed in part the consideration for continued abstinence of the European producers from exporting to the United States (R. 287–288). As a result of them, DP became a party to the worldwide combination (R. 289).

The purposes of NL and DP in entering into their agreement were in some vital respects similar. NL was concerned by the early expiration date of many of the patents upon which it relied. By exchanging patents and technology with DP, a large and powerful corporation possessed of great research facilities, NL expected to strengthen the patent position of NL and DP jointly as against newcomers to the industry. NL also expected to obtain the benefits of a friendly competitor rather than the disadvantages of a hostile competitor. (R. 291–292.)

DP desired to obtain access to the patents and technical experience of NL and its foreign associates, and to strengthen its patent position to the exclusion of others than NL (R. 292). The necessary effects of the agreement have been the achievement of each of these purposes and to give NL and DP together domination and control over the titanium business in the United States, to proliferate patents, and to restrict and obstruct imports into and exports from the United States (R. 292–293). The agreement in substance coincided with the "licensed field" of the 1920 agreement, and also operated on the industry as a whole without respect to the life or scope of any particular patent.

From August 1933 to January 1, 1941, all patents and patent applications within the licensed field owned or filed by TP, NL, Krebs or DP were immediately available to each of them. After January 1, 1941, patent applications were so available only after six months from the date of filing (R. 290). In addition to the patents and applications owned or filed by TP or NL, the patents and applications of NL's foreign associates have also been available to DP (R. 306). Since 1936, all of these patents and applications have been available to NL and DP on a royalty-free basis (R. 282, 303, 306).[11]

[11] DP refused to make a written general agreement for the exchange of licenses on present and future patents between itself and NL's foreign associates because of the United

NL now claims to own or control or be exclusively licensed to use 145 United States patents and applications in the licensed field.[12] In addition, it is licensed to use 186 DP patents and applications. Of the total of 331, NL uses 66 or approximately 20% (R. 250). DP owns 206 patents and applications and is licensed to use 123 patents and applications of NL or its foreign associates. Of the total of 329, DP uses only

States antitrust laws. An oral understanding was reached between DP and NL's foreign associates on June 8, 1938, whereby each of said parties agreed to exchange such of its patents and applications as related to the manufacture and use of titanium pigments within the licensed field of Exhibit E with each other as might be desired by each from the other. In accordance with said oral understanding DP granted royalty-free licenses to Tinc with the right to sublicense NL's foreign associates on June 20, 1938, April 21, 1939, May 10, 1940, and June 23, 1941, and continued to make available to NL's foreign associates, on a royalty-free basis, all patent applications filed by it in the United States relating to the manufacture and use of titanium pigments until a short time before the transmission of such applications was made dependent on the securing of Governmental permission. NL's foreign associates acting in accordance with said oral understanding made all of their U. S. patents and patent applications available to DP via Tinc. This was accomplished through cross-license agreements entered into annually between DP and Tinc on the above dates. (R. 300–302.)

[12] These 145 patents and applications include some transferred to Tinc by TG under the following circumstances: After the outbreak of war in 1939, NL, Tinc and TG believed that if the United States and Germany should declare war, the United States Alien Property Custodian might seize TG's United States patents and the German Government might seize Tinc's German patents, and license them to out-

about 70 or approximately 20% (R. 250–251). The validity of none of these patents has ever been passed upon by any court (R. 249).

NL and DP began exchanging extensive technical information relating in any manner to the manufacture and use of titanium pigments in 1932 while the negotiations leading to the TP-Krebs written agreement (Ex. E) were still in progress (R. 279–280, 289). This exchange continued until May 1940 (R. 289) at which time the titanium pigment business was a mature industry (R. 305). From August, 1933, to September, 1938, DP and NL's foreign associates

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siders who might compete with the companies in their respective territories. Therefore, NL, Tinc, IG and TG, in order to prevent this potential competition, decided that all of TG's United States patents should be transferred to Tinc, and Tinc's patents in TG's territory should be transferred to TG. Thereupon TG assigned to Tinc some of its United States patents and applications, and Tinc endeavored to reciprocate with respect to its patents in TG's territory. (R. 271.) Thirty-two of the 145 patents and applications were vested by the Alien Property Custodian and are now held by the Attorney General, as his successor. The Attorney General, as successor to the Alien Property Custodian, is not a party to this action and no issue as to his title or his right to administer these patents is involved herein. In view of the district court's special enumeration of the patents vested by the Custodian (R. 320), we do not read the judgment as applicable to them. It is important that the decision of this Court should be without prejudice to the rights and interests of the Attorney General in and to the vested patents or to the jurisdiction of the district court, upon application, to clarify its decree with respect to such rights and interests.

permitted each other to visit their plants and to obtain complete technical information relating to plant operation and equipment. After 1938, DP permitted plant visits from NL's foreign associates but research and development information was excluded from the exchange: (R. 278–299, RE. 1540, 1848–1855, 1898, 1990, 3009, 3086–3095.)

The exchange of information between NL and DP which commenced in 1932 before their agreement was signed was not confined merely to alleged claims of patent infringement or even to what is generally regarded as "know-how" essential to operate under patents. Rather, complete details of plant operation were disclosed to the minutest detail. Information was even exchanged on personnel matters relating to wages, vacations, types of clothing worn, health facilities and safety measures, as well as information on more technical matters such as ore storage and milling, packing, bleaching, wet grinding, pigment washing, materials and supplies consumed, production of waste heat boilers, method of determining iron in titanium dioxide, method of determining tinting strength and consistency of pigments, factors determining the temperature of exit gas, installation of equipment, advantages of certain types of castings and bolts, and a number of other items (RE. 1290, 1878–1885, 1901–1925, 3651–3731).

Neither NL (except as indicated below)[13] or DP have exported titanium pigments to the territory of TG, BTP, SIT, TK, Terres Rares, Thann, Aussig, or Montecatini (R. 289, 303–304) and these companies have not imported such pigments into the United States (R. 289, 304). NL, DP and Tinc have imposed contractual restrictions on resales by purchasers of their pigments, but the court below found that, except as to the years 1940 and 1941, the evidence did not establish that the restrictions imposed by DP were pursuant to an agreement with NL (R. 304, 294).

NL and DP have endeavored to match each other's titanium products, but each manufactures some product having special applications not manufactured by the other (R. 291, 1072–1074, 1149). There is active competiton between NL and DP for customers (R. 290), on the basis of endeavoring to demonstrate that their products merit acceptance because of technical superiority (R. 291). There is no price competition, however. NL and DP sell similar products at identi-

[13] When the war started in Europe in 1939 it became impossible, due to supply shortages and shipment difficulties, for NL's foreign associates to take care of sales in all the countries within their territories. The parties agreed, therefore, that NL and Tinc, upon the request of their associates, would serve the markets allocated to the latter, only for the duration of the emergency, and profits derived by NL and Tinc from the markets so served would be held in trust for the associate in whose market the sales were made. (R. 305, RE. 3338–3416.)

cal prices (R. 291). The trial court found no evidence that such price identity is the result of agreement (R. 291), but did find that an effect of the combination was to maintain prices at a uniform level (R. 304). Since 1927 there have been repeated reductions in prices with few price increases but the trial court stated that it was unable to find whether there was a causal relationship between the increased production at decreased prices and the contracts of NL with its foreign associates (R. 272-273).

An example of the close cooperation that existed between NL and DP is found in the situation relating to the Micronizer Reduction Mill, a patented machine used to improve the texture of titanium pigments (R. 293). NL obtained an exclusive license to use this machine in 1939 from the International Pulverizing Corporation. The machine proved of great value, and DP regarded this apparatus as essential to enable it to manufacture a pigment comparable to the pigment produced by NL by use of the apparatus. NL granted DP a sublicense to use the machine at about the same time that NL obtained its license from the International Pulverizing Corporation. This sublicense was granted pursuant to the 1933 TP-Krebs agreement. It was not until about 18 months later and at the request of the International Pulverizing Corporation (RE. 1832, 1833) that NL also granted a sublicense on the machine

to Zirconium. NL refused to sublicense the apparatus to Virginia Chemical and to the Sherwin-Williams Company. (R. 294; RE. 1834–1840.)

Another instance of NL–DP cooperation is found in their joint purchase, in 1934, of the Leuchs patent, with each company contributing half the cost. Shortly thereafter, DP purchased NL's half interest and gave NL a non-exclusive royalty-free license. NL's technical director believed that the patent was invalid, but he thought it might anticipate a Blumenfeld patent. (R. 293.)[14]

NL and DP have also cooperated on many occasions by furnishing to each other certain types of titanium pigments and much needed ilmenite (RE. 1548–1560).

The only companies other than DP and NL producing titanium pigments in the United States are American Zirconium Corporation (Zirconium) and Virginia Chemical Corporation (VC) (R. 251). Zirconium commenced the manufacture of titanium dioxide in 1934 under patents which it had acquired from its parent corporations, the Glidden Company and Metal & Thermit Corporation (R. 295). Early in 1934 both NL and DP notified Zirconium of probable infringe-

[14] DP acquired the Blumenfeld patents in the United States when it acquired the assets of CP in July 1931 (R. 238). The Leuchs patent U. S. No. 1,853,626 was never used commercially by either DP or NL but was among the patents named in the NL and DP licenses to Zirconium (RE. 261, 289).

ment of their respective patents. Negotiations between NL and Zirconium and DP and Zirconium relating to license agreements followed. (R. 295.)[15] The negotiations between NL and Zirconium resulted in an agreement entered into on May 6, 1935 (R. 295) whereby the parties cross-licensed each other under all present and future patents in the licensed field. Zirconium was required to assume obligations substantially like those in Article 14 of the 1920 agreement, including restrictions on its exports (R. 296). The agreement also provided for an exchange of technical information. NL rendered some engineering assistance to Zirconium and imparted some technical information, but it frequently refused to convey such technology on the ground that other agreements prevented it from so doing (R. 295–296).[16] In lieu of royalties NL received 10 percent of Zirconium's stock and its president was elected to Zirconium's board of directors (R. 295).

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[15] In the spring of 1935 there was a conversation between Rupprecht for DP and Beschorman for NL respecting Zirconium's patents (R. 296, 845). The DP-Zirconium license was executed on August 10, 1935 though dated January 1, 1935 (RE. 282).

[16] In 1939 Zirconium advised NL of its concern over the fume nuisance created in their operation of the Washburn patents licensed from NL. Zirconium requested permission to witness the operation in NL's plant of the process covered by those patents. NL advised Zirconium that NL's agreements with others prevented them from granting such permission. The inspection was never made (RE. 1718–1727).

The DP and Zirconium negotiations resulted in an agreement signed in August 1935 under which DP granted Zirconium a non-exclusive license under specified patents subject to royalties on titanium dioxide produced (whether or not under DP's patents) and subject to a quantity limitation on the amount of titanium dioxide that Zirconium might produce. Its production was limited to 3,000 tons in 1935 and graduated to 9,000 tons in 1944 and thereafter. (R. 295.) Zirconium produced only pure titanium dioxide and its total production from May 1935 to July 1944 was 33,677 tons (R. 296). On many occasions since the licenses Zirconium has purchased titanium dioxide from NL and DP (R. 1146). Before 1940 NL and DP occasionally exchanged information relative to Zirconium's production (R. 296). Zirconium paid DP approximately $200,000 in royalties (R. 295).

In April 1944 the NL-Zirconium agreement was cancelled and in November of the same year the tonnage limitation provision of the DP-Zirconium agreement was cancelled on the recommendation of DP's legal department (R. 295–296).[17]

VC was organized in 1935 to manufacture titanium pigments and owns certain patents relating to their manufacture and use (R. 245). Late in 1936 and early in 1937 DP and NL re-

[17] The investigation of this industry was initiated in 1943 and antedated the filing of the Complaint in June 1944 (R. 263). NL and DP were, of course, aware of the investigation.

spectively discussed with Virginia Chemical the possibility that the latter might be infringing their titanium pigment patents. The negotiations which followed resulted in agreement between DP and VC executed in August 1937. (R. 297.) The provisions of this agreement were substantially the same as those of the DP-Zirconium agreement. DP granted a non-exclusive license under enumerated patents subject to a royalty payment on all titanium dioxide produced by VC and subject to graduated quantity limitations on VC's production ranging from 3,000 tons for the first year to 9,000 tons in 1946 and thereafter. VC manufactured only pure titanium dioxide and its total production from August 1937 to July 1944 was 36,576 tons. Like Zirconium it paid DP approximately $200,000 in royalties to July 1944. (R. 297.) It purchased titanium dioxide from DP (R. 1146). In November 1944 DP cancelled the quantity limitation provision of the agreement on the recommendation of its legal department (R. 297).

The NL and VC negotiations did not result in an agreement. NL explained to VC its obligations under Article XIV of the 1920 agreement whereby it woud be compelled, among other things, to obligate VC not to compete with the foreign associates of NL. NL was concerned about "the manner of expressing" the obligation it would have to impose on VC if an agreement were en-

tered into. NL communicated with its foreign associates and it was decided that "in the present case" a verbal understanding relating to exports by VC would not be acceptable to the foreign associates (R. 297–298). NL never instituted any action against VC to enforce its claim of infringement (R. 298).

SUMMARY OF ARGUMENT

The defendant's complete control of the titanium industry was acquired by an unlawful combination of patents including those controlling the three originally independent and competing lines of development, by deliberate extension of patents to control the unpatented, by a monopoly of technology, and by agreements of foreign producers not to export to or compete within the United States. Unlawfully operating outside the system of competition the Sherman Act was designed to protect, the defendants have been able to develop an industry pattern, the chief characteristics of which are the concentration of the industry in their hands, complete absence of competition from foreign producers, and uniform prices in the domestic market.

The judgment of the district court permits the existing industry concentration and marketing patterns to continue largely undisturbed. Since the judgment does not neutralize the power by which defendants control the industry, as is re-

quired by the decisions of this Court, it is inadequate to restore the industry to the system of free competition.

I

A. Defendants are required by the district court's decree to grant licenses under their patents to any applicant subject, however, to the payment of reasonable royalties. This provision is inadequate antitrust relief not only because it attempts to give continued vitality to otherwise unenforceable patents but permits defendants to exact a toll from all who would compete with them. Unless defendants are deprived of this power, potential competitors who are already at a serious competitive disadvantage are additionally handicapped to a point where the availability of these patents to them is rendered largely illusory. "Reasonable" royalties amount to a double subsidy to defendants in that defendants would derive profits from all licensees' sales whereas licensees must absorb an additional item of cost not borne by defendants. A decree permitting the defendants to charge royalties leaves in their hands the fruits of their illegal conduct. Since defendants have abused the right to collect royalties as well as the right to exclude, traditional concepts of adequate antitrust relief require that defendants be enjoined from charging royalties for, or otherwise enforcing, the misused patents.

B. The practical difficulty of determining reasonable royalties renders such relief unworkable. The evaluation of patents imposes upon courts "an onerous and absorbing administration burden" for which the courts are not equipped. The fixing of a royalty which will at the same time reward the patentee and instill competition into the industry requires judicial regulation of the future economics of the industry, incompatible with the system of free enterprise.

C. Domination of the titanium industry by defendants has been achieved and maintained primarily by consistent misuse of an aggregation of patents. Such misuse has consisted of the deliberate extension of the several patent monopolies beyond the terms of the authorized grants.

That patents so misused should be rendered unenforceable is compelled by established principles applicable under the patent laws as well as under the antitrust laws. The patent privilege is limited to the invention and any extension beyond the invention renders the patent unenforceable. Protection of the system of free enterprise is the basic rationale of the patent decisions of this Court whether the issue be that of indefinite claims, claims encompassing more than the invention, failure to comply with the disclaimer or reissue statutes, or misuse of patents after issuance. Since the purpose of the antitrust laws, is, also, the protection of free

competitive enterprise, the relief granted by the Court in public proceedings under the Sherman Act must be no less than that accorded to private patent litigants.

D. The decision in *Hartford-Empire Co.* v. *United States*, 323 U. S. 386, is inconsistent with the above principles since it proceeds upon the apparent assumption that equity may not grant adequate relief if the result is destruction of property values. However, traditionally under the patent statutes, the privilege is lost through deliberate attempts to extend the patent privilege beyond the authorized grant, and apart from the decree, defendants here could not enforce their patents because of their misuse. An antitrust decree prohibiting enforcement, therefore, does not confiscate anything of value. Instead of being inconsistent with the defendant's rights under the patent laws, this result is compelled by principles which both the patent and antitrust laws have in common. Furthermore, it is well established that, although equity may not go out of its way to impose penalties, it has power to grant effective relief even though the result may impair property values.

Since defendants' unlawful conduct has established a combination of patents, in place of competition between three originally competitive lines of patents, and has extended patents beyond their authorized scope, it is now impossible to segregate lawful patent values from the values resulting

from defendants' misconduct. Accordingly, as has been determined in similar situations under the patent and antitrust laws, defendants are not entitled to continued enforcement of the abused privileges.

The defendants' patents should be rendered unenforceable for the remaining period of the several grants since the consequences of misuse can never be dissipated while royalties continue to be paid. A decree allowing defendants to reinstate their patents at some future date will inhibit the introduction of new competition.

II

The decree permits the defendants to license their patents upon the condition that the licensee grant them licenses under any patents the licensee now owns or may acquire within five years. Under this provision a competitor who wishes to use a single patent of a defendant must surrender licenses under every patent it owns or acquires within five years. The cumulative effect of these surrenders is to create a pool of patents available to defendants but unavilable to every non-defendant, although only the defendants have violated the law. The provision, therefore, strips competitors of the only competitive advantage they may possess during the crucial five year period while at the same time increasing the already overwhelming competitive advantages of

the defendants. The provision should be eliminated in order that competition in the industry not be forestalled.

III

The district court found that the defendants had acquired a monopoly of the technology of the industry to the detriment of competitors. The judgment, however, limits access to this technology only to licensees of the defendants upon payment of a reasonable charge and only to the extent that it relates to the methods and processes used by the defendant licensor in its commercial practice under a licensed patent or patents. The effect of this provision is to exclude competitors from the general technology of the industry; from the technology necessary to produce unpatentable or unpatented products not produced by a patented process or apparatus; from the technology necessary to the practice of the inventions embodied in expired patents, among which are the basic patents of the industry; and from the technology necessary to practice the invention embodied in any patent not put into commercial practice. The result of this exclusion is to permit the defendants to continue to retain for themselves the technology necessary to produce products falling within the "licensed field", and therefore, within the trade and commerce restrained.

IV

Defendants du Pont and National Lead producing 100% of composite and 90% of pure titanium pigments produced in the United States, acquired domination and control as a result of the unlawful conspiracy. Possessing competitive advantages of tremendous size and capacity, assured sources of raw materials, the cumulated experience and technology of major producers here and abroad, extensive research facilities, trained personnel, established trade connections and good will and probably much lower production costs than other American small producers, defendants National Lead and du Pont have the power to suppress competition of others. This power cannot be neutralized except by partial divestiture of their plants. The power of the Court to order partial divestiture is not limited to cases of fusion. Where this Court has ordered divestiture it has recognized that a competitive industry cannot be restored merely by enjoining the future conduct of units which have unlawfully controlled it, where such units have become so much greater in size than their potential competitors that they may continue to dominate the market by lawful methods of operation. Where such domination has been jointly achieved by two or three large units continued enjoyment of their dominant market position, even acting individually, should be prevented by a divestiture sufficient to a sure elimina-

tion of that position. Otherwise continued concentration of economic power in the hands of a few industrial giants who have demonstrated a clear intention to abuse such power may not be eliminated by Sherman Act suits. If the Act was not intended to eliminate such power, then the Court's recent condemnation of it in *United States* v. *American Tobacco Company* has no effective meaning.

ARGUMENT

INTRODUCTION

A. THE FUNCTION OF AN ANTITRUST JUDGMENT

Each case under the Sherman Act stands upon its own facts and the judgment must be moulded to the exigencies of the particular case. *United States* v. *Union Pacific R. R. Co.*, 226 U. S. 470, 474; *United States* v. *Crescent Amusement Co.*, 323 U. S. 173, 185. It should be designed effectively to dissolve the unlawful combination, neutralize its continuing effects, and prevent its recurrence. *United States* v. *Trans-Missouri Freight Assn.*, 166 U. S. 290, 308; *Standard Oil Company* v. *United States*, 221 U. S. 1, 77–78; *Local 167* v. *United States*, 291 U. S. 293, 299; *United States* v. *Bausch & Lomb Co.*, 321 U. S. 707, 726; and *United States* v. *Crescent Amusement Co.*, 323 U. S. 173. Any doubts in framing its provisions should be resolved against the wrong-doers and in favor of those the Act seeks to protect. *Local 167* v. *United States*, 291 U. S. 293, 299.

In the *Standard Oil* case this Court said (221 U. S. at pp. 77–78):

> It may be conceded that ordinarily where it was found that acts had been done in violation of the statute, adequate measure of relief would result from restraining the doing of such acts in the future. *Swift v. United States,* 196 U. S. 375. But in a case like this, where the condition which has been brought about in violation of the statute, in and of itself, is not only a continued attempt to monopolize, but also a monopolization, the duty to enforce the statute requires the application of broader and more controlling remedies. As penalties which are not authorized by law may not be inflicted by judicial authority, it follows that to meet the situation with which we are confronted the application of remedies two-fold in character becomes essential: 1st. To forbid the doing in the future of acts like those which we have found to have been done in the past which would be violative of the statute. 2d. The exertion of such measure of relief as will effectually dissolve the combination found to exist in violation of the statute, and thus neutralize the extension and continually operating force which the possession of the power unlawfully obtained has brought and will continue to bring about.

This was a clear recognition of the power to neutralize unlawfully created and continually operating forces destructive of the interests pro-

tected by the Act; and of the necessity of exercising that power to grant the proper measure of relief. This is a general principle applicable alike to integrated combinations like that in the *Standard Oil* case and to loose combinations like that in the present case. In each type of case there is an unlawfully created force which will continue operating unless neutralized; and in each type of case operation of the force will continue to deprive the public of the rights the Act was designed to protect.

The opinion in *Hartford-Empire Co.* v. *United States*, 323 U. S. 386, decided one month after the *Crescent* case, *supra*, does not purport to modify this long established principle. Indeed, its approval of compulsory licensing of the defendants' patents at reasonable royalties must have stemmed from an application of that principle. That this is so is suggested by the dissenting opinion of Mr. Justice Rutledge. He said (323 U. S. at p. 440):

> One may start, *with the Court*, upon the basic idea that, in such a proceeding, the decree's function is not to impose sheer "punishment" for past misconduct, but is rather to devise effective measures to prevent its repetition and dissipate its consequence. [Italics supplied.]

B. THE INADEQUACY OF THE RELIEF GRANTED BY THE DISTRICT COURT

The district court in its opinion (R. 222) and judgment recognized the applicability of this principle. The vice of the judgment lies in the fact

that it falls far short of accomplishing the required neutralization.

The district court found that the defendants have unlawfully acquired control and domination over the industry to the exclusion of all actual or potential competitors (R. 304–305). This control was primarily acquired and maintained by an unlawful combination of patents forming "a veritable jungle of patent claims" (R. 221). Some of these patents were acquired from foreign producers partially by a promise by defendants to restrain their foreign trade in a licensed field broader than the claims of all the patents. And all of the patents came into the combination by a mutual desire of the defendants to strengthen their control over the industry. Included among the patents were those controlling the three originally independent and competing lines of development and the later patents of every significant producer in the world, including the proliferated patents which were the inevitable consequence of the unlawful agreements. As a result of the agreements the validity of none has been adjudicated in any court in any country in the world. Some of the patents the defendants recognized to be of doubtful validity. The defendants have used these patents to acquire control of the entire industry, including trade in unpatented products and products not produced by patented processes (*infra*, p. 98). These patents have also been used to control the competition of the only other domestic producers.

The defendants' control of the industry rests also upon their monopoly of the technology of the industry, a monopoly the district court found detrimental to competitors (R. 305). This information includes the accumulated knowledge and experience of every major producer of products within the licensed fields, fields broader than the trade encompassed by the patents. It relates not only to the practice of the inventions embodied in expired or existing patents but to "secret processes * * * which are not patentable or covered by patents" (RE. 1452). The importance of technology varies with different industries. The record here is replete with evidence of its importance in this industry (RE. 1249–1250, 1290, 1540, 1718–1727, 1878–1885, 1898–1925, 2220, 3651–3731). It is supported by the uniform insistence upon exchange of technology as well as patents in each of the many agreements entered into by the conspirators. One of the reasons why du Pont joined the cartel was to acquire this technology. This extreme importance is to be expected in a new industry concentrated in a few hands since its inception where restrictions on availability of technology have been a keystone of a continuing combination which would forever have kept such technology from the public domain.

Still another means by which control was acquired was the agreements of foreign producers to refrain from exporting to and competing in

the United States. Under the judgment of the district court, the foreign producers are released from these agreements. However, it is demonstrable that there will be either no or negligible competition from them. They are located in war-ravaged countries. The record does not show if their plants are in, or can be restored to, production. Furthermore, there is good reason to believe that they will not desire to export in view of their long established policy of non-competition and lack of contacts in this country (R. 948–949). An important factor is that National Lead now owns a substantial interest in and, under the judgment, may acquire the entire interest in most of the major foreign producers.[18]

The defendants' control of the industry, originally based upon an aggregation of patents, a monopoly of technology, and agreements for a world-wide allocation of exclusive territories, now rests in part upon yet another base. The unlawful control of the industry began with its birth in 1920 and has continued beyond the time of its maturity in 1940 to the present. As a result the industry has never been a part of the free enterprise system the Act was designed to protect. Unlawfully operating without that system, the defendants have been enabled to establish an

[18] NL has already applied to the district court for approval of its purchase of the remaining interest in Canadian Titanium Pigments, Limited.

industry and marketing pattern which will permit them to maintain their domination and control and to continue their restrictions upon the freedom of trade and the right to purchase in a competitive market. The chief characteristic of the industry pattern is the concentration of the industry and its control in the hands of NL and DP, corporations of great size and wealth. They are the two largest producers of titanium pigments in the world. Each has two plants strategically located possessing the major bulk of the domestic productive capacity, and assured sources of supply of ilmenite (R. 248). In these plants they produce the entire domestic production of composite pigments and 90% of the production of pure titanium dioxide. They have extensive research facilities, the entire accumulation of technology, and experience. They have trained personnel, trade connections, and established reputations and good will. The marketing pattern of the industry is characterized by price uniformity, a direct effect of the unlawful agreements (R. 304). Competition has been reduced simply to an attempt by NL and DP to demonstrate the superiority of their products.

The effect of the defendants' control, acquired and maintained by the described means, has been to suppress the growth and development of domestic competition with the result that all purchasers of composite pigments and substantially all pur-

chasers of pure titanium dioxide have been required to purchase from NL or DP and at a uniform price.

The scheme of the judgment fashioned by the district court is this: The present industry and marketing patterns are permitted to continue subject only to such changes as may result from provisions intended to permit the growth of competition. As we will show, the provisions designed to permit the growth of competition, do not, under existing factual circumstances, neutralize the defendants' power to suppress competition. On the contrary, the defendants are permitted rights and privileges, including the right to maintain existing industrial and marketing patterns, the combined effect of which is the continuance of their control with the result that the purchasing public is in the same and competitors in substantially the same position as before this action was brought.

I

The Misused Patents Should Be Rendered Unenforceable for Their Remaining Lives

A. Reasonable Royalty Licensing of Misused Patents Is Inadequate Antitrust Relief

The defendants' control of the industry was acquired and is maintained primarily by their patents,[188] *supra* (p. 50). The defendants did not object in the court below to the compulsory

[188] The word "patents" is used to include existing patents and patent applications.

licensing of these patents (R. 1227, 1240). We assume, therefore, that it is conceded that these patents should be available for use by non-defendants. The district court at the request of the defendants included a provision permitting the defendants to charge "a uniform, reasonable royalty" for their use. Subsequent to the entry of the judgment, the trial court stated that it did not believe the defendants should have been permitted to charge royalties and indicated that it permitted them to do so because it felt that under the decision of this Court in *Hartford-Empire Co. v. United States*, 323 U. S. 386, it had no power to do otherwise.[19] We shall discuss this question *infra*, p. 104.

The power created by the possession of these patents will not in fact be neutralized if defendants are permitted any royalty for their use. The right to collect royalties is the power to levy a

[19] In the course of the argument on the motion brought by defendant National Lead to determine reasonable royalties, the following statements were made: (Transcript of hearing on National Lead Motion, October 24, 1946, pp. 55-6).

Mr. WEBSTER: . . . Now, Your Honor has found here first that these two companies dominated and controlled the business of titanium manufactured in the United States, almost in those words. Then you go on to find that they have achieved a monopoly of technical information and that they have achieved that monopoly by virtue, among other things, of proliferation of patents.

The COURT: No doubt about that. I will believe that forever. . . . I will go further than that. *I would have liked to go along on the question of royalty-free patents, but I felt that I hadn't been given the green light on that.* (Italics supplied.)

toll upon all who would compete with the defendants. This toll not only reduces the defendants' costs of production in the amount they collect but increases the costs of the non-defendants who must pay it. If all other items of cost were identical this would still be a serious competitive disadvantage. But the record indicates that the costs of production are not and will not be identical since to some extent at least costs decrease with increased capacity. In 1939 Zirconium then operating on a production quota of 6000 tons per year (RE. 1728) requested du Pont to increase its quota to 9000 tons per year. It advised du Pont that "unless we can increase our volume of production we are faced with definite losses" and "if we could be permitted to increase our production to 9000 tons it would * * * put us on a profitable basis * * * (RE. 1737–1738).

Increased costs must be reflected in higher prices. Since defendants du Pont and National Lead are the two dominant producers of titanium products in the United States, a decree permitting those defendants to charge royalties for the use of their patents could only have a retarding effect upon establishment of competitive conditions in the titanium industry. Coupled with defendants' economic advantages of tremendous size, full line production of titanium pigments, established customer relationships and skilled personnel, is the further impediment to establishment of com-

petitive conditions inherent in the fact that newcomers to the industry or producers not parties to the conspiracy are faced with the necessity of paying tribute to the defendants in the form of royalties which become a part of the fixed cost of operation for such licensees. Conversely, the defendants in the future will have an added element of profit derived from the royalties exacted from other titanium producers. Thus, "reasonable" royalties, in reality, amount to a double subsidy to the defendants in that defendants derive a profit from the sales of all licensees and such licensees must absorb an additional item of cost not borne by the defendants. This royalty, no matter how "reasonable", unescapably must result in placing the defendants in a more favorable competitive position, *vis a vis*, their licensees.

Under such circumstances it can hardly be expected that risk capital will be attracted to new enterprises in the titanium industry and the court's efforts to instill competition will have failed from the start. This is precisely the result which was criticized by Justice Rutledge in his dissent in *Hartford-Empire v. United States, supra,* at 451, wherein he stated, "This Court's revisions of the decree in these respects load upon the industry and the consuming public continuing charges in favor of those who have violated both the anti-trust statutes and the patent laws, a burden which will not end until the last of the

illegally aggregated patents has been expired, if then."

It is to be noted that internecine conflict between the defendants since the entry of the lower court's decree has apparently convinced one of them, defendant National Lead, that reasonable royalty licensing of misused patents in this case cannot be effective or give adequate relief to prevent continued violations of the antitrust laws.[20] After attempting to negotiate reasonable royalties with du Pont respecting each other's patents, National Lead has come to the conclusion that such payments would put du Pont in a position to dominate the industry. If defendant National Lead, the world's largest producer of titanium pigments, finds itself at such

[20] Defendant National Lead in its motion filed in the lower court on October 9, 1946, has conceded, "The Court having found that National Lead and duPont patents and patent applications listed in the appendix attached to the decree were used in unreasonable restraint of trade, they cannot be enforced against infringers, at least until the effects of the illegal restraints have been fully dissipated." (Citing *Morton Salt*, *B. B. Chemical*, and *Mercoid* cases)

"If a patent cannot be enforced against infringers, it is clearly unreasonable to charge a royalty for a license under it.

"It is National's position, therefore, that it is unreasonable to require any applicant to pay a royalty for a license under any of the National or duPont patents or patent applications listed in the appendix attached to the decree and that this Court should so determine." (Petition of National Lead Co. Requesting the Court to Pass Upon the Reasonableness of the Royalty Demanded by Defendant E. I. du Pont de Nemours & Co. for a License Under the duPont Patents Listed in the Final Decree dated October 11, 1945, pp. 10–11).

a competitive disadvantage as a result of reasonable royalty licenses, how can it be expected that any newcomers or the existing independents could hope to survive, much less provide effective competition?

While compulsory licensing of the abused patents upon a reasonable royalty charge has a plausible sound, the attempt to continue or to create in the defendant a qualified patent privilege, inconsistent with the basic right of exclusion granted by the statute, creates more problems than it solves. These problems preclude and go beyond those which required the courts to refuse enforceability to patents claiming more than the invention discussed *infra*, pp. 78–97. Not only have all of the rights granted by the patent statute been exercised as a whole in the past by the defendants to the detriment of the functions of the patent system, but the exercise of these rights has necessarily become embodied in an affirmatively unlawful course of business in which such exercise is an inextricable part.

The Court has not hesitated to strike down in their totality license agreements containing provisions which might be regarded as valid apart from the illegal context in which they were used; the Courts do not attempt to save for the defendants the valid parts of the license agreements, but enjoin enforcement of the entire agreement. (*Interstate Circuit, Inc.* v. *United States*,

306 U. S. 208; *Ethyl Gasoline Corporation* v. *United States,* 309 U. S. 436.) The basis for such holdings is that the Court recognizes the practical impossibility of segregating the legal from the illegal elements of such agreements and at the same time of protecting the public interest in effective termination of the illegal scheme of which they were an integral part. Implicit in these holdings is the further recognition that in the absence of a history of lawful use by the defendants of such agreements the Court is in no position to predict the competitive consequences of such future use. Since the defendants themselves have deliberately deprived the Court of any basis for such an estimate, they are, of course, in no position to insist that one be made for their benefit.

Similarly, any attempt to keep alive for the benefit of the defendants some of the statutory patent privileges which are found to have been illegally used by them in the past also requires an artificial separation of interdependent privileges habitually used as a whole. We submit this is legally and practically impossible of achievement. Thus, in a decree requiring compulsory reasonable royalty licensing the statutory right to sue for infringement of the patent is qualified by partially removing monopoly rights in the hands of the patentee. The patentee no longer retains the essential attribute of the patent privilege,

that of excluding all others except upon his consent but is limited to retention of royalties nebulously defined as "reasonable." This form of relief would appear logically to be predicated on a finding that the only abuse of the patent has been exclusion of competitors by a scheme violative of the Sherman Act. It would appear to presuppose that the right to waive infringement suits upon payment of royalties to the patentee has not been abused.

Yet this analysis is not supported by the facts in the instant case. In the instant case not only have duPont and National Lead concertedly exercised their rights under patents to dominate the titanium industry and to exclude competition (R. 272, 291, 303–6), but also the defendants have granted licenses to two small American titanium producers, American Zirconium and Virginia Chemical, upon condition that the defendants be paid royalties based upon all titanium production of such licensees irrespective of whether the titanium was produced under the licensed patents or under processes not covered by the licensee. Thus not only have abuses occurred with respect to the statutory right to exclude but also with respect to the waiver of this right upon payment of royalties.

Traditional concepts of antitrust relief should, therefore, equally condemn continued exercise of

either right by the defendants. Application of the traditional antitrust policy in the formulation of an equity decree would prohibit assertion of any rights under the patent statutes by the defendants with respect to the abused patents.

It is also apparent that permitting the defendants to charge royalties for the licensing of the patents subject to this decree leaves in the defendants' hands the fruits of their illegal conduct. This also is pointed out by Justice Rutledge in his dissent in the *Hartford-Empire* v. *United States, supra,* at p. 443, in which he stated:

> Every dollar hereafter, as well as heretofore, secured from licenses on the patents illegally aggregated in the combination's hands is money to which the participants are not entitled by virtue of the patent laws or others. It is the immediate product of the conspiracy. To permit these patents to remain in the guilty hands, as sources of continuing lucrative revenue, not only does not deprive their owners of the fruit of their misconduct. Rather it secures to them its continued benefits. The pool may no longer utilize illegal methods. It, and the constituent members, will continue to enjoy the preferred competitive position which their conduct has given them and to use both that position and the ill-gotten patents, together with the patent position, to derive trade advantage over rivals and gain from the public which the patent laws of themselves never con-

templated and the antitrust laws, in my opinion, forbid.

Furthermore, permitting the defendants to charge royalties for the licensing of such patents leaves them with the advantages gained by abuse of the patent privilege. They hold all rights under processes initiated as alternative and potentially competitive means of producing titanium and its pigments and compounds.

No newcomer could undertake to contest the patent position which has been attained by the defendants. The burden of retracing the steps by which the technology of the industry has been built up, to separate what was or is novel in such patent position, and to present such information to the patent office and the courts, if not impossible, is a substantial foreclosure of the field. The illegal actions of the defendants have in the past precluded the step by step testing of such patent position, which is contemplated by the patent laws.

Only by rendering the abused patents unenforceable can the objectives of the antitrust laws and the patent laws again become operative in this industry.

B. UNWORKABILITY OF REASONABLE ROYALTY LICENSING AS ANTITRUST RELIEF

The practical difficulty of providing for reasonable royalties in a background of patent abuse and antitrust violation renders such relief unworkable. These practical considerations, implicit in the

rationale of the rule terminating the enforceability of abused patents, are:

1. That the evaluation of patents as a part of antitrust relief against a background of abuse of patents, imposes upon the courts "an onerous and absorbing administrative burden." *United States v. Crescent Amusement Co.*, 323 U. S. 173, 186.

2. That the fixing of a patent value in terms of a royalty which will at the same time instill competition into the industry and dissipate the effects of monopoly, requires judicial regulation of the future economics of the industry, and is hence incompatible with our system of free enterprise.

The determination by the Court in the *Hartford-Empire* case to permit continued enforceability of the abused patents and the collection of "reasonable" royalty was made without a demonstration to this Court by the parties of the seriousness of such difficulties.[21] However, consideration

[21] The difficulty of determining reasonable royalties, however, has previously been given recognition as one of the objections to practically every Congressional bill for compulsory licensing of patents. Testimony before Committee on Patents, House of Representatives on H. R. 23417 (Oldfield Bill), 62nd Cong., 2nd Sess. (1912), Part XII, p. 11, Part XXVI, p. 26, 29–30; Minority Report on H. R. 23417, 62nd Cong., 3rd Sess. (H. Rep. No. 1161, Part 2); Hearings before Senate Committee on Patents on Stanley Bill, S. 3410, 67th Cong., 2nd Sess. (1922); Hearings before the TNEC, Part 3, Patents, p. 999; Hearings on H. R. 9259, H. R. 9815, and H. R. 1666 before the Committee on Patents, Subcommittee on Compulsory Licensing, House of Representatives,

of these difficulties as illustrated by subsequent experiences in the Hartford case itself, indicates that they constitute an independent ground against permitting any continued vitality in the abused grants.

Valuation of a patent in a proceeding before a master in supplement to other antitrust relief, gives rise to all the problems which accompany any patent accounting. Klooster, *Patent Accountings* (1930); Bennett, *The American Patent System* (1943). The same resort must be made to expert testimony and to evidence regarding the character of the invention, cost of manufacture and marketing, prices, present and future demand, efficiency of producers, etc. *Austin-Western Road Machinery Company* v. *Disc Grader*

75th Cong., 3rd Sess. (March 1938, p. 30); Report of Special Committee of American Patent Law Association, March 15, 1938, with respect to H. R. 9259, 75th Cong., 3rd Sess.

The report of the Subcommittee of the American Bar Association appointed to Consider the King Bill, S. 383, 74th Cong. (1935) makes a typical comment:

"* * * Common experience in patent accountings indicates not only the difficulty of establishing a fair and reasonable royalty in a large proportion of cases, but the unlikelihood that the terms established in the granting of compulsory licenses would prove to be fair in any large percentage of cases. In most cases the initial terms would be fixed before use or sufficient use, so that necessarily the value of the invention and a fair return would be purely speculative. Again, in many instances the patent under which the license would be sought would be only one of a number of patents covering the thing in question. To evaluate that patent fairly would usually be hopeless."

and Plow Company, 291 Fed. 301 (C. C. A. 8); Klooster, *op. cit.*, p. 49 ff. There is the same difficulty of apportioning to the invention only its particular share of the total value of the product, process or apparatus of which it is a part. Klooster, *op. cit.*, Chapter LX. Furthermore, in selecting a comparable unpatented machine device or process for measuring the economic advantage or savings involved in using the patented invention, the problem is raised as to whether such machinery or device infringes the patent in question.[22] Another problem is that of determining the value of unexploited patents and applications or patents and applications for future use. Such prophecy of future value can only be decided on the basis of the most conjectural kind of expert testimony.

The solution of all these problems will necessarily be time consuming and expensive, even more so than the conventional patent accounting proceedings which are notoriously lengthy.[23]

[22] In the *Hartford-Empire* proceedings only one competing manufacturer exists. Its machine, the Liberty feeder was placed on the market in 1942. Counsel for Hartford have indicated that they consider this machine infringes a "substantial" number of the Hartford patents. The court may thus have to decide an infringement suit as a prerequisite to determining reasonable royalties.

[23] "Five years * * * is not too long to estimate for the accounting proceedings," Klooster, *op. cit.* p. 92. The proceedings before the master in the *Hartford-Empire* case will last at least several months. It should also be pointed out that so many matters of dispute have already arisen regard-

Furthermore, since a new invention may develop into unforeseen importance during its patent life or may be rendered substantially obsolete by future inventions, readjustment of royalties may be required from time to time by the court. Vaughan, *Economics of Our Patent System* (1925) p. 243. In fact, there would be no finality to the finding of a reasonable royalty in any sense since it could not be res adjudicata as to any particular applicant. *Goodyear Tire & Rubber Co.* v. *Overman Cushion Tire Co.*, 95 F. 2d 978, 984 (C. C. A. 6).

This burden which is imposed upon the courts in the case of a single or a few patents becomes overwhelming in patent pooling situations, such as in the instant case, where there is a piling of patent upon patent, an aggregation of patents extending across the whole breadth and depth of the industry and its technology. In the instant case the court will have to place a value upon each of 351 patents and applications owned or exclusively licensed to duPont and National Lead. About 200 of these patents and applications contain one or more claims on apparatus or processes used in the manufacture of titanium pigments. Most of them are improvements on the processes and apparatus originally disclosed

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ing procedure, burden and scope of proof, whether or not the validity of the patents is to be determined, etc., that the *Hartford* case will probably not be concluded until after a further hearing in this court.

in the basic patents now expired. The remaining 150 patents relate to the physical products themselves, which may be roughly classified as Titanium Oxide Pigments, Rutile Pigments, Composite Pigments, Extenders, Titanium Dioxide Plus Inorganic Materials, Zinc Oxide and White Lead plus TiO_2 Pigments, Pigments of TiO_2 plus Organic Materials, Titanates, Seed or Nuclear Materials, Intermediate Products, End Products Using Pigments and Miscellaneous. Of the 351 patents and applications only 66 are commercially used by National Lead and approximately 70 are used by duPont. The value of the commercially used patents and applications will presumably have to be determined by comparison with the unused patents in the aggregation.[24] The difficulty of evaluating these patents is further increased by the fact that the court will have no prior body of evidence or finding of fact to look to for assistance, since one of the effects of the conspiracy has been to prevent entirely patent litigation in the titanium pigment field throughout the world (R. 272).

Obviously, no court can decide arbitrarily that all the patents should be lumped together and a reasonable royalty fixed at an arbitrary figure of, e. g., 2% of the sales price of goods produced under the patents (du Pont's proposal to

[24] e. g., The Leuchs patent, purchased jointly by National Lead and duPont in 1934 which was thought might anticipate a Blumenfeld patent (R. 293).

National Lead). It would be contrary to the patent laws and to the public interest to reward the defendant patentee for more than the actual value of the economic advantages or savings attributable to the inventions covered by his unexpired patent or patents. *Scott Paper Co.* v. *Marcolus,* 326 U. S. 249, 256–7. It is only the "precise essence" of the "advance in the art" for which the patentee may be rewarded. *Mercoid Corporation* v. *Minneapolis-Honeywell Company,* 320 U. S. 680, 683.

This rule must be given strictest application where the defendant patentees have for years illegally dominated the industry and monopolized the art and the artisans. Under the circumstances of the present case, any offhand determination of reasonable royalty could easily reward the defendant patentee for (and burden competitors and the public with the cost of) economic advantages resulting from its high level of know-how rather than from advantages stemming directly and solely from the inventive features of the processes, machinery or products covered by his patents. Furthermore a licensee must be given the right to take a license under only the patent or patents which he may desire, e. g., the competitor who is satisfied to produce something less than the most improved process; or less than a full line of the patented products; or, for a more striking example, the competitor whose own

research has enabled him to develop and patent an entirely independent process or machine which in commercial application infringes upon a minor improvement patent of defendant patentee. In the instant case both independents, American Zirconium and Virginia Chemical, had patents of their own and took licenses under only a part of du Pont's patents. (R. 295, 297.)

This "onerous and absorbing" burden, is not peculiar to the determination of reasonable royalties in the Hartford-Empire and National Lead cases but will be imposed on the courts in every anti-trust case involving patents. In fact, in some antitrust suits where large areas of American industry are controlled patentwise the task would seem impossible.[25]

It is not merely the difficult, burdensome and time-consuming prospect of evaluating thousands of patents in many lawsuits involving countless products, imposed upon the courts which makes the reasonable royalty formula a harmful one. It saddles the courts, the public, the injured parties, and prospective competitors with what may be

[25] For example the Government has presently 5 cases against General Electric Co. involving hundreds of patents covering incandescent and fluorescent lamps and electrical equipment and apparatus of all kinds. In the civil suit pending in the Southern District of New York, *United States* v. *Imperial Chemical Industries, Ltd.*, charging a conspiracy to restrain trade involving a patents and processes exchange agreement, there are estimated to be over 2,000 patents involved covering 4,500 products in the chemical and allied fields.

years of litigation as a method of providing relief against antitrust violations. The days or weeks spent litigating the question whether the antitrust laws have been violated are thus terminated by a final judgment ordering months or even years of further litigation to fix reasonable royalties. The person most likely to gain from such continued litigation is the antitrust violator who has the patents, the monopoly profits, and the monopoly position. The competitor who settles [26] rather than face the expense of such litigation does so on the royalty terms of the antitrust violator, and thus enters or continues in the industry by paying tribute and doing business at the sufferance of the one against whose misuse of patents the judgment was designed to protect him.

A second practical problem of the reasonable royalty formula is that it puts the courts squarely in the position of regulating competition in the industry and of fixing the financial terms upon which new competition can enter the industry. The evaluation of the patent is not the court's only task. In arriving at a reasonable royalty, the

[26] It should be pointed out that determination of royalties by settlement negotiation between the defendants in a patent pooling case is no solution. It would merely be a continuation of conspiratorial activity. Judge Rifkind stated in the hearing on National Lead's Motion to Modify the Decree, that even if duPont and National Lead had agreed on a royalty, the court would still consider it necessary to go through with evaluation proceedings. (Transcript of Hearings, p. 60.)

value of the patent must be qualified and tempered by consideration for the competitor's ability to pay and by consideration for the ultimate purpose of relief, i. e., dissipation of the effects of the patent abuse and the instillation of competition in the industry. Obviously, if the value of the patent is so high as to prevent free and vigorous competition between defendant and competitor then monopoly and restraint by means of valuable patents would render the courts impotent to provide adequate relief. In the Memorandum Opinion of the district court in the *Hartford-Empire* case filed April 3, 1946,[27] the court ordered that a reasonable royalty should be determined "at a figure which will permit continuous competition between the lessor in leasing such machines and an efficient distributor in selling them, or, if the licensor does not also lease machines, then at a figure which will permit the sale of such machines at a reasonable profit by an efficient distributor thereof in a competitive market." The remarks of the district judge with regard to this problem are noteworthy:

> Until the Supreme Court says, in unmistakable terms, that it does not desire to instill competition into the manufacture, sale and distribution of glass making machinery, this Court must assume that the Higher Court does desire competition in

[27] *United States* v. *Hartford-Empire Co.*, 65 F. Supp. 271 (D. C. N. D. Ohio).

the industry and does desire that the illegal combination, resulting in an unreasonable restraint of trade in the glass container industry through the control of machinery used in the manufacture of glass, be dissolved. Perhaps the Higher Court did not fully appreciate the extent of the problem that it was referring to this Court to solve when it ordered that Hartford should be required to license the patents involved for manufacture, use or sale on reasonable terms. What are reasonable terms in a given industry for a license to manufacture and sell certain inventions cannot be arrived at through mathematical formula, nor should they be arrived at through arbitrary judgment or mere guess work. The parties involved herein have attempted to arrive at a definition of "reasonable terms" and they have failed. The Court has no criteria to govern him in arriving at a definition of "reasonable terms" in this particular industry and for this kind and class of machinery. By the terms of the Supreme Court opinion, the Hartford Company is required to license glassware manufacturers to use and machinery manufacturers to make and sell its patented inventions. The royalties charged manufacturers to use can be taken into consideration in arriving at the license fee to be paid by machinery manufacturers to make and sell, but they ought not to govern the establishment of reasonable terms for a license to make and sell. There is nothing

> to prevent the Hartford Company from continuing its established policy of leasing its machinery on a use royalty basis if it so desires, but certainly there is an injunction coming from the Supreme Court to the Hartford Company to license its patents on reasonable terms to all applicants who may desire to manufacture and sell this same machinery. This means, of course, the establishment of competition between the two methods of distributing machinery. The Court is then confronted with the problem of instilling competition into the business of manufacturing, selling and distributing glass making machinery, and at the same time allowing the patentee reasonable compensation for the licensing thereof.

Thus the courts must try to discern in the shifting forces in an industry the fine point at which a royalty rate may be made to coincide with the requirements of competition. It must attempt the difficult task of determining what economic advantage can be given to the defendant by means of royalties without at the same time giving that defendant a competitive advantage which will prevent others from entering or remaining in the industry.

To make that determination, if such a determination is possible, the court must decide how much competition it wants, how efficient a manufacturer must be (in order to sustain the

royalty), what is a fair profit return (over and above the royalty), and if the royalty fixed does not produce the required competition the court must adjust it downward until it does.

Such judicial regulation has been condemned by this court in the price-fixing cases, *United States* v. *Trenton Potteries*, 273 U. S. 392; *United States* v. *Socony-Vacuum Oil Co.*, 310 U. S. 150, where it refused to undertake the task of determining reasonable prices. It should likewise be condemned as a part of antitrust relief in cases involving patents because the determination of a reasonable royalty regulates competition just as surely as determining reasonable prices. In fact this Court has already had occasion to observe that the power to fix royalties "is tantamount to the power to fix prices", *Standard Oil Co.* v. *United States*, 283 U. S. 163, 174. And in the final analysis the determination of reasonable royalties requires a preliminary determination of the reasonableness of the defendants' prices.

In the instant case product patents as well as apparatus and process patents are involved. To determine what is a reasonable burden to impose upon competition, the court must not only determine savings in manufacturing cost arising out of the use of the patented processes and apparatus, but also profits obtainable from the sale of the patented products. Obviously the court can determine the profits attributable to the pat-

ented products only after the most exhaustive study of the past costs and prices and the prospective future sales of duPont, National Lead and the licensees, and even then only after the adoption of one or more accounting and economic theories.

Furthermore in examining profits obtainable from the use of the patents the courts must first consider whether such profits were obtained under monopoly prices.[28] If a royalty is fixed on past profits obtained under monopoly prices, that royalty may be so high as to burden the public thereafter with high monopoly prices. Moreover, the price level will determine the extent to which competitors can compete under the royalty charges. If an existing price level under which the defendant makes high profits is taken as a basis for determining what royalty a reasonably efficient[29] manufacturer can pay and still make a reasonable profit, the defendant can always control competition by the threat of cutting

[28] In the instant case, the court found one of the necessary effects of the conspiracy to be that "prices of titanium pigments and compounds in the United States have been maintained at uniform levels and all competition with foreign producers in the manufacture and sale of titanium pigments and compounds in the United States has been eliminated." (R. 304.)

[29] The problem of determining "efficiency" in an industry which, for twenty years, has been under monopoly control should not be underestimated. The monopolist's own practices are a poor test since there is no incentive for a monopolist to be efficient.

prices to the point where the licensee breaks even (assuming equal costs between them), whereas the defendant under those conditions still has a profit amounting to the royalty on his own sales plus the royalties paid by the competitor. Thus it would seem that if real competition is to be instilled into the industry, and the public protected against monopoly prices, the courts must fix a royalty based upon a price level estimated to return to defendants only a reasonable profit.

It is submitted, therefore, that the fixation of a reasonable royalty is no different from a determination of the court as to whether or not an agreed price is reasonable. The same problems of choice of economic philosophies, and accounting principles exist. There is the same inconstancy of any finding as a result of changing economic conditions. There is the same inadequacy of judicial procedures for making such findings. And more serious, there is the same end result—the dynamics of our economic system determined by judicial regulation rather than by the play of competitive forces in a free market.

In the long line of cases culminating in *Morton Salt* and *Mercoid, infra*, pp. 89–97, the rule was adopted that improperly used patents are unenforceable. This rule reflects the impossibility of reconciling a continued vitality in the abused grant with the purpose of the patent grant in a system of free competitive enterprise.

To attempt to permit a continued vitality in the abused grant by permitting the collection of reasonable royalties and the imposition of other conditions (such as continuing to secure the technology of others by requiring reciprocal licensing of licensees' patents) would not only be to assume that such a reconciliation can be made, but would impose an impractical burden on the courts.

C. THE POLICY OF THE PATENT LAW AS WELL AS OF THE ANTITRUST LAW REQUIRES THAT DEFENDANTS' PATENTS BE RENDERED UNENFORCEABLE FOR THEIR REMAINING TERMS

We have demonstrated that in order to dissipate the effect of the defendants' unlawful conduct and restore a truly competitive structure to the industry, it is necessary that defendants no longer be permitted to collect royalties on their patents here involved. The same conclusion—the unenforceability of the patents so misused—follows if the problem be approached by way of the patent laws. For the anti-monopoly policy of the Sherman Act and the statutory and judicially recognized restrictions on the use of patents are both designed to maintain a competitive economic system, limited only by the exclusive rights of those who use their patents lawfully. Although this is a suit under the Sherman Act, the identity of result under the patent law is important, inasmuch as defendants rely on their

"patent rights" to defeat the Government's contention that the patents be made completely unenforceable for their remaining lives. Furthermore, the theory of the decisions dealing with extensions of the patent privilege beyond the grant authorized by the patent statutes and the holdings in the *Mercoid* cases in particular, see pp. 89–94, *infra,* demonstrate that the same relief should be granted in antitrust suits.

We will show that domination of the titanium industry by the defendants has been achieved and maintained primarily by consistent misuse of an aggregation of patents. Infra, pp. 98–103. Such misuse, in essence, consisted of the deliberate extension of the several patent monopolies beyond the terms and scopes of the authorized grants. That the patents so misused should be rendered unenforceable for the remaining periods of the grants, is, we submit, compelled by established principles applicable alike under the patent laws and under the antitrust laws.

The patent is a grant of special privilege conferred upon inventors by the United States. Its constitutional purpose is to promote the progress of science and useful arts. The scope and terms of the grant are such as Congress decrees for it. Limitations and disabilities inherent in the grant arise from its constitutional purpose and the functions of the patent system in an economy of free competitive enterprise.

The Constitution provides for a patent system "to promote the Progress of Science and useful Arts, by securing for limited Times to * * * Inventors the exclusive Right to their * * * discoveries". Art. I, Section 8, Clause 8. The patent statutes grant to the patentee a right to exclude others from making, using, or vending his invention. 35 U. S. C. § 31. Basic under both the constitutional sanction and the statutory grant are the limitations: (1) only a right to exclude is conferred and (2) such right of exclusion is restricted to the invention or discovery.

These limitations are essential to the functioning of the patent system. The system operates by granting to the inventor a period during which he may exercise a right to exclude from his invention in exchange for disclosure of such invention. The purpose of disclosure is two-fold: (1) to insure the ultimate dedication to the public of the invention and the means of its practice and application and (2) to inform others of the limits of the grant, of the line between what is open for invention and development and what has for a limited time been preempted by the patentee. *Universal Oil Products Co.* v. *Globe Oil & Refining Co.*, 322 U. S. 471, 484. Such disclosure takes the form of the specifications and claims in the patent. The claims must be responsive to the prime condition upon which a patent is issued to

the patentee, he must "particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery". Revised Statutes, Sec. 4888, 35 U. S. C. § 33. Sharp definition of the invention is essential to prevent the issuance of colorable grants. Such grants would establish monopolies for subjects beyond the invention, would prevent competition in the development of technology and would result in privilege to monopolize derogating from the public domain where no grant should be issued. Only by adhering to the limitation that the privilege is limited to the invention or discovery can the patent system be kept within its proper function.

The underlying rationale for limiting the patent privilege to the invention has always been a part of our patent system. Whenever the patentee attempts to secure or assert a monopoly beyond his invention, "he prevents others from attempting to improve upon the manner and process which he has described in his specification—and may deter the public from using it, even if discovered. He can lawfully claim only what he has invented and described, and if he claims more his patent is void". *O'Reilly* v. *Morse*, 15 How. 62, 120–121.

Without limiting the privilege to the invention both in the grant and in the use, the constitutional

purpose of the patent grant is defeated and the patent system would conflict with the basic public policy against restraints of trade and monopoly which predates and is incorporated in the Sherman Act. Without such limitation the incentive to invent sought to be encouraged by the patent system would be perverted to an incentive to secure sanctions for illegal restraints of trade. *Mercoid Corp.* v. *Mid-Continent Co.*, 320 U. S. 661, 666.

The public policy enunciated in the constitution, the patent statutes and the decisions of this Court, limiting the patent privilege to the invention or discovery, is the dominant norm for adjudication of the scope and disabilities of the patent privilege. The limitation assures alike that the privilege will not be used to create monopolies beyond the invention in contravention of the antitrust laws and will not be used to bar the development of further and competitive technologies or the utilization of available technology as contemplated by the patent system.

It is a necessary and inevitable consequence of the public policy which limits the patent privilege to the invention that the patent is rendered unenforceable for its remaining life where it is used to extend the privilege beyond the invention for which the grant is authorized. Such extension creates situations which cannot be rectified under

the antitrust and the patent laws merely by prohibiting the abuse and permitting the privilege to continue. The past and future effects of loss of opportunity for others to invent, the uncertainty as to general commercial rights, the deterring of others from legitimate action together with the inseparability of past abuse from future operation of the patent system in this field necessitates complete unenforceability of the patent privilege where it has been claimed for more than, or extended beyond, the authorized grant. Several lines of authority converge to sustain this proposition.

Regardless of the manner in which private litigants have posed the issue of the relative importance of the public interest in the patent system as contrasted to the convenience or commercial interests of the patentee, the Court has consistently refused to apply ordinary principles of estoppel or other common rules of contract law where the application might lead to a result injurious to the dominant public interest in maintaining the integrity of the patent system. Thus the Court has refused to foreclose a private litigant from contesting the validity of a patent even though he had previously attempted to secure a similar patent, *Haughey* v. *Lee,* 151 U. S. 282; *Paramount Publix Corporation* v. *American Tri-Ergon Corporation,* 294 U. S. 464; even though

he had not exercised a high degree of diligence in making the claim of invalidity, *Hazel-Atlas Co.* v. *Hartford-Empire Co.*, 322 U. S. 238; or had taken a restrictive license from the patentee, *Sola Electric Co.* v. *Jefferson Electric Co.*, 317 U. S. 173; *Edward Katzinger Co.* v. *Chicago Metallic Mfg. Co.*, Nos. 70, 71, this Term, decided January 6, 1947. And in *Scott Paper Co.* v. *Marcalus Manufacturing Co.*, 326 U. S. 249, the primacy of the public interest in the patent system was reaffirmed under circumstances which make it perfectly clear that conventional doctrines applicable to the disposition of property rights created by private contract have a very limited application to the disposition of patent rights. In that case the Court refused to apply the doctrine of private equitable estoppel to prevent an inventor who had assigned his patent from claiming as against his assignee that he had in fact invented nothing in securing the patent in question, but had merely copied an expired patent. The public interest in securing the rights of all the public, including in this instance the specious inventor, to the practice of expired patents was held to override the principles of equitable estoppel which govern transactions in private property. Similarly the Court has refused to enforce a contract which required the licensee not to contest the validity of certain patents under which he was not licensed. *Pope Manufacturing Co.* v. *Gormully*, 144 U. S. 224. Furthermore, since the

question of validity of a patent is of much greater public importance than the question of infringement by a particular litigant, the Court has criticized a tendency of the lower federal courts to dispose of infringement suits upon the ground of non-infringement without passing upon the question of the validity of the patent. *Sinclair Co.* v. *Interchemical Corporation*, 325 U. S. 327.

In thus protecting the public interest dominant in the patent system this Court has repeatedly refused to enforce a patent used to monopolize or claim more than the invention, with no suggestion that such a result confiscated any property rights.[30] Thus where an applicant for a patent has failed to "particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery," 35 U. S. C. § 33, the Court has refused enforcement, recognizing that "to sustain claims so indefinite as not to give the notice required by the statute would be in direct contravention of the public interest which Congress therein recognized and sought to protect." *United Carbon Co.* v. *Binney Co.*, 317 U. S. 228, 233. Or as was said in *Universal Oil Products Co.* v. *Globe Oil Co.*, 322 U. S. 471, 484, "the claim is required to be specific for the very purpose of protecting the public against extension of the scope of the patent." So too,

[30] See also *General Electric Co.* v. *Wabash Co.*, 304 U. S. 364; *Evans* v. *Eaton*, 7 Wheat. 356; *Brooks* v. *Fiske*, 15 How. 212.

the patent privilege is lost if the claims made in application or grant go beyond the invention (*Marconi Wireless Telegraph Co.* v. *United States*, 320 U. S. 1), for otherwise "the patent monopoly would thus be extended beyond the discovery and would discourage rather than promote invention." *Holland Furniture Co.* v. *Perkins Glue Co.*, 277 U. S. 245, 257.[31] If the invention and the method of its practice are not fully stated, the patent is invalidated *in toto*. *General Electric Co.* v. *Wabash Co.*, 304 U. S. 364. Similarly, any claim designed to deceive or mislead the public invalidates the entire patent. *Turner* v. *Winter*, 1 T. R. 602, 605 (1787); *Carlton* v. *Bokee*, 17 Wall. 463, 472. The Court will refuse to accord the patent privilege to an invention which includes the old with the new, as it was not the intention of the patent law "to take from the public, that of which they were fairly in possession. * * * it would be extremely impolitic, to retard or embarrass this advance, by withdrawing from the public any useful invention or art, and making it a subject of private monopoly." *Shaw* v. *Cooper*, 7 Pet. 292, 320. Nor may a patentee lengthen the period of his monopoly by withholding knowledge of his invention, yet work it commercially, and then at a later date apply for

[31] See also *O'Reilly* v. *Morse*, 15 How. 62.

a patent to forestall the danger of competition. *Pennock* v. *Dialogue*, 2 Pet. 1; *Woodbridge* v. *United States*, 263 U. S. 50.[32]

The only escape which the law allows to the person who claims more than his invention is a timely correction before the Patent Office and a showing that the excess or exaggeration in the claims were due to mistake, accident or inadvertence: Rev. Stat. §§ 4917, 4922; 35 U. S. C. 65, 71. Under the general rule a patent with an invalid claim is wholly void, the purpose being the "protection of the public from the threat of an invalid patent." *Marconi Wireless Telegraph Co.* v. *United States*, 320 U. S. at p. 58. To invoke the protection of the disclaimer statute, the patentee must conduct himself strictly in accordance with its terms. "Escape is permitted only to one who acted originally in good faith and who has complied with the prescribed conditions." *Ensten* v. *Simon, Ascher & Co.*, 282 U. S. 445, 452. The Court has strictly enforced the requirements of the disclaimer statute and where it has found a failure to comply with its specifications the patentee has lost his entire grant, including his rights under the otherwise valid claims of his patents. The Court has not permitted reformation of the claims so as to describe solely that which was true

[32] See also *Metallizing Engineering Co.* v. *Kenyon Bearing Co.*, 153 F. 2d 516 (C. C. A. 2).

invention nor has it concerned itself with the question whether such loss of an exclusive right in the invention constitutes a confiscation of property rights. The Court in *Altoona Theatres* v. *Tri-Ergon Corp.*, 294 U. S. 477, 493, indicating that it gives no weight to a consideration of confiscation of property rights in cases involving abused patents, has stated "the settled rule that unreasonable delay in making a disclaimer invalidates the whole patent * * * rests upon the similar principle that misuse of the patent, or a part of it, by the patentee in such a manner as to mislead the public or operate to its detriment, deprives the claim of the benefit of the patent laws."

Nor has the Court been concerned where a patentee has lost his patent privilege by failure to comply strictly with the terms of the reissue statute. Rev. Stat. § 4916; 35 U. S. C. § 64. By its terms a patentee may surrender a defective patent and obtain a reissue only upon a showing of inadvertence, accident or mistake and such reissue must be sought without delay. The Court has been quick to point out the damage to the public interest which would result from a loose application of this statute holding that the grant of a reissue "after an unreasonable delay, is clearly an abuse of the power to grant reissues and may justly be declared illegal and void. It will not do for the patentee to wait until other

inventors have produced new forms of improvement, and then, with the new light thus acquired, under pretence of inadvertence and mistake, apply for such an enlargement of his claim as to make it embrace these new forms. Such a process of expansion carried on indefinitely, without regard to lapse of time, would operate most unjustly against the public, and is totally unauthorized by the law. In such a case, even he who has rights, and sleeps upon them, justly loses them" *Miller* v. *Brass Co.*, 104 U. S. 350, 355.

And in a now famous line of cases beginning with *Motion Picture Co.* v. *Universal Film Co.*, 243 U. S. 502, and culminating with *Mercoid Corporation* v. *Mid-Continent Co.*, 320 U. S. 661,[33] the Court has condemned any attempt after issuance of the patent to monopolize the unpatented by use of the patent privilege. These decisions have not been predicated upon any failure to comply with the statutory requirements of the patent laws. The Court in these cases has denied enforceability to the patent privilege where the basic limitation of the grant to the invention has been disregarded by the patentee or those claiming under him. The Court has recognized that the evils of extending the patent grant beyond the

[33] See also *Carbice Corp.* v. *American Patents Corp.*, 283 U. S. 27; *Leitch Mfg. Co.* v. *Barber Co.*, 302 U. S. 458; *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U. S. 488; *B. B. Chemical Co.* v. *Ellis*, 314 U. S. 495.

authorized right to exclude from an invention, are the same and require the application of the rule of unenforceability wherever and however the abuse of the privilege occurs. No matter how the question arises the evil is "expanding the patent beyond the legitimate scope of its monopoly" (*Mercoid Corp.* v. *Mid-Continent Co., supra*, 665), with the attendant interference in the functions of the patent system and injury to the public. The Court has recognized the fundamental similarity in the injury to the public arising from patents claiming more than the invention and the use of patents to monopolize or control competition in the unpatented by stating that "the public policy which includes inventions within the granted monopoly excludes from it all that is not embraced in the invention. It equally forbids the use of the patent to secure an exclusive right or limited monopoly not granted by the Patent Office and which it is contrary to public policy to grant." *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U. S. 488, 492.

In the *Mercoid* case (320 U. S. at 665) the Court pointed out that the basic rationale of the Court's decisions which "alike nullifies a patent where any part of it is invalid * * * and denies to the patentee after issuance the power to use it in such a way as to acquire a monopoly which is not plainly within the terms of

the grant" is "the protection of the public in a system of free enterprise". We submit that this rationale is basic to the cases which have been herein reviewed; that it is fundamental and applicable whether the issue has been that of indefinite claims, claims encompassing more than the invention, failure to comply strictly with the disclaimer statute or the reissue statute, or misuse of patents after issuance. The Court has recognized that the threat to a system of free enterprise and the distortion of the patent system which results from such abuses requires unenforceability of the privilege where it has been extended or exercised beyond the authorized grant.

The purpose of the antitrust laws also, of course, is the protection of a system of competitive free enterprise.

In *Mercoid Corp.* v. *Mid-Continent Co.*, 320 U. S. 661, and *Mercoid Corp.* v. *Minneapolis-Honeywell Co.*, 320 U. S. 680, the Court was called upon to determine the consequences flowing from the misuse of a patent in violation of the antitrust laws. There the Court recognized that the rationale of the rule rendering improperly used patents unenforceable was applicable alike under the patent laws and the antitrust laws. In the first case, *Mercoid Corp.* v. *Mid-Continent Co.*, Mercoid, in answer to a suit for contributory infringement, alleging misuse of

the Cross patent in violation of the antitrust laws; and in the second case, *Mercoid Corp.* v. *Minneapolis-Honeywell,* Mercoid, charging a use of the Freeman patent in violation of the antitrust laws, sought affirmative relief against respondents in the form of injunctions against infringement suits and treble damages. In the first decision, holding that attempts to control competition in an unpatented device forming an integral part of the combination patent constituted a misuse of the patent, the Court again restated the threat to the integrity of the patent system and to the maintenance of the antitrust laws presented by such misuse, as follows (pp. 667, 668):

> But the fact remains that the competition which is sought to be controlled is not competition in the sale of the patented assembly but merely competition in the sale of the unpatented thermostatic controls. The patent is employed to protect the market for a device on which no patent has been granted. But for the patent such restraint on trade would plainly run afoul of the anti-trust laws. If the restraint is lawful because of the patent, the patent will have been expanded by contract. That on which no patent could be obtained would be as effectively protected as if a patent had been issued. Private business would function as its own patent office and impose its own law upon its licensees. It would obtain by contract what letters patent alone may grant. Such a vast power to multiply monopo-

> lies" at the will of the patentee * * * would carve out exceptions to the anti-trust laws which Congress has not sanctioned. * * *
>
> * * * If a limited monopoly over the combustion stoker switch were allowed, it would not be a monopoly accorded inventive genius by the patent laws but a monopoly born of a commercial desire to avoid the rigors of competition fostered by the anti-trust laws. If such an expansion of the patent monopoly could be effected by contract, the integrity of the patent system would be seriously compromised.

In *Mercoid Corp.* v. *Minneapolis-Honeywell*, *supra*, the Court expressly recognized that the misuse of the Freeman patent constituted a violation of the antitrust laws and that Mercoid was entitled to affirmative injunctive relief against the patentee, stating (p. 684), "For the reasons stated in *Mercoid* v. *Mid-Continent Investment Co.*, *supra*, the effort here made to control competition in this unpatented device plainly violates the anti-trust laws, even apart from the price-fixing provisions of the license agreements. It follows that petitioner is entitled to be relieved against the consequences of those acts." The decree entered in these two cases in the District Court pursuant to the mandate of the Supreme Court effectively protect the Mercoid Corporation from further misuse of the patents by Minneapolis-Honeywell and Mid-Continent Investment

Co. and render the patents unenforceable, without time limitation, as against Mercoid.[34]

We submit that the application of the doctrine of unenforceability of patents misused in violation of the antitrust laws in suits between private litigants demonstrates that similar relief is appropriate in suits instituted by the Government under Section 4 of the Sherman Act to restrain and prevent continued violations of the Sherman Act. The principal significance of those two cases lies, we believe, in their demonstration that the same basic rationale which renders abused patents unenforceable is operative alike under the patent statutes and the antitrust laws.

[34] In *Mid-Continent* v. *Mercoid*, Civil Action No. 2070, the District Court pursuant to mandate entered a final judgment on April 10, 1944, enjoining Mid-Continent Investment and Minneapolis-Honeywell Regulator Company from instituting or threatening to institute suits for contributory infringement of the Cross patent against Mercoid's customers, "or from in any manner interfering with defendant's business by use of the Cross patent;". Mid-Continent and Minneapolis-Honeywell were enjoined from engaging in or carrying out the conspiracy and combination in restraint of trade found by the Supreme Court or from engaging in any similar conspiracy involving the Cross patent. The patentees were further enjoined from enforcing or carrying out any of the provisions of the exclusive license or the sublicenses declared illegal in the Court's opinion and were enjoined from enforcing or carrying out any similar licenses involving the Cross patent. The complaint of Mid-Continent Investment Company and Minneapolis-Honeywell Regulator Company was dismissed. The Mercoid Corporation was also allowed treble damages and a master was appointed to ascertain the amount of damages suffered by Mercoid. [Footnote continued on next page.]

The public interest in patents has led this Court not to apply the doctrines which ordinarily govern private litigation. See pages 83–84, *supra*. No such obstacles impede the protection of the public interest in suits by the United States, on behalf of

In *Mercoid* v. *Minneapolis-Honeywell*, Civil Action No. 1839, the District Court pursuant to the mandate of this Court entered a final judgment on March 16, 1944, adjudging that Minneapolis-Honeywell had misused the Freeman patent in violation of Sections 1, 2 and 14 of the antitrust laws; decreed that the complaint of Minneapolis-Honeywell be dismissed; and issued an injunction perpetually restraining Minneapolis-Honeywell from granting any license to use the combination claimed by the Freeman patent where such use is conditioned on purchasing from Minneapolis-Honeywell or from sources designated by it any parts or devices to be used in combination but not patented by the Freeman patent. The Court also enjoined Minneapolis-Honeywell from selling any part or device with an understanding that the purchaser will be granted the right to use the Freeman combination patent on condition that such part or device shall be purchased from Minneapolis-Honeywell or from a source designated by it. Minneapolis-Honeywell was also enjoined from discriminating in the granting of licenses under the Freeman patent between users of such combination who purchase parts from Minneapolis-Honeywell or a source designated by it and such users who purchase such parts or devices from any other source. In addition Minneapolis-Honeywell was enjoined from so using the Freeman patent as to tend to create a monopoly in a part or device not patented by such patent or in any way misusing such patent in violation of the antitrust laws. Also enjoined were suits, or threats of suits, against customers of Mercoid for alleged infringement of the Freeman patent on account of the sale or use of devices obtained from Mercoid prior to the date of the judgment. Mercoid was allowed treble damages against Minneapolis-Honeywell and a special master appointed to ascertain the amount of damages.

the public, under the Sherman Act. The relief granted by the court in private patent litigation to protect the public interest as a matter of course dictates that the relief granted in public proceedings under the Sherman Act must be no less.

The instant case, brought under Section 4 of the Sherman Act necessarily involves more than mere injury to private parties and consequently the relief granted must give effective protection to the general public. We submit that in such suits this protection can only be had by a decree which enjoins the defendants from the future exercise of any of the rights granted by the patent statutes with respect to the patents misused in the unlawful conspiracy or monopoly. This implies no departure from or extension of the doctrine of future unenforceability by a misuser of the patent privilege established in the private litigation and infringement cases cited above. It is a recognition that the doctrine is based on an underlying public policy from which definite disabilities on patents have developed and are applied.[35]

[35] See Mr. Justice Rutledge's statement of this policy in his dissent in *Hartford-Empire* v. *United States*, 323 U. S. 386, 452–3:

"The general policy has been to restrict the right of the patent-holder rigidly within the terms of his grant and, when he overreaches its boundary, to deny him the usual protections of the holder of property. That this ordinarily has been done in infringement suits or suits for cancellation does not

The majority opinion in the *Hartford-Empire* case, 323 U. S. 386, apparently did not consider the applicability of the foregoing principles to patent rights standing alone. That opinion and the clarifying opinion, 324 U. S. 570, were primarily concerned with the effect of the judgment on past as well as future royalties which included past payments for rental of machinery and for servicing such machinery. Hence, a forfeiture of payments for products and services not fully covered by the patents was thought to be involved which suggested a confiscation of property rights not granted by the patent statutes.

It should be borne in mind that the application of the principles reviewed in the foregoing decisions is limited in this case to a prohibition against enforcement by the defendants of the misused patents quite apart from any relief relating to charges for machinery or services which were involved in the *Hartford-Empire* case.

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qualify the fact or the policy. * * * When the patent-holder so far overreaches his privilege as to intrude upon the rights of others and the public protected by the anti-trust legislation, and does this in such a way that he cannot further exercise the privilege without also trespassing upon the rights thus protected, either his right or the other person's, and the public right must give way. It is wholly incongruous in such circumstances to say that the privilege of the trespasser shall be preserved and the rights of all others which he has transgressed shall continue to give way to the consequences of his wrongdoing."

D. THE DEFENDANTS HAVE DELIBERATELY EXTENDED THE PATENT PRIVILEGE BEYOND THE AUTHORIZED GRANT

The defendants' abuse of the patent privilege was not limited to single acts or to a series of acts but comprehended the entire industry, its present and future production, technology, markets and participants. The conspiracy was initiated at the time when three alternative processes for the production of titanium pigments were being developed. It resulted in the elimination of all competition in the development of these processes for commercial use. Eligibility to participate in the industry was conditioned upon the terms which conspirators had established for patent licenses and "a business, originally founded upon patents which have long since expired, is today less accessible to free enterprise than when it was first launched" (R. 221). The original patents have been extended to control over all the products and to all uses, compounds, and mixtures of titanium.

As a condition to the waiver of the right to exclude from the practice of the inventions covered by existing patents the parties to the conspiracy have, by private arrangement, extended the existing patent monopolies to restrain and monopolize subject matter and activities unprotected by the several patent grants. They have in fact accomplished all the advantages to

themselves and disadvantages to others which the rule limiting the grant to the invention seeks to prevent. The parties have tied as a condition to the exchange of exclusive licenses under existing patents a requirement that all future patents relating to the broad field of the titanium industry be exclusively licensed to the conspirators.

The parties have extended their existing patent monopolies by giving to them extraterritorial effect. Accordingly, the markets of the world have been divided into exclusive domains, each of which has been allocated to one or several of the conspirators. Existing patents monopolies have been extended to restrict or prohibit the exportation and importation not only of patented products but unpatented and unpatentable products. Exportation of titanium products has been prohibited even to countries where no system of patents exists. Marketing restrictions have been predicated on patent grants which even the parties themselves have recognized as of doubtful validity. To make doubly sure that the territorial allocations were respected, the parties to this conspiracy have been designated, each for his own respective territory, the exclusive agent for the marketing in such territory of titanium products produced by the other parties, such sales to be at prices and on terms determined by such exclusive agent. Disposition of titanium products after sale by the cartel parties has been

regulated to the end that customers of the cartel might not disturb the market allocations.

Licensing has been conditioned upon reciprocal undertakings to furnish all present and future "know-how" to the cartel parties.

The restrictions invoked by the parties as a condition to the waiving of the right to exclude extended beyond the life of any then existing patent.

By mutual agreement new parties to the cartel could gain access to the pooled inventions only upon condition that they would accede to all the above restrictions. Thus the new party was licensed under the pooled patents of the cartel only upon condition that such licensee would contribute to the pool not only his existing patents but also his future inventions, that he would obey the allocation of world markets and confine his activities to the market reserved to him, that he would impart to the cartel all his present and future technological information relating to the titanium industry.

Small American companies interloping in the American titanium market gained freedom from patent intimidation only upon accepting tonnage restrictions. Payment of substantial royalties has been based upon all titanium produced whether by utilization of the licensed inventions or by use of processes not subject to the licensed patents.

The abuse of patents occurred not only in their use after issuance by the Patent Office. Competition in the acquisition of patents was also proscribed in that defendants du Pont and National Lead adhered to the policy of privately determining which had priority in respect of patent claims which were the subject of interference proceedings in the Patent Office. (Motion of Defendant National Lead for Determination of Royalties, dated October 9, 1946, p. 9). The patent statutes contemplate issuance of patents only to the first inventors. Interference proceedings in the Patent Office are a means of assuring this result as well as avoiding the issuance of otherwise improper patents. This requirement has been disregarded and these safeguards nullified by defendants' program to eliminate all interference proceedings among themselves. As to existing patents and as to patents not then in existence the parties agreed never to contest their validity. By such activities the parties to the conspiracy eliminated the chief source of private resistance to the grant of improper patent monopolies (R. 221). The inevitable consequence has been a proliferation of patents uncontested in the Patent Office and untested by the courts. By multiplying monopolies, patents long since expired have retained their attribute of exclusivity by virtue of the pooling arrangements. In practical effect there has been no dedication to the domain of public tech-

nology of the subject matter covered by the expired patents.

The elimination of competition in the development of technology, the proliferation of uncontested patents, the conditioning of eligibility to enter industry or to utilize its products on the licensing terms fixed by the cartel, and the projection of the original patents to control all future developments in the industry represent all the evils which the principle limiting the patent privilege to a right to exclude from the invention, and only the invention, seeks to prevent. The defendant's activities have resulted in consummation of what the Court feared when in *United Carbon Co.* v. *Binney Co.*, 317 U. S. 228, 236, it said: "A zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims would discourage invention only a little less than unequivocal foreclosure of the field." Here the defendants, through their abuse of the patent privilege, have not only created a zone of uncertainty as to the scope and status of technology in the titanium field, but have succeeded in foreclosing the field and securing the inventions of others for their own use. The constitutional purpose of the patent system has thus been completely nullified.

It is now impossible to restore the research, which could have been done, to recreate the in-

centive to invent, or to revitalize the prod of fear of competitive technological development which would have existed if the operations of the patent system had not been distorted by the defendants. It is impossible here, just as it is impossible where distortion of the patent system occurs by indefinite or unjustified claims, to reach back through time and withdraw from the course of events the evil effects on the patent system of the defendant's abuse of patents to achieve a complete monopoly of the industry. To maintain the future integrity of the patent system and to prevent continuance of the monopoly, complete unenforceability of the abused patent is as essential here as in any other of the situations where unenforceability results from extension of the privilege beyond the authorized grant.

Certainly, if a private litigant demonstrated these abuses in defense to an infringement action brought by these defendants, the courts would have refused enforcement of the misused patents and granted affirmative injunctive relief against future enforcement of the abused patents in accordance with the doctrine of the *Mercoid* cases. *A fortiori*, the Government should be accorded at least commensurate relief in this proceeding if the effectiveness of the antitrust laws is to be maintained and the integrity of patent system preserved.

E. THE HARTFORD-EMPIRE CASE IS INCONSISTENT WITH THE ABOVE PRINCIPLES AND SHOULD BE OVERRULED.

In *Hartford-Empire Co.* v. *United States*, 323 U. S. 386, the Court, speaking through less than a majority of the full membership, set aside the provision of the district court's decree requiring that the patents misused by the defendants be licensed royalty-free in the future. The reasoning of the opinion was (p. 414):

> Since the provisions of paragraphs 21 to 24 inclusive, in effect confiscate considerable portions of the appellants' property, we think they go beyond what is required to dissolve the combination and prevent future combinations of like character. * * *

The quoted passage seems to say that a court of equity may not order adequate anti-trust relief if the result would be that property values are destroyed. Such a theory, we submit, is in conflict with well-established principles of equity jurisdiction, applied in anti-trust cases and elsewhere. Furthermore, the premise upon which application of the theory rests is defective, inasmuch as misused patents cannot be enforced and hence have no value to be confiscated.

It is to be noted that in this case, as distinct from the *Hartford* case, in which Hartford was dependent for its revenues mainly on the royalties from its patents, the world-wide pool of patents

has been largely created through an exchange of royalty-free licenses (Findings 44, 48, 60 and 73; R. 251–254, 255–256, 270, 280–289). The cross-licensing arrangement between DuPont and National Lead initially provided for mutual royalties but no royalties were paid after 1936 (Finding 73). Thus income from royalty-bearing licenses under the defendants' patents has not been the objective that the defendants customarily have sought. Yet the decree in this case seeks to assure the defendants a reward, which they have never had before. To deprive the defendants of this new opportunity to use the antitrust decree against them as a basis for expanding their revenues from the misused patents can hardly be confiscatory.[26]

[26] In its petition in the district court (see p. 58, supra), National Lead has stated: "Moreover, it is solely because of the Government's successful prosecution of this case that DuPont is enabled to demand any royalty from National. Had no case been started, or had the Government been unsuccessful, DuPont would not be in a position to collect any royalty from National. Stated in its simplest terms, therefore, DuPont's position comes down to this: As a result of a trial in which the Government has satisfied the Court that National and DuPont were together guilty of conspiring to violate Section 1 of the Sherman Act, DuPont proposes to extract millions of dollars from co-defendant National, a tribute which duPont would not be allowed to collect but for the Government's success in establishing the guilt of both companies. This absurd result cannot be the purpose of the decree. If such a result is achieved, it can truly be said that DuPont, and not the Government, won the case."

a. *To prevent the collection of royalties on unenforceable patents is not confiscation*

We have demonstrated in II that the patent and antitrust laws combine to render unenforceable patents which have been misused. The *Mercoid* cases, in which the patentee was both denied the enforcement he sought as plaintiff and enjoined under the Sherman Act, best illustrates the inseparability of the two approaches.

Since a patent, unlike physical property, is only a right to exclude, it has no value if the patentee cannot enforce that right. An antitrust decree which prevents enforcement of misused patents which the patentee could not enforce in private litigation, whether by a direct injunction against infringement suits or by ordering the patentee not to collect royalties, obviously does not confiscate anything of value.

The *Hartford* opinion (323 U. S. at 415) attempted to meet this argument by stating that *Morton Salt Co.* v. *G. S. Suppiger,* 314 U. S. 488, and *B. B. Chemical Co.* v. *Ellis,* 314 U. S. 495, cited by the Government:

> * * * merely apply the doctrine that, so long as the patent owner is using his patent in violation of antitrust laws, he cannot restrain infringement of it by others. * * *

But even if it can be said that the *Morton Salt* and *B. B. Chemical* cases rest entirely on the private law doctrine of "unclean hands" rather than on the public interest in the patent system,

the same cannot be said of the subsequent *Mercoid* cases which were decided after the *Hartford* case was first briefed and argued and were not mentioned in Mr. Justice Roberts' opinion. For in the second *Mercoid* case, 320 U. S. 680, the Court unanimously (with four concurring Justices noting the *Morton Salt Co.* case as sole authority, 320 U. S. at 684), allowed the petitioner affirmative injunctive relief against the patentee, a result which could not have been reached if the unenforceability of the patent was based only on the defensive principle of unclean hands. Even if the latter were the sole basis for unenforceability, however, it would follow that if patents are unenforceable they have no value. An antitrust judgment which recognizes this to be so accordingly cannot be deemed confiscatory, or a forfeiture. Its effect is primarily to prevent the patentee from using patents which could not be legitimately enforced to harrass potential users with the threat of expensive litigation which would often in itself be sufficient to compel them to pay tribute which could not be lawfully exacted.[37]

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[37] *United States* v. *Vehicular Parking, Ltd.*, 54 F. Supp. 828 (D. Del.); *Lynch* v. *Magnavox Co.*, 94 F. 2d 883 (C. C. A. 9); *Patterson* v. *United States*, 222 Fed. 599 (C. C. A. 6), certiorari denied, 238 U. S. 635; *A. B. Farquhar Co.* v. *National Harrow Co.*, 102 Fed. 714 (C. C. A. 3); Vaughan, *Economics of our Patent System*, pp. 147–152; Hamilton, Temporary National Economic Committee, Monograph 31, pp. 47–48, 89; Temporary National Economic Committee, Hearings, 537, 538, 585–6, 589, 590, 600, 613–14, 631, 790.

The *Hartford* opinion relies upon the failure of Congress to enact bills which would have enabled the courts "to cancel a patent which has been used as an instrument to violate antitrust laws" (323 U. S. at 416), or compelled "a patentee found guilty of violation of the antitrust laws * * * to a penalty, to license all his future inventions at reasonable royalties" (*id.* at 417).[38] But it does not follow that the failure of Congress to adopt such legislation shows that Congress meant to prevent equity courts from exercising their established powers to give adequate relief particularly where such relief follows principles already developed in patent cases. The most that can be said is that Congress has not found occasion to single out this type of legislation from the many other bills introduced and make it a special order of business for its determination. In these circumstances the recent

[38] Although the Court relied upon these proposed bills in setting aside the royalty-free provisions of the District Court's decree, the Court apparently disregarded these bills by directing reasonable royalty licensing of defendants' existing and future patents. This result was all that some of the bills referred to in the Court's opinion sought to accomplish. Furthermore the fact that the majority opinion in the *Hartford-Empire* case ordered compulsory licensing at reasonable royalties for present and future patents and enjoined suits for past infringements, also indicates that the Court did not consider that relief in antitrust cases was limited by any overriding or clear-cut necessity for preserving improperly used patent grants.

warning by Justice Rutledge in *Cleveland* v. *United States*, decided Nov 18, 1946, Nos. 12–19, this Term, is pertinent. He said:

> Notwithstanding recent tendency, the idea cannot always be accepted that Congress, by remaining silent and taking no affirmative action in repudiation, gives approval to judicial misconstruction of its enactments. See *Girouard* v. *United States*, 328 U. S. —. It is perhaps too late now to deny that, legislatively speaking as in ordinary life, silence in some instances may give consent.[1] But it would be going even farther beyond reason and common experience to maintain, as there are signs we may be by way of doing, that in legislation any more than in other affairs silence or nonaction always is acquiescence equivalent to action.
>
> There are vast differences between legislating by doing nothing and legislating by positive enactment, both in the processes by which the will of Congress is derived and stated[2] and in the clarity

[1] As an original matter, in view of the specific and constitutional procedures required for the enactment of legislation, it would seem hardly justifiable to treat as having legislative effect any action or nonaction not taken in accordance with the prescribed procedures.

[2] See note 4. Legislative intent derived from nonaction or "silence" lacks all the supporting evidences of legislation enacted pursuant to prescribed pro-

and certainty of the expression of its will." * * *

* * * Just as dubious legislative history is at times much overridden, so also is silence or inaction often mistaken for legislation.

Furthermore, the patent cases discussed, *supra*, pp. 78–79, and particularly the *Mercoid* cases are inconsistent with the notion that the failure of Congress to pass such bills precludes the courts from holding illegally used patents unenforceable, for that is precisely what the courts have done in the cases cited.

If, when necessary to afford effective relief in private antitrust suits, such as in the *Mercoid* cases, the courts may so decree, it is not likely that Congress intended the courts to have less power in antitrust actions instituted by the Government, see pp. 95–96, *supra*. Clearly, Section 4 of the Sherman Act (15 U. S. C. Sec. 4), which empowers the courts to prevent violations at the suit of the United States, is at least as broad as Section 16 of the Clayton Act (15 U. S. C. Sec. 26), which authorizes private persons to obtain

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cedures, including reduction of bills to writing, committee reports, debates, and reduction to final written form, as well as voting records and executive approval. Necessarily also the intent must be derived by a form of negative inference, a process lending itself to much guesswork.

[a] See note 5.

injunctive relief in accordance with general principles of equity.[39]

b. *Equity has power to grant effective relief even though the result may be to impair property values*

Even if it be assumed, *arguendo*, that application of the unenforceability doctrine would deprive the patentee of presently existing values, it does not follow that such an order would be improper. In undoing the consequences of unlawful conduct, equity frequently may cause pecuniary injury to a defendant even though it has neither the power nor the desire to punish or to forfeit property. In such cases, equity courts

[39] The pertinent provisions of Sec. 4 of the Sherman Act read as follows: "The several district courts of the United States are hereby invested with jurisdiction to prevent and restrain violations of this act; and it shall be the duty of the several district attorneys of the United States, in their respective districts, under the direction of the Attorney-General, to institute proceedings in equity to prevent and restrain such violations."

The pertinent provision of Section 16 of the Clayton Act reads as follows: "Any person, firm, corporation, or association shall be entitled to sue for and have injunctive relief, in any court of the United States having jurisdiction over the parties, against threatened loss or damage by a violation of the antitrust laws, including sections two, three, seven and eight of this Act, when and under the same conditions and principles as injunctive relief against threatened conduct that will cause loss or damage is granted by courts of equity, under the rules governing such proceedings * * *."

do not first determine whether property rights will be affected or destroyed and if so hold themselves powerless to provide a remedy having such an effect, no matter how necessary to the undoing of the wrong, although they will, of course, endeavor to sacrifice property values as litfle as is compatible with the granting of adequate relief. They first decide what relief is essential, and any harmful but necessary effect on the property rights of the wrong-doer is *absque injuria*.

The *Hartford* opinion adopts the former approach. Instead of stating merely that a court of equity may not enter an order for the purpose of penalizing or confiscating, the opinion indicates (p. 414) that since the royalty free provisions of the order confiscate property they necessarily "go beyond what is required to dissolve the combination and prevent future combinations of like character". This is a non sequitur. It puts the cart before the horse. The effect on property rights cannot determine whether such an order is in practice necessary to undo the effect of the conspiracy. The reasoning of the Court can be warranted only if there is a rule barring courts of equity from destroying property rights even when necessary to the granting of effective relief. The contrary, however, is clearly the case, as we will show.

It is well known that equity has power to abate a nuisance even though the effect may be to destroy property values, e. g., *Georgia* v. *Tennessee Copper Co.*, 206 U. S. 230, 237 U. S. 474; *American Smelting Co.* v. *Godfrey*, 158 Fed. 225 (C. C. A. 8); *United States* v. *Luce*, 141 Fed. 385 (C. C. D. Del.). A more direct deprivation of property, when necessary to do equity by restoring the *status quo* before the violation of law, occurs when money must be paid out, as for purposes of restitution. The forced payment of money is certainly the taking of the defendant's property. In *Porter* v. *Warner Holding Co.*, No. 793, 1945 Term, decided June 3, 1946, the Court upheld an order of monetary restitution in an injunction suit brought under the Emergency Price Control Act. In its opinion the Court stated with respect to the power of a court of equity:

> * * * Unless otherwise provided by statute, all the inherent equitable powers of the District Court are available for the proper and complete exercise of that jurisdiction. And since the public interest is involved in a proceeding of this nature, those equitable powers assume an even broader and more flexible character than when only a private controversy is at stake. *Virginian Ry. Co.* v. *System Federation*, 300 U. S. 515, 552. Power is thereby resident in the District Court, in exercising this

jurisdiction, "to do equity and to mould each decree to the necessities of the particular case." * * *

More closely akin to a patent is such intangible property as a contract right. That such a right may be abrogated when it stands in the way of effective antitrust relief needs no citation of authority.[40]

And if we turn to cases under the antitrust laws, it is clear that defendants have no right to escape compliance with a decree of divestiture, when that is necessary to restore competition, on the ground that available purchasers will not pay the full value of the property to be divested. Thus in *United States* v. *Union Pacific R. R. Co.*, 226 U. S. 61, 98, the Court ordered the stock in the Southern Pacific owned by the Union Pacific to be disposed of by "receivership and sale" if no satisfactory plan were presented in three months, without making its order conditional upon the bidders at the sale offering a price which would secure the defendants against property loss. The basic principle that loss of property value is to be avoided only to the extent that such a result

[40] The right to a trade-mark is also analogous to a patent right, and yet courts administering the Federal Trade Commission Act enjoin the use of deceptive trade names irrespective of whether the respondent has registered the name as a trade-mark and of the value which such a mark might have. See *Charles of the Ritz Distributors Corp.* v. *Federal Trade Commission*, 143 F. 2d 676, 679 (C. C. A. 2) and cases cited.

will not impair full effectuation of the object of the statute was stated when the *Union Pacific* case returned to this Court for instructions as to whether a proportional distribution of the Southern Pacific shares to Union Pacific stockholders were sufficient. In holding that it was not, the Court stated (226 U. S. 470, 477):

> So far as is consistent with this purpose a court of equity dealing with such combinations should conserve the property interests involved, but never in such wise as to sacrifice the object and purpose of the statute.

The same principle was applied in *Continental Insurance Co.* v. *United States*, 259 U. S. 156, a proceeding brought by Reading Co. bondholders who had not themselves violated the Antitrust Act. In sanctioning redistribution of the property secured to the bondholders by mortgage, this Court clearly indicated its desire to disturb their property rights no "more than seems necessary to effect fully the purpose of the law" (259 U. S. at 173), saying (at 171, 173):

> The power of the court under the Sherman Anti-Trust Law to disregard the letter and legal effect of the bonds and general mortgage under the circumstances of this case, in order to achieve the purpose of the law, we can not question. * * *
>
> We have no desire to vary the security of the bondholders more than seems neces-

> sary to effect fully the purpose of the law, and wish to recognize their equities as against the two companies and the stockholders, as will later appear.

In a similar case decided the same day, the Court stated (*United States* v. *Southern Pacific Co.*, 259 U. S. 214, 241):

> We direct that a decree be entered severing the control by the Southern Pacific of the Central Pacific by stock ownership or by lease. But, in accomplishing this purpose, *so far as compatible therewith*, the mortgage lien asserted in the brief filed for the Central Union Trust Company shall be protected. [Italics supplied.]

These cases clearly demonstrate that in fashioning antitrust relief the courts should attempt to impair property value as little as is "compatible" with the accomplishment of the purpose of the antitrust law—not that they should refuse to give effective relief because property rights may be injured.

That this is the proper approach was recently reaffirmed in *United States* v. *Crescent Amusement Co.*, 323 U. S. 173, decided shortly before the Hartford-Empire case. The defendants there contended that the divestiture provisions of the decree (323 U. S. at 189):

> * * * are inequitable and harsh income tax wise, that they exceed any reasonable

requirement for the prevention of future violations, and that they are therefore punitive.

In reply, the Court stated (*ibid.*):

> The Court has quite consistently recognized in this type of Sherman Act case that the government should not be confined to an injunction against further violations. Dissolution of the combination will be ordered where the creation of the combination is itself the violation. * * * Those who violate the Act may not reap the benefits of their violations and avoid an undoing of their unlawful project on the plea of hardship or inconvenience. That principle is adequate here to justify divestiture of all interest in some of the affiliates since their acquisition was part of the fruits of the conspiracy. But the relief need not, and under these facts should not, be so restricted. The fact that the companies were affiliated induced joint action and agreement. Common control was one of the instruments in bringing about unity of purpose and unity of action and in making the conspiracy effective. If that affiliation continues, there will be tempting opportunity for these exhibitors to continue to act in combination against the independents. The proclivity in the past to use that affiliation for an unlawful end warrants effective assurance that no such opportunity will be available in the future. * * *

c. Where the lawful portion of the value of defendants' patents cannot be segregated from the value resulting from the unlawful combination, defendants are entitled to no return on the patents.

The provision that the defendants may not enforce their patents has another justification not considered in the *Hartford* case. Only the unlawful combination prevented competition between the Barton-Rossi, Jebsen, and Blumenfeld patents. The joiner of all the patents to create and maintain a patent position for exclusive use by the defendants is what has given the defendants their present advantage. If there had been competition between the three original patent developments, there would have been and would still be an incentive to keep the royalties low otherwise lacking. Under the present decree the District Court is to attempt to fix reasonable royalties. But a substantial proportion of the value of the defendants' patents at present exists only because of the prior lack of competition between the different lines of technological development.

If it were possible to segregate whatever value the patents now possess into the portion derived solely from the lawful patent right and not from the unlawful use the district court might proceed to establish royalty for the former alone.[11]

[11] As to the difficulty of this see pp. 63–78, *supra*.

But defendants' unlawful conduct during over two decades has so established the structure of the industry that any such segregation is now utterly impossible. We do not believe that it can now be said with any certainty that any particular proportion of the patent values does not stem from the unlawful manner in which the patents have been used.

Inasmuch as this inability to determine the portion of the values attributable to the lawful patent right has resulted from the defendant's own misconduct, they must bear the burden of it. As this Court recently stated in dealing with an analogous problem in *Bigelow* v. *RKO Radio Pictures*, 327 U. S. 251, 265:

> The most elementary conceptions of justice and public policy require that the wrongdoer shall bear the risk of the uncertainty which his own wrong has created. See *Package Closure Corp.* v. *Sealright Co.*, 141 F. 2d 972, 979. That principle is an ancient one, *Armory* v. *Delamirie*, 1 Strange 505, and is not restricted to proof of damage in antitrust suits, although their character is such as frequently to call for it application. * * * And in cases where a wrongdoer has incorporated the subject of a plaintiff's patent or trade-mark in a single product to which the defendant has contributed other elements of value or utility, and has derived profits from the sale of the product, this

Court has sustained recovery of the full amount of defendant's profits where his own wrongful action has made it impossible for the plaintiff to show in what proportions he and the defendant have contributed to the profits. *Westinghouse Co.* v. *Wagner Mfg. Co.*, 225 U. S. 604; *Hamilton Shoe Co.* v. *Wolf Brothers*, 240 U. S. 251; see also *Sheldon* v. *Metro-Goldwyn Corp.*, 309 U. S. 390, 406.

The illustration last quoted is the converse of the situation here. Where the wrongdoer has by his own conduct prevented severance of the wrongful and lawful portions of the value of a patent, he should be entitled to nothing. This result is reached not for purposes of punishment, but to restrain defendant from further profiting from his wrong at the expense of the victims of the crime.

A similar principle proclaimed in a number of antitrust cases permits the cancellation of valid as well as of invalid segments of an unlawfully established system "in order that the ground may be cleansed effectually from the vice of the former illegality. Equity has power to eradicate the evils of a condemned scheme by prohibition of the use of admittedly valid parts of an invalid whole". *United States* v. *Bausch & Lomb Co.*, 321 U. S. 707, 724. Similarly in dealing with a scheme containing an intermingling of lawful and unlawful provisions, the Court stated in

United States v. *Univis Lens Co.*, 316 U. S. 241, 254:

> But if we assume that such restrictions might otherwise be valid, cf. *Fashion Guild* v. *Trade Commission*, 312 U. S. 457, 467, these features are so interwoven with and identified with the price restrictions which are the core of the licensing system that the case is an appropriate one for the suppression of the entire licensing scheme even though some of its features, independently established, might have been used for lawful purposes. *Ethyl Gasoline Corp.* v. *United States, supra*, 461. * * *

d. *The duration of the injunction against enforcement*

In the Government's original assignment of errors it was urged that the District Court erred by not making defendants' patents royalty free until the consequences of the defendants' misconduct should have been dissipated (R. 330). The Government has moved to amend this assignment so as to enjoin the enforcement of defendants titanium patents for the remainder of their lives. As appears from the motion to amend, the latter relief was well within the limit of the relief requested from the court below.

For the reasons set forth herein we believe that defendants are not entitled to any royalties on the patents they have misused. If the Court

is unwilling to accept this contention or to permit the amendment of the assignment of errors, the Government requests in the alternative that the defendants be enjoined from enforcing their patents or collecting royalties thereon until they show that the effect of their wrongdoing has been fully dissipated and a truly competitive industry restored.

Our reasons for urging that the public interest requires that defendants' patents be rendered unenforceable for the remainder of their lives may be briefly summarized as follows:

(1) The unlawful use of the patents here involved, the combination which prevented competition in licensing and inventing, was in large part, to an undefinable extent, responsible for defendants securing royalties on the patents. The combination left the two defendants in a dominant position over the industry. To require others to pay the defendants royalties, would, as has been shown *supra* pp. 54–63, preserve the defendants' advantage and thereby prevent neutralization of their unlawful conduct and the establishment of effective competition. Thus the consequences of the unlawful conduct can never be dissipated while royalties continue to be paid.

(2) As a practical matter, newcomers would be discouraged from entering the industry if there was a possibility that at some future time

they might be forced to commence paying royalties. Potential competitors would doubtless recognize that when this occurred royalty payments would give the defendants an advantage over them at least in the amount of the royalties. Since many of the chemicals produced are standardized products, even a small difference in production costs would render it difficult for a newcomer to compete. The mere possibility that royalties might have to be paid at some unknown future time would therefore in itself prevent the investment of capital in new enterprises in the field. The seemingly reasonable restriction on the period of the royalty free licensing would thus completely block the establishment of an industry in which others might compete with the defendants.

(3) The same reasons which have led to the unenforceability of the patent privilege under the patent laws where the privilege has been used so as to create, or to threaten the creation of, a monopoly beyond the authorized grant are *a fortiori* applicable where the extension of the privilege is the deliberate program of an illegal combination. Both the integrity of the patent system and the efficacy of the antitrust laws require termination of the patent privilege which has been abused by such a deliberate program.

II

Permitting Reciprocal Licensing Increases Defendants' Domination of the Industry

The judgment of the trial court provides (R. 313) that the licenses granted by the defendants "may, at the option of the licensor, be conditioned upon the reciprocal grant of a license by the applicant, at a reasonable royalty, under any and all patents covering titanium pigments or their manufacture, now issued or pending, or issued within five years from the date of this decree, if any, owned or controlled by such applicant." The inclusion of such a provision is not required (*Hartford-Empire Co.* v. *United States*, 323 U. S. 386) and its inclusion in this case at the request of the defendants (R. 116–126, 1242) impairs the capacity of the judgment to restore competition in the industry.

The judgment is intended to "restore titanium to the system of free competition" (R. 222) by neutralizing the means by which the emergence and growth of competition has been stifled. We assume it to be conceded that this cannot be accomplished unless non-defendants have access to patents of the defendant. However, access to these patents neutralizes but one means of defendants' control. Non-defendants will still be faced with the practical competitive disadvantages inherent in competing with the long-entrenched duopoly. The present condition on access to

patents of defendants increases this disparity in the competitive positions of defendants and non-defendants. It requires each non-defendant who would use the patents of the defendants to surrender to its entrenched competitors the competitive advantage of any patent it may have or acquire. The extent of this surrender is complete. A non-defendant who wishes to use a single patent of the defendants must surrender to them licenses under every patent it now owns or acquires within five years. Moreover, the cumulative effect of these surrenders still further increases the disparity in positions since each defendant acquires licenses under all the patents of each non-defendant while each non-defendant acquires licenses only under the patents of the defendants.[42] The result is a continually enlarging pool of patents available to defendants but unavailable to every outsider. A final consequence is to remove from non-defendants one of the incentives to invent.

The considerations which induced the trial court to include this provision are suggested by its remarks at the hearing on the form of the judgment. It is inferable that the Court believed its effect would be to create a pool of patents to

[42] The defendants would not be required to grant sublicenses to other non-defendants. The judgment does not require that the defendants be granted power to sublicense and, even if such power were granted, the judgment applies only to exclusive licenses acquired by the defendants (R. 310).

which every producer in the industry would have access (R. 1252). We have already shown that this would not be its effect since the patents of one non-defendant are not made available to other non-defendants. Moreover, even if such was its effect it would still be inappropriate for the reasons stated.

The district court intimated that it might also have been influenced by the fact that "conceivably" a non-defendant might become "the dominating factor in the industry under this extraordinary advantage of being able to take everything for itself and keeping everything that it has" (R. 1274). Such a result might be conceived, but we submit it is so highly improbable under the facts of this case as not to justify the inclusion of a provision which is actually in derogation of the statutory objective of the judgment. While we believe such a development impossible, we wish to point out that if such a possibility existed it would merely show how much the defendants' unlawful aggregation of patents has suppressed the growth of competition. It is the function of the judgment to restore the industry to competition irrespective of its consequences on defendants' positions. It is clearly improper to require a non-defendant to surrender lawfully acquired competitive advantages to protect the defendants' unlawfully acquired position from the effects of the competition the Act seeks to protect.

National Lead contended in requesting the inclusion of the provision that the defendants "are entitled to the same treatment from their competitors as they are required to accord to them." This contention fails to consider that these competitors were not parties to the action and have not been found guilty of violating the Sherman Act or abusing the privilege conferred upon them by a patent grant. We do not believe that a court has *power* to restrict the lawful competitive advantages of a non-defendant. Insofar as such competitive advantages may exist, they are factors which the Court may take into consideration in determining the nature and quantum of the relief against the defendants in the action. But they clearly may not be made the basis for any affirmative scheme of judicial future regulation of those advantages under the guise of an injunction against the defendants. There is, therefore, no basis for subjecting their patents to compulsory licensing to the defendants.

III

The Need To Give Outsiders Access to the Technology of the Industry

The technology of the titanium pigment industry may for present purposes be divided into two classes. The first class includes a body of information relating to its general problems. Some of these problems are among those on which

DP and NL are shown by the record to have exchanged information, *supra,* p. 33. The second class includes information directly related to the manufacture of specific products and the methods of practicing inventions embodied in expired or existing patents. The defendants and their co-conspirators have by means of the unlawful combination to which they were parties acquired and maintained as a closely guarded secret a monopoly of this technology and this monopoly is one of the sources of defendants' control over the industry, *supra,* p. 51. The judgment of the district court does not grant outsiders access to this fund of accumulated knowledge. The judgment merely provides that for a period of three years a license granted pursuant to paragraph 7 may at the option of either party contain a provision for imparting at a reasonable charge and in writing the methods and processes used by the licensor in its commercial practice under the licensed patents in connection with the production of titanium pigments (R. 314). Its effect is to continue the exclusion of outsiders from the general technology of the industry and place outsiders under a competitive disadvantage as a result of lack of information on the solution of the general problems of the industry. Its further effect is to exclude outsiders from the technology relating to the production of products within the ambit of the restraints of the industry, as defined by the

definition of "licensed field" in the various agreements, which are neither patented nor produced by a patented process or apparatus (RE. 1452). It also excludes outsiders from the technology relating to the practice of the inventions embodied in expired patents including the basic patents upon which the industry is based. And finally its effect is to exclude outsiders from the technology relating to the practice of any patented invention which the defendants have not put into commercial use.

If defendants' control over the industry is to be neutralized and outsiders are to be given an opportunity to compete within any reasonable time in all the products included in the trade and commerce restrained, these outsiders must be given access to the entire technology of the industry. But in any event the information to which they should be granted access should not be narrower in scope than that provided for in the agreements between DP and NL. The requirement that the licensee pay a reasonable charge for the information will, as a practical matter, tend to limit to the irreducible minimum the information which the defendants will be required to impart to outsiders.

The present provision of the judgment insofar as it requires the imparting of information relating to the inventions embodied in the license patents is not unlike those frequently contained

in the normal patent license. The provision may be adequate in such cases because of the difference in the problem presented in the usual case of a patent license. The basic technology of the industry is known or available, hence all that is needed is the technology relating to the licensed patent. The situation here stands on a different footing. The basic technology of the industry is a closely guarded secret of the conspirators and a means by which the unlawful control of the industry has been achieved. The object of the provision is to neutralize this control and assist in opening the industry to outsiders. Any argument that the present provision is adequate misconceives its purpose to be merely to permit the outsiders to practice the inventions contained in the licensed patents.

We recognize that this Court in the *Hartford-Empire* case, 323 U. S. at 418, without stating any reason, deleted paragraph 24 (c) of the decree of the district court which required the petitioners to furnish at cost-plus a reasonable profit all drawings and patterns relating to the machinery or methods and in the manufacture of glassware embodied in the licensed inventions. Section 24 (c) seems to have been treated as an integral portion of Section 24 (a), which was concerned with royalty-free licensing. For the reasons heretofore indicated in this brief, we believe that even on that assumption such a provision would

have been proper. But in this case the need for giving the entire industry access to the defendants' technology justifies a provision to that effect in the decree irrespective of whether the patents are made unenforceable. The defendants' monopoly of the technology was an independent means of control of which they must be divested if true competition in the industry is to be restored. It should be noted that the defendants will receive a reasonable compensation for furnishing the technology, so that the inclusion in the judgment of the relief demanded by the Government in this respect is not at all inconsistent with the holding in the *Hartford* case with respect to royalty-free patents.

IV

The Need for Partial Divestiture of Plants

National Lead and duPont each own and operate two separate plants for the manufacture of titanium pigments. The plants of National Lead are located at St. Louis, Missouri, and Sayreville, New Jersey; those of duPont at Baltimore, Maryland, and Edge Moor, Delaware (R. 1153, 874, Govt. Ex. 3).[42] It is the Government's contention that effective relief requires each of the defendants to transfer one of its plants to a new corporation whose stock should be sold to

[42] By stipulation between the parties Exhibit 3 was not reproduced but is a part of the record for all purposes (R. 360).

and owned by others than the defendants or their co-conspirators.

The district court found that the defendants acquired domination and control of the industry as a result of the unlawful agreements. They produce 100 per cent of the composite and 90 per cent of the pure titanium pigments produced in the United States. They possess the competitive advantage of size, capacity, assured source of ilmenite, the cumulated experience and technology of the major producers here and abroad, extensive research facilities, trained personnel, established trade connections and good will, and probably much lower production costs than those who do or would compete with them. *Supra*, p. 56.

These competitive advantages give them the power to suppress the competition of others. An industry so constituted with its dominant members so armed is not attractive to the huge capital necessary to enter it. And those who are already in the industry or may later enter it are faced with such serious competitive handicaps that their substantial growth is problematical. The position of competitors in this regard is not unlike that which prompted the court to say in *United States* v. *Aluminum Company of America*, 148 F. 2d 416, 431 (C. C. A. 2):

> It [the defendant Aluminum Company] insists that it never excluded competitors; but we can think of no more effective

> exclusion than progressively to embrace each new opportunity as it opened, and to face every newcomer with new capacity already geared into a great organization, having the advantage of experience, trade connections and the elite of personnel.

The above language was quoted and "endorsed" in *American Tobacco Co. v. United States*, decided June 10, 1946, Nos. 18–20, last Term.

Reality requires the assumption that defendants will utilize to the fullest every advantage they possess. Unquestionably they will adopt policies designed to prevent outsiders from capturing any portion of the market the defendants have so long regarded as their own.

Since the emergence of any, or at least substantial, competition within any foreseeable period is unlikely, the existing industrial pattern will probably continue; and with it the existing marketing pattern in which purchasers are denied the benefits of true competition. Economic studies have demonstrated that when two great corporations completely dominate an industry there is no incentive for the two corporations to compete with each other, quite apart from the presence or absence of collusive agreements between them.[*] Duopoly, the control of an

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[*] Wilcox, *Competition and Monopoly in American Industry*, Temporary National Economic Committee Monograph No. 21, 76th Cong., 3d Sess. (1940), pp. 9–10, 98–112; Chamberlin, *The Theory of Monopolistic Competition*, 1935, Ch. III.

industry by two giant corporations where each has the power to weigh acceptance of a share in a stable market against the rigors of price competition inevitably has the same basic characteristics and the same ultimate effects as monopolization of an industry by a single corporation. In this case the duopoly has demonstrated the characteristics and effects of monopoly. Price uniformity resulted from the duopoly even though the lower court found no evidence of express agreement on prices. Without divestiture the private interests of the duopolists continue to be set against the public interest because the hazard of competition is too great and the premium of "price stability" becomes a necessity in the eyes of the management. It ignores the realities inherent in the concentration of economic power possessed by these two defendants, to say that competition in the titanium industry can be restored merely by the application of injunctive relief against future conduct. The course of conduct of the two defendants over a period of years is too long engrained in the business attitudes of the management of the two corporations to be rectified by enjoining certain restrictive practices. The titanium industry is only an isolated instance of the dangerous trend toward concentration of economic power in the hands of a few industrial giants.[45]

[45] *Economic Concentration in World War II*, Report of the Smaller War Plants Corp. to the Special Committee to Study Problems of American Small Business, 79th Cong., 2d Sess. 1946.

This trend cannot be curtailed unless duopolies adjudged to have violated the Sherman Act are divested of sufficient part of their assets to establish new competing units in the industry.

Thus there now exists in each of the defendants a power which in and of itself operates to continue substantially to deprive competitors and the public of the benefits of the Sherman Act. Since this continually operating and expanding force cannot be neutralized or otherwise controlled by enjoining future conduct we contend that establishment of new competing units out of the old noncompeting duopoly is the only appropriate remedy.

The court has sanctioned partial divestiture to neutralize power restrictive of competition. Thus partial divestiture has been approved when the court found a fused combination unlawful because of the power created by the fusion. The classic examples of this type of case are *Standard Oil Co.* v. *United States*, 221 U. S. 1, and *United States* v. *American Tobacco Co.*, 221 U. S. 106. We believe these cases establish a general principle that such relief is appropriate whenever a power exists which must be neutralized and cannot be neutralized by injunctive relief. It is true that divestiture in these cases was applied to the domination of the industry by a single corporation. But it certainly cannot be seriously urged that the Sherman Act is applicable only to domination by a single person or corporation. *Ameri-*

can Tobacco Co. v. United States, decided June 10, 1946, Nos. 16–20, 1945 Term. If it is true that two corporations can unlawfully monopolize, then certainly the power of the courts to create competing units by partial divestiture of the two would exist no less than in the case of a single monopolist. The real question here is not the power of the court to divest, but the necessity of divestiture to secure adequate relief in this particular case. That the courts have also recognized that adequate competition cannot be secured in a duopoly situation, much less with a duopoly characterized by an entire history of complete absence of competition, is evidenced from the fact that in every divestiture or dissolution suit in the past, the creation of more than two competing units was required.[46]

Defendants' position that partial divestiture is appropriate only when power has been acquired by acquisitions or fusions of competitors fails to consider that the purpose of such relief is to neutralize a power and not to undo acquisitions

[46] In *United States v. Standard Oil Co.*, 173 Fed. 177 (C. C. E. D. Mo.) there were approximately 40 units in the various branches of the industry. The smallest number of units in any one field was 5, i. e., production. See Commissioner of Corporations, I Report on Petroleum Industry (1907), 85 *et seq.*; in *United States v. American Tobacco Co.*, 164 Fed. 700, 164 Fed. 1024 (C. C. S. D. N. Y.), there were 14 units of which 3 were full line; in *United States v. E. I. Du Pont de Nemours & Co.*, 188 Fed. 127 (C. C. Del.), there were 3 units; in *United States v. Corn Products Refining Co.*, 234 Fed. 964 (S. D. N. Y.) 4 plants.

and fusions." The excerpt, quoted *supra*, p. 47, from the opinion in the *Standard Oil* case, makes this clear. Moreover, it has been held that a company which acquired monopoly power merely by expanding its facilities to meet the growing demands of an industry is not invulnerable to partial divestiture. *United States* v. *Aluminum Company, supra.* Certainly when such expansion is promoted by the use of unlawful devices the power so acquired may be neutralized by partial divestiture.

The position that partial divestiture is appropriate only in cases of illegal acquisitions or fused combinations means that a court could not grant effective relief. It would mean in this case, for example, that Virginia Chemical and Zirconium, whose growth was unlawfully stifled by the defendants, must now attempt to expand and acquire the position of which they were deprived without the benefits of a rapidly enlarging demand and by a competitive struggle in which their competitors, the defendants, are powerfully armed with the fruit of their wrong-doing.

Since the defendants possess this power, it would seem immaterial, when the issue is one of

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"The development of titanium as a pigment threatened established interests of duPont and National Lead in white lead and lithopone. Both duPont and National Lead, respectively, made their entry into the titanium field by acquiring control over other manufacturers of pigments interested in the then developing titanium field. (R. 238, 246.) Historically, at least, the fusion of potentially competitive units occurred in the development of the present titanium duopoly.

relief as distinguished from the issue of whether there has been a violation of the act, whether the power was lawfully or unlawfully acquired. However, it is clear that in this case the defendants did unlawfully acquire their power. Since its inception, the domestic industry has been protected from the competition of foreign-made products by the agreements of foreign producers not to export to or compete within the United States; from the competition of goods produced in the United States under patents owned by foreigners by virtue of the agreements of the foreigners to make those patents available only to the defendants; and from the competition of Virginia Chemical and Zirconium by the limitations on their production. Moreover, a purpose of the DP and NL agreement was their mutual desire to strengthen their position *vis-a-vis* outsiders. This desire was accomplished by the agreement which also produced a proliferation of patents. The combined result was an effective patent barrier to new competition. Clearly, since the agreements contained provisions calculated to accomplish that purpose, defendants cannot say, when the purpose has been accomplished, that the accomplishment was not the result of the unlawful agreements either as a matter of law or of fact. The situation thus is one in which the defendants unlawfully freed of competition from others, have together been able to preempt a growing market and to create facilities and organizations capable of handling the ever expanding demand.

As stated by the District Court in the *Hartford-Empire* case (46 F. Supp. 541, 618 (N. D. Ohio), prior to this Court's decision:

> Men cannot, by illegal means, erect an illegal structure—a structure of dominance and control over an industry vital to the welfare of the public—and then, by destroying the illegal means by which the structure has been erected, take the position that they have reformed, that they have adopted a new course of conduct, and that they should go on their way unmolested by the law—as long as the illegal structure and its adverse effects upon the public remain.

Even if it be assumed that other relief granted against them would make du Pont and National Lead fully competitive, as against each other, the competition envisioned by the Sherman Act would not have been restored to this industry. The spectacle of any two companies, which dwarf all existing competitive units in the scale of their operations and control of physical assets, engaging in a competitive struggle with each other so severe as to reduce substantially their own position with respect to the rest of the industry is not one which has been observed in recent years. But two such companies with a record of Sherman Act violation are certainly not going to suffer a change in their basic economic attitudes sufficient to make such conduct probable, or even possible, by the entry of a decree which does no more than enjoin particular restrictive practices. Thus, the only way in which substantial units with the power and desire to compete

actively in such an indusfry may be created is by the transfer of substantial assets of the dominant violators into clean hands.

The choice presented by the Government's appeal is between regulation and elimination of monopoly power. If, as the *Tobacco* case [48] suggests, the Sherman Act is primarily concerned with the possession of monopoly power by those who have demonstrated an intention to abuse it, destruction of such power by judicial decree should follow a finding of illegal acquisition or abuse as a matter of course. Where Congress has intended to recognize the continued existence of such power it has established an appropriate administrative agency to regulate it and has conspicuously refrained from committing to courts the kind of regulatory task implicit in the decree entered below.

The district court's ~~failure to assume~~ assumption of that task was apparently dictated by a doubt that this Court would sanction a decree which actually destroyed the power of the defendants to dominate the industry here involved. We think the *Tobacco* case has resolved any doubt that monopoly power itself rather than its mere exercise is the principal target of a Sherman Act suit. This Court's action in the *Crescent* [49] and *Schine* [50]

[48] *American Tobacco Co.* v. *United States*, Nos. 18, 19, 20, 1945 Term, decided June 10, 1946.

[49] *United States* v. *Crescent Amusement Co.*, 323 U. S. 173.

[50] *United States* v. *Schine Chain Theatres*, 63 F. Supp. 229,

cases also appears to answer any doubt that a Sherman Act decree should effectively divest the defendant of monopoly power, rather than rely upon any scheme for judicially regulating such power.

The *Crescent* case sanctioned a divestiture of stock in non-defendant corporations the acquisition of which was not itself unlawful, recognizing that possession of such stock in the hands of defendants who had abused the power so acquired was itself a continuing threat to independent competitors. In the *Schine* case the district court ordered a divestiture of theatres in towns where there was no evidence of elimination of existing competitors as a means of creating competition for the defendants. That court recognized that the possession of certain physical assets not independently used in connection with any specific law violation was also a continuing threat to independent competition. In both cases divestiture of assets was held to be a proper and necessary means of eliminating this threat, notwithstanding the presence in both decrees of injunctive provisions expressly prohibiting the particular forms of unlawful conduct upon which the convictions of Sherman Act violation rested.

While it is true that in these cases this Court merely affirmed the exercise of an admittedly

(D. C. W. D. N. Y., 1945), appeal dismissed, No. 572, this Term, December 16, 1946, petition for rehearing filed, January 9, 1947.

wide discretion by district courts, we do not believe that their discretion embraces a choice between at least partial divestiture of monopoly power and future judicial regulation of such power in the hands of defendants guilty of its unlawful acquisition or use. Certainly the degree of divestiture required to remove the threat implicit in the continued possession of such power by such defendants may largely rest with the discretion of the trial court, but neither Congress nor this Court has so far told the district courts that they may establish or administer a regulatory scheme of control as a substitute for the divestiture relief customarily required to eliminate such power.

The inquiry as to the propriety of the divestiture relief sought here is actually an inquiry into the source of the power by which these defendants now control the monopoly percentages of the titanium pigment market which they were found jointly to possess. Whether any particular plant or other physical asset of either defendant is a direct or indirect product of the particular unlawful means by which the over-all monopoly position was achieved is obviously irrelevant to this problem. If as seems clear from the evidence their overwhelming control of plant capacity itself promises to permit continued dominance of the industry by them no relief is adequate which does

not transfer a substantial part of that capacity to a competitor with clean hands.

Where two or more industrial units have jointly gained such dominance by illegal means they should not be permitted to retain physical facilities which allow continued dominance by lawful methods. Otherwise this Court's assumption in the *Tobacco* case that the Act is aimed ultimately at removal of monopoly power from the hands of Sherman Act violators, even when jointly possessed by two or more, becomes meaningless when applied to equity suits. We respectfully submit that this Court should insist that this assumption be made effective in civil suits by directing relief which attacks monopoly power at its source. We submit further that this Court should also disavow the involved systems of attempted judicial regulation of such power resulting from mistaken efforts to avoid the admittedly drastic consequences of a direct attack. The district courts are by their nature and experience equipped to reorganize corporate assets and enforce unequivocal prohibitions of specific future conduct. They do not have the technique or personnel required to administer competition in any industry and the consequences of their assumption of such a burden may well be more drastic in their effect on the whole economy than the simpler and sterner measures embodied in traditional antitrust relief.

CONCLUSION

For the above reasons it is respectfully submitted that the judgment of the court below should be modified so as (1) to enjoin the enforceability of the defendants' patents herein involved for the duration of the terms of the grants, (2) to forbid the defendants from requiring cross licenses of patents in return for licenses of the defendants' patents, (3) to require the defendants to furnish to any applicant the technological information of defendants at a reasonable charge, (4) to require each defendant to divest itself of one of its titanium plants, and in such other and further respects as may be necessary or appropriate to carry out the foregoing modifications.

Respectfully submitted.

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IN THE

Supreme Court of the United States

OCTOBER TERM 1946

No. 89

UNITED STATES OF AMERICA,

Appellant,

against

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY,

Appellees

No. 90

NATIONAL LEAD COMPANY, TITAN COMPANY, INC.,

Appellants,

against

UNITED STATES OF AMERICA,

Appellee

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

BRIEF FOR NATIONAL LEAD COMPANY AND TITAN COMPANY, INC.

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Statement as to Abbreviations Used in Brief

On the trial, in the District Court's opinion and findings, and in the judgment, the many companies involved were referred to by initial letters or by abbreviated names. These initials and abbreviations are frequently used in this brief. For convenience they are listed below, as follows:

NL or National	— National Lead Company
DP or du Pont	— E. I. du Pont de Nemours and Company
Tinc or Titan	— Titan Company, Inc.
TP or Pigment	— The Titanium Pigment Company, Inc.
Krebs	— Krebs Pigment & Color Corporation
TAS or Titan A/S	— Titan Co. A/S
IG or I. G. Farben	— Interessengemeinschaft Farbenindustrie Aktiengesellschaft
TG or Titangesellschaft	— Titangesellschaft m.b.H.
SIT or Société Industrielle	— Société Industrielle du Titane
ICI	— Imperial Chemical Industries, Ltd.
GW or Goodlass Wall	— Goodlass Wall and Lead Industries, Ltd.
ISC	— Imperial Smelting Corporation, Ltd.
BTP or British Titan	— British Titan Products Company, Ltd.
NTP or Laporte	— National Titanium Pigments, Ltd.
CIL	— Canadian Industries, Ltd.
CTP	— Canadian Titanium Pigments, Ltd.
KK or Kokusan	— Kokusan Kogyo Kabushiki Kaisha
TK	— Titan Kogyo Kabushiki Kaisha
Terres Rares	— Société des Produits Chimiques des Terres Rares
Thann	— Fabriques des Produits Chimiques de Thann et de Mulhouse
Montecatini	— Societa Anonima Titanium
Aussig	— Vereins fur Chemische und Metallurgische Produktion

TINC, IG, TG, ICI, ISC, GW, BTP, CIL, CTP, KK, and TK are sometimes collectively referred to as the Titan Companies and, with National and du Pont, as the Allied Companies.

Aussig, Montecatini, Terres Rares, Thann, and Laporte are sometimes collectively referred to as the Blumenfeld Companies.

IN THE

Supreme Court of the United States

OCTOBER TERM 1946

UNITED STATES OF AMERICA, *Appellant*, *against* NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, *Appellees*	No. 89
NATIONAL LEAD COMPANY, TITAN COMPANY, INC., *Appellants*, *against* UNITED STATES OF AMERICA, *Appellee*	No. 90

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

BRIEF FOR NATIONAL LEAD COMPANY AND TITAN COMPANY, INC.

Opinion and Judgment Below

The opinion and judgment of the District Court are reported in 63 F. Supp. 513 (1945). They are printed at R. 185 and 308, respectively.

Jurisdiction

The judgment of the District Court was entered October 11, 1945 (R. 307). The petitions for appeal were filed in and

granted by the District Court December 10, 1945 (R. 329, 336). Probable jurisdiction was noted by this Court May 20, 1946 (R. 334). This Court has jurisdiction by virtue of Section 2 of the Expediting Act of February 11, 1903 as amended (32 Stat. 823, 36 Stat. 1167, 15 U. S. C. § 29). and Section 238 of the Judicial Code as amended (36 Stat. 1157, 38 Stat. 804, 43 Stat. 938, 28 U. S. C. § 345).

Statement of the Case

A. The Complaint

It is alleged (R. 10) that National Lead Company, Titan Company, Inc., and E. I. du Pont de Nemours and Company combined and conspired to restrain and to monopolize trade and commerce in titanium compounds among the several states of the United States and with foreign nations and have been parties to contracts, agreements, and understandings in restraint of such trade and commerce in violation of Sections 1 and 2 of the Sherman Act.* It is charged (R. 11-12) that the combination and conspiracy has consisted of a continuing agreement and concert of action

*SECTION 1. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal: . . . Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding $5,000, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

SECTION 2. Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court. 26 Stat. 209 (1890), as amended 50 Stat. 693 (1937), 15 U. S. C. §§ 1, 2 (1940).

among the defendants and co-conspirators, the terms of which have been that

(*a*) The United States market was to be allocated to defendants National and du Pont as their exclusive territory for the manufacture and sale of titanium compounds;

(*b*) The markets of the world outside the United States were to be allocated among defendants and co-conspirators by reserving certain markets as the exclusive territory for the manufacture and sale of titanium compounds to some of them, and by fixing quotas which certain of them were to be permitted to sell in other markets;

(*c*) National and du Pont and customers purchasing from them were not to export titanium compounds from the United States except to South and Central America;

(*d*) Domestic manufacturers other than National and du Pont were to be prevented from exporting titanium compounds from the United States;

(*e*) The foreign co-conspirators and customers purchasing from them were not to import titanium compounds into the United States;

(*f*) The foreign co-conspirators were not to manufacture and sell titanium compounds in the United States;

(*g*) The foreign co-conspirators were not to license under their patents any persons, except National and du Pont, to manufacture and sell titanium compounds in the United States;

(*h*) All persons were to be prevented from engaging in the manufacture and sale of titanium compounds in the United States, except with the consent of National and du Pont;

(*i*) All present and future patents, owned or to be acquired by the defendants and the other Allied

companies, relating to the manufacture and sale of titanium compounds were to be pooled in such manner that National and du Pont would receive licenses exclusive of all others under all such United States patents, present and future, owned by the Titan companies; each Allied company would grant to each Titan company an exclusive license under all such patents, present and future, owned or to be acquired by such Allied company for use in the territory allotted to such Titan company; National would grant to du Pont a license exclusive of all others except National under all such United States patents, present and future, owned or acquired by National; and du Pont would grant to National a license exclusive of all others except du Pont under all such United States patents, present and future, owned or to be acquired by du Pont.

The Government contended (R. 39-40):

(*a*) That all the contracts to which National Lead Company or Titan Company, Inc. were parties were unlawful and that their performance should be enjoined;

(*b*) That the defendants had combined and conspired to restrain foreign and domestic trade and commerce in titanium compounds in violation of Section 1 of the Sherman Act;

(*c*) That the defendants had combined and conspired to monopolize trade and commerce in titanium pigments in violation of Section 2 of the Sherman Act;

(*d*) That the court should perpetually enjoin the defendants and their representatives from combining and conspiring or agreeing to restrain and monopolize trade and commerce among the states of the United States or with foreign nations with

respect to titanium compounds, and that they be perpetually enjoined from engaging in or participating in practices, contracts, relationships, or understandings having the purpose or effect of continuing, reviving, or renewing any of the violations of the Sherman Act;

(*e*) That the court should order the defendants to grant upon the request of any third person a royalty-free license to make, use, or sell any invention or inventions which defendants had used in carrying out the alleged illegal agreements and to furnish such third person all technical information appropriate to practice said invention.

B. The Judgment

Finding that National Lead Company, Titan Company, Inc., and E. I. du Pont de Nemours and Company had violated Section 1 of the Sherman Act and that the Government was entitled to a decree which would restore titanium to the system of free competition and destroy the means of preventing such competition (R. 222), the District Court by its judgment (R. 308-16)

1. Held the agreements to be unlawful under Section 1 of the Sherman Act, cancelled the agreements, and enjoined the defendants and any other person acting or claiming to act through or for them from the further performance of any of the provisions of the agreements.

2. Enjoined the defendants from

   (*a*) Entering into, adhering to, or claiming any rights under any contract, agreement, undertaking, plan or program among themselves, the co-conspirators or with any other person, partnership or corporation which has as its purpose renewal of any of the agreements;

(*b*) from entering into, adhering to, maintaining or furthering, directly or indirectly, any contract, agreement, undertaking, plan, or program with any other producer or dealer relating to titanium pigments which has as its purpose or effect

(*i*) to divide sales or manufacturing territories,

(*ii*) to allocate markets,

(*iii*) to limit or prevent United States imports or exports,

(*iv*) to grant any third party any market as its exclusive territory;

(*v*) to keep any third party out of any market.

(*c*) from restricting any producer of titanium pigments in the use thereof.

3. Ordered the defendants to grant any applicant a non-exclusive license on a reasonable royalty basis under any existing United States patents and any patents issued to them within a period of five years from the date of the Final Decree and, also for a period of five years, under any patent under which they become exclusive licensees with the right to grant sublicenses. Such grant may, at the option of the licensor, be conditioned upon a reciprocal grant by the applicant under any titanium patents owned by the applicant. During a period of three years from the date of the decree such license or reciprocal license may at the option of either party contain a provision for the imparting in writing, at a reasonable charge, of the methods and processes used by the licensor at the date of the license in its commercial practice and under the licensed patents in connection with the production of titanium pigments.

4. Ordered the National Lead Company and Titan Company, Inc. to present within one year from the date of the Final Decree to the court for its approval a plan for divesting themselves of their stockholdings and financial interest, direct or indirect, in certain foreign companies, or for the purchase of the entire stockholdings or other financial interests in said companies,—the plan to provide for its completion within two years from the date of the Final Decree.

5. Enjoined the defendants from bringing or threatening to bring any action against any person or corporation for the infringement prior to the date of the Final Decree of any patents as defined in the Final Decree.

A stay of certain paragraphs of the final judgment was granted by Mr. Justice Reed of this Court January 2, 1946.

C. Summary Statement of Defendants' Position

A brief preliminary statement of our position may be helpful:

The Government's case was based on a series of closely related agreements made between 1920 and 1944. The agreements have been cancelled and continuation or renewal has been enjoined. The appeals are greatly simplified by the fact that we accept the cancellation and the injunction against continuation or renewal. We submit, however, that the court went too far in forbidding normal and usual contractual arrangements.

By reason of corporate changes and stock acquisitions (for example, National acquired the stock of the Norwegian company with which the basic 1920 agreement was made), the amendment and cancellation of agreements, the termi-

nation of agreements and relationships and change of conditions brought about by the war, legal questions presented by the agreements of 1920-44 are *now* mostly moot or insubstantial,—and we do not discuss such questions on these appeals. The agreements are important, however, as the principal legal events in the creation and development of the industry, and thus as indicating the form the judgment should take. For that reason they are described in our statement of facts (pages 11-49), which is taken largely from the trial court's findings (R. 234-306).

We do object to certain provisions of the judgment, as follows:

Paragraphs 1, 2, 3, and 4 consist solely of definitions and a list of abbreviations used to identify the defendants and co-conspirators (R. 309-10). No objection is made to these paragraphs.

Paragraph 5 cancels the agreements listed therein and enjoins further performance of any of the provisions of the agreements and of any agreements amendatory thereof or supplemental thereto (R. 310-12). No objection is made to the cancellation of the agreements. Objection is made to the injunction against further performance of any of the provisions of the cancelled agreements or any agreements amendatory thereof or supplemental thereto. We believe that this language is too sweeping in its effect and that these defendants should not be restrained in perpetuity from making normal and usual arrangements with other producers of titanium products.

Paragraph 6 enjoins and restrains the defendants and all persons acting for them from entering into any plan or understanding among themselves, the co-conspirators, or

with any third party which has as its purpose or effect the continuing or renewing of any of the provisions of the agreements cancelled in paragraph 5 or any new plan or agreement which has as its purpose or effect (*1*) to divide sales or manufacturing territories, (*2*) to allocate markets, (*3*) to limit or prevent United States imports or exports, (*4*) to grant to any third party any market as its exclusive territory, and (*5*) to keep any third party out of any market. Normal and usual arrangements between any defendant and its own directors, officers, employees, agents, subsidiaries, or any dealer or distributor, whether or not a co-conspirator, are exempt from subdivisions (*1*) through (*5*) (R. 312-13). No exception is given to such relations between producers of titanium products. Our objection to this paragraph is similar to our objection to paragraph 5. It is too broad in that it perpetually enjoins these defendants from entering into normal and usual arrangements among themselves and with other titanium producers. We do not object, of course, to an injunction against illegal provisions of the cancelled agreements or illegal provisions in new agreements.

Paragraph 7 orders the defendants to grant non-exclusive licenses on their patents (as defined in paragraph 4) to any applicant, including a defendant or co-conspirator, at a uniform, reasonable royalty. Such licenses may be conditioned on a reciprocal grant by the applicant of licenses under any titanium patents owned or controlled by the applicant. The defendants are also ordered (for a period of three years) to impart to their licensees in writing, at a reasonable charge, methods and processes used in their commercial practices. Jurisdiction is reserved to pass upon the reasonableness of any royalty or charge directed to be reasonable (R. 313-14). We shall argue that the facts of this case require royalty-free licensing of the patents as

defined. This case is distinguishable from *Hartford-Empire Co. et al.* v. *United States*, 323 U. S. 386 (1945); in order to give full force and effect to the District Court's opinion, findings, and conclusions, royalty-free licensing is essential.

Paragraph 8 orders these defendants to present to the court within one year from the date of the judgment a plan for divesting themselves of their interests in BTP, CTP, TG, and TK or in the alternative to purchase the entire stock or financial interests in said companies or any of them. The plan is to provide for its completion within two years from the date of the judgment (R. 314). Our objection to this paragraph is based on practical considerations such as tariffs, import licenses, government subsidies, and the extreme hardship imposed on National and Titan without any compensating gain to the Government or the public. The District Court refused to give any weight to economic factors, holding that this was a matter for the Congress and not for the courts (Opinion, R. 208).

Paragraph 9 is concerned solely with du Pont, except that it enjoins the defendants from bringing or threatening to bring an action for past infringement of any of the patents as defined in paragraph 4 (R. 314-15). No objection is made to this paragraph.

Paragraphs 10, 11, 12, and 13 are the usual visitation, costs, and reservation of jurisdiction clauses (R. 315-16). No objection is made to these paragraphs.

The judgment should be affirmed in so far as the court refused to grant divestiture of any part of the domestic titanium business of the defendants.

D. Statement of Facts

1. The Origin and Nature of the Business Involved

This case involves the creation of a new industry which, in a relatively short time, at steadily decreasing prices, has developed an important commodity, namely, titanium pigments (Finding 33, R. 246; Opinion, R. 207; Exs. NL 23, 24, Vol. IV, pp. 3948, 3949).

Titanium, the ninth most abundant element on the earth's surface, is contained in ilmenite and other minerals. Sand and rock formations containing ilmenite are found in India, the United States, Norway, Brazil, and elsewhere throughout the world (Finding 33, R. 245).

In and before 1920 there was no substantial trade or commerce in, and no commercial manufacture of, titanium pigments for use in paints, paper, rubber, or other products; pigments used for such purposes were lithopone, white lead, and zinc oxide. The use of metallic titanium in alloys was, however, under development by the Titanium Alloy Manufacturing Company (hereinafter called Alloy) at Niagara Falls, N. Y., and chemists engaged in that work (principally Barton and Rossi) were aware of the possibilities of titanium dioxide (hereinafter sometimes called TiO_2) as a pigment. Several important patents on processes and products had been taken out by them and a subsidiary, Titanium Pigment Company (hereinafter called Pigment), had been formed by Alloy to engage in further research, development, and promotion in the pigment field (Finding 33, R. 245-7).

Before 1920 tests and demonstrations conducted by Pigment had attracted the attention of large manufacturers of pigments and paints—Pittsburgh Plate Glass (paints), New

Jersey Zinc (pigments), the defendant du Pont (pigments and paints), and the defendant National (pigments). Of this group, National alone was sufficiently interested to invest in this new enterprise, and in 1920 purchased 10% of the stock of Pigment, securing at the same time an option to purchase up to 50% (Finding 33, R. 246).

The feature of TiO_2 that attracted the interest of chemists and paint manufacturers was its relatively high capacity to impart opacity and color (referred to as hiding power and tinting strength) to compositions treated (R. 853-4, 913-14). It was foreseen by Pigment and National before 1920 that if titanium pigments of good quality (that is, durable and satisfactory as to color and texture) could be manufactured economically, a substantial market could be created, and that to a large extent titanium pigments would be used in place of lithopone, white lead, and zinc oxide. In less than twenty years this vision was realized (Ex. NL 24, Vol. IV, p. 3949).

The chemists employed by Pigment at Niagara Falls had made small quantities of relatively pure TiO_2 before 1920. They believed, however, that manufacture of the pure product on a commercial scale would be costly in relation to other pigments, and they endeavored, therefore, to perfect processes for manufacture of "composite" pigments (that is, pigments containing TiO_2 and relatively large amounts of sulphates, such as barium sulphate or calcium sulphate and other less expensive materials) having hiding power and tinting strength per unit that, though not so high as pure TiO_2, would substantially exceed the hiding and tinting capacity of the other pigments then in use (R. 849-58). By 1920 process and product patents for titanium pigments developed by these chemists had been

granted in the United States, Norway, England, France, and other countries (Ex. NL 2, Vol. IV, p. 3822).

While the research and experimental work described above was going on in the United States, Gustav Jebsen, a Norwegian chemist and businessman, was making a similar investigation, albeit along different lines, in Norway—this in connection with his search for means of putting to industrial use large deposits of Norwegian ilmenite-bearing ore. By 1920 Jebsen and his associates had perfected processes patented in Norway, the United States, England, Germany, and in other countries, an important feature of which was disclosure of means for producing relatively pure TiO_2 pigments by direct application of relatively small quantities of sulphuric acid—a process much less costly than that then developed and in use experimentally at Niagara Falls. Though the Norwegian chemists were aware of the possibilities of "composite" pigments, they had not perfected processes for the manufacture of such products. In 1920 the process and product patents of Jebsen and his associates were held by Titan A/S, a Norwegian company (Finding 33, R. 246-7; R. 913-18). As early as 1914 Pigment had some knowledge of the work of Jebsen and his associates, and the latter were aware that processes were being developed in the United States. In 1914, while he was in the United States on other business, Jebsen conferred with the president of Alloy and Pigment with a view to the sale of Norwegian ilmenite and to the exchange of patents and technical information (R. 914-15). Owing to World War I, there was no further consideration of such exchange or cooperation until 1920; and during the war development work at Niagara Falls was at a standstill, though research and some experimental work and promotion were carried on (R. 868-9).

2. Commercial Developments in the United States (1920-1944)

In 1920 Pigment and Titan A/S made an agreement (described in detail below) whereby the American company was exclusively licensed under the Norwegian-owned patents for North America, with the right to grant sublicenses, and the Norwegian company was similarly licensed under the American patents outside North America. On the basis of this agreement, and utilizing the Norwegian as well as its own United States patents, Pigment (then and thereafter financed and in 1936 fully acquired by National) undertook a program for the development and promotion of titanium pigments as an economical and otherwise desirable substitute for the pigments then on the market (R. 876, 1054-66). That this program was commercially well conceived and executed is established by the fact that sales by Pigment (succeeded by National in 1936) steadily increased from 500 tons (in terms of TiO_2 content) in 1920 to 76,788 tons in 1944, while the price steadily dropped from 40¢ a pound in 1927 for TiO_2 (and correspondingly lower for "composite" pigments) to 14½¢ in 1944, and by the fact that in 1943 sales of titanium pigments by National alone exceeded sales of lithopone, zinc oxide, and white lead by all companies (Exs. NL 23, 24, Vol. IV, pp. 3948, 3949).

Increasingly aware of the possibilities of titanium pigments, by 1933 du Pont had obtained rights under the Blumenfeld patents (hereafter described) which disclosed processes having certain substantial advantages in respect of manufacture of pure TiO_2 over the Barton-Jebsen patents, but were not sufficient to permit use of the economical direct sulphuric acid attack or for manufacture of composite pigments. After a period of negotiations,—and in view of continued fear of prolonged, costly, and wasteful

patent controversy,—du Pont and National exchanged licenses. Du Pont thereupon adopted an aggressive development and promotion program, which was so successful that the company enjoyed a steady growth in sales; by 1935 it had captured almost 50% of the total United States sales of titanium pigments (in terms of TiO_2) (Ex. 41, Vol. I, p. 41).

Licensed by du Pont and National, American Zirconium Company entered the field in 1935. In 1937 Virginia Chemical Company entered the business, with a license from du Pont but not from National (Findings 31, 32, R. 244-5; Exs. H, H2, I, L, Vol. I, pp. 260, 277, 282, 397).

At no time were there imports of any consequence from abroad. In and after 1922 the tariff applicable to titanium compounds was 30% *ad valorem* (Finding 43, R. 251).

3. The 1920 Agreement

A minority stockholder of Pigment with an option to purchase up to 50% of the stock, National was unwilling to make further investment or commitments for development and promotion of titanium pigments unless and until it was satisfied that Pigment was in a position to use the Jebsen (as well as the Barton-Rossi) processes without risk of litigation (R. 919), and, accordingly, at the instance of National, Jebsen came to the United States in 1920 for the purpose of negotiating an agreement under which National would be free to practice the Jebsen inventions and Titan A/S would be free to make use of the inventions of Barton and Rossi (R. 918). The two sets of processes and patents were regarded by the parties as essential to development and manufacture on a satisfactory commercial scale of a line of titanium pigments comparable in respect

of possible uses, and superior in point of quality and economy, to the other pigments then on the market (R. 919, 870-2, 910-11). Accordingly, an agreement negotiated by McCarty, a vice-president of National, now dead, and Jebsen was executed July 30, 1920 on behalf of Pigment and Titan A/S (Ex. A, Vol. I, p. 1). As stockholders in Pigment, National and Alloy bound themselves in separate contracts with Pigment and Titan A/S to "respect" the principal agreement of July 30, 1920 and to communicate technical information, and they assigned all patents, inventions, and experiments in the "licensed field" to Pigment (Exs. A1, A2, Vol. 1, pp. 20, 24).

The features of the 1920 agreement essential to understanding of the case may be summarized as follows:

(*a*) The field within which licenses were, and technical information was to be, exchanged was defined as including all substances containing above 2% of titanium (unless such substances contained by weight more than 5% of a metal other than titanium in its purely metallic state) and all apparatus, methods, and processes useful in obtaining or manufacturing such substances (except as stated). The intention was to cover processes, substances, and apparatus in the titanium compound field. (R. 920)

(*b*) Pigment received "a license exclusive of all others including" Titan A/S in and for North America (defined as including the continent of that name, Central America, and Panama) under all existing or future patents of the Norwegian company, and Titan A/S was granted the same rights outside North America under the patents of Pigment. The parties agreed not to sell outside their respective territories, except that reciprocal non-exclusive rights of sale were reserved for South America. (R. 922)

(c) Detailed provision was made for exchange of copies of applications for patents filed by the parties or their licensees, and for the filing and payment of expenses incidental to the prosecution of such applications and maintenance of patents in territories outside the territory of each; and there was provision for assignment by each company to the other in case either party elected not to prosecute applications or maintain patents outside its territory. (R. 925)

(d) To implement the exchange of exclusive licenses, Titan A/S made Pigment the exclusive agent of Titan A/S for sales to Titan A/S in North America, such sales to be at prices and on terms determined by the agent, and Pigment similarly made Titan A/S its sole agent for sales by Pigment outside North America and South America. (With a view to "the widest possible development of titanium products in the 'Licensed Field'", it was agreed that, notwithstanding the agencies provided for, importations of "finished articles"—that is, paint, paper, rubber, glass, &c.—containing titanium products of the principal, its licensees or sublicensees, would be permitted provided such products did not constitute such an important part of such finished articles that sales within the agent's territory would substantially interfere with the agent's sales of its own titanium products. Written in 1920 before there was any trade or commerce in titanium pigments, much less in articles containing such pigments, this anticipatory restriction on sales of finished articles has always been a dead letter; it has never been applied, and has never had any importance or effect whatever.) (R. 926-7)

(e) It was the purpose of the parties, and especially of McCarty and Jebsen, that the exchange of licenses should promote the maximum development and practice of art; and to the end

(*i*) that the licenses received by each company would be fully utilized, and

(*ii*) that neither would be inclined or able to withhold information from the other, or make use of inventions or developments of the other for or in connection with further inventions or developments not fully shared with the other, it was agreed that each would impart semi-annually to the other full and accurate information in detail as to knowledge obtained in and applicable to the "licensed field", and would permit the other to inspect and study operations at its plants (exclusive of research laboratories). (R. 927)

(*f*) In line with the plans and purposes referred to, the parties agreed that the reciprocal grants of exclusive licenses would be for sixteen years (to December 31, 1936), and thereafter for periods of ten years each, with provision for termination by notice to be given at least five years before the end of any such period; and it was agreed that upon such termination each would receive for itself and its licensees within its territory a non-exclusive license under inventions covered by existing patents or applications of the other, but that in other respects the obligations, liabilities, and benefits would cease. (Notice of termination has never been given.) (R. 927-8)

(*g*) In Article XIV of the 1920 agreement (mentioned by number because of its significance in connection with later agreements) it was provided that each company would have the right, so long as it held an exclusive license from the other under the 1920 agreement, to grant licenses under its own patents and sublicenses under the other's patents on condition, nevertheless, that every such licensee or sublicensee would

(*i*) grant to the party to the 1920 agreement other than its licensor patent rights in the "licensed field" identical in character, territorial scope, and duration to those given by its licensor to the other party to the 1920 agreement,

(*ii*) appoint such other party its sole agent as specified above in respect of its licensor, and

(*iii*) impart technical information to such other party in the same manner and to the same extent as its licensor. (R. 928)

The terms of the 1920 agreement reflected the desire of McCarty, on behalf of National, to establish a sound technical foundation for a new American industry and the desire of Jebsen, in the interest of Titan A/S, to secure the right to use the American inventions and to obtain the benefits of the vast technical experience, knowledge, and facilities of a large American company which had been engaged successfully for many years in the manufacture of pigments other than titanium pigments, without risking possible commercial competition by that company in areas outside North America in which Jebsen saw opportunities for development by his Norwegian company (R. 920-29). The agreement, based on exchange of patents and technical information, thus was intended to establish a relationship analogous to partnership, in which in the interest of the maximum development of a projected industry the participants would cooperate, would refrain from taking advantage of each other, and would guarantee that processes and information coming into the possession of one would be shared with the other (Exs. 244, 245, 248, Vol. II, pp. 1430, 1436, 1446).

The 1920 agreement was calculated to, and did, foster research, invention, and technical and commercial develop-

ments and resulted, in a relatively short period, in the manufacture and sale in large and steadily increasing amounts, and at steadily decreasing prices, of an important new commodity (Ex. NL 23, Vol. IV, p. 3948).

Between 1920 and 1927 Titan A/S suffered business and financial difficulties which led in 1927, at a time when I. G. Farbenindustrie, the German chemical combine, was negotiating for the purchase of its stock, then controlled by Norwegian banks, to purchase by National Lead of 87% of the stock of Titan A/S—Jebsen retaining 13% (Finding 47, R. 255). By 1932 National had acquired all of the stock of Pigment, and in 1936 acquired its assets and assumed its obligations (R. 929-30, 932-36). Since 1929 the rights and obligations of Titan A/S under the 1920 agreement have been held by defendant Titan Company, Inc., a Delaware corporation in which National now owns all the stock. (NL Answer, R. 48)

4. The French Agreement (1922-1927)

Between 1920 and 1927 commercial development was slow, even in the United States, where the resistance of manufacturers, painters, and other consumers to the new titanium pigments was less marked than it was abroad (Ex. NL 23, Vol. IV, p. 3948). (In 1921 Pigment sold 500 tons, in terms of TiO_2 content, and even in 1927 it sold only about 2,000 tons. In the latter year it was still selling at a loss, though prices were relatively high. This was possible only because National was financing the development by advances and purchases of stock (R. 873-4).) During the same period Jebsen faced serious difficulties in Europe. Using the Barton-Rossi patents, he introduced "composite" pigments which were much less expensive than the pure TiO_2 previously manufactured, but he endeavored with

little success to establish markets in Norway and Sweden, England, France, Holland, and Belgium; and by 1927, when National purchased 87% of Titan A/S, the capital of the Norwegian company was greatly reduced and it was heavily indebted to the banks (R. 929-30).

In France, where there was a tariff on titanium, Jebsen endeavored to work with local interests. He negotiated with one French group and then another with a view to manufacture in France under licenses similar to those held by Pigment and Titan A/S. It transpired that the first group was incapable of developing and promoting the new product and the second group gave up because they thought it would take too long to establish a market. Finally, Titan A/S and National purchased the second group's interest in Société Industrielle, a French company which had been and thereafter was used as the selling agency for pigments shipped from Norway or Germany. Titan A/S owned about 20% of the French company, National acquired an additional 58% which, in 1929, was transferred to Titan, and the remainder was held in France by the public (R. 930-32).

In a letter written to Société Industrielle in March 1927, Jebsen confirmed on behalf of Titan A/S a "Protocol" of May 1925 under which there was an exchange of licenses consistent in material detail with the exchange effected by the 1920 agreement described above (Ex. B, Vol. 1, p. 29). Subject to mutual obligations and restrictions like those assumed and imposed by the 1920 agreement, the French company received rights at the disposal of the Norwegian company for France, its colonies and possessions. It was stipulated that the exclusive licenses would remain in force until December 31, 1941, and thereafter for ten-year periods,

subject to termination by notice given at least six years before December 31, 1941, or before the expiration of any subsequent ten-year period. Notice of termination has not been given. In 1929 the rights of Titan A/S in the French agreement were transferred to Titan (R. 936-37). The hope that the French company would use its license from the Norwegian company to manufacture in France, thus contributing to the fund of processes and technical information available to Titan A/S and Pigment, was not realized. Société Industrielle served merely as a local selling agency for pigments produced elsewhere (R. 932).

5. The German Agreements (1925-1927)

After 1925 I. G. Farbenindustrie was the largest company in Germany—one of the largest chemical companies in the world—with vast interests and important connections throughout the world and especially in Central Europe. Its manufacturing resources and facilities and its research and sales organizations were unsurpassed anywhere. From Jebsen's point of view, IG was, obviously, a most important factor in entering the German market. He was fearful that IG would absorb his Norwegian company (IG was negotiating for the purchase of the Titan A/S stock held by certain Norwegian banks) and, knowing IG's power and reputation in Germany, he was interested when it approached him with a view to obtaining a license (R. 932-36). Jebsen knew that to succeed in his own enterprise he would have to come to terms with IG. German manufacturing conditions and costs were so favorable—sulphuric acid cost in Germany was one-half the cost in Norway or England—that Jebsen looked upon a connection with IG as affording a congeries of advantages, including vast research and development and sales facilities, capacity for

cheap manufacture for all or most of Europe, and a profitable market for large quantities of Norwegian ilmenite (R. 936). So confident were the Germans of their manufacturing capacity and costs that they offered, in consideration of a license, to buy Norwegian ilmenite at cost plus 30 to 50% (depending on the exchange rate) and to supply Titan A/S with titanium pigments at cost (R. 934). In 1924 or 1925 Jebsen had investigated another German company which had manufactured titanium pigments on a very small scale and which held certain patents but had concluded that the company's prospects were not of sufficient interest to warrant an association. There was no other manufacturer in Germany, and there was no demand by paint manufacturers and other consumers, who were accustomed to other pigments, including lithopone, manufactured by IG (R. 934).

Having saved his Norwegian company from purchase by the Germans, and having at the same time secured the backing of National, and believing that it would be impossible for him to undertake manufacture in Germany and sell in Germany and German-dominated territory without the cooperation of IG, Jebsen proceeded to negotiate a series of agreements, as follows (Exs. C-C8, Vol. 1, pp. 46-86):

(*a*) For the purpose of cooperating in the manufacture and sale of titanium and titanium compounds in Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Serbia-Croatia-Slovenia, Bulgaria, Greece, Turkey, Japan, China, and Spain, Titan A/S and IG undertook to organize a German company, Titangesellschaft, to which each would contribute one half the initial capital. The parties were to have an equal voice in the selection of the "managers", but responsibility for policy and overall supervision was placed in the

hands of Jebsen and a representative of IG. It was stipulated that titanium compounds for sale in the countries referred to would be manufactured by Titangesellschaft, and that the parties would cover their total requirements in those areas from Titangsellschaft. It was agreed that Titangesellschaft could not be dissolved before the end of 1957, and then only on six months' notice; thereafter it could be dissolved on such notice at the end of any successive ten-year period.

(*b*) Further to secure the cooperation of IG, it was agreed that IG would grant Titangesellschaft an exclusive license, with the right to grant sublicenses, under all patents, methods, and experience of IG in the "licensed field" and would supply Titangesellschaft with copies of applications for German patents and, at the request and expense of Titangesellschaft, would prosecute similar applications in countries designated by Titangesellschaft; and it was agreed by Titan A/S and Titangesellschaft that they would exchange licenses and technical information and conduct their operations in and with reference to Germany and the other countries referred to in accordance with the principles of the 1920 agreement between Pigment and Titan A/S. (It was stipulated that Titan A/S might "substitute for itself" in these agreements another company or other companies in which Titan A/S and National, or either of them, were "engaged" 100%; and, subject to immaterial exception, Titan subsequently did take over the rights and obligations of Titan A/S.)

(*c*) In a series of ancillary agreements IG undertook

(*i*) to provide a factory site and building near its Leverkusen works (rent at 6% of the value of the building);

(*ii*) to furnish steam, gas, water, and electricity (at cost),

(*iii*) to supply transportation facilities (at reasonable prices), and

(*iv*) to deliver raw materials (at cost plus 10%, but not more than the competition charged, with provision for "most-favored" customer treatment). IG was appointed agent of Titangesellschaft for sales in the countries mentioned.

(*d*) Worthy of special reference as bearing on Jebsen's plan to advance as rapidly as possible the production and sale of high quality, economical titanium pigments,—that is, really to compete on the most favorable possible basis with other pigments,—and at the same time to build up a large and consistent market for Norwegian ilmenite, is

(*i*) the agreement of Titangesellschaft to satisfy its ore requirements by purchases from Titan A/S at cost plus 40-50% (stated in terms of Norwegian Gold Kroner, and favorable to Titan A/S because of exchange factors), and

(*ii*) in view of Jebsen's high costs and his intention to close down his Fredrikstad plant, the agreement of Titangesellschaft giving Titan A/S the right to take 50% of the pigments produced at Leverkusen at cost (and quantities in excess of 50% at cost plus 10%).

Titangesellschaft was organized and did operate in accordance with the agreements described. It purchased large quantities of ore from Titan A/S at a satisfactory price (R. 935). The conviction that it would be a fertile source of inventions and technical information useful in the United States and England particularly, as well as in Germany, was confirmed. Thanks to IG's 50% interest in

the company, Titangesellschaft was able to make use of IG's superb sales organization to push the sales of titanium pigments at the expense of other pigments (including lithopone made and sold by IG) in markets not accessible to National or Titan A/S. Its costs and prices were low, its quality high. The arrangement under which Titan A/S (Titan after 1929) was able to obtain pigments at cost proved to be of great value as soon as manufacture at Leverkusen was commenced, and especially in respect of sales in the British market, where Jebsen had been able to make limited headway with his high priced pigments and where there was no manufacture until about 1934 (R. 936).

All relations between National or Titan and IG or Titangesellschaft were terminated by the declaration of war in December 1941. National has written off its investment in Titangesellschaft; it will not resume or enter into agreements containing territorial restrictions; and its plans and ability to carry on business relations with German companies after the war depend entirely upon provisions to be made for German industry and trade by the Allied Governments (R. 937, 1106).

6. The British Agreements (1933)

I. G. Farbenindustrie A. G. was organized in 1925 as a merger of the largest chemical and dye producers of Germany. These producers had operated under a "Community of Interest Agreement" since 1916 and under various cartel agreements since about 1900 (Ex. NL 34, Vol. IV, pp. 4144-7). After 1928 the merged enterprise had capital in excess of $250,000,000 ($420,000,000 after devaluation of the dollar) (Ex. NL 34, Vol. IV, p. 4145). By virtue of excellence of management and resources, IG was the leading chemical enterprise of the world (*ibid.*). The weakness

of the British and Americans in chemical and dye stuffs had been demonstrated in World War I. Aware of this weakness, and alert to what was going on in Germany, the British decided to act. In 1926 they organized Imperial Chemical Industries, Limited, as an amalgamation, sponsored by the British Government, of the leading British chemical companies. With assets exceeding £100,000,000, I. C. I. was the largest manufacturer of chemicals in the British Empire and was intended to, and did, rival IG in respect of research, manufacture, and trade (Finding 17, R. 241). I. C. I. was the agency by which the British chemical industry sought to, and did, secure self-sufficiency and dominance throughout the Empire (Ex. NL 34, Vol. IV, p. 4123).

Jebsen had attempted for years to establish a British market for his pigments, but with limited success (R. 938). The traditional conservatism of the British manifested itself in the habits and attitude of paint manufacturers and master painters who were accustomed to pigments of domestic origin. "Buy British" was more than a slogan—it was a stubborn and formidable fact (R. 949). Knowing from costly experience that he could not hope successfully to invade, much less to capture, the British market without a strong local alliance, Jebsen set out to obtain one. Though I. C. I. had never manufactured pigments, it was, obviously, the most desirable British partner; for it had resources in the way of technical and chemical facilities, raw materials, &c., not possessed by any other firm (R. 939). Imperial Smelting Corporation, Limited, and Goodlass Wall and Lead Industries, Limited, were also natural allies. I. S. C. was the largest British manufacturer of zinc and lithopone; it could supply sulphuric acid; it had important connections throughout the Empire; and it had strong management friendly to National (R. 942). Goodlass Wall, a

government sponsored amalgamation of lead companies, was brought in for similar reasons (R. 939; NL Answer, R. 42).

In February and March, 1933 Titan, I. C. I., I. S. C., and Goodlass Wall entered into a series of agreements, as follows (Exs. F-F7, Vol. I, pp. 119-71):

(*a*) Based on factual premises as to patents and processes of Titan and a record of successful commercial manufacture in Germany and the United States, the right of manufacture and sale of titanium compounds throughout the British Empire (excluding Canada, Newfoundland, and certain other areas) was vested in a new company, British Titan Products, Limited; and I. C. I., I. S. C., and Goodlass Wall agreed that they would not deal in or manufacture such compounds except through or at the request of British Titan. Subject to restrictions on transfer, the voting shares of British Titan were distributed among Titan—49% (with the right to allot 5% to R. W. Greef & Co., Ltd., which had been the British sales agent of Titan A/S and, later, Titan), I. C. I.—17%, I. S. C.—17%, and Goodlass Wall—17%. Titan received the right to name three of the six directors, but it was stipulated that the chairman must be one of the directors named by the British shareholders. The agreement was for thirty years, with severely limited provisions for retirement.

(*b*) It was agreed by Titan and British Titan that they would exchange licenses, patent applications, and technical information, and conduct their operations in and with reference to the British Empire (excluding Canada, Newfoundland, and certain other areas) in accordance with the principles of the 1920 agreement above described (page 16).

(c) In order to vest in British Titan and Titan (and its licensees) all the benefits of their research and development, I. C. I., I. S. C., and Goodlass Wall each gave British Titan an exclusive license in respect of I. C. I.'s, I. S. C.'s, and Goodlass Wall's patents, processes, and subject matter within the "licensed field" (limited in the case of I. C. I. to titanium oxide or titanium pigments) for the production of titanium compounds, with the right to manufacture, use, or sell compounds so produced, and with the right to grant sublicenses; and each such grantor agreed that it would supply British Titan with copies of its applications for patents in the "licensed field" and, at the request and expense of British Titan, would prosecute similar applications in countries designated by British Titan.

(d) The 125,000 non-voting shares of £1 each of British Titan were allotted to Titan in consideration of its exisfing business and good will in the British Empire and its agreement to make available to British Titan all technical knowledge and experience at its disposal in the manufacture of titanium products or relating to the marketing thereof in the British Empire.

(e) The right of Titan A/S to buy 50% of the German production at cost (and more at cost plus 10%) having been transferred to Titan, the latter agreed until such time as British Titan commenced to manufacture, and for two years thereafter, to supply British Titan's requirements at cost.

Located near the I. C. I. factory at Billingham, and in charge of a former I. C. I. employee, the British Titan factory commenced operations in 1934 and has operated successfully ever since (R. 946). Plans were made for substantial increase of production after the war, and these

plans are now being put into effect. The choice of partners was most fortunate. Apart from inventions and technical facilities and information of great value, I. C. I., I. S. C., and Goodlass Wall have supplied management and sales experience and advice of a high order (R. 946).

In February, March, and April 1943 there were conversations between representatives of National Lead and members of the Antitrust Division, Department of Justice, relating to a proposed consent decree (Ex. NL 1, Vol. IV, pp. 3817-21). The conversations were suggested by the Division's pending investigation of the titanium pigments industry and antedated the indictment against the defendants herein and Messrs. Rockwell, Garesche, and Jobsen of National Lead, and another, returned in the Southern District of New York June 28, 1943. It was impossible to find a basis of agreement and the conversations were terminated. Thereafter the indictment (No. 114-455) was returned. Following the consent decree discussions with the Antitrust Division in the spring of 1943, there were conferences between the attorneys for National Lead and the president of the company (Rockwell) at which the Division's objections to certain contracts were discussed and consideration was given to the position of the company in respect of performance of and compliance with the contracts pending trial. Owing to the war production of the company, it was thought that no case would be tried during the war. It was the position of the president that in view of the probable delay it would not be prudent, and he did not desire, so far as it was practicable to avoid it, to permit the company to continue to operate in accordance with provisions which had been criticized by the Government; and the attorneys for National Lead were instructed to protect the company against the possible charge that it had persisted in a course of action after the

Government's objections had been made known and, if possible, to take steps to revise the contracts in such a way as to meet the objections and at the same time avoid unnecessary sacrifice of the company's investments and other interests. The basis of the Antitrust Division's criticism of National Lead, both in the indictment and in the complaint in this action (filed June 24, 1944), is the 1920 agreement between Pigment and Titan A/S. The agreement, containing certain restrictions objected to by the Antitrust Division, might have been terminated or relinquished in some way but for the fact that its terms had been carried over in part into contracts between National Lead and I. C. I., I. S. C., Goodlass Wall, and British Titan,—and also into Canadian agreements described below,—and that in such agreements certain provisions had been conditioned on the 1920 agreement. Because of the foregoing, the attorneys for National Lead concluded that they could best serve their client by formulating, and endeavoring to have the parties approve, further agreements between National Lead and the British and Canadian companies which would remove features of the agreements criticized by the Antitrust Division and, in particular, provisions based upon the existence and terms of the 1920 agreement. Substantial progress in this direction was made; and at a pre-trial conference in this case held October 30, 1944 counsel for National Lead tendered a form of contract agreed to, but not executed, by National Lead and the British companies. A copy of the proposed agreement was received in evidence at the trial (Ex. NL 30, Vol. IV, pp. 4066-72). The parties are I. C. I., I. S. C., Goodlass Wall, Titan, British Titan, and National Lead, and the agreement provides in substance as follows:

(a) Licenses exchanged by British Titan and National Lead (Titan) will be non-exclusive and royalty free, with the right to grant non-exclusive sub-

licenses but only to parties who will license British Titan or National Lead, as the case may be, on a non-exclusive, royalty-free basis under the patents and applications of such sublicensees.

(*b*) The licenses will be without restriction as to production, shipment, sale, or use of titanium compounds; and it is provided that neither the 1933 British agreements nor the 1920 agreement will preclude British Titan or National Lead (or Titan) from manufacturing, selling, or using in, or from shipping from or to, any place in the world, titanium compounds or any product, finished or unfinished, or from otherwise fully exercising the grants made by them.

(*c*) It is agreed that the holdings of voting shares in British Titan will be rearranged so as to insure that National Lead (or Titan), I. C. I., I. S. C., and Goodlass Wall will each hold the same number of shares.

(*d*) The right of National Lead to name three directors of British Titan is cancelled, and National Lead has agreed to refrain from taking any part in or exercising any influence in respect of deliberations or decisions of British Titan concerning any business of British Titan within, from, or to the United States.

(*e*) All restrictions on the disposition by National Lead of its shares of British Titan contained in the 1933 agreements are cancelled, and it is agreed that the Articles of Association will be amended to remove therefrom all such restrictions.

(*f*) The proposed agreement supersedes, in so far as inconsistent therewith, the 1933 agreements, and to the extent that any provision or provisions of the 1933 agreements are inconsistent therewith they are deemed to be amended.

(*g*) The license agreement between Titan and British Titan made in March 1933 is cancelled.

(*h*) The agreement for exchange of licenses under patent rights hereafter acquired may be terminated by British Titan and National at the end of any year by three years previous notice in writing, or by National by notice given at any time pursuant to order of the United States District Court, or by British Titan by notice given at any time pursuant to order of competent authority in Great Britain pursuant to the Defense Regulations 1941 or pursuant to the order of any competent court in Great Britain.

The proposed agreement was negotiated and submitted in good faith as a means of meeting objections made by the Antitrust Division, and at the same time of avoiding litigation in England on claims that might be asserted against National Lead or Titan by the British companies, and of conserving National Lead's investment in British Titan.

British Titan was not the only manufacturer of titanium pigments in the British Empire. A small company, National Titanium Pigments, Limited, known as Laporte, having acquired rights under the so-called Tilden-Smith patents and under the Blumenfeld patents for the British Empire, entered into agreements with British Titan fixing prices in the British market excluding Canada (Exs. 675, 670, Vol. III, 2484, 2469). Though National was represented on the board of British Titan when these agreements were made, they were not made at the instance of Jebsen or National (or Titan) but were made by British Titan, acting independently, with reference to business and legal considerations respecting which neither National, Titan, nor Jebsen had responsibility or influence (R. 963). In view of war conditions existing in 1941, British Titan and

Laporte, with the support of the British Government, agreed upon a quota arrangement under which British Titan was assigned 80% and Laporte 20% of sales in the British market (Ex. F8, Vol. I, pp. 173-7).

7. The European Agreements (1933-1935)

Joseph Blumenfeld, chemist and managing director of Société de Produits Chimiques des Terres Rares (Terres Rares), a French company in which he owned stock, prior to 1922 obtained certain patents relating to the manufacture of titanium compounds which he assigned to Terres Rares. Between 1922 and 1933 Terres Rares granted exclusive licenses to Fabriques de Produits Chimiques de Thann et de Mulhouse (called Thann), a French company, for France, its colonies, dependencies, protectorates, and mandated territories; to Societa Anonima Titanium (Montecatini), the largest chemical company in Italy, for Italy, and non-exclusive licenses for Belgium, Holland, Switzerland, Spain, Portugal, and South America, subject to rescission on three months' notice; to Verein für Chemische und Metallurgische Produktion Aussig (Aussig), the largest chemical company in Central Europe for Czechoslovakia, Austria, Hungary, Yugoslavia, Rumania, and, subject to certain obligations, Danzig and Denmark, and non-exclusive licenses for Poland and Russia; and to Laporte for the British Empire. Terres Rares sold its United States titanium patents to Commercial Pigments Company, a United States corporation; these patents were later acquired by du Pont (Finding 34, R. 247; R. 782-831, 951-3).

Jebsen, confronted with the economic and political problems indicated below, acting for Titan, either made or approved agreements among the European producers as follows:

(*a*) In 1933 Aussig and Titangesellschaft entered into an agreement which established a sales quota of approximately 25% for Aussig and 75% for Titangesellschaft in Germany, Czechoslovakia, Poland, Austria, Hungary, Yugoslavia, Rumania, and Russia. Prices were to be fixed by mutual consent, but not so high as to impair sales, and were not required to be identical, so that each firm could compete with dealers in other pigments (lithopone, zinc oxide, white lead, &c.) as local conditions might permit. Each gave the other the right to use its product patents and agreed to support the other in protecting these rights. Aussig agreed to buy from Titangesellschaft at preferential prices any requirements of titanium pigments above Aussig's then production capacity which Aussig might need to meet its quota. (This provision, made to enable Titangesellschaft to reduce costs through increased production and Aussig to buy at a favorable price, was effective only until Titangesellschaft's capacity was fully utilized.) Responsibility for the quality of the products was to rest on the manufacturer. (Ex. G, Vol. I, p. 178).

(*b*) Some time in 1935, but to take effect as of May 1, 1934, an agreement known as the Contrat a Quatre was made between Thann and Terres Rares on the one hand and Société Industrielle and Titan, on the other, which established a quota of 30% for Thann and Terres Rares and 70% for Société Industrielle and Titan in Belgium, Holland, and "various countries" (Esthonia, Latvia, Lithuania, Abyssinia, Liberia, Arabia, Afghanistan, Persia, and Siam) and a 50% quota for each group in France; prices for these territories were to be fixed by mutual consent; product patents of each party were to be made available to the others. This agreement could be terminated by a change of sales possibilities resulting from governmental meas-

ures, from "new competition", or from "any governmental or legislative measures making it partly or wholly illegal". Otherwise it could not be terminated before December 31, 1938, and then only on six months' notice. Thereafter it was to continue for two-year periods unless notice was given six months before the expiration of any such period. This agreement was related to the Contrat a Six (see below) and could be terminated on three months' notice if that agreement was terminated. (Ex. G1, Vol. I, p. 197)

(c) At the same time an agreement known as the Contrat de Livraisons (agreement concerning mutual deliveries) was made between the same parties and provided that each group would supply the other with any titanium pigments which it might have available after its own needs were satisfied, at certain fixed prices and on certain terms. It was agreed that goods delivered by one group to the other could not be reexported and that this obligation must be imposed on the customers of the parties. (Ex. G2, Vol. I, p. 221)

(d) An agreement known as the Contrat a Six was also entered into at this time by Thann, Terres Rares, Montecatini, Titan, Société Industrielle, and Titangesellschaft, in which Titangesellschaft and Aussig were given exclusive rights of sale and delivery in Germany, Danzig, Czechoslovakia, and Russia; Titangesellschaft, Terres Rares, and Thann in Spain, Portugal, Japan, Switzerland, Bulgaria, Greece, Turkey, China, and South America (subject to Titanium Pigment's rights in South America); Terres Rares, Thann, and Société Industrielle in France; Terres Rares, Thann, and Titan in Belgium, Holland, and "various countries" (as defined above); Montecatini in Italy; Titan in Norway, Sweden, and Finland; and Titan and Aussig in Denmark. Each party

agreed to respect the others' exclusive rights. This agreement had the same termination provisions as the Contrat a Quatre, and was terminated by Montecatini on December 31, 1938. (Ex. G 3, Vol. I, p. 233)

The European agreements and arrangements just described were shaped by political, economic, and legal considerations which may be briefly stated as follows: In 1927 a world economic conference was called by the League of Nations for the purpose of discussing and, if possible, taking steps to cure the economic ills of Europe caused by World War I. For example, the industries of Bohemia, established for a market of 50 million people, found themselves with 13 million Czechoslovakians as their domestic market; they had to seek an outlet for excess production. Tariff barriers were erected and import license systems inaugurated to protect domestic manufacture; and countries with weak currency subsidized export industries in order to bolster their currency. These economic complications, characteristic of Europe in the 20's and 30's, led to cartelization to protect domestic industry, including the prevention of dumping by companies subsidized by their governments. A company wishing to do business in Europe at the time was forced to come to terms with domestic industry and thus to participate in cartel agreements (R. 1127-9, 954-5, 798; Ex. NL 34, pp. 4108-72).

8. The Japanese Agreements (1936)

Because of increasing difficulty with Japanese tariffs and import licenses, and because of the probability of independent manufacture of titanium products in Japan and dumping on world markets, a pool agreement was made in 1936 by Terres Rares, Titan, and IG, under which Terres

Rares and Titan, together with the Japanese firm of Kokusan Kogyo, undertook to form a new company, Titan Kogyo, for the purpose of erecting a titanium factory in Japan (Ex. J, Vol. I, p. 292). The Japanese firm was to own 50% of the new company, Terres Rares 30%, and Titan 70% of the remaining 50%. IG was to have an option on one-half of Titan's shares. Terres Rares and Titan authorize Doitsu (IG's selling agency in Japan) to act as trustee for them in the new Japanese company. This agreement was to last as long as any of the parties owned stock in Titan Kogyo. The proportionate interests of the parties in the Japanese market had been determined by the European agreements described above (page 34).

Doitsu and Kokusan Kogyo agreed that Titan Kogyo would be licensed under Titangellschaft and Titan Japanese patents in substantially the same manner and subject to the same terms as in the German and British agreements described above (pages 22, 26) (Exs. J1-J8, Vol. I, pp. 290-341). Titan Kogyo was given an option on Blumenfeld's Japanese patents in exchange for certain rights to be given Terres Rares and Thann (Finding 54, R. 264-6).

9. The Canadian Agreements (1937)

National, under certain Canadian patents and by virtue of the 1920 agreement described above (page 16), had an exclusive license and the right to grant sublicenses under Titan A/S's Canadian patents (Ex. A, Vol. I, p. 1).

Before 1937 National supplied the Canadian market through Wilson, Paterson & Gifford and permitted British Titan to sell through the same agency (Exs. 674, 649, Vol. III, pp. 2481, 2416). Sales were small and the market undeveloped in relation to rival pigments, such as lithopone,

white lead, and zinc oxide. Beginning in 1935 National, realizing the need for a strong local alliance, began negotiating with Canadian Industries, Ltd., called C. I. L., the largest chemical company in Canada, 86% of whose stock is owned by I. C. I. and du Pont in equal shares, for the purpose of forming a company to manufacture and sell titanium pigments and compounds in Canada. As a result of these negotiations four agreements were made in 1937, as follows (Exs. K-K 3, Vol. I, pp. 342-80):

(a) There was an agreement between C. I. L. and National Lead under which a new company, Canadian Titanium Pigments, Ltd., was granted the sole right to manufacture and sell under C. I. L.'s and National Lead's titanium patents in Canada and Newfoundland. Canadian Titan was to be owned 49% by National Lead and 51% by C. I. L. In addition, National Lead was to receive 8,000 shares of non-voting (except under certain conditions) $100 par value stock in consideration of its existing good will, patents, and technical information. National Lead and C. I. L. agreed to subscribe to bonds of Canadian Titan for the purpose of erecting a factory; but because of World War II the bonds have not been issued and the factory has not been built. Canadian Titan was to have six directors, three nominated by National Lead and three by C. I. L.; one of the C. I. L. directors was to be president. Until the factory was built, National agreed to supply Canadian Titan at cost plus 10% and to use its best efforts to enable Canadian Titan to purchase from British Titan at cost plus 10%. The agreement was to remain in force for thirty years, and thereafter could be terminated on twelve months' notice by either party. If at the end of thirty years either party wished to withdraw from the agreement, it was required to offer its shares

to the other party at book value. (In determining book value good will, patents, and future earnings were not to be considered.)

(*b*) It was agreed that National Lead and Canadian Titan would exchange licenses, patent applications, and technical information in accordance with the principles of the 1920 agreement above described. No restrictions were placed on the sale of finished products by the customers of either party. Both National and Canadian Titan could grant sublicenses; and in order to insure the widest development of the field, sublicensees were required to grant licenses under their present and future patents to the grantor.

(*c*) C. I. L. and Canadian Titan entered into a similar agreement.

In 1937 Canadian Titan entered into a contract with Laporte under which Laporte transferred to Canadian Titan all the Canadian Titan patents which it then owned and further agreed to license Canadian Titan under any such patents which it might acquire during the life of the contract (fifteen years) (Ex. K 4, Vol. I, p. 382).

Before the trial negotiations were in progress among National, C. I. L, and Canadian Titan to revise the Canadian agreements on lines similar to the revised British agreements described above (pages 31-3) (Finding 58, R. 37). National has recently, however, agreed to buy all of C. I. L.'s interest in Canadian Titan.

10. The du Pont Agreements (1931-1941)

Before 1931 the United States rights under the Blumenfeld patents were held by Commercial Pigments Company (page 34 above); from 1931 to 1935 by Krebs Pigment and

Color Corporation, a Delaware company owned 70% by du Pont; after 1935 by du Pont, to which manufacturing assets of Krebs were assigned in 1935. Krebs was dissolved in 1943, and since then du Pont has conducted all its titanium pigments operations through its Pigment Department (DP Answer, R. 54).

Between 1920 and 1931 sales of titanium pigments by National slowly but steadily increased. In 1931 National sold 8,000 tons of titanium pigments in terms of TiO_2 content (Ex. NL 23, Vol. IV, p. 3948). While sales of all pigments declined in the depression year 1932, sales of titanium pigments fell off relatively little, and sales by National of titanium pigments exceeded total sales of white lead by all manufacturers (Ex. NL 24, Vol. IV, p. 3949). Titanium pigments were well on the way to overtake zinc oxide and even lithopone.

Engaged in the pigments and paint business on a large scale, du Pont saw the handwriting on the wall and set out to acquire patent rights and technical information necessary to manufacture efficiently and economically a full line of titanium pigments and thus to compete successfully with National in a potentially large domestic market (Exs. 192, 172, Vol. I, pp. 1114, 965).

Looking into the patent situation, du Pont found that the Blumenfeld patents, though important, were incomplete and inadequate. For example, the Barton-Rossi-Jebsen patents held or controlled by National stood in the way of manufacture of composite pigments, for which there appeared to be a substantial potential demand, and of use by Krebs (du Pont) of the cheap sulphuric acid attack, disclosed by Jebsen, in the making of pure TiO_2. Indeed, du Pont found that Commercial Pigments was then infring-

ing patents held or controlled by National, and that plans then under consideration for more extensive operation would, if carried out, entail further infringement (Exs. 207, 210, 213, 214, 215, 216, Vol. II, pp. 1252, 1283, 1293, 1295, 1300, 1309, 1313). It was not all one way, however, for the Blumenfeld patents disclosed processes which were attractive to National. National was particularly interested, for example, in processes disclosed by Blumenfeld which improved the quality of TiO_2. And it was seriously claimed by du Pont that National was infringing some of the Blumenfeld patents (Exs. 207, 210, 211, 213, 214, 215, 216, Vol. II, pp. 1252. 1283, 1293, 1295, 1300, 1309, 1313).

The record is replete with evidence of serious controversy between National and du Pont over patent rights, of the probability of protracted and costly litigation, and of a desire on the part of the two companies to effect a reasonable settlement of their difficulties in order that both might safely go forward on a sound technical basis with the development, manufacture, and sale of a relatively new product (Ex. 177, Vol. I, p. 986; Ex. 196, Vol. II, p. 1144).

Having decided to settle their differences and to release and expand the art rather than to attempt to destroy each other, National and du Pont, through Pigment and Krebs, entered into an agreement as of January 1, 1933 as follows (Ex. E, R. 69-72):

(*a*) They exchanged irrevocable, non-exclusive licenses, within the United States, to use all processes, methods, and apparatus relating to or in the "licensed field", whether or not patented or subject to patent, then or thereafter owned by them or otherwise at their disposal, with the right to sell products resulting from the exercise of such licenses in the United States, its colonies and possessions, Mexico,

Central America, the West Indies, and South America.

(*b*) They agreed to exchange technical information and experience.

(*c*) Each party agreed to assist the other to acquire an irrevocable, non-exclusive license, for the territory above described, under any patent or applications owned by or otherwise at the disposal of other persons, under which such party itself was licensed; and Krebs (du Pont) agreed that it would offer to any foreign associate of Pigment (National Lead or Titan), before offering to any other person, the opportunity to acquire, upon mutually satisfactory terms and conditions, an irrevocable, non-exclusive license under any patent relating to the "licensed field" issued in any country of Europe or in Great Britain which then was or thereafter might be owned by or otherwise at the disposal of Krebs (du Pont).

(*d*) It was provided that the agreement might be terminated at any time after December 31, 1933 on three years' notice, but not so as to affect licenses theretofore acquired.

(*e*) There was a mutual release of claims for infringement.

As of about May 1, 1940 the exchange of technical information between National and du Pont was discontinued; and the 1933 agreement was amended as of January 1, 1941 to eliminate provisions for exchange of technical information (Ex. E 3, Vol. I, p. 113).

In each of the years 1937 to 1941, inclusive, du Pont and Titan entered into patent agreements involving specifically designated inventions under the terms of which du Pont granted to Titan exclusive licenses, with the right

to grant sublicenses to one or more of the following, namely, Titangesellschaft, British Titan, Société Industrielle, and, from 1939 to 1941, inclusive, to Titan Kogyo, under certain specific patents and patent applications of du Pont in certain specified countries other than the United States relating to the manufacture of titanium compounds useful as pigments. Each of said licenses was for the particular countries in which the licensed patents and applications were issued or pending, du Pont reserving the right to use the inventions covered by such patents; and Titan, with the consent of National, granted du Pont non-exclusive licenses under certain specific United States patents and applications (Exs. M, N; Q, R, S, Vol. I, pp. 406, 412, 455, 470, 486).

The 1933 agreement between National and du Pont involved a substantial, material deviation from the principles and terms of the 1920 agreement between Pigment and Titan A/S, in that, in addition to granting licenses to du Pont under United States patents of National, the 1933 agreement granted sublicenses to du Pont under United States patents of the parties to the French, German, and British agreements, without at the same time securing the agreement of du Pont not to manufacture in or import into such territories. It was necessary, therefore, to secure the approval of the 1933 du Pont agreement by the parties to the French, German, and British agreements, and such approval was obtained (Exs. A, E, Vol. I, p. 1, R. 69; Opinion, R. 213-14; Finding 73, R. 280-9).

The 1933 du Pont agreement was negotiated chiefly by Rupprecht for du Pont and by Beschorman for National Lead. Rupprecht died prior to the trial (R. 1152). Owing to his retirement, illness, and residence in California,

Beschorman was not called to testify at the trial (Exs. 7, 13, Vol. I, pp. 504, 513). Letters written by Rupprecht and Beschorman, however, indicate that, while Rupprecht informed Beschorman that in view of patent and commercial considerations du Pont was not likely to manufacture in or import into the foreign territories of National Lead's associates, du Pont would not, and was advised and believed that legally it could not, agree to refrain from such manufacture or importation (Exs. 267, 273, Vol. II, pp. 1483, 1500).

While Jebsen had been notified by representatives of National of the negotiations with du Pont, his office and residence were in Paris, his authority and responsibility were confined to European operations in which Titan was interested, he did not participate in the negotiations with du Pont, and he was not asked to and did not approve the form of agreement with du Pont. Indeed, Jebsen regarded the proposed du Pont agreement as a radical and unfortunate departure from the principles and terms of the 1920 agreement, and so advised National (Exs. 242, 244, 245, 247, Vol. II, pp. 1419, 1430, 1436, 1445).

After the 1933 du Pont agreement had been negotiated, however, Jebsen was instructed by National to secure the approval thereto of the French, German, and British companies, and, recognizing but not approving the deviation referred to, he proceeded to carry out the instruction. Jebsen did not receive, nor did he understand that National had received, any assurance that notwithstanding the terms of the agreement du Pont had accepted the principles and terms of the 1920 agreement, or had agreed or would agree to refrain from manufacture in or importation into the territories referred to. Never at any time—not in 1933,

or 1938, or at any other time—did Jebsen understand that du Pont had accepted the principles or terms of the 1920 agreement (R. 959-63, 986-1052; Exs. 273, 274, 275, Vol. II, pp. 1495, 1502, 1504).

On the basis of the exchange of licenses and technical information between National and du Pont, from 1933 on there was the most active competition between the two companies—resulting in great improvement in manufacturing processes, a vast increase in sales, and repeated reductions in the price of titanium pigments (Finding 78, R. 290; Opinion, R. 207; R. 1065-7, 1155-61).

While for obvious business reasons National and du Pont have endeavored to match each other's titanium products, such products have never been identical and each manufactures certain titanium pigments having special applications not manufactured by the other (R. 1073-75).

There has never been any allocation of territory or customers between National and du Pont; and, indeed, each maintains a large, highly trained technical sales force engaged in endeavoring to capture the market for titanium pigments. To a very large extent the salesmen of the two companies are chemists whose contact with customers—that is, manufacturers of paint, rubber, glass, &c.—consists in demonstrating that their products merit acceptance on the basis of technical superiority. The buyers of titanium pigments are mainly well-informed, experienced purchasing agents, whose orders are placed solely on the basis of service and technical considerations brought to their attention by chemists and other technicians employed by the consuming companies (Finding 78, R. 290-1; R. 1155-62; 1053-69).

While National and du Pont have followed each other's price reductions on their commercially comparable products, such price following has been competitive and not collusive, and has resulted in repeated, substantial reductions of the price of titanium pigments (R. 1167, 1066, 1072-3).

11. American Zirconium Agreements (1934-1944)

In or about 1934 American Zirconium Company, which was owned 50% by Glidden Company and 50% by Metal & Thermit Corporation, began to manufacture TiO_2. National notified Zirconium that it was probably infringing patents owned or controlled by National, and in consequence Zirconium requested and received from National a license under all United States patents owned or controlled by National (Exs. H, H1, H2, Vol. I, pp. 260-81). National and Zirconium each granted the other a non-exclusive license under its existing and future patents in the "licensed field"; Zirconium agreed to license National, its licensees or sublicensees, under any present or future foreign patents of Zirconium; and in other respects the agreement conformed with the requirements of Article XIV of the 1920 agreement between Pigment and Titan A/S. At the request of Zirconium, National accepted 10% of the common stock of Zirconium in lieu of royalties and thereupon designated a representative to serve on the Board of Directors of Zirconium (Ex. 356, Vol. II, p. 1308). National exchanged technical information with Zirconium, it gave Zirconium engineering assistance in connection with the installation and use of its processes, and it licensed Zirconium to use pulverizing machinery available to National and through National to du Pont (Ex. P2, Vol. I, pp. 446-54).

As a stockholder of Zirconium, National gave Zirconium such advice and assistance as might reasonably have been expected; but National lacked confidence in the management of Zirconium and from time to time endeavored to sell its Zirconium shares. Finally, in April 1944 the National-Zirconium agreement was cancelled, the parties exchanged releases, and National assigned its shares of Zirconium to Glidden (Finding 84, R. 62-3; Ex. NL 28, Vol. IV, pp. 3954-4060; R. 1081-1103).

12. Virginia Chemical Company (1937)

Some time prior to 1937 Virginia Chemical Company began the manufacture of TiO_2. Believing that Virginia Chemical was probably infringing its patents, National so notified Virginia Chemical, and in consequence there were several conferences attended by technical employees of the two companies to determine what infringements, if any, were taking place (Finding 85, R. 297). When it was determined by National that Virginia Chemical was in fact infringing, National offered Virginia Chemical a license under all its patents in the "licensed field" on a 2% royalty basis. This offer was refused, and no agreement of any sort has ever been made between National and Virginia Chemical, and no suit for infringement has been instituted by National (R. 904, 909).

13. Pulverizing Machinery Licenses (1939-1944)

In 1939 National undertook to adapt a patented machine known as the Micromizer Reduction Mill for use in the manufacture of titanium pigments. Following developments and changes by National, the machinery proved of substantial value as a means of improving the texture of

titanium pigments; and National secured an exclusive license, with the right to grant sublicenses, for titanium pigments manufacture, from the patentee, International Pulverizing Corporation. National licensed du Pont and Zirconium and was willing to license any other company which had licenses under its titanium pigments patents on identical terms with those National was required to pay the licensor. In October 1944 National relinquished its exclusive license and took in its place a non-exclusive license (Finding 81, R. 60-1; Ex. NL 31, Vol. IV, pp. 4073-6).

14. New York Ilmenite Mining Development (1941)

Owing to the impossibility of continuing to import ilmenite from India, in 1941 National opened up a domestic source in Essex County, New York. National was directed by Office of Production Management to, and did, offer participation in this project to each of the other producers of titanium pigments in the United States. The offer was accepted by du Pont. As a result of the investment of more than $10,000,000 by National, and its management, since about July 1942 there has been a domestic source of ilmenite which was sufficient for the demands of World War II. The directive of the Office of Production Management was approved by the Attorney General of the United States (Finding 36, R. 248; Ex. NL 28, Vol. IV, pp. 3991-4008; R. 1094-6).

Specification of Errors, Statement of Issues, and Summary of Argument

There are three appeals.

In No. 89 the Government assigns as error the refusal of the District Court (*a*) to require royalty-free licensing, (*b*) to require, at a reasonable charge, the furnishing of technical information relating to the methods or processes for manufacturing titanium pigments, (*c*) to require divestiture of at least one half of both National's and du Pont's domestic titanium plants and business, and (*d*) for certain other incidental relief (Assignment of Errors, R. 330-1).

In No. 90 National and Titan complain that the decree is too broad in certain respects (A. of E., Par's 1, 2, R. 336-8), and that the provision for divestiture of stock in certain foreign companies is unreasonable and unwarranted (A. of E., Par. 5, R. 338). They assign as error the provision for compulsory licensing of existing patents on a uniform, reasonable royalty basis (A. of E., Par. 3, R. 338).

In No. 91 du Pont assigns numerous errors which presumably will be discussed in its brief.

In order to submit a single, coordinated brief in opposition to parts of the Government's appeal and in support of other parts, as well as in support of the National and Titan defendants' appeal, three weeks before the case is called (Rule 27), when the Government's brief must also be submitted, and to obviate, or at least reduce the length of, reply briefs, we have endeavored to anticipate the Government's points and have arranged our brief accordingly.

We think the Government will contend that National and du Pont have used their patents in violation of the

Sherman Act and that they should therefore be compelled to license any applicant royalty-free under their existing patents and patent applications. We shall not oppose this contention, but on the contrary shall affirmatively support it.

We believe the Government will also contend that National and du Pont have so conspired in violation of the Sherman Act that divestiture of at least one of the titanium pigment plants of each is required to create competition in the titanium industry. In opposition to this we shall contend that competition now exists, and has always existed, between National and du Pont and that, if royalty-free licensing is required, any potential producer having the necessary capital can enter the industry without restraint or hindrance.

In support of our contention that the judgment is too broad in certain respects we shall demonstrate that the court erred in enjoining any new agreements containing any of the provisions of the cancelled agreements. If this provision prevails, National and Titan will be unable to enter into normal business arrangements.

As to the provision for divestiture of stock interest in certain foreign companies, we shall show that such divestiture will restrain trade rather than create a condition free from restraint.

We shall deal first with the issues now raised by our appeal (No. 90), then with a point made only on the Government's appeal (No. 89).

Argument

I

The District Court erred in enjoining the further performance of any of the provisions of the cancelled contracts and of any agreements amendatory thereof or supplemental thereto and enjoining normal and usual arrangements between the defendants and other producers of titanium products.

Paragraphs 5 and 6 of the judgment perpetually enjoin National and Titan from the further performance of *any* of the provisions of the cancelled contracts and of any agreements amendatory thereof or supplemental thereto, and also enjoin the making of any new agreement between these defendants and other producers of titanium products which has as its purpose or *effect* the continuing or renewing of any of the cancelled agreements (R. 310-13).

Paragraphs 5 and 6 should be amended by eliminating the language italicized below, as follows:

> "5. The following agreements are hereby adjudged to be unlawful under Section 1 of the Sherman Act and each of them is hereby cancelled *and the defendants and each of them and all persons acting or claiming to act through, for or under them and all successors and subsidiaries of any of the defendants are hereby enjoined and restrained from the further performance of any of the provisions of said agreements and of any agreements amendatory thereof or supplemental thereto:* [followed by a list of the cancelled agreements]"
>
> "6. Each of the defendants and each of their directors, officers, agents, employees, successors and sub-

sidiaries and all persons acting, or claiming to act under, through or for them or any of them are hereby enjoined and restrained (a) *from entering into, adhering to, maintaining or furthering, directly or indirectly, or claiming any rights under any contract, agreement, understanding, plan or program among themselves, the co-conspirators, or with any other person, partnership or corporation, which has as its purpose or effect the continuing or renewing of any of the agreements listed in paragraph 5 hereof;* (b) from entering into, adhering to, maintaining or furthering, directly or indirectly, any contract, agreement, undertaking, plan or program with any other producer or dealer relating to titanium pigments which has as its purpose or effect (1) to divide sales or manufacturing territories, (2) to allocate markets, (3) to limit or prevent United States imports or exports, (4) to grant to any third party any market as its exclusive territory, (5) to keep any third party out of any market; provided, however, that nothing contained in this subdivision (b) of this paragraph 6 shall prohibit any normal and usual arrangements between any defendant and its directors, officers, employees, agents, subsidiaries, or any PRODUCER, dealer or distributor, whether or not a co-conspirator; (c) from restricting any purchaser of titanium pigments in the use thereof."

Paragraph 6 should further be amended by adding to the proviso clause the word PRODUCER as indicated above.

Any rearrangement of stock ownership in the foreign companies—in fact, the very action compelled by paragraph 8 of the judgment (the disposition of National's stock in foreign companies, or the acquisition of the stock of others in such companies)—is necessarily amendatory of or supplemental to the cancelled agreements.

The District Court cancelled contractual relations between parties when, in most cases, only one of the parties was before the court and subject to its jurisdiction. It will be sufficiently difficult for National and Titan to adjust their relations with their foreign associates in any case without having their hands tied by a prohibition against any adjustment whatsoever. Titan should be free to negotiate reasonable settlements, provided the restraints contained in the cancelled agreements are not renewed or continued.

The assignment of patents, grants of licenses under patents not listed in the appendix to the judgment or defined in paragraph 4 thereof—in short, practically any action the defendants might naturally and properly take in the future would be prohibited by the unnecessary injunctions and restraints contained in paragraphs 5 and 6.

We recognize, as indeed we must, that the "United States is entitled to effective relief". *Local 167 et al.* v. *United States*, 291 U. S. 293, 299 (1934). The task before the court is that of

> ". . . fashioning a decree in an Anti-trust case in such way as to prevent future violations and eradicate existing evils, . . ." *Associated Press et al.* v. *United States*, 326 U. S. 1, 22 (1945).

The object is the creation of

> ". . . a new condition which shall be honestly in harmony with and not repugnant to the law." *United States* v. *American Tobacco Company*, 221 U. S. 106, 187 (1911).

To perform that task, the court is faced

> ". . . with the difficult problem of awarding an injunction which would insure the desired end without

imposing punishments or other sanctions . . ." *Hartford-Empire Co. et al.* v. *United States*, 323 U. S. 386, 408 (1945).

This problem has been described as

> "The determination of the terms of the judgment which will accomplish that which is necessary in the public interest and which will not deal unfairly with the defendants . . ." *United States* v. *Pullman Co. et al.*, 53 F. Supp. 908 (E. D. Pa. 1944).

In reversing the *American Tobacco* decree, the Supreme Court said:

> ". . . we leave the matter to the court below to work out a compliance with the law without unnecessary injury to the public or the rights of private property." (221 U. S. at 188)

The controlling considerations were expressed as follows (221 U. S. at 185):

> ". . . In considering the subject . . . three dominant influences must guide our action: 1. The duty of giving complete and efficacious effect to the prohibitions of the statute; 2, the accomplishing of this result with as little injury as possible to the interest of the general public; and, 3, a proper regard for the vast interests of private property which may have become vested in many persons as a result of the acquisition either by way of stock ownership or otherwise of interests in the stock or securities of the combination without any guilty knowledge or intent in any way to become actors or participants in the wrongs which we find to have inspired and dominated the combination from the beginning. . . ."

The courts have repeatedly emphasized that the problem of framing a proper decree is to be solved by the exercise

of a jurisdiction that is "remedial, not punitive" (*United States* v. *American Can Co. et al.*, 234 Fed. 1019 (1916)), and "is to be exercised according to the general principles which govern the granting of equitable relief" (*DeBeers Consolidated Mines, Ltd. et al.* v. *United States*, 325 U. S. 212, 218 (1945)). See *Appalachian Coals, Inc. et al.* v. *United States*, 288 U. S. 344, 377 (1933); *United States* v. *Corn Products Refining Co. et al.*, 234 Fed. 964, 1018 (1916).

These general statements are the reflection of three distinct doctrines:

First, as suggested by the extract from the old *American Tobacco* case, property interests of the defendants should be recognized and protected so far as may be consistent with the granting of effective relief;

Second, the court may not "issue a general injunction against all possible breaches of the law" (*Swift and Company* v. *United States*, 196 U. S. 375, 396 (1905)), and the corollary that an offender should not be placed in such position that it "ceases to be under the protection of the law of the land and must thereafter conduct all its business under the jeopardy of punishment for contempt for violating a general injunction" (*New York, New Haven and Hartford Railroad Company* v. *Interstate Commerce Commission*, 200 U. S. 361, 404 (1906), and see *E. W. Bliss Company* v. *United States*, 248 U. S. 37, 48 (1918)); and

Third, the court may not "create as to the defendants, new duties, prescription of which is the function of Congress" (*Hartford-Empire Co. et al.* v. *United States*, 323 U. S. 386, 409 (1945)).

The applicable principles were stated in the *Hartford-Empire* case as follows (323 U. S. at 409-10):

> "The Sherman Act provides criminal penalties for its violation, and authorizes the recovery of a penal sum in addition to damages in a civil suit by one injured by violation. It also authorizes an injunction to prevent continuing violations by those acting contrary to its proscriptions. The present suit is in the last named category and we may not impose penalties in the guise of preventing future violations. This is not to say that a decree need deal only with the exact type of acts found to have been committed or that the court should not, in framing its decree, resolve all doubts in favor of the Government, or may not prohibit acts which in another setting would be unobjectionable. But, even so, the court may not create, as to the defendants, new duties, prescription of which is the function of Congress, or place the defendants, for the future, 'in a different class than other people,' as the Government has suggested. The decree must not be 'so vague as to put the whole conduct of the defendants' business at the peril of a summons for contempt'; enjoin 'all possible breaches of the law'; or cause the defendants hereafter not 'to be under the protection of the law of the land.'"

Applying these principles to the instant case, it is submitted that cancellation of the agreements (Par. 5) and the injunction (Par. 6(b), (c)) against any continuation or renewal of the illegal provisions thereof (namely, division of sales or manufacturing territory, allocation of markets, limitation of imports or exports, restrictions on use, &c.) will insure complete, effective relief without subjecting the defendants to undue hardship and losses. Accordingly, it is submitted that the amendments requested on pages 52-3 above should be granted in the interest of promoting trade and competition in titanium pigments.

II

The court erred in refusing to order royalty-free licensing of all patents as defined in the judgment.

(On the Defendants' Appeal, No. 90)

Paragraph 7 of the judgment is as follows:

"7. Each of the defendants is ordered to grant to any applicant therefor, including any defendant or co-conspirator, a non-exclusive license under any or all of the patents as herein defined at a uniform, reasonable royalty. Such grant may, at the option of licensor, be conditioned upon the reciprocal grant of a license by the applicant, at a reasonable royalty, under any and all patents covering titanium pigments or their manufacture, now issued or pending, or issued within five years from the date of this decree, if any, owned or controlled by such applicant. Such license or reciprocal license may, at the option of either party, contain a provision for the inspection of the books and records of the licensee by an independent auditor who shall report to the licensor only the amount of royalty due and payable and no other information. During a period of three years from the date of this decree such license or reciprocal license may at the option of either party contain a provision for the imparting in writing, at a reasonable charge, by the licensor to the licensee, of the methods and processes used by the former at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments. The Court reserves jurisdiction to pass upon the reasonableness of any royalty or charge herein directed to be reasonable. Defendants are restrained from attempting to enforce any rights under any foreign patents owned by them or under which they are the exclusive licensees to prevent the exportation of

titanium pigments from the United States to any foreign country." (R. 313)

The expression, "patents as herein defined" means (Judgment, Par. 4) (*a*) the letters patent and patent applications listed in the appendix attached to the decree; (*b*) all divisions, continuations, or reissues of any of said patents and applications; (*c*) all patents issued upon such applications; (*d*) all patents which cover any titanium pigments or any process for the manufacture of titanium pigments issued to any of the defendants within five years from the date of the decree; all such patents which any of the defendants acquires within such five years; and all such patents of which any of the defendants becomes the exclusive licensee within such five years with power to sublicense (R. 310).

National has always been in favor of the widest possible use of patents and technical information consistent with Article XIV of the 1920 agreement. The District Court found that one of the purposes of the 1920 agreement was to utilize fully the patents and know-how of each of the parties and to promote the more rapid development of the business (Finding 46, R. 254). The parties to that agreement—Titanium Pigment Company (National) and Titan Company A/S (the Norwegian company)—were the only manufacturers of titanium pigments (R. 918-20; Finding 33, R. 245-7). Likewise, one of the purposes of the National-du Pont agreement of 1933 was to avoid the expenses and risks of patent litigation and to give each of the parties access to the other's patents and technical experience (Finding 79, R. 291-3).

National's position on royalty-free licensing was clearly stated during the conferences attended by the court and

counsel in connection with the framing of the judgment (R. 1227). It was and is National's position that, if the industry is to be freed completely of all restraints, the licensing of the patents involved must be completely unfettered and unrestricted (R. 1227-8).

This Court refused to approve royalty-free licensing in *Hartford-Empire Co. et al.* v. *United States*, 323 U. S. 386, 413-16 (1945). But each Sherman Act case depends on its own facts. *United States* v. *Union Pacific Railroad Company*, 226 U. S. 470, 474 (1913). A judgment should grant relief that is effective and adequate to the occasion. *Local 167 et al.* v. *United States*, 291 U. S. 293, 299 (1934); *United States* v. *Trans-Missouri Freight Association*, 166 U. S. 290, 308 (1897).

The *Hartford-Empire* case is distinguishable. Hartford-Empire is a patent holding and developing company. It does not manufacture glassware except for experimental purposes. Its income is derived from royalties and fees obtained from the licensing and leasing of its machinery. *United States* v. *Hartford-Empire Co. et al.*, 46 F. Supp. 541, 546 (N. D. Ohio 1942). Hartford-Empire does not compete with its licensees; the requirement for uniform, reasonable licensing of its patents puts every glass manufacturer who uses the patents on an equal footing.

National and du Pont, on the other hand, manufactured and sold 46.4% and 45.1% respectively of the pure TiO_2 produced in the United States in 1943 (Findings 3, 9, R. 236, 237); together they dominate and control the titanium pigment business in the United States (Finding 79, R.

291-3) to the exclusion of all actual or potential competition (Finding 95, R. 303-6). The court therefore held that

> ". . . plaintiff is entitled to a decree which will restore titanium to the system of free competition; the means of preventing such development must be destroyed and the power to prevent it must be shorn from those who, by combination, have acquired it." 63 F. Supp. at 532 (R. 222).

According to the District Court, domination and control resulted in large part from a proliferation of patents (Finding 79, R. 291-3) and from a monopoly of technical information relating to the manufacture and use of titanium pigments and certain apparatus and equipment necessary to such manufacture, to the exclusion and detriment of other producers engaged in the titanium pigment business in the United States (Finding 95, R. 303-6).

Thus National and du Pont not only compete with their licensees but dominate the titanium industry. A requirement of uniform, reasonable royalties in no way frees competition because, no matter what the royalty may be, *in this industry* a licensee required to pay more than its licensor will be at a competitive disadvantage.

A patent owner who uses his patent in restraint of trade can not enforce the patent against infringers, at least until the effect of the illegal restraint has been dissipated. *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U. S. 488 (1942); *B. B. Chemical Co.* v. *Ellis et al.*, 314 U. S. 495 (1942); *Mercoid Corporation* v. *Mid-Continent Investment Co. et al.*, 320 U. S. 661 (1944); *Mercoid Corporation* v. *Minneapolis-Honeywell Regulator Co.*, 320 U. S. 680 (1944).

As was said by Judge LEAHY in *United States* v. *Vehicular Parking, Limited, et al.*, 61 F. Supp. 656, 658 (D. Del. 1945), refusing to grant defendants' request to vacate a paragraph in the decree enjoining infringement suits and suits for the collection of royalties on existing patents until the effects of the illegal conspiracy had been fully dissipated (though the paragraph was subsequently modified, by consent of the parties, to enjoin suits for past infringements and past royalties),

> "In this connection defendants must remember that when a patent owner uses his patent in violation of the anti-trust laws he cannot restrain infringement of it by others." (Citing the *Morton Salt, B. B. Chemical* and the *Mercoid* cases, *supra.*)

Compulsory licensing alone would not be enough to restore the industry to a healthy, competitive condition. If National and du Pont are permitted to receive royalties on their existing patents, they will still be in position to dominate the industry.

If it be argued that a patent right is in all respects subject to the same protection as other property, the answer is that all property rights are subject to regulation when the public interest requires it. *Barbier* v. *Connolly*, 113 U. S. 27, 31 (1885); *Lawton* v. *Steele*, 152 U. S. 133, 136 (1894). The Government possesses whatever power is "appropriate to the exercise of any attributes of sovereignty specifically granted to it by the Constitution." *United States* v. *Gaffney et al.*, 10 F. (2d) 695, 696 (C. C. A. 2d, 1926); *Nebbia* v. *New York*, 291 U. S. 502, 524 (1934). An impairment of property rights by the enforcement of a valid regulatory statute is not a taking of property in the constitutional sense. *Bedford* v. *United States*, 192

U. S. 217 (1904). This Court has long recognized that the limitations of the Fifth Amendment are irrelevant in respect to the deprivation of property rights resulting from enforcement of the Sherman Act. *United States* v. *Joint Traffic Association*, 171 U. S. 505, 571 (1898).

The District Court has deprived the defendants of their property by restraining them from enforcing any rights under their foreign patents to prevent the exportation of titanium pigments from the United States (last sentence, paragraph 8 of the judgment) (R. 314). This is, in effect, ordering royalty-free licensing under foreign patents owned by the defendants. If such a provision is valid and appropriate in relation to foreign patents, surely the court can compel royalty-free licensing under United States patents. Consistent with our position throughout, we did not, and do not now, object to this provision of paragraph 8.

We believe, however, that royalty-free licensing should be limited to patents as defined in the judgment and should be conditioned upon a reciprocal grant from the applicant under any titanium patents owned or controlled by the applicant. This is consistent with the position National and Titan have always taken in connection with patent licensing.

Under the judgment the defendants will be freed from the conditions imposed by Article XIV of the 1920 agreement and similar conditions of other cancelled agreements. The cancellation of the illegal agreements, plus the requirement of royalty-free licensing of patents as defined in the judgment, will create a condition honestly in harmony with the law.

III

The court erred in requiring National and Titan to dispose of their stock holdings in certain foreign companies or, in the alternative, to acquire the entire stock holdings of these companies.

(On the Defendants' Appeal, No. 90)

Statement of the Problem

Paragraph 8 of the judgment requires National and Titan, within one year from the date of the judgment, to present to the court a plan for divesting themselves of their stock holdings and other financial interests in BTP, CTP, TG, and TK, or for the purchase of the entire stock holdings and other financial interests in these companies (R. 314).

National owns 50% of TG, a German company, and 18.5% of TK, a Japanese company (NL Answer, R. 41; Finding 6, R. 236-7). Though the war has ended since the trial was concluded, there is still complete lack of information concerning the condition of these companies; their future is affected by all of the uncertainties attending the occupation, demilitarization, and eventual reconstruction of Germany and Japan.

At the time of the trial National owned 44% of BTP and 43% of CTP (Findings 6, 24, R. 236, 242). The stock of these companies was held subject to contractual obligations which imposed severe restrictions on sale. In both instances National, if forced to sell, was required to sell to the remaining stockholders at book value. Book value did not include any consideration of good will, patents, or future business possibilities (Exs. F, K, Vol. I, pp. 119, 242).

The basis of this case is the 1920 agreement between Titanium Pigment Company (National) and Titan Company A/S (the Norwegian company). National now owns 87% of the Norwegian company and has an option to purchase the remaining 13% (Finding 4, R. 236). The 1920 agreement, therefore, might have been terminated but for the fact that its terms had been carried over in part into contracts between National and its British partners and National and its Canadian partner, and the fact that in the British and Canadian agreements certain provisions had been conditioned on the 1920 contract (Exs. F, K, Vol. I, pp. 119, 242).

In order to eliminate the criticized features of the agreements, a new British agreement was drafted before the trial (Ex. NL 30, Vol. IV, pp. 4066-72), and a similar agreement was being negotiated with the Canadians (Ex. NL 1, Vol. IV, p. 3820).

Shortly after the trial BTP notified National that it was planning to expand its business and desired to issue additional A shares. Under the terms of the British agreement National (Titan) was entitled to participate in stock financing on a pro rata basis. In order to facilitate the expansion of BTP, and at the same time adjust its problems with the British partners, National entered into a new agreement,— the court and the Government having been advised of the situation at a conference arranged for that purpose,—as follows:

(*a*) If the judgment is modified to permit National to own stock in BTP, National will reduce its interest to 25% of the present A shares and subscribe to new A shares at that rate.

(*b*) If the judgment is affirmed, National will sell and the British partners will buy National's entire

interest in BTP at book value, book value to be determined on a basis slightly more advantageous to National than the old agreement provided.

The new agreement is the best that National can obtain from the British in view of the extreme obligations contained in the old agreement. The judgment in this case would be no defense in a suit by BTP to enforce the old agreement.

The conditions which the court held in violation of law were "the product of agreements" (Opinion R. 201). The uncontested provisions of the judgment will completely eliminate participation by the defendants in any such agreements. The injunctive provisions will remove every illegal restraint and prevent recurrence.

National has recently entered into an agreement to purchase all of the stock of CTP,—also with the knowledge of the District Court and the Government,—and therefore consideration of the relationship between National and CTP has been taken out of this case.

The Economic Setting

It is impossible to consider the problems presented by National's stock interest in BTP without discussion of the economic factors involved. In order fully to inform the trial court on this aspect of the case, we called an expert, Dr. Imrie de Vegh, whose testimony may be found at R. 1112-45. We also printed and introduced as an exhibit the full text of Dr. de Vegh's memorandum for counsel (R. 1177, Ex. 34, Vol. IV, pp. 4108-72). The following description of the economic facts with reference to which National had to do business in the British Empire is taken from the testimony and

memorandum referred to, supplemented by references to relevant developments subsequent to the trial.

By the late nineteenth century the combination movement had progressed considerably in England and was highly successful in a number of industries. Moreover, as the competitive advantages of large size became more apparent, and especially as the financial success of monopolies resulting from the combination of a few powerful firms became obvious, a large number of huge industrial mergers took place. The control of the market exercised by the merged enterprises was further strengthened in many cases by cartel agreements with the companies that remained outside (Ex. NL 34, Vol. IV, pp. 4114-15).

The First World War gave a powerful stimulus to the combination movement; the Ministry of Munitions and other government departments found it easier to deal with trade associations than with competing individual producers. Organized for the purpose of restricting competition and controlling prices, in America today these associations would be called cartels. The problems created by them became so serious that a Committee on Trusts was appointed near the end of the war. The committee filed a report in 1919 which described the wartime evolution of combines and trade associations and stated (Cd. 9236, H. M. Stationery Office, 1919, p. 11)—"Trade Associations and Combines are rapidly increasing in this country, and may within no distant period exercise a paramount control of all important branches of the British trade."

The report was unanimous, but the four "radical" members of the committee (Ernest Bevin, J. A. Hobson, W. H. Watkins, and Sidney Webb) submitted an addendum in

which they argued that it did not go far enough. They stated that the combination movement is "both inevitable and desirable".

While after the war the purposes of the wartime combinations disappeared, the institutional changes remained. The big companies continued to grow bigger; the small companies continued to strive for agreements with competitors and for mergers in order not to go under in the competitive struggle. This latter factor became of considerable importance after 1921, when England failed to recover from the post-war slump and chronic unemployment appeared for the first time as an identified malady of modern industry.

The transitional difficulties of the post-war period provided a powerful incentive for defensive measures on the part of industry. British industry realized that it was losing out in the international competitive race with the more modern industries of the United States, Germany, Japan, and even of the smaller European industrial countries like Belgium, Sweden, and Switzerland. The chronic unemployment of the 1920s, the failure of England to maintain her share in the world's export markets, the invasion of the British home market by foreign industries, all tended to foster combinations in British industry (see Ex. NL 34, Vol. IV, pp. 4121-4).

By 1926 the Liberal Party was thoroughly alarmed by the challenge to orthodox liberalism inherent in post-war developments. It appointed a committee to study the situation, including W. T. Layton, editor of *The Economist*, Lloyd George, H. D. Henderson, Philip Kerr (subsequently

Lord Lothian), J. M. Keynes, Sir Herbert Samuel, Sir John Simon, R. H. Brand, D. H. Robertson, Sir Josiah Stamp, and others less well known in the United States. These men constituted the intellectual leadership of the Liberal Party and, in a large measure, that of England. Their report was published after eighteen months of deliberations, entitled *Britain's Industrial Future being the Report of the Liberal Industrial Inquiry.* It commands great attention, reflecting the ideas of leading English liberals and academicians as to how much of the liberal ideology of the nineteenth century could be salvaged. Chapter VIII of the report is devoted to trusts and trade associations. The report states that

> ". . . this very proper objective [the protection of the public interest] is not to be secured in these days by mere attempts to restore the old conditions of competition, which often involve waste and effort, the uneconomic duplication of plant or equipment, and the impossibility of adopting the full advantages of large-scale production.
>
> "In modern conditions a tendency towards some degree of monopoly in an increasing number of industries is, in our opinion, inevitable and even, quite often, desirable in the interests of efficiency. It is, therefore, no longer useful to treat trusts, cartels, combinations, holding companies, and trade associations as inexpedient abnormalities in the economic system to be prevented, checked, and harried. The progression from purely private individualistic enterprises to the Public Concern is one of the endless gradations and intermediate stages. . . ." (pp. 92-3)

By the end of the decade British industry was among the leaders of the world-wide concentration movement. It exercised a tight control over its domestic and imperial markets. In addition to the growing complexity of in-

dustrial production, marketing, and trade, the tariff protection of key industries, which was enacted after the World War, considerably assisted trustification and cartelization. The McKenna Duties of 1915 and the Key Industries Duties of 1921 were the first breaches in the free-trade system of England, where the only duties previously known were a few levies raised for revenue (*e. g.* on tobacco). The profit possibilities to be derived from economic concentration were enhanced by the tariff, which raised the delivered price of potentially competitive imports.

The highly tolerant view British legislation and courts took with respect to restraints of trade, the narrowness of their interpretation of what was an unreasonable restraint, and their refusal to consider any but the most specific evidence, contributed to the development of highly restrictive practices throughout British industry. This meant that what would be considered competitive behavior in the United States was at a discount and would have tended to provoke violent retaliation by an entire industry against the aggressor enterprise. A tacit code of non-competitive industrial discipline was built up which was and is of the greatest effectiveness.

During the 1930s two major changes occurred, both of which propelled industry further in the direction of concentration and coordination. First was the adoption of protectionist foreign trade policies. England adopted a full-fledged protectionist tariff in 1932. At the Ottawa Conference in the same year, moreover, a system of Imperial preference was established which went far to guarantee the Imperial market for British manufactured products. Having become a protectionist country, England enabled a number of her industries, in which previously the

absence of a tariff enforced some measure of competition, to reduce their competitive activities.

The second major development was the growing conviction that cartels, trusts, and other forms of industrial agreements and mergers are helpful tools of British national policy. Compulsory cartelization was attempted in cotton spinning, coal, and steel, among others. The British Government took an active interest in the international steel cartel negotiations; it made tariff and quota protection of the industry conditional on rationalization and reorganization; it backed the numerous international commodity agreements that involved British Empire producers. The Sugar Industry Reorganization Act of 1936 enacted a compulsory merger of all beet sugar manufacturing companies.

With the German example before their eyes, British Government officials and corporation executives became increasingly aware of the advantages to the execution of national policies that could be derived from industrial combination. They saw that monopolistic agreements among raw materials producers were a very effective way to increase the total proceeds of exports, and the total revenues accruing therefrom, both to the producing interests and to the national economy as a whole. These considerations were powerful in the formation of raw materials cartels throughout the British Empire, such as the rubber cartel, the tin cartel, and numerous other agreements among British Empire producers. They also became aware of the advantages of regulating trade and payments relations between England and foreign nations on a comprehensive basis. Among the first of such English payments agreements was the one negotiated with Argentina in 1933, the so-called Roca-Runciman Agreement. There were a num-

ber of subsequent agreements before 1939. A whole network of them was put into operation quickly after the outbreak of the war.

At the time of the trial in January 1945, one could but guess at the post-war organization of British industry and of international trade and international investment in general. It seemed unlikely, however, that the official United States policy of destroying cartels and freeing international trade and payments from all restrictions other than tariffs would succeed.*

Events have surpassed the most pessimistic expectations.

The victory of the Labor Party and the adoption of socialism as the official economic policy of the British Government mean that in Great Britain at least the combination movement will not only not be retarded, but will be accelerated on all fronts, albeit under government supervision. State monopoly is replacing whatever competition there was in a number of basic industries. Wartime controls over industrial production, prices, and distribution, over international trade, over international raw materials production and prices, have by and large been maintained and continued as effective tools of British Government policy. Economic necessity was often given as an excuse, when excuses were felt necessary, but the economic necessities invoked seem likely to continue.

American negotiators have been able to use the bargaining power of the United States to obtain minor ideological concessions from Great Britain, both at Bretton Woods and subsequently in the Anglo-American loan negotiations

* For a summary of British statements on the subject, see Mason, *Controlling World Trade* (CED Research Study), New York, 1946, p. 40, footnote 1.

of 1945. Widespread British expressions of anxiety that acceptance of the American proposals spells the doom of a British full employment policy have led to the giving of speedy reassurances that Great Britain will not abandon controls until it is certain that they will not be needed. Again we are in the realm of guesswork as to when the British Government will consider such controls unnecessary. If it means to carry out the policy of full employment and nationalization of industries stated as its program, the chances are that relaxations will be minor and temporary, even though the former privately controlled cartels will in future be more strongly influenced by British Government policy than prior to World War II.

In most of the globe outside the United States freely competitive enterprise in the American sense does not exist today and is extremely unlikely to exist at any time in the predictable future. That this is so in Soviet Russia and all Russian satellite countries goes without saying. How soon freely competitive capitalist enterprise can be established in the former Axis countries, if ever, is an unanswerable question; but it is evident that no such development is conceivable for years to come. Similarly, there is no way to predict the eventual economic organization of China and India,

The French Empire, Spain, and most Latin American countries are conducting far flung experiments in the nationalization of industry and in controls over the non-nationalized segments. These experiments are aimed at various national purposes, most frequently at full and stable employment; occasionally they have other objectives. It is hard to find in these countries any trace of any willingness to establish or restore freely competitive enterprise, especially to open their markets to unrestricted

American competition, beyond the minimum lip service required to maintain good relations and in certain cases to obtain loans from the United States or from United States sponsored international institutions.

In November 1945 the State Department published tentative plans for an International Trade Organization. A preliminary conference was recently held in London. The final texts are not yet available in this country, but *The New York Times,* reporting on them on December 22, 1946, explicitly stated that "the basis of the United States Charter was lost". The newspaper report adds a cryptic statement to the effect that "it was replaced by a more realistic working principle: namely that the majority of the world's important trading nations are willing to collaborate for the freeing of international trade", whatever that may mean. It is possible, of course, that at some future date the defenders of free competition and price flexibility in international markets will stage a comeback. At present, however, the most elementary prerequisites of such a comeback seem to be lacking and there is no way of predicting how, when, or from what source, if ever, such a comeback can originate.

It appears that the ideological crusade to return to what the Department of Justice conceives as normalcy in international trade and investment has to date been fighting a sequence of disastrous rearguard actions. The concepts of the Department of Justice in respect of international economic affairs not only have not made any converts abroad, but cannot make any unless paid for by direct economic concessions on the part of the United States. The reason for this is that foreign countries have found controlled international trade and investments extremely helpful to national economic policy, in that

(a) they help to maximize the proceeds of exports and to minimize the costs of imports;

(*b*) they help to insulate internal economies of countries against sudden foreign exchange losses that would otherwise rise from a decline of exports or an increase of imports, and generally against economic fluctuations in other countries, often referred to in British literature as the "export of unemployment"; and

(*c*) they help to integrate foreign trade and investment in economic reconstruction and full employment policies that foreign nations are pursuing along entirely different lines of economic policy and economic thinking from those prevailing in the United States.

Let us disregard, however, the implications of the sweep of state socialism over the rest of the world and review, instead, the possible methods of operation of American companies abroad on the basis of the experience of the relatively capitalistic and competitive period between the first and second world wars.

An American company wishing to engage in foreign business is limited to three methods of operation: (*1*) exports, (*2*) imports, (*3*) production abroad. Production abroad may take place by wholly-owned subsidiaries, by partly owned foreign enterprises, or by licensing companies wholly owned by foreigners.

With respect to exports, foreign governments have used tariff increases, government subsidies, import licenses, and other means to force American exporters to build up manufacturing production within the foreign frontiers.

To the extent that American corporations are importers of foreign products, or processors of foreign raw

materials, their interest is to buy at the lowest possible price. To the extent that they are producers of products that are competitive with potential imports, their interest lies in having tariff protection and other legal means to reduce the threat of foreign competition. If territorial limitations were impossible, self-protection would prevent American corporations from licensing foreign corporations that have lower costs. This would hardly be in the interest of anyone.

American corporations can engage in production abroad directly by wholly-owned subsidiaries or by partly-owned foreign enterprise, or indirectly by licensing an enterprise wholly-owned by foreigners.

The American owner of a wholly-owned foreign subsidiary has been in an increasingly difficult position for the last fifteen or more years. The pressure to replace exports from the United States by local facilities was followed, when the local facilities were American owned, by a pressure to have the local facilities at least partly locally owned.

The wholly-owned American subsidiary is handicapped with respect to adaptation to local customs, tastes, sales methods. What is worse, it remains a "foreign" enterprise against which local interests can always stir prejudice. Examples abound of discriminatory action against such wholly-owned American subsidiaries abroad.

Partnership with local groups and royalty agreements based on patent licensing are the two ways of forming a community of interests with someone inside the fort. These are the only ways to stay in foreign business and avoid discrimination directed against "foreign" enterprise. Short of withdrawal from business abroad, they

are the only practicable alternatives to a policy of economic aggression from the outside by competitive exports or to a policy of economic aggression from the inside by wholly-owned subsidiaries. Foreign nations use every known means to resist these types of economic aggression. In such a fight the enterprise trying to invade foreign territory is always in a weak position. Especially in view of high American wage costs and of important steps that have been taken in recent years to teach American technology to foreign nations, it is hard to believe that we shall be able to maintain a major position in foreign markets without cooperation with local interests.

Barring trade based on open or concealed subsidies, the only further alternative to economic aggression or economic cooperation is a withdrawal from business abroad. Such an ostrich-like policy of economic isolationism not only would be costly in terms of lost sales and assets but would eventually show up in a slowing down of our technological and economic progress.

Lack of agreement regarding export markets would not only not necessarily result in increased total exports, it would be likely to result in less. Small local enterprises would spring up behind each new tariff wall, the costs of production would be higher, and prices to the consumer more erratic. This in turn might mean a failure of a new product to be developed properly and to reach the public in quantity, except after considerable delays.

The Authorities

We have outlined the economic problems affecting the British market in considerable detail because the sale of National's stock in BTP or, in the alternative, the purchase

of all of BTP's stock, is the principal problem which confronts us under paragraph 8 at this time. These same factors exist to a greater or lesser extent in all export markets.

The District Court refused to consider these factors, holding that this was a matter for Congress to consider and not for the courts (Opinion, R. 208).

The necessity of molding decrees in antitrust cases "to the exigencies of the particular case" has recently been emphasized by this Court. *United States* v. *Crescent Amusement Co.*, 323 U. S. 173, 185 (1944). Even more recently this Court said:

> ". . . A full exploration of facts is usually necessary in order properly to draw such a decree. . . ." *Associated Press et al.* v. *United States*, 326 U. S. 1, 22 (1945).

It is submitted that both the facts and the relevant authorities require the elimination of the District Court's drastic order of divestiture. No case has been found in which acquisition by an American company of stock in a foreign company engaged in the same business has been held an illegal restraint of foreign commerce. It is not conceivable that such an acquisition, standing by itself, would violate the Sherman Act. An American company surely may join with foreign companies in creating a foreign manufacturing concern without subjecting itself to a charge of antitrust violation.

The contrary view would cast doubt on the legality of the operations of every industrial concern which engages in production abroad through corporations organized under foreign law, unless the corporations are wholly-owned subsidiaries.

The courts have often said that the Sherman Act does not make unlawful normal commercial arrangements or methods of expansion. *Standard Oil Company of New Jersey et al.* v. *United States*, 221 U. S. 1, 62, 81 (1911); *United States* v. *American Tobacco Company*, 221 U. S. 106, 179 (1911); *United States* v. *Reading Co.*, 226 U. S. 324, 369 (1912); *United States* v. *United States Steel Corporation*, 251 U. S. 417 (1920).

Perhaps the best known statement on this subject is that in which the Supreme Court, in the old *American Tobacco* case, discussed the decision which it had just announced in the *Standard Oil* case. Mr. Chief Justice WHITE wrote:

> ". . . It was therefore pointed out that the statute did not forbid or restrain the power to make normal and usual contracts to further trade by resorting to all normal methods, whether by agreement or otherwise, to accomplish such purpose. . . ." (221 U. S. at 179)

In the *Steel* case, the dissenting judges, while voting for dissolution, recognized that

> ". . . it was not the purpose of the act to condemn normal and usual contracts to lawfully expand business and further legitimate trade. . . ." (251 U. S. at 461)

The "rule of reason" has been applied by the courts not only in determining the legality of contracts and combinations, but also in formulating the relief which should be decreed against those found to be illegal. The authorities to this effect are reviewed on pages 94 and 95 of this brief and need not be repeated here.

A striking analogy to the present case is found in *United States* v. *Great Lakes Towing Co. et al.*, 208 Fed. 733 (N. D. Ohio 1913), 217 Fed. 656 (1914), appeal dismissed 245 U. S. 675 (1917). The court there found that the defendant had illegally restrained trade and acquired a monopoly of the towing facilities in fourteen Great Lakes ports. Although the court at first expressed doubt as to the adequacy of an injunction without dissolution, it allowed the defendant to present a plan for the elimination of the offending practices (208 Fed. 733, 747). On the settlement of the decree, the court reached the conclusion that the continued existence and operation of the defendant "under proper and stringent injunctive regulations" would "give better assurance of free competition and better public service than is promised by a division of the towing company's properties among several new ownerships" (217 Fed. 656, 661). The court pointed out that the evil to be remedied was not the ownership by the Towing Company of the stocks and physical properties of the formerly independent companies. As in the present case, the gravamen of the offense consisted of extrinsic wrongful practices rather than stock acquisitions. Those practices were summarized in the following statement (217 Fed. at 659-60):

> ". . . The combination represented by the towing company violates the Sherman Act because it is a monopoly created by abnormal and unfair means, the most important of which are (a) the system of exclusive contracts by which vessel owners who employ throughout the entire season the towing company's tug and wrecking service, at all the ports covered by its tariffs (so far as the vessel owner had occasion for such service), receive a large discount from tariff rates, which is denied to all others; (b) the giving of special concessions, rebates, and discriminations to customers;

(c) the restraint of competition by means of operating contracts, by unnecessary conditions imposed upon sellers of towing properties to buyers of tugs from the towing company; and (d) unfair rate wars, all adopted or engaged in for the purpose of obtaining and effectuating monopolistic control. Unless for such means, purposes, and practices, the size alone of the combination, or the mere unification of the towing interests thereby brought about, would surely not justify putting the towing company entirely out of business."

The court's discussion of the alternative remedies available to it has significance in the present case. It said (217 Fed. at 660):

"Merely enjoining further operation by the towing company would injure, rather than benefit, the public by depriving it of the present service pending the reorganization of a new and sufficient service. A receivership, and operation thereunder, until competitive conditions should be restored, without utilizing the towing company's property, would amount to a partial and unnecessary confiscation. We are thus left practically to a choice of two remedies: First, selling the towing company's properties to purchasers dissociated from the officers, directors, and stockholders of the towing company, with the expectation that operations will be carried on under a number of separate and independent ownerships, each confined to a given port or group of ports, and by receivership insuring a continuance of service pending sale and the ability to deliver the towing company's properties upon sale; or, second, to permit continued operation by the towing company only upon complete elimination of the offensive practices under which its monopoly has been created and maintained, and the imposition of such injunctive restrictions as will keep the way open for full and free competition. The towing company is before the court

and subject to its injunctive processes, including punishment for disobedience thereto; and if we can impose upon that company prohibitions, susceptible of enforcement, which shall eliminate past abuses and remove obstacles to free competition, such course would provide the most effective relief available, and so would manifestly be for the public interest."

It was accordingly held that all the offending practices should be enjoined, and that receivership and sale would be resorted to only if the defendant did not consent to be bound by the plan embodied in the court's decree.

The *Great Lakes Towing* case was recently cited with approval in the concurring opinion of Mr. Justice DOUGLAS in *Associated Press et al.* v. *United States*, 326 U. S. 1. The method of approach adopted by the court in that case, and the principles which it announced, are supported in many other cases under the Act. See *United States* v. *Terminal Railroad Association of St. Louis*, 224 U. S. 383 (1912); *United States* v. *Keystone Watch Case Co. et al.*, 218 Fed. 502 (E. D. Pa. 1915), appeal dismissed 257 U. S. 664 (1921); *United States* v. *American Can Co. et al.*, 230 Fed. 859 (D. Md. 1916), 234 Fed. 1019, appeal dismissed 256 U. S. 706 (1921); *American Press Ass'n et al.* v. *United States et al.*, 245 Fed. 91 (C. C. A. 7th, 1917).

In *United States* v. *American Can Co. et al.*, 234 Fed. 1019 (D. Md. 1916), the court denied dissolution of a combination which it found to have been formed illegally, although that was the only relief which the Government requested. After expressing the opinion that a decree for dissolution seemed "both unnecessary and unwise," the

court expressly rejected the argument that it was required to grant that relief. It wrote (234 Fed. at 1021):

> ". . . The insistence that the court has no choice in the matter assumes that equitable modes of relief are fixed and rigid. That is not so. The glory of chancery has always been that it could mold its remedies to meet the conditions with which it has to deal. In this case it appears probable that all potential restraints upon free competition now imposed by the size and power of defendant will pass away as speedily without as with dissolution, and that dissolution will cause far more loss and business disturbance than will attend the gradual re-establishment of competitive conditions by the play of economic forces. If so, no dissolution should now be decreed."

Similarly here, compulsory licensing will remove the restraints on potential competition in the United States and the abrogation of the cartel agreements will give free play to the economic forces at work in the foreign field.

Conclusion

The need for caution is accentuated by the fact that this is a case of first impression considered at the moment of greatest uncertainty in the field of international trade. Nobody can assert with any assurance that the compulsory divestiture of stock holdings will in fact stimulate foreign trade. We do know that the proposed order would cause National Lead incalculable loss and would place all the stock of the foreign companies in the hands of persons not subject to the jurisdiction of our courts.

The objections to foreign stock ownership, as we see it, are two-fold: *First*, the stock holdings were improperly

used to implement the cartel agreements. *Second*, the stock holdings by themselves, even upon the "dissolution" of the cartel, will restrain foreign commerce. The first objection is fully met by the abrogation of the cartel agreements and the injunction against their revival. The second must be considered in the light of the conditions now existing in the foreign field. The foreign companies will be free to enter the American market under the provisions of the decree which are not challenged. Like everyone else, they may obtain licenses under all existing American patents. The present tariff may serve as a deterrent, but defendants cannot be held accountable for that. Defendants are inhibited by the decree from using their stock ownership to bring about a renewal of the cartel or to enter into any understandings with the foreign companies by which they will stay out of the domestic market. If any such use be made, defendants will be in violation of the decree and subject to punishment for contempt. The divestment of the stock will not prevent a revival of the cartel if it be assumed that defendants would be foolish enough to violate the decree; their continued ownership of the stock will by itself result in no curb on imports without a supplemental agreement in violation of the decree. The Court will recognize that conspirators do not need stock to revive their unlawful arrangements, were they so minded. And stock will not serve as a screen to conceal any illicit understandings.

The injunction is the only effective means of preventing new arrangements for the division of international markets. The hypothetical and non-existent gains of divestiture are more than offset by the actual and incalculable loss which it would produce.

So far as exports are concerned, the inescapable fact which cannot be blinked is that the patents in the foreign countries are owned by companies not subject to the court's jurisdiction. Until these patents expire, defendants will be doing business abroad under pain of suits for patent infringement. Continued stock ownership will add no serious deterrent to foreign expansion. It is the principal means by which the defendants can do any business abroad. Divestiture is thus no real remedy, realistically considered. It is on the facts of this record wholly punitive and destructive of valuable property. We thus fail to see in what way this drastic proposal can promote the public interest.

An equity decree is an experiment in industrial regulation. (Cf. *Appalachian Coals, Inc. et al.* v. *United States*, 288 U. S. 344 (1933).) If the decree in practice proves ineffective, it can always be strengthened. Even if the facts and the law supported divestiture—which we stoutly claim they do not—the current uncertainty in the foreign fields should in itself compel the rejection of paragraph 8 of the judgment. Divestiture would be warranted only as a last resort under the compulsion of imperative and irresistible need after all other remedies have been tried and found wanting. No such showing can be made now and we are confident no need will exist in the future.

IV

The court correctly refused to order divestiture of all or part of the domestic titanium plants and business of National and du Pont.

(On the Government's Appeal, No. 89)

The suggestion that the defendants should be divested of their titanium plants and business, including technical and research personnel, was contained in the Government's proposed decree (Par. 9, R. 178-80) submitted by letter to the court dated September 14, 1945 (R. 1176), long after the case had been decided (July 5, 1945, R. 222). The point was then fully briefed and argued (R. 1176, 1197-1286).

The prayer for relief in the complaint contained no indication that such relief would be requested (R. 39-40). The only statement in the record on this subject appears at R. 368, where Government counsel in his opening statement said:

> "We also may ask the Court to consider the possibility of compulsory licensing of future patents for a limited time at a reasonable royalty and the possible divestiture of some of the manufacturing units of the defendants in this country."

Nevertheless the District Court spent the better part of two days on this question when the final decree was under discussion (R. 1197-1286) and concluded that no domestic divestiture should be required—not for lack of power in the court to require it, "*but as an act of discretion*" (R. 1286). The Government's entire argument for such relief was a plea to the court to exercise its discretion (R. 1206-7, 1208, 1212), and it was so understood by the defendants (R. 1229).

The Government has now assigned as error the failure of the court to require National to submit a plan for transferring to a new corporation, to be created by National, *one* of its two titanium pigment plants and all physical property customarily used in connection therewith, and for the sale of the stock of the new corporation to a person or persons other than the defendants and co-conspirators (R. 330).

This Court said in *United States* v. *Crescent Amusement Co. et al.*, 323 U. S. 173, 185 (1944):

> ". . . We recognize however that there is a wide range of discretion in the District Court to mould the decree to the exigencies of the particular case; and where the findings of violations are sustained, we will not direct a recasting of the decree except on a showing of abuse of discretion. . . ."

And Mr. Justice RUTLEDGE, in his dissenting opinion in *Hartford-Empire Co. et al.* v. *United States*, 323 U. S. 386, 441 (1945), said:

> "Shortly, in my view it is not this Court's business to fashion or rewrite the decree. . . . The reasons which thus ordinarily restrict the scope of appellate review have magnified force in anti-trust proceedings. Their complex character usually requires, as in this case, months or years for the trial court's consideration. With its maximum attention, this Court cannot possibly attain the same detailed familiarity with the cause. Nor can it frame at long distance, with the same assurance, a decree adequate for the necessity."

Probably nothing can demonstrate more conclusively the unwarranted character of this proposal than the fact that National's ownership of two titanium plants is not even mentioned in the findings or the opinion of the court. In fact, during discussion on the decree, after the trial, the

court did not know how many titanium plants National owned (R. 1267).

The legality under the antitrust laws of National's American titanium holdings was never put in issue and is entirely extraneous to the issues which were litigated. The attempt is made to punish for extrinsic violations by compelling a disposal of property, the ownership of which is fully in harmony with the requirements of the antitrust laws.

The District Court found that National is the largest and du Pont the second largest manufacturer of titanium pigments in the United States (R. 236-7). In 1943 National manufactured and sold 46.4% and du Pont 45.1% of the pure TiO_2 produced in the United States.

It also found that one effect of the 1933 agreement between them was to give them "together domination and control over the titanium pigment business in the U. S." (R. 292); and that "the agreements and understandings entered into between the defendants and the other corporations" had as one of their necessary effects the control and domination by these two companies of the manufacture and sale of titanium pigments in the United States to the exclusion of all actual or potential competition (R. 304-5).

The agreements referred to in the two latter findings, however, are those which have been cancelled by the provisions of the decree to which no exception is now taken by these defendants. That the original entry of National into the titanium business was lawful is unquestioned. Nor has there been any attack upon the method by which it acquired any of its United States property. The Court found that National and du Pont actively compete for customers; that there is no allocation of territory or

customers between them; that each maintains a large, highly trained technical sales force engaged in endeavoring to sell titanium pigments; that the buyers of titanium pigments are mainly well-informed, experienced purchasing agents; and that the production of titanium pigments has steadily increased in volume at a steadily declining price to the customer (R. 290, 207). Accordingly, the Government's position, put in its strongest light, must come down to this: That two companies, doing approximately the same volume of business, which are actively engaged in competition, can be required to dispose of all properties used in the business solely because of their past participation in an international cartel and patent pool. This is contrary to all authorities and is repugnant on every consideration of fairness and justice.

> ". . . Dissolution is not a penalty but a remedy; if the industry will not need it for its protection, it will be a disservice to break up an aggregation which has for so long demonstrated its efficiency. . . ." *United States* v. *Aluminum Co. of America et al.*, 148 F. (2d) 416, 446 (1945).

Dissolution in this case would not be remedial of any wrongdoing committed by defendants; it would be completely punitive; it would break up a business which has long demonstrated its efficiency, thus rendering a disservice to the public as well as to National, its stockholders and employees.

The rationale of the use of dissolution to break up an unlawful combination in appropriate cases finds its classic statement in the decision of this Court in the *Standard Oil* case:

> "It may be conceded that ordinarily where it was found that acts had been done in violation of the stat-

ute, adequate measure of relief would result from restraining the doing of such acts in the future. *Swift v. United States*, 196 U. S. 375. But in a case like this, where the condition which has been brought about in violation of the statute, in and of itself, is not only a continued attempt to monopolize, but also a monopolization, the duty to enforce the statute requires the application of broader and more controlling remedies. As penalties which are not authorized by law may not be inflicted by judicial authority, it follows that to meet the situation with which we are confronted the application of two remedies two-fold in character becomes essential: 1st. To forbid the doing in the future of acts like those which we have found to have been done in the past which would be violative of the statute. 2d. The exertion of such measure of relief as will effectually dissolve the combination found to exist in violation of the statute, and thus neutralize the extension and continually operating force which the possession of the power unlawfully obtained has brought and will continue to bring about."

The Court goes on to admonish that

> "In applying remedies for this purpose, however, the fact must not be overlooked that injury to the public by the prevention of an undue restraint on, or the monopolization of trade or commerce is the foundation upon which the prohibitions of the statute rest, and moreover that one of the fundamental purposes of the statute is to protect, not to destroy, rights of property." (221 U. S. 77-78)

In every adjudicated case in which dissolution of a going business has been ordered there was an unlawful integration or fusion of separate business units. In no case has divestiture of property been ordered where there was no such fusion or where the violation of the antitrust laws consisted of agreements or activities of legally independent busi-

nesses. In every case the unlawful fusions were brought about by some unlawful acquisitions. The issue litigated in every case was the legality of the integration. Thus in *Northern Securities Company* v. *United States*, 193 U. S. 197 (1904), it was held that the formation of the holding company ordered dissolved had "the direct and necessary effect . . . to restrain and monopolize interstate commerce by suppressing or . . . 'smothering' competition between the lines of two railway carriers" (193 U. S. at 354). The same is true of the other railroad cases. *United States* v. *Union Pacific Railroad Company*, 226 U. S. 61 (1912); *United States* v. *Southern Pacific Company et al.*, 259 U. S. 214 (1922). In the former case, the Court ruled "that a combination which places railroads engaged in interstate commerce in such relation as to create a single dominating control in one corporation, whereby natural and existing competition in interstate commerce is unduly restricted or suppressed, is within the condemnation of the act" (226 U. S. at 85).

The *Standard Oil* and *American Tobacco* cases rest on the illegality of the acquisitions by which the oil and tobacco monopolies were created. Both litigations involved numerous property and stock acquisitions, and flagrant violations of both Sections 1 and 2 of the Sherman Act were expressly found (221 U. S. 1, 45, 74; 221 U. S. 106, 142, 184). The anthracite coal cases are equally clear on this point. *United States* v. *Reading Company et al.*, 253 U. S. 26 (1920); *United States* v. *Lehigh Valley Railroad Company et al.*, 254 U. S. 255 (1920).

The cases which did not reach the Supreme Court are no different. Dissolution was ordered in *United States* v. *E. I. du Pont de Nemours & Co. et al.*, 188 Fed. 127 (C. C. Del., 1911); *United States* v. *Eastman Kodak Co. et al.*, 226

Fed. 62 (W. D. N. Y. 1915), 230 Fed. 522 (1916); *United States* v. *Corn Products Refining Co. et al.*, 234 Fed. 964 (S. D. N. Y. 1916), appeal dismissed 249 U. S. 621 (1919).

In the *du Pont* case, the court found that the defendant was the successor to a trade association which had fixed prices; that this illegal combination "had been so completely transmuted into a corporate form that the trade association was no longer necessary" (188 Fed. at 152). In the *Eastman Kodak* case, the court found that one of the methods by which the defendant had procured a monopoly was "the acquisition of competing plants, businesses, and stockhouses, accompanied by covenants restraining the vendors from re-entering the business" (226 Fed. at 80). In the *Corn Products* case, the court found that over a period of years four different fusions had been effected with the purpose of monopolizing the business; and that each time predatory practices had been used in an effort to maintain the monopoly.

That the creation of the close-knit combination or fusion (as distinguished from a loose-knit confederation or agreement) was itself a violation of the statute in all of these cases, was recently pointed out by this Court in *United States* v. *Crescent Amusement Co. et al.*, 323 U. S. 173, 189 (1944), this Court said:

> "The Court has quite consistently recognized in this type of Sherman Act case that the government should not be confined to an injunction against further violations. Dissolution of the combination will be ordered where the creation of the combination is itself the violation. See *Northern Securities Co.* v. *United States*, 193 U. S. 197, 354-360; *Standard Oil Co.* v. *United States, supra; United States* v. *American Tobacco Co., supra*, pp. 186-188; *United States* v. *Union*

Pacific R. Co., 226 U. S. 61, 97; *United States* v. *Reading Co.*, 253 U. S. 26, 63; *United States* v. *Lehigh Valley R. Co.*, 254 U. S. 255; *United States* v. *Southern Pacific Co.*, 259 U. S. 214; *United States* v. *Corn Products Refining Co.*, 234 F. 964, 1018. Those who violate the Act may not reap the benefits of their violations and avoid an undoing of their unlawful project on the plea of hardship or inconvenience. That principle is adequate here to justify divestiture of all interest in some of the affiliates since their acquisition was part of the fruits of the conspiracy. But the relief need not, and under these facts should not, be so restricted. The fact that the companies were affiliated induced joint action and agreement. Common control was one of the instruments in bringing about unity of purpose and unity of action and in making the conspiracy effective. If that affiliation continues, there will be tempting opportunity for these exhibitors to continue to act in combination against the independents. The proclivity in the past to use that affiliation for an unlawful end warrants effective assurance that no such opportunity will be available in the future. Hence we do not think the District Court abused its discretion in failing to limit the relief to an injunction against future violations. . . .

The divestiture ordered related to the affiliation of various chains of theatres; the chains themselves were not broken up and the defendants were not expelled by the decree from the business of exhibiting motion pictures.

The *Crescent* case, as the foregoing quotation shows, creates no exception to the proposition that divestitures have been ordered only in cases where there have been unlawful acquisitions. The refusal of this Court in that case to require the District Court to distinguish between the lawful and the unlawful acquisitions does not make the case different from the *Standard Oil* or the *American*

Tobacco cases, in each of which there had undoubtedly been acquisitions of particular units that would not have been unlawful if separately considered. The use of unlawful acquisition of a competing business as one of the methods of accomplishing an unlawful result has led the courts, in the cases which have been cited, to decree dissolution of the resulting illegal entity. In no case where that element was lacking has dissolution ever been ordered.

The authorities establish, furthermore, that even in the cases where the business has been unlawfully assembled, so that dissolution may be an appropriate remedy, it is far from a necessary one. Dissolution thus was denied in *United States* v. *Terminal Railroad Association of St. Louis*, 224 U. S. 383 (1912). It was also denied in the *Hartford-Empire* case by the District Court, 46 F. Supp. 541. This determination was affirmed, 323 U. S. 386, 408.

> ". . . Separation is not an end in itself; it is a means to provide an open market. . . ." *United States* v. *Pullman Co. et al.*, 53 F. Supp. 908 (E. D. Pa. 1944).

In *United States* v. *Great Lakes Towing Co. et al.*, 217 Fed. 656 (N. D. Ohio 1914), 658, the court said:

> ". . . While the power to dissolve an unlawful combination clearly exists, and should be exercised when necessary to give complete relief, the legislative policy, as disclosed by the terms of the act, is clearly to resort to restraint rather than to dissolution, except where restraint alone is inadequate."

Likewise, in *United States* v. *American Can Co. et al.*, 230 Fed. 859 (D. Md. 1916), the court found that the defendant, which had acquired approximately 50% of the tin can industry, was organized to monopolize the manufacture of cans and that predatory practices had been indulged.

The only relief which the Government sought was dissolution of the company, and that was denied (234 Fed. 1019). In his opinion on the scope of relief, Rose, *J.*, stated (234 Fed. at 1019-20):

> ". . . Jurisdiction of a court of equity is remedial, not punitive. A dissolution may not be decreed, unless there is reason to believe that more good than harm will come of it. . . . It is the duty of the courts to give effect to the legislative will, but it is equally their duty so to shape their decrees as to bring about the result desired by Congress with the least possible waste of anybody's time or of anybody's money."

See *United States* v. *Keystone Watch Case Co.*, 218 Fed. 502, 519 (E. D. Pa. 1915).

It has been shown that dissolution is a remedy that has been worked out by the courts to sever aggregations that should never have been formed, to correct conditions brought about by an ownership which is in itself unlawful. The foregoing cases show that, even in such cases it is a form of relief that is used sparingly and only when necessary. We have shown, too, that this is not such a case, and that the legality of defendants' acquisition and ownership of its American plants was not challenged by the plaintiff or considered by the court. It follows that the suggestion that this defendant be required to dispose of one of its domestic plants is wholly unwarranted.

The authorities plainly show that the plaintiff could not have succeeded had it litigated the lawfulness of defendant's ownership of its business. The cases heretofore considered are those in which illegal acquisitions were found to have occurred and unlawful practices indulged. That National Lead's position in the industry is in har-

mony with the antitrust laws is demonstrated by the cases upholding close-knit combinations whose power, position, and practices were not deemed objectionable. *United States* v. *United States Steel Corporation et al.*, 251 U. S. 417 (1920); *United States* v. *International Harvester Company et al.*, 274 U. S. 693 (1927); *United States* v. *Keystone Watch Case Co. et al.*, 218 Fed. 502 (E. D. Pa. 1915), appeal dismissed 257 U. S. 664 (1921); *United States* v. *Quaker Oats Co. et al.*, 232 Fed. 499 (N. D. Ill. 1916), appeal dismissed 253 U. S. 499 (1920).

In each of these cases the percentage of its industry which the defendant possessed was greater than that of National Lead in the domestic titanium market. The Steel Corporation controlled approximately 50% of the industry. International Harvester controlled 64% of its industry when the Supreme Court held that the plan of dissolution under a consent decree had brought about "a new situation in harmony with law." In the *Keystone Watch* case the percentage was estimated from 42 to 47%, slightly less or slightly more than National Lead's proportion of the titanium business. Quaker Oats, by buying out a competitor, achieved up to 70 to 75% of the rolled oats production in the country. In each of these cases it was found that control of the market was not secured; there was actual competition which prevented the defendant from dominating the industry.

In the present case, the court has found that in 1943 National Lead produced 46.4% and du Pont 45.1% of the pure TiO_2 produced in the United States (R. 236, 237). The genuineness and vigor of the competition between them is established by detailed findings (R. 290-1). The court has found, however, that *between them* they control and dominate the market. This obviously means control and domi-

nation when they combine or join an existing combination such as the cartel. When the element of combination is eliminated—as it has been by the injunctive provisions of the decree—there is no such control or domination. This is manifestly sound. Neither defendant has attained or could attain that degree of control over the market which is required before a violation can be found. The situation is strikingly similar to that in the *Steel* case, where it was pointed out that the defendant could influence prices only by securing joint action with its competitors. These efforts at such joint action were found to have been abandoned. Here the only joint action of which there is any evidence—the pooling of patents—is removed by the injunction. The injunctive paragraphs of the judgment constitute a "dissolution" of the only illegal combination shown to have existed with reference to the domestic market and, if this Court orders royalty-free licensing, as we strongly urge, there can be no possible basis for domestic divestiture.

The present case, of course, presents no issue similar to that in *United States* v. *Pullman Co. et al.*, 50 F. Supp. 123, 53 F. Supp. 908 (E. D. Pa. 1944). The nature of the other lines handled by National was not the subject of inquiry at the trial; no evidence was offered to show that National's position in other fields was used to suppress competition in titanium or *vice versa*. National is no monopoly in any of the fields in which it operates, and the expansion of its business has been both normal and natural. In other cases in which dissolution was ordered there were not only unlawful acquisitions, but the resulting fusion over-shadowed and dominated the industry. In no case has dissolution been required of a company whose position in its industry—its power and conduct—was at all comparable to those of National.

In the *Aluminum* case, in discussing the proper method of computing the proportion of the industry controlled by the defendant, Judge HAND wrote (148 F. (2d) at 424):

> ". . . The percentage we have already mentioned—over ninety—results only if we both include all 'Alcoa's' production and exclude 'secondary'. That percentage is enough to constitute a monopoly; it is doubtful whether sixty or sixty-four percent would be enough; and certainly thirty-three per cent is not."

We have not discussed the many questions of fact and considerations of business and public policy that would have to be explored if the matter of dissolution had been raised at the trial and were properly in issue here. We have not discussed its effect upon all those dependent upon this industry—customers, ultimate consumers, stockholders, and employees. Nor have we called attention to the unfeasibility of the proposed separation of National's titanium business into two segments. Attention need only be called to the fact that one of the two plants produces pure TiO_2 exclusively, and the other composite pigments; the separation on the basis of plants, without more, would be more of a vertical than a horizontal severance and would not produce two competing enterprises.

Compare *United States* v. *Winslow*, 227 U. S. 202 (1913),

United States v. *United Shoe Machinery Company of New Jersey et al.*, 247 U. S. 32 (1918).

Many similar cogent arguments of commercial expediency could be presented if this case had turned upon the validity of National's ownership of the titanium branch of its business. We can see no useful purpose in burdening this Court with such arguments when dissolution is utterly extraneous and without legal foundation, is contrary to all authority, and is obviously punitive in character.

Conclusion

The judgment should be modified as follows:

Paragraphs 5 and 6 should be modified to eliminate the injunction against normal and usual business arrangements.

Paragraph 7 should be modified to require royalty-free licensing.

Paragraph 8 should be eliminated.

In all other respects the judgment should be affirmed.

Respectfully submitted,

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Supreme Court of the United States

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA,
Appellant,

v.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., and E. I. DU PONT DE NEMOURS AND COMPANY,
Appellees.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

APPELLEE DU PONT'S BRIEF

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January, 1947.

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APPELLEE DU PONT'S BRIEF

DU PONT'S POSITION AS TO THE DECREE, ASSUMING AFFIRMANCE ON THE MERITS.

The first sentence of the government's "ARGUMENT" in its brief in No. 89 (47)[1] gives its theory of "The Function of an Antitrust Judgment" as follows:

> "Each case under the Sherman Act stands upon its own facts and the judgment must be moulded to the exigencies of the particular case".

We unreservedly accept this. But the short answer to all of the arguments in the government brief is that the government had no sooner stated this correct rule than it abandoned it, for all the rest of the government brief consists of advocacy of what it calls "general principles" (e. g. 49) which it soon becomes evident that the government would apply to *any* anti-trust case involving patents. We shall, on the other hand, discuss the relief appropriate to the facts in *this* case and to the traditional objectives of an anti-trust decree.

Du Pont's position is this:

(1) The decision against it should be reversed on the merits. (This is argued in du Pont's original brief in No. 91, and we need not repeat the arguments here.) We submit, however, that even if our appeal in No. 91 be denied, we have at least shown that du Pont's record in respect of titanium patents has been so beneficial to competition and lacking in harm to consumers that that must be taken into consideration in framing the decree.

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[1]Reference numbers in parentheses are to the pages of the government brief.

(2) As the *Hartford-Empire* case, 323 U. S. 386, was decided only two years ago, and no *new* reasons have arisen to support its being overruled, it should now be sustained. The government's principal argument is that it is impossible ("unworkable") for Courts to determine the reasonableness of a royalty; but the one *new* event that has arisen since the *Hartford-Empire* case is that Congress has expressly enacted that the Courts *shall* in a proper case determine what is "a reasonable royalty", Public L. 587, 79th Cong., 2d Sess., approved August 1, 1946. Indeed, this is declaratory of what has always been the rule, *viz.*, that courts may determine a reasonable royalty in patent infringement suits. *Dowagiac Manufacturing Company* v. *Minnesota Moline Plow Company*, 235 U. S. 641, 648. See also *The Suffolk Company* v. *Hayden*, 70 U. S. 315, 320. To conform the relief in this case to that in the *Hartford-Empire* case, the decree below would be affirmed, except for the modification of striking out the compulsory disclosure of technical information (considered in Part Two of du Pont's brief in No. 91).

(3) Assuming *arguendo* that this Court should now determine that it wishes to overrule the *Hartford-Empire* case, and to hold that there is power in the Court to order royalty-free licensing, then du Pont submits

(a) That at least this should not apply to future patents. [Indeed, the government does not even ask it in respect of future patents.]

(b) Nor should it apply in du Pont's situation even to existing patents, as there is no reason why the fact that the Court elects to terminate the system of judicial supervision of the reasonableness of royalties should result in its adopting the extreme concept of confisca-

tion. At least in a case so favorable on the facts as the present, the Court should exercise its discretion to confine relief to what has been called the relief "ordinarily" applicable in anti-trust cases: issuance of an injunction.

Du Pont's position may be illustrated and expanded by reference to three different types of patent claims: past, present and future.

(a) Past Infringement

Du Pont accepts the provision in the decree enjoining it from bringing any action for infringement prior to the date of the decree since, as far as it is aware, all producers in the United States have been licensed under its patents (R. 315).[2]

Actually, we think that, under the facts of this particular case, the District Court went too far. As it had found that du Pont had never refused a license, that du Pont had licensed newcomers as far back as 1935 and 1937, and that du Pont had never collaborated with National Lead in the granting of licenses, we see no genuine or technical reason why it was necessary to the effectiveness of the anti-trust decree in this case to deprive du Pont of all rights to recovery for patent infringement prior to this date. Acquiescence in that provision, and the District Court's exercise of the power to make it, surely represents

[2]The record in the present case consists of two volumes containing the proceedings below which run from pages 1 through 1289 and four volumes of exhibits which run from pages 1 through 4399. "R." references are to the volumes containing the proceedings below and "Ex. R." references are to the volumes of exhibits.

the maximum of taking of du Pont's property which is justified on this record.

(b) Future Patents

The District Court's view was that the provisions for reasonable royalty could properly extend to patents issued within five years subsequent to the date of the decree (R. 313). The government assigned no error to this provision, and even the government's motion in this Court for leave to amend its assignments does not attack this provision. The assignment of error by the government limits its application to "existing titanium pigment patents" (R. 330). The government must thus be taken to have conceded that a reasonable royalty provision is appropriate in this decree covering future patents issuing over the next five years, and that it was proper for this decree to make no provision as to the licensing of patents issuing after five years.

Du Pont takes two alternative positions on this subject of future patents (issuing in the five year period).

First, du Pont submits that it is unsound in principle to include *any* compulsory licensing provision in respect of patents to issue in the future. The future will be free of anti-trust violation, for it is the function of the decree to make it so.

Alternatively, *second*, du Pont submits that if compulsory licensing of future patents is to be ordered, it must at least be (as in the District Court decree) for a reasonable royalty.

And this, as we have said, is conceded by the government. That concession undermines and destroys the greater part of the government's argument in this case. The backbone of that argument (in respect of *present* patents)

is that the Courts are *incompetent* to administer any system of reasonable royalties; that such Court administration would be "unworkable". That whole thesis falls to the ground when it is realized that the government concedes that it is workable in respect to future patents. The government thesis is also in direct conflict with the Congressional directive that the Courts *shall* determine reasonable royalties in proper cases, Public L. 587, 79th Cong., *supra*, and with the practice of the Courts in patent infringement cases. *Dowagiac* and *Suffolk* cases, *supra*.

(c) Present Patents

The onslaught which the government makes on the *Hartford-Empire* case has application only in this field of present patents. When it is realized that the government is dealing only with present patents,—excluding past infringement and excluding all future patents,—it becomes readily evident that the government has pitched its tone too high.

The government wishes this Court now to say that it was wrong in the *Hartford-Empire* case to direct that reasonable royalties might be reserved for present patents but, at the same time, the government is ready to concede that this Court was right in the *Hartford-Empire* case in its disposition of past infringement (restraining suits therefor) and in its disposition for future patents (permitting reasonable royalty therefor). But we do not find in the entire government brief any argument as to why the *Hartford-Empire* case was wrong in one particular, while right in the others. Throughout the onslaught on the *Hartford-Empire* case in the government brief, that decision is treated as a unit.

Du Pont will of course argue in this brief that the *Hartford-Empire* decision was sound and should not be overruled.

But even if *arguendo* the *Hartford-Empire* case may come to be overruled or limited in a case involving similar facts, du Pont submits that it is quite unnecessary to take up that delicate question in this case, because here the facts are so much more favorable to du Pont.

COMMENT ON THE GOVERNMENT'S HANDLING OF THE FACTS.

Before turning to our Argument, we wish to make brief reference to two fundamental respects in which we think that the government's statements and assumptions of fact are constantly distorted.[3]

(1) In this case there are practically no facts whatever in regard to which it can be said that the generic phrase "the defendants" should be properly used. In all of the factual 94 findings of the Judge, he used the phrase "the defendants" (as distinct from identification of the particular defendants in the particular findings) only 3 times (FF 1, 94, 96; R. 235, 303, 306). In contrast to this, the government has used the phrase "the defendants" in its brief 170 times. There is substantive point in the contrast. The Judge appreciated who were parties to each act or transaction and identified them; what he really found, and what was, of course, true as a fact, was that National Lead and du Pont were not jointly engaged in any of the acts or transactions.

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[3]Other criticisms of the government's handling of the facts appear in Appendix C to this brief.

The general discussion in the government brief (*e.g.* 49-54) is interlarded with recurrent references to "the defendants" as if they were some *entity*. Doubtless National Lead and Titan may be treated as one.[4] But National Lead and du Pont have never been one; indeed, if there is one thread that runs through the record (as distinct from the government brief), it is the thread of competition, even to the point of animosity, between National Lead and du Pont. That conflict has come right down into the hearings on the decree where the two have been in conflict, and are now in conflict before this Court, on the question of royalty-free licensing.

(2) The government makes no distinction between finding no. 95, which is purely a conclusory or ultimate finding, and the 94 preceding findings, which are findings as to the proof in the record. We wish most strongly to urge upon this Court that a distinction must be drawn between the two types of finding. When a Judge has told the whole story as he sees it in detail over 94 findings, covering 70 pages of a record, as here (R. 234-303), we respectfully submit that, for an appellate court to accept a conclusory finding from a single Judge as entitled to any weight in itself, apart from his manifold detailed findings, would be to undermine the whole validity of the appeal on the facts to which the parties are entitled.

The ultimate finding no. 95 appears at R. 303-306. Wherever this Court finds in the government brief a record reference to those pages, it may know that the government is only relying upon the ultimate finding and has no specific finding to support what it is saying.

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[4]We will not, again, refer to Titan in this brief, as it is a 100% subsidiary of National Lead (FF 5, R. 236).

POINT I.

THE RELIEF GRANTED BY THE DISTRICT COURT WAS MORE THAN ADEQUATE. INDEED, THE RELIEF SHOULD BE LIMITED TO AN INJUNCTION.

The government brief is forced to recognize factors in du Pont's favor which render invalid the conception that "the defendants" are to be lumped as one. Thus, the government recognizes:

That the problem before du Pont in the early days was as to how to get into the industry at all in competition with the already existing cartel (how "to make some arrangement with NL which would permit it [du Pont] to enter the industry") (26);

That du Pont made no agreement with the cartel, but that the case against du Pont must rest on the theory that it was illegal merely to give "assurances" as to its existing intentions, for, says the government, it was "as a result of them" that du Pont "became a party to the worldwide combination" (29);

That as early as 1938 du Pont excluded research and development information from the exchange of information with National Lead (32-33),—thus, nine years before the decree which is about to be "moulded";

That du Pont terminated entirely the exchange of information when the industry became "mature" (32), and that this was in May, 1940,—thus, seven years before the decree which is about to be "moulded";

That there is in fact active competition for customers between National Lead and du Pont, and no

agreement between them as to price identity, but, indeed, that there have been repeated reductions in prices with few increases (34-35);

As to the future, which is the important time from the point of view of the decree, the government recognizes:

That restraint on foreign competition is a dead issue today, for, says the government (52):

> "it is demonstrable that there will be either no or negligible competition from them [the foreign producers]. They are located in war-ravaged countries. The record does not show if their plants are in, or can be restored to, production. Furthermore, there is good reason to believe that they will not desire to export in view of their long established policy of non-competition and lack of contacts in this country";

That even during the years before the war there was no realistic chance whatsoever of foreign competition, for at one point the government admits that the United States tariff was 30% ad valorem (10); and then the government itself makes an extended argument (56-59) that a 2% differential in price would be fatal to competition. The government is in the inconsistent position of saying that the foreign competitors could have easily competed against a 30% differential, but that no American company is capable of competing against a 2% differential when the 2% is consideration for actual research investment by its competitor.

It is difficult to imagine a state of facts upon which it could be more clearly said that the classic anti-trust relief of cancellation of the agreements, and an injunction against

entering into like agreements (always necessarily under the sanction that a violation would lead to contempt proceedings), suffices.[5]

The gravamen of the government's argument to the contrary is that there is *power* in the Court to enter whatever decree is necessary "to neutralize unlawfully created and continually operating forces destructive of the interests protected by the Act" (48-49). We agree. To repeat Mr. Justice Rutledge's dissent in the *Hartford-Empire* case, as quoted by the government (49):

> "One may start, *with the Court,* upon the basic idea that, in such a proceeding, the decree's function is not to impose sheer 'punishment' for past misconduct, but is rather to devise effective measures to prevent its repetition and dissipate its consequences".

The question is as to what measures are required on this record.[6]

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[5]We cannot escape the conviction that what the government brief was really written about were not the facts as found after the actual trial in this case, but the facts as the government imagined them at the time that it first commenced the proceedings. The *assumed* facts in the brief,—above all, the constant linking of "the defendants" as if they were one,—bears no resemblance to the opinion or findings of fact by the District Court, but it does bear a certain resemblance to the chapter on "Titanium" in Wendell Berge, *Cartels,* Public Affairs Press, 1943.

[6]The government falls into the error (54-55) of assuming that, because we did not object at the hearing on the decree (R. 1240) to compulsory licensing, we "conceded" that our patents should be licensed. The government says that it was "at the request of the defendants" (55) that the District Court included the provision for a reasonable royalty. But this is no more than to say that if the defendants had to submit to a compulsory licens-

If the Court follows what we submit to be the correct course, *viz.*, striking out of the decree the order against du Pont for compulsory licensing, there is nothing in the record upon which to base any assumption that du Pont will not in fact grant licenses. What there is in the record, justifies the assumption that du Pont will in fact continue to grant licenses in a free competitive system (FF 83, R. 295).

A fortiori, there is nothing in the record to indicate that du Pont's royalties will be more than reasonable.

Let us review what is the actual misconduct found against du Pont.

(1) The only such misconduct was that du Pont gave assurances in 1933 through National Lead to the Germans that it did not then intend to engage in the export trade, and that that assurance encouraged the Germans in some way. The consequences of that action have long since been dissipated, and no measure is required to prevent its repetition. At the most, an injunction would suffice.

(2) Let us go further and suppose for the sake of the argument that it was illegal for du Pont to exchange technical information with National Lead between 1933 and 1940. The government has not introduced one word of evidence to show that this has had any adverse conse-

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ing provision at all, then they requested that it contain a provision for reasonable royalty. We certainly did object to any order of compulsory licensing and assigned error on this point (R. 345) but the argument reported at R. 1240, as well as du Pont's counter proposed form of decree, proceeded on the assumption that there was to be an order for compulsory licensing (*cf.* R. 1241) and was addressed to the question whether it should be royalty-free.

quences upon competition, or that if it has had any such, they have not now been long since dissipated. Zirconium and Virginia Chemical entered the business during the period of the exchange, and the exchange itself has ceased for seven years past. Upon this showing there is nothing to suggest that the parties intend to recommence exchange of technical information and, accordingly, even an injunction seems unnecessary.

(3) Let us go still further and suppose that this Court overrules the *Cracking* case, *United States* v. *Standard Oil Company* (*Indiana*), 283 U. S. 163, and thus holds that it was illegal for du Pont to make its cross-licensing agreement with National Lead. The District Court seems to have the view that this decision ought to be overruled, for it suggested that it is a wrong for two prominent companies not to litigate each other's patents and to cross-license one another under future patents. As explained in our main brief in No. 91, both factors were fully present in the *Cracking* case. If the Court is now to make new law for the future on this subject, we must, of course, accept the consequences in the form of an injunction requiring the agreement to be cancelled and forbidding us to enter into a similar agreement. But again, no reason appears why relief should go any further.

To put it shortly, there has been no substantial evidence in this case that du Pont's patents themselves have been "improperly used" by it. On the assumption that the case is affirmed on the merits, it will have been held that du Pont violated the Sherman Act in giving an assurance that it would not engage in export trade and in thereby encouraging Europeans not to engage in American import trade.

That is the sum and substance of the wrong that the District Judge found, and it provides no justification for any decree ordering the licensing of patents now and in the future.

In asking more, the government is overlooking the fact that du Pont is not in any way united to or cooperating with National Lead. This is the type of case in which an injunction suffices because the injunction would prevent parties, if they ever were together, from coming together again. This case is one, then, to which the government quotation (48) from the *Standard Oil* case, 221 U. S. 1, 77, is apposite:

> "It may be conceded that *ordinarily* where it was found that acts had been done in violation of the statute, adequate measure of relief would result from restraining the doing of such acts in the future. *Swift* v. *United States*, 196 U. S. 375" (Italics ours).

POINT II.

THE COURT IS WITHOUT POWER TO ORDER ROYALTY-FREE LICENSING

(1) Royalty-free Licensing Would Be Inconsistent with the Decisions of this Court.

The government urges that not only should there be compulsory licensing, but that such licensing should be ordered royalty-free as to existing patents.

It is of course self-evident that patents are property like any other property, protected by the Constitution itself and by statute. *Seymour* v. *Osborne*, 11 Wall. 516, 533;

Cammeyer v. *Newton*, 94 U. S. 225, 226; *James* v. *Campbell*, 104 U. S. 356, 357-8; *Hollister* v. *Benedict & Burnham Manufacturing Company*, 113 U. S. 59, 67; *Solomons* v. *United States*, 137 U. S. 342, 346; *William Cramp & Sons Ship & Engine Building Company* v. *International Curtis Marine Turbine Company*, 246 U. S. 28, 39-40; *United States* v. *Dubilier Condenser Corp.*, 289 U. S. 178, 186-7; *Hartford-Empire Company* v. *United States*, 323 U. S. 386, 415.

The patents of a patentee who violates the anti-trust laws—this Court has repeatedly held—are as much property protected by the law as the patents of any other person. Such a patentee—while subject to the remedies specifically provided by the anti-trust laws—does not become an outlaw to be despoiled of all his patent possessions.

In *Standard Sanitary Mfg. Co.* v. *United States*, 226 U. S. 20, for example, patent license agreements were found to have violated the Sherman Act. The question then arose as to the status of the patents so used. The decree answered this question by stating expressly that the patents were not forfeited but should remain enforceable:

> "* * * this decree shall not be construed to prevent whoever may be the owner or owners of the Arrott patent and other dredger patents relating to the manufacture of sanitary enameled ironware, from granting lawful licenses to any of the defendants or others to use such patents, or to prevent the defendants or others from taking lawful licenses to use any of such patents" (Decrees and Judgments in Federal Anti-trust Cases (1918), p. 265).

In *United States* v. *Motion Picture Patents Co.*, 225 Fed. 800 (E. D. Pa.), appeal dismissed 247 U. S. 524,

patent agreements likewise were found to have violated the anti-trust laws. There once more the court refused to forfeit the patents involved. Instead the decree of the court flatly stated that:

> "Nothing in this decree contained shall be construed to prevent whoever may be the owner or owners of the patents relating to the motion picture art named in the pleadings and evidence herein from granting lawful licenses under lawful conditions to any of the defendants or to others, nor to prevent the defendants or others from taking lawful licenses from the owners of said patents. Nothing herein contained shall be construed to prohibit whoever may be the owner of the said patent or patents from collecting royalties in the future from licensees" (Decrees and Judgments in Federal Anti-Trust Cases (1918), pp. 379-380).

Ethyl Gasoline Corp. v. *United States*, 309 U. S. 436, is particularly in point. There (a) certain patents, (b) certain licenses to refiners, and (c) certain fictitious licenses to jobbers, were found to have been used in violation of the anti-trust laws. This Court, however, in no wise ordered confiscation. The patents were left intact; the licenses to refiners were revised by the deletion of objectionable clauses but otherwise left standing; while only the fictitious licenses to jobbers—being disguised resale price maintenance agreements rather than licenses—were stricken down. Accord: *United States* v. *Univis Lens Co.*, 316 U. S. 241.

In short, the courts have no more destroyed patents, when confronted with patent misuse, than they have ordered the destruction of the plants and other physical property of the *Standard Oil* and *Tobacco* aggregations in 221 U. S. 1 and 106. Cf. *United States* v. *Terminal Railroad Asso-*

ciation of St. Louis, 224 U. S. 383, where the defendants had the option *either* of breaking up a monopolistic railroad terminal *or* of compulsory dealing on *reasonably* compensatory terms. They were not required to do both. Accordingly, no forfeiture was involved.

Another argument offered by the government is that the *Hartford-Empire* case is to be distinguished because the licenses there covered rental and servicing of machinery as well (97). The distinction does not hold water, for there were many defendants in that case, to all of whom the decree applied equally, but who were not concerned with rental or servicing of machinery. In fact, this Court clearly stated that the uniform reasonable royalties to be charged might include only a charge for "the use of the patents for the production of glassware on the leased machines", and that each licensee should have the option to determine whether it desired, in addition, to pay for the rental of machinery or the servicing of machines (324 U. S. 573 at 574; and see final judgment entered October 31, 1945, par. 13 (B)).

The government also argues that this Court must have determined in the *Hartford-Empire* case that a court of equity may not order adequate anti-trust relief if the result would be that property values are destroyed (104). But the government misinterprets the decision. The distinction is real between direct confiscation by Court order and an anti-trust decree which incidentally impairs property values. Compulsory licensing at reasonable royalties (as in *Hartford-Empire*), forced sale of assets, cancellation of contract rights, etc. all may involve dilution of property values. Royalty-free licensing, however, involves a declaration that the patent is null and void. The patentee can no longer

utilize the patent for any purpose, past or prospective. It in effect is cancellation of the patent.

The government goes on to argue that "where the lawful portion of the value of defendants' patents cannot be segregated from the value resulting from the unlawful combination, defendants are entitled to no return on the patents" (118). Here again no effort is made to connect the proposition to the facts of this case. No record reference whatsoever is given. Whether or not the 1933 non-exclusive, cross-licensing agreement was unlawful in itself (notwithstanding the *Cracking* case), or whether or not it was vitiated by some contemporary "assurance" given by du Pont on the subject of export trade, it remains undisputed that du Pont was entirely independent in the acquisition of its own patents, and was equally independent in the licensing of them. This is not a case for application of doctrines about "valid parts of an invalid whole" (120), for the patents are "not parts of a whole", but independent property rights in themselves having, under the decisions of this Court, no greater and no less value than attaches to them in their own right.

Rightly interpreted, the decisions of this Court in the modern patent cases, which the government invoked in its review of the present condition of the patent law, are themselves destructive of the government's viewpoint. That viewpoint is that a patent is somehow a combination of itself and of some intangible attribute clinging to it as a result of the history of the manner in which it has been used. But that is just what this Court has held that a patent is not. A patent can derive no extra strength or validity from the manner in which it is used, and correspondingly, its integrity *qua* patent cannot be chipped by extraneous allusions to the manner in which it is claimed to be used. It remains a patent, and no more.

(2) Royalty-free Licensing Would Be Inconsistent with Legislative History Since the *Hartford-Empire* Case

Congress has in fact passed affirmative legislation since the *Hartford-Empire* decision. Public Law 587, 79th Cong., 2d Sess., provides:

> "* * * upon a judgment being rendered in any case for an infringement the complainant shall be entitled to recover general damages which shall be compensation for making, using, or selling the invention, *not less than a reasonable royalty therefor* * * *". (Italics ours.)

This is a mandatory direction to the Federal Courts to determine reasonable royalties. The only way to determine what is "not less than a reasonable royalty" is to determine what is a reasonable royalty.

Legislative action granting courts jurisdiction to forfeit misused patents has been sought both prior and subsequent to the *Hartford-Empire* decision; but the Congress has not approved. The opinion of this Court in the *Hartford-Empire* case summarized much legislative history showing that Congress since 1908 has repeatedly failed to adopt legislation giving power to the Judiciary to cancel patents which have been used as instruments to violate the anti-trust laws (323 U. S. at 416). After the Court's decision was brought to its attention, Congress still refused to act.

Following the decision, bills were introduced in each house of Congress seeking to give Federal Courts specific power to declare patents used in violation of the anti-trust laws null and void (79th Congress, 1st Sess. H. R. 97, 2612 and 3462). Congressman Voorhis, one of the sponsors of the bills, asserted that the necessity for action was

made clear by the decision of this Court in refusing to order royalty-free licensing in the *Hartford-Empire* case. Cong. Rec. January 15, 1945, p. A148, January 16, 1945, p. 296. These bills were not made law.

In response to a request made on June 26, 1946, by the Chairman of the Monopoly Subcommittee of the Committee on Small Business of the House of Representatives, the Attorney General, in commenting on inadequacies in the present anti-trust laws, endorsed H. R. 97 and called attention to the decision in the *Hartford-Empire* case and of the District Court in this case refusing to order royalty-free, compulsory licensing. The Attorney General urged that additional legislative relief was necessary to prevent the collection of royalties under patents used in violation of the Sherman Act. *United States versus Economic Concentration and Monopoly, Report Committee on Small Business,* pursuant H. Res. 64, page 251:

> "Recent cases have also shown the wide use made by monopolistic corporations of patents or aggregations of patents to eliminate competition. It is now settled that the United States in an antitrust case can secure compulsory licensing of patents at a reasonable royalty. In the Hartford-Empire and National Lead cases the relief given by the court covered both present and future patents. In our view, however, this is not sufficient relief to eliminate the effects of an unlawful use of the patents. Patents are granted for a public purpose. We believe that additional relief is necessary to prevent further use of a patent in violation of the antitrust laws and indeed to prevent the monopolist from recovering royalties under his patents. H. R. 97, introduced by Congressman Voorhis, was designed to take care of this situation."

In the present Congress a bill to the same effect introduced by Senator Morse on behalf of himself and seven other senators has been referred for consideration to the Committee on the Judiciary. (80th Congress, 1st Sess., S. 72.) Hearings on the bill are contemplated soon, and thus the proposal will again receive the consideration of Congress.

We submit that this is the type of case in which legislative silence has significance. When a specific decision of the Court having such significant implication in the field of anti-trust policy is called to the attention of the Congress, and Congress fails to act, some considerable degree of approval of the decision may be inferred. Cf. *Cleveland* v. *United States*, this term, decided November 18, 1946.

Indeed, in this case there is more than legislative silence. The subject is currently before Congress. Certainly at this stage the problem is legislative and further judicial declaration would be highly inappropriate.

POINT III.

ROYALTY-FREE LICENSING IS INAPPROPRIATE IN THIS CASE.

(1) Competition Will Flourish Under Reasonable Royalty Licensing.

In considering whether royalty-free licensing should be ordered in this case, the Court will have in mind that one of the primary objectives of an anti-trust decree is to eliminate unlawful restraint which may tend to impair competition. There is no finding or evidence here, however, that the charging of royalties has in any way prevented the development of competition.

Not only did du Pont grant licenses to all applicants, but it charged a fair and reasonable royalty of 2%. Under this royalty, licenses were granted to both Zirconium and Virginia Chemical. These concerns have manufactured titanium pigments over a period of approximately ten years (du Pont's main brief in No. 91, pp. 104-105). Their products have been successfully sold in competition with du Pont and National Lead. The relative position of their manufacturing capacity in the industry has steadily grown. There is substantial evidence that at least one of these companies is now and has for some time been engaged in constructing additional capacity.[7]

It is significant that the government did not call representatives of either of these licensees to testify whether they had any complaint or criticism of the royalty charged.

There is also reason to believe that the reasonable royalty provisions of the decree will not deter the entrance into the industry of new competitors. Only recently a substantial concern, New Jersey Zinc Corporation, requested of du Pont licenses under various titanium pigment patents

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[7]Du Pont offered to prove that additional capacity was being constructed (R. 1246). Applications of the American Cyanamid Company, the parent of Virginia Chemical, to the War Production Board (Serial 140937), and releases of that company published in newspapers and trade journals, establish that it recently acquired a plant for the manufacture of titanium pigments at Gloucester, New Jersey, which was being prepared for the manufacture of 3,000 net tons per month, and that additional capacity was being added at its plant at Piney River Works, Virginia. See American Inkmaker, September 1946, and Chemical & Engineering News, April 25, 1945.

This is not of course in the record. We follow the example of the government (*e. g.* 52) and of National Lead (its brief, p. 40) in keeping the Court of Equity up-to-date on actual developments.

and asked du Pont to quote appropriate royalties. Negotiations and discussions between du Pont and New Jersey Zinc are in progress. This company, which is an important white pigment manufacturer, in fact the largest producer of lithopone (R. 1159, 1171-1172), is presumably familiar with the operating conditions of the industry and qualified by reason of capital and technical personnel to enter the industry.

The government speaks of the duty of this Court "to restore the industry to the free system of competition" (41). The government's use of the verb "restore" shows how it develops its arguments in disregard of the facts of the particular case. The titanium industry is an entirely new industry that was created after World War I, in which the first to enter it in the United States on a commercial scale was National Lead, the second was du Pont (succeeding Commercial Pigments), the third was Zirconium, and the fourth was Virginia Chemical. To "restore" the industry to the condition it was in when du Pont entered it, would be to reinstate the 100% National Lead monopoly.

The government presents a mathematical argument that no royalties should be permitted because that increases the cost of the royalty payer (41, 56). This is a truism equally applicable to every cost. It is not the function of this Court to equalize costs. For all that the record shows, du Pont may well have invested more in research and other cost of developing its patents than any competitor is going to have to pay in royalties for their use. Doubtless, the cost would be a factor that the District Court might take into consideration in fixing the reasonableness of the royalty.

Wherever throughout industry a licensee competes with a licensor, the government could indulge the same rhetoric

to the effect that the royalty is a "double subsidy" to the licensor. The conception that there cannot be competition unless costs are all equalized is naive in the extreme. If Virginia Chemical's plant pays a lower rental than du Pont's, is this Court to change the rentals so that du Pont can be on a competitive equality? If Zirconium pays lower State taxes in Ohio than du Pont does in Maryland or Delaware, is this Court to order Zirconium to pay higher taxes so that the costs may be equal?

(2) There Are No Unduly Onerous Administrative Obligations Placed Upon the Courts by Reasonable Royalty Licensing.

One of the important arguments advanced in the government brief in urging royalty-free licensing is that the Courts lack the *capacity* or *ability* to conduct such administration as may be involved in determining whether a rate of royalty is in fact reasonable (63). The government's expression is that such decrees are "unworkable."

Reference has already been made to what seems the decisive argument against the government's position that Court determination of reasonableness of royalty is unworkable. We refer to the enactment in 1946 of Public Law 587 of the 79th Congress, directing Courts to determine the reasonableness of royalties in patent infringement suits. What the Courts are capable of doing in one type of suit, they are capable of doing in another.

Moreover, the government is really in an impossible position on this issue, as it has not contested the provision for reasonable royalties for future patents. Its original assignment of error on the subject was only to the effect that present patents should be required to be licensed

royalty-free until the effects of the alleged conspiracy had been dissipated (R. 330). By motion in this Court (which we oppose), it is asking leave to amend the assignment so as to require royalty-free licensing of present patents in perpetuity. But not even in this Court has it contested the validity of the provision in the decree for reasonable royalties under future patents.

In any event, it is difficult to understand the government's present contention that courts are without the capacity to administer reasonable royalty licensing, in view of the large number of anti-trust consent decrees which have been approved by the government, both prior and subsequent to the decision in the *Hartford-Empire* case, providing for licensing at reasonable royalties.[8] Pertinent excerpts from these cases are set forth in Appendix B.

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[8]These cases include the following: *United States* v. *Standard Oil Co. (New Jersey)*, C. C. H. Fed. Tr. Reg. Serv. Par. 52,768 (D. N. J. (1942)); *United States* v. *Standard Oil Co. (New Jersey)*, C. C. H. Fed. Tr. Reg. Serv. Par. 52,927 (D. N. J. Civil Action No. 2091 (1943)); *United States* v. *General Electric Co., Westinghouse Electric & Manufacturing Co.*, C. C. H. Fed. Tr. Reg. Serv. Par. 52,777 (D. N. J. No. 1364 (1942)); *United States* v. *Aluminum Company of America*, C. C. H. Fed. Tr. Reg. Serv. Par. 52,776 (S. D. N. Y. (1942)); *United States* v. *American Bosch Corp.*, C. C. H. Fed. Tr. Reg. Serv. Par. 52,888 (S. D. N. Y. Civil Action No. 20-164 (1942)); *Crosby Steam Gage & Valve Co.* v. *Manning, Maxwell & Moore, Inc., United States, Intervenor-Defendant*, C. C. H. Fed. Tr. Reg. Serv. Par. 57,336 (D. Mass. Civil Action No. 2267 (1945)); *United States* v. *American Air Filter Co., Inc.*, C. C. H. Fed. Tr. Reg. Serv. Par. 57,492 (W. D. Ky. Civil Action No. 574 (1946)); *United States and Alien Property Custodian* v. *Bendix Aviation Corp.*, C. C. H. Fed. Tr. Reg. Serv. Par. 57,444 (D. N. J. Civil Action No. 2531 (1946)); *United States* v. *The Diamond Match Co.*, C. C. H. Fed. Tr. Reg. Serv. Par. 57,456 (S. D. N. Y. Civil Action No. 25-397 (1946)); *United States* v. *General Electric Co., Corning Glass Works*, C. C. H. Fed.

Indeed, there has been an opportunity, since the decision of this Court in the *Hartford-Empire* case, to test the workability of that decree. It does seem as if the government, in questioning the workability of that decree, ought at least to have come here with a full report on the hearings below. All that we are told in the government brief about the *Hartford-Empire* proceedings below is that "consideration of these difficulties as illustrated by subsequent experiences in the Hartford case itself, indicates that they constitute an independent ground against permitting any continued vitality in the abused grants" (64-65). What these experiences were, or who thought that they "indicated" something, is not revealed.[9]

We have made inquiries and are advised that there has been no difficulty in working out a scheme of reasonable royalties in the *Hartford-Empire* proceedings, except only in respect of one single point. Under paragraph 13 of the final judgment entered October 31, 1945, each of seven

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Tr. Reg. Serv. Par. 57,448 (D. N. J. Civil Action Nos. 1364 and 2590 (1946)); *United States* v. *Libbey-Owens-Ford Glass Co.*, C. C. H. Fed. Tr. Reg. Serv. Par. 57,489 (N. D. Ohio Civil Action No. 5239 (1946)); *United States* v. *Owens-Illinois Glass Company*, C. C. H. Fed. Tr. Reg. Serv. Par. 57,498 (N. D. Cal. Civil Action No. 25861-C (1946)).

[9]One comprehensive review of the *workability* of the *Hartford-Empire* decree has been published, 56 Yale L. J. 77. The whole tenor of the article is to the effect that the Court-supervised reasonable royalty system has provided the anti-trust division with an effective instrument which it did not have before. Various methods of meeting the problem of determining reasonable royalties are pointed out to be available: that "most disputes could presumably be settled by negotiation"; appointment of a Master; arbitration; reference to the Federal Trade Commission; or development of an effective enforcement division within the anti-trust division of the Department of Justice.

defendants was required to designate separately the proposed charge for each of five separate privileges in respect of each of five classes of machines, which required the filing of schedules showing 175 separate proposed charges. The only proposed charges in respect of which there was any difficulty were the royalties to be charged by two of the defendants (Hartford and Lynch) under a license to another machinery manufacturer to make and sell, which was a highly theoretical problem because no such machinery manufacturer had applied for any such license. Furthermore, the problem was created by the government itself, which refused to allow the royalty to be measured by the quantity of glassware handled by the machines.

There are, therefore, no materials before this Court upon which to base this overruling of its recent opinion, except the same materials which were then available. These all reappear in the present government brief.

It is settled practice in patent accounting suits that, where the profits or damages cannot be ascertained, and no standard of comparison is available, the Court may allow a reasonable royalty. This has been settled practice since at least 1915, when it was approved by this Court in *Dowagiac Manufacturing Company* v. *Minnesota Moline Plow Company*, 235 U. S. 641, 648.[10] Indeed, the principle dates back to the decision in 1865 of *The Suffolk Company* v. *Hayden*, 70 U. S. 315, 320. In our experience, the practice of determining a reasonable royalty is frequently availed of. See 3 *Walker*, Patents, § 833, and 1945 pocket supplement. We list in a footnote (in alphabetical order and giving dates)

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[10]The *Dowagiac* case was referred to in *Sheldon* v. *Metro-Goldwyn*, 309 U. S. 390, 404, as a case "which received great consideration". Both *Dowagiac* and *Sheldon* were unanimous decisions, only Mr. Justice McReynolds not participating.

over 100 decisions of the Federal courts dealing with reasonable royalties, which show not only their broad experience in this field but their capacity to deal with the problem.[11]

The government's own review of earlier authorities makes no reference to any of these cases, but opens with

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[11] *A. Mecky Co.* v. *Garton Toy Co.*, 277 Fed. 507 (E. D. Wis. 1921); *Activated Sludge, Inc.* v. *Sanitary District of Chicago*, 64 F. Supp. 25 (N. D. Ill. 1946); *American Can Co.* v. *Goldee Manufacturing Co.*, 31 F. (2d) 492 (E. D. N. Y. 1927), *aff'd* 31 F. (2d) 494 (C. C. A. 2d, 1929); *American Telephone & Telegraph Co.* v. *Radio Audion Co.*, 5 F. (2d) 535 (D. Del. 1925); *Asmus* v. *Freeman*, 34 Fed. 902 (C. C. E. D. Pa. 1888); *Austin-Western Road Machinery Co.* v. *Disc Grader & Plow Co.*, 291 Fed. 301 (C. C. A. 8th, 1923); *Austral Sales Corp.* v. *Jamestown Metal Equipment Co.*, 45 F. Supp. 360 (W. D. N. Y. 1942); *Auto Vacuum Freezer Co.* v. *William A. Sexton Co.*, 250 Fed. 459 (S. D. N. Y. 1918); *Autographic Register Co.* v. *Sturgis Register Co.*, 110 F. (2d) 883 (C. C. A. 6th, 1940); *Bates* v. *St. Johnsbury & L. C. R. Co.*, 32 Fed. 628 (C. C. D. Vt. 1887); *B. F. Goodrich Co.* v. *Consolidated Rubber Tire Co.*, 251 Fed. 617 (C. C. A. 7th, 1918) cert. denied 247 U. S. 519 (1918); *Bemis Car Box Co.* v. *J. G. Brill Co.*, 200 Fed. 749 (C. C. A. 3d, 1912), cert. denied 226 U. S. 614 (1913); *Birdsall* v. *Coolidge*, 93 U. S. 64 (1876); *Brickill* v. *Mayor, etc., of Baltimore*, 60 Fed. 98 (C. C. A. 4th, 1894); *Brewster* v. *Technicolor, Inc.*, 2 F. R. D. 186 (S. D. N. Y. 1941); *Burdell* v. *Denig*, 92 U. S. 716 (1875); *Carbo-Frost* v. *Pure Carbonic*, 103 F. (2d) 210 (C. C. A. 8th, 1939) cert. denied 308 U. S. 569 (1939); *Cassidy* v *Hunt*, 75 Fed. 1012 (C. C. N. D. Cal. 1896); *Cincinnati Car Co.* v. *New York Rapid Transit Corp.*, 66 F. (2d) 592 (C. C. A. 2d, 1933); *Clark* v. *Schieble Toy & Novelty Co.*, 248 Fed. 276 (C. C. A. 6th, 1917); *Clark* v. *Wooster*, 119 U. S. 322 (1886); *Colgate* v. *Western Electric Manuf'g. Co.*, 28 Fed. 146 (Cir. Ct. S. D. N. Y. 1886); *Collins* v. *Hupp Motor Car Corp.*, 22 F. (2d) 27 (C. C. A. 6th, 1927); *Columbia & Nehalem River R. R. Co.* v. *Chandler*, 241 Fed. 261 (C. C. A. 9th, 1917); *Consolidated Rubber Tire Co.* v. *Diamond Rubber Co. of New York*, 226 Fed. 455 (S. D. N. Y. 1915), aff'd. 232 Fed. 475 (C. C. A. 2d, 1916); *De Laski & Thropp Circular Woven Tire Co.* v. *Empire Rubber*

a curious citation of the *Crescent Amusement* case, 323 U. S. 173, 186, as if that case had held that evaluation

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& *Tire Co.*, 239 Fed. 139 (D. N. J. 1916); *Diamond Stone-Sawing Mach. Co. of New York* v. *Brown*, 166 Fed. 306 (C. C. A. 2d, 1908), aff'd 155 Fed. 753 (C. C. N. D. N. Y. 1907); *Dowagiac Manufacturing Co.* v. *Deere & Webber Co.*, 284 Fed. 331 (C. C. A. 8th, 1922); *Dowagiac Manufacturing Co.* v. *Minnesota Moline Plow Co.*, 235 U. S. 641 (1915); *Dunkley Co.* v. *Central California Canneries*, 7 F. (2d) 972 (C. C. A. 9th, 1925) cert. denied 270 U. S. 646 (1926); *Dunkley Co.* v. *Vrooman*, 272 Fed. 468 (C. C. A. 6th, 1921) per curiam; *Egry Register Co.* v. *Standard Register Co.*, 23 F. (2d) 438 (C. C. A. 6th, 1928); *Emerson* v. *Simm*, Fed. Cas. No. 4443 (C. C. D. N. J. 1873); *Enterprise Mfg. Co.* v. *Shakespeare Co.*, 141 F. (2d) 916 (C. C. A. 6th 1944); *Expanded Metal Co.* v. *General Fireproofing Co.*, 247 Fed. 899 (N. D. Ohio 1917) appeal dismissed per stipulation 272 Fed. 1021 (C. C. A. 6th, 1921); *Fox Typewriter Co.* v. *Underwood Typewriter Co.*, 287 Fed. 453 (C. C. A. 6th, 1923) per curiam; *Freeman* v. *Premier Machine Co.*, 25 F. Supp. 927 (D. Mass. 1938); *Fulton Bag & Cotton Mills* v. *Werthan Bag Co.*, 28 F. (2d) 922 (C. C. A. 6th, 1928); *Gear Grinding Machine Co.* v. *Studebaker Corporation*, 4 F. (2d) 510 (C. C. A. 6th, 1925); *General Motors Corp.* v. *Blackmore*, 53 F. (2d) 725 (C. C. A. 6th, 1931); *General Motors Corp.* v. *Dailey*, 93 F. (2d) 938 (C. C. A. 6th, 1937); *Goodyear* v. *Bishop*, Fed. Cas. No. 5559 (C. C. S. D. N. Y. 1861); *Hartford-Empire Co.* v. *United States*, 323 U. S. 386 (1945) clarified, 324 U. S. 570 (1945); *Hazeltine Corporation* v. *Zenith Corporation*, 100 F. (2d) 10 (C. C. A. 7th, 1938) cert. denied 306 U. S. 656 (1939); *Horvath* v. *McCord Radiator & Mfg. Co.*, 100 F. (2d) 326 (C. C. A. 6th, 1938); *Hunt Bros. Fruit-Packing Co.* v. *Cassiday*, 64 Fed. 585 (C. C. A. 9th, 1894); *International Vitamin Corporation* v. *E. R. Squibb & Sons*, 13 F. Supp. 129 (E. D. N. Y. 1935); *K. W. Ignition Co.* v. *Temco Electric Motor Co.*, 283 Fed. 873 (C. C. A. 6th, 1922) cert. denied 260 U. S. 746 (1923); *Kaltenbach* v. *Chesapeake & Ohio Ry. Co.*, 43 F. Supp. 819 (E. D. Va. 1941) modified 124 F. (2d) 375 (C. C. A. 4th, 1941); *Keller* v. *Stolzenbaugh*, 43 Fed. 378 (C. C. W. D. Pa. 1890); *Malleable Iron Range Co.* v. *Lee*, 263 Fed. 896 (C. C. A. 7th, 1920) cert. denied 251 U. S. 562 (1920); *Mathey* v. *United Shoe Machinery Corp.*, 54 F. Supp. 694 (D. Mass. 1944); *McKee Glass Co.* v. *H. C. Fry Glass Co.*, 248 Fed. 125 (C. C. A. 3rd, 1918);

of patents (there, copyrights) would impose upon a Court "an onerous and absorbing administrative burden" (64).

Merrell Soule Co. v. *Powdered Milk Co. of America*, 7 F. (2d) 297 (C. C. A. 2d, 1925); *Metallic Rubber Tire Co.* v. *Hartford Rubber Works*, 275 Fed. 315 (C. C. A. 2d, 1921) cert. denied 257 U. S. 650 (1921); *Motor Player Corp.* v. *Piano Motors Corp.*, 19 F. (2d) 993 (D. N. J. 1927); *Munger* v. *Perlman Rim Corp.*, 275 Fed. 21 (C. C. A. 2d, 1921) cert. denied 257 U. S. 645 (1921); *Muther* v. *United Shoe Machinery Co.*, 21 F. (2d) 773 (D. Mass. 1927); *National Brake & Electric Co.* v. *Christensen*, 38 F. (2d) 721 (C. C. A. 7th, 1930) cert. denied 282 U. S. 864 (1930); *National Electric Signaling Co.* v. *United States*, 49 F. Supp. 754 (Ct. Claims 1943); *National Electric Signaling Co. et al.* v. *United States*, 49 F. Supp. 768 (Ct. Claims 1943); *National Tube Co.* v. *Mark*, 10 F. (2d) 430 (C. C. A. 6th, 1926); *Overman Cushion Tire Co.* v. *Goodyear Tire & Rubber Co.*, 66 F. (2d) 361 (C. C. A. 2d, 1933) cert. denied 290 U. S. 681 (1933); *Packet Co.* v. *Sickles*, 86 U. S. 611 (1873); *Power Specialty Co.* v. *Connecticut Light & Power Co.*, 80 F. (2d) 874 (C. C. A. 2d, 1936); *Raytheon Mfg. Co.* v. *Radio Corporation of America*, 286 Mass. 84, 190 N. E. 1 (1934); *Reliance Construction Co.* v. *Hassam Paving Co.*, 248 Fed. 701 (C. C. A. 9th, 1918); *Reynolds Spring Co.* v. *L. A. Young Industries*, 101 F. (2d) 257 (C. C. A. 6th, 1939); *Rockwood* v. *General Fire Extinguisher Co.* 37 F. (2d) 62 (C. C. A. 2d, 1930); *Ross* v. *Montana Union Ry. Co.*, 45 Fed. 424 (C. C. D. Mont. 1890); *St. Louis Screw Co.*, 2 B. T. A. 649 (1925); *Seymour* v. *McCormick*, 57 U. S. 479 (1853); *Simmons Co.*, 8 B. T. A. 631 (1927), aff'd 33 F. (2d) 75 (C. C. A. 1st, 1929), cert. denied 280 U. S. 588 (1929); *Sinclair Refining Co.* v. *Jenkins Petroleum Process Co.*, 289 U. S. 689 (1933); *Smith* v. *Thurrell*, 13 F. Supp. 937 (D. N. H. 1936); *Standard Mailing Machines Co.* v. *Postage Meter Co.*, 31 F. (2d) 459 (D. Mass. 1929); *Standard Brands* v. *Federal Yeast Corp.*, 38 F. (2d) 314 (D. Md. 1930); *State ex rel Attorney General* v. *Halliday*, 61 Ohio St. 352, 56 N. E. 118 (1899); *State ex rel International Business Machines Corp.* v. *Board of Review of City of Fond du Lac*, 231 Wis. 303, 285 N. W. 784 (1939); *Stutz* v. *Armstrong*, 25 Fed. 147 (C. C. W. D. Pa. 1885); *The Suffolk Co.* v. *Hayden*, 70 U. S. 315 (1865); *Sutton, Steele & Steele* v. *Gulf Smokeless Coal Co.*, 6 F. Supp. 419 (S. D. W. Va. 1933), modified 77 F. (2d) 439 (C. C. A.

What the Court actually said in that case, was that what was there sought to be done did *not* impose "an onerous and absorbing administrative burden".[12]

No valid reason appears why this Court should now say that it is impossible for a court of equity to value a patent. The government unduly complicates the matter by talking as if the Courts will necessarily have to value *all* of the patents. Thus, its brief says that, "In the instant case the court will have to place a value upon each of 351 patents and applications" (67). This is an over-statement of the decree. The decree provides that any party may take a license under "any or all" of the patents, *i.e.*, may select "any" of them. If it selects one patent, the value will only have to be placed upon that one, etc.

But even if a licensee were to select a great many patents, that is not in itself a reason for the Courts to sus-

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4th, 1935); *Tilghman* v. *Procter*, 125 U. S. 136 (1888); *Triplex Safety Glass Co. of North America* v. *Duplate Corp.*, 10 F. Supp. 420 (W. D. Pa. 1934) modified and referred in part, 81 F. (2d) 352 (C. C. A. 3rd, 1935), further modified 298 U. S. 448 (1936); *United States* v. *Berdan Fire-Arms Manufacturing Co.*, 156 U. S. 552 (1895); *United States* v. *General Electric Co.*, 15 F. (2d) 715 (N. D. Ohio 1925) aff'd. 272 U. S. 476 (1926); *United States* v. *Palmer*, 128 U. S. 262 (1888); *United States* v. *Standard Oil Co. (Indiana)*, 283 U. S. 163 (1931), *reversing* 33 F. (2d) 617 (N. D. Ill. 1929); *United States Frumentum Co.* v. *Lauhoff*, 216 Fed. 610 (C. C. A. 6th, 1914); *Van Meter* v. *United States*, 37 F. (2d) 111 (W. D. N. Y. 1930), modified 47 F. (2d) 192 (C. C. A. 2d, 1931); *W. S. Godwin Co.* v. *International Steel Tie Co.*, 29 F. (2d) 476 (C. C. A. 6th. 1928); *Wallace & Tiernan Co.* v. *City of Syracuse*, 45 F. (2d) 693 (C. C. A. 2d, 1930); *Wedge* v. *Waynesboro Nurseries*, 31 F. Supp. 638 (W. D. Va., 1940); *Westclox Co.* v. *United States*, 37 F. (2d) 191 (Ct. Claims 1930); *S. Marsh Young*, 2 B. T. A. 457 (1925).

[12] What was there sought to be done, was to retain supervision by the Court of future theatre acquisitions.

pend their duties. It would be a new rule of equity to provide that equity can no longer try a case because it has become a difficult one. The Courts are constantly required to place values upon property; and if the Patent Office is going to grant 351 patents, there is no inherent reason why the Court should not value the 351, if a licensee wants all of them. Doubtless some patents would be given a very small, if any, value, and the whole thing would be worked out in a practical way as is befitting Court supervision of any complicated financial or economic transaction. Even under Court supervision, it would doubtless be appropriate for the Court first to ask the two parties to seek to reach an agreement, just as is done every day in contests between security-holders, and then for the Court to hold a hearing, at which of course the Attorney General would be represented, to determine whether the agreement reached (a) was not the result of over-reaching or domination of one party by the other, and (b) was not incompatible with the public interest as represented by the Attorney General.

In bankruptcy cases, the Federal Courts are constantly called upon to set comparative values upon conflicting claims of a very much larger amount. In valuing the claims of mortgagees of various divisions of a railroad, for example, the Court does not enter upon the meticulous type of valuation that might be indulged, for example, by local taxing authorities. Other techniques have been devised, and work. There is no evidence that techniques may not be worked out for the ready determination of reasonable royalties.

At all events, this not a case in which the contrary can be held. Ten years of experience should have enabled the government to find evidence, if there be any, that Virginia

Chemical or American Zirconium have complained that the 2% royalty that they paid to du Pont was unreasonable. That royalty was reached by arm's-length negotiation.

The price-fixing cases cited by the government (75), *United States* v. *Trenton Potteries,* 273 U. S. 392, and *United States* v. *Socony-Vacuum Oil Co.,* 310 U. S. 150, are not in point. They did not hold that a Court could not on occasion determine a reasonable price; they held that it was a restraint of trade for two private parties to agree upon prices, regardless of whether reasonable. The price-fixing cases would only be in point if the Court had there indicated that the defendants in those cases ought to have been compelled to give away the offending articles free.

Or there might be an analogy to the present proposal that the patentee be deprived of his licensing revenue (the royalty) if in the *Socony* case, for example, it had been provided that the oil companies must thereafter sell at the wholesale price, without any manufacturer's profit.

After all, the government is saying nothing more than that the inventors' or patentees' profit, known as a royalty, is necessarily one element of cost, and that, therefore, where a competitor is a patentee, it has a *pro tanto* saving or competitive advantage. The government wholly overlooks the obvious response that the patentee has an investment in the research or in the purchase of the patent, just as the oil refiner (in the example given) has an investment in the process of manufacture. The District Judge, who will presumably administer the decree, has taken a much more realistic view of what a reasonable royalty really is, saying:

> "I am using the word 'modest' in lieu of the word 'reasonable' because I want to suggest what is intended, the intention being a condition such as

the industry can readily handle without establishing an undue advantage one over the other not justified by an investment involved in these patent ownerships, and also as it is suggested in one of these propositions, not only as to all existing patents but as to all patents filed or issued over a period of five years, or all applications that will be filed over a period of years, I do not remember which" (R. 1253).

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"And I think that I would go along with Mr. Webster to this extent, that if as a result of the taking of the testimony it appeared as a matter of fact, not of law, but as a matter of fact that the value of the patent, and therefore the reasonableness of the royalty, or the cost of the patent and therefore the reasonableness of royalty, or whatever evidence might be relevant to a determination of that question, approaching zero, I think the court would not have to be ritualistic and apply the traditional symbols and could say "Zero" without offending the law, but that would be a zero arrived at by a different process. In other words, that would be a zero arrived at by process of evaluation. I am tentatively under the impression that the decree does contemplate a process of appraising, a process of evaluation." (Stenographer's Minutes, Oct. 24, 1946, p. 45, Hearing before Hon. Simon H. Rifkind on National Lead's motion.)

The government's contention that reasonable royalty licensing is unworkable is not supported either by judicial or business experience.

(3) Royalty-free Licensing Favors National Lead.

Apart from the foregoing, a most unusual situation exists in this litigation bearing on the issue of royalty-

free licensing. We refer to the amazing position taken by National Lead in joining with the government to seek royalty-free licensing. National Lead in the court below argued in favor of licensing at reasonable royalties. It now admits that it violated the Sherman Act. That it was the principal defendant and proceeded with little regard for the requirements of the Sherman Act, is patently clear from the findings of the court below. Its sudden shift from its original position is not dictated by any concession to the public interest. It urged licensing at reasonable royalties until it was brought forcefully to recognize that its patent position was not as strong as that of du Pont. As soon as it realized that its pocketbook was affected, its views on royalties changed.

In joining with the government on the royalty-free issue, it is not motivated by any desire to assist this Court in working out the delicate problems presented by a decree which seeks to balance the rights of the patent owner with the obligations imposed by the anti-trust laws. It desires merely to perpetuate its position in the industry with the least cost to itself. Having this position, protected by its various cartel agreements, it has for a long time been able to proceed without energetically attempting to develop new processes.

National Lead now finds itself faced with the energetic competition of the smaller manufacturers and with constantly increasing competition of du Pont which broke off from technical exchange with National Lead in 1940. For commercial reasons it now desires a "free ride".

Certainly this Court should proceed with particular caution before it permits National Lead to utilize this litigation, in which it is the principal offender, for its own private pur-

poses. If National Lead desires royalty-free licensing as its concession suggests, this Court should impose royalty-free licensing upon it. This need not and should not involve imposing royalty-free licensing upon du Pont.

National Lead seeks to justify its present position (Brief, pp. 58-59) by asserting that it is consistent with its position in the District Court. Nothing could be farther from the facts.

At the hearing on the decree National Lead and du Pont both agreed that it would be error to order royalty-free licensing. Both distinguished the *Morton Sali* doctrine. National Lead filed a printed brief with the District Court in which it stated, under the heading "The proposed forfeiture of defendants' patents is unauthorized", that "only one view" could be taken of the government's proposal of royalty-free licensing of present patents; this view was: "In other words, the Supreme Court, despite the failure of Congress to enact compulsory licensing legislation, will approve a decree, in a proper case, making licensing mandatory, *but only on payment of a reasonable royalty*. There is thus no basis for the government's prayer for royalty-free licensing". (Italics in the original; National Lead brief in the District Court on the decree, p. 36).

After the decree, it became the duty of du Pont and National Lead to offer a license on terms of reasonable royalty. Correspondence between National Lead and du Pont on the subject is set out in Appendix A to this brief.[18] National Lead opened the matter by stating that it would grant licenses under all its patents. Its proposal was: (a) to parties having no patents under which National Lead should

[18]This correspondence was submitted by National Lead as a part of its record on its motion for royalty-free licensing before the District Court on October 24, 1946.

itself desire a license, a current royalty of 1% or a lump sum; (b) to parties having patents under which National Lead should desire a license, a royalty-free exchange (App. A p. 1).

Du Pont promptly replied that a royalty-free exchange did not appear feasible, that the royalty rate should be dependent upon the importance of the patents under which each would be licensed, and that du Pont was ready "to undertake negotiations * * * on a basis which is consistent with the terms of the decree" (App. A p. 2). Du Pont followed this with a letter saying that there were three National Lead patents under which it would desire a license and that the license should be "terminable on reasonable notice", for there was one patent under which du Pont would not expect to operate for more than six months, and the other two related to only a part of du Pont's production (App. A p. 3).

National Lead declined to consider the du Pont proposal and said that it would desire a license under all the du Pont patents (App. A p. 4).

Du Pont's reply was that the rate for a royalty under such patents would be 2%,—a rate which "we feel * * * will clearly permit competition", and reaffirmed that its own request was for a license under three named patents only, saying: "certainly an evaluation of these three patents presents no serious problem, and we stand ready to pay whatever reasonable royalty rate is established by you consistent with the decree for the licensing of these patents" (App. A p. 5). This was followed by a formal offer by du Pont to accept 2% as royalty under all its patents, and to pay as royalty for the three patents required by it "1% of the value of our production of pigments manufac-

tured under the licensed patents" (App. A pp. 6-7). Du Pont further stated (App. A p. 7):

> "As we have advised we consider your proposals for licensing prohibited by the decree and, for this as well as other reasons, they cannot be accepted by du Pont".

We respectfully submit that the position taken by du Pont was in accord with the decree and with the whole policy of the law relating to royalties under patents, as laid down by this Court, and that National Lead's position was untenable and directly in the teeth alike of the law and of the decree.

What National Lead obviously did, was to ask for a reasonable royalty provision as required by law, until it found that du Pont might not need its patents; whereupon it turned about and asked for a royalty-free license. This was done for its own commercial reasons. Its counsel thereupon attempted to argue to the District Court, as they have now done in their brief in this Court, precisely the opposite of what they had argued on the hearings on the decree.[14] There had in the interim been no change in the law.

The District Court directed that the National Lead motion should stand over until after the decision of this Court. In the event that reasonable royalty licensing is sustained, National Lead will be required to pay du Pont only the amount which the District Court, with its knowl-

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[14]The government makes the suggestion that this is because National Lead has reached the pious conclusion "that reasonable royalty licensing of misused patents in this case cannot be effective or give adequate relief to prevent continued violations of the anti-trust laws" (58). The government was doubtless anxious to welcome an ally, regardless of the reasons for its conversion.

edge of the industry and its problems, finds reasonable. Surely such payment will not prevent the full accomplishments of the decree's objectives.

POINT IV.

THERE IS NO POLICY IN THE PATENT LAW OR ANTI-TRUST LAW REQUIRING THAT DU PONT'S PATENTS BE RENDERED UNENFORCEABLE FOR THEIR REMAINING TERMS.

(1) The *Morton Salt* Doctrine Is Inapposite.

The portion of the government brief dealing with this subject is unsupported by any Assignment of Error. The closest assignment was No. 1 (R. 330), that the patents should be compulsory licensed free of royalty until the Courts should have determined that the effects of the illegal combination have been fully dissipated.

The government's departure from its original Assignment of Error at this late stage of the case is significant of the fact that this case has been seized upon as an instrument to advance a philosophy unrelated to its particular facts.

The government renews in this case the argument which it made in the *Hartford-Empire* case and which the Court there rejected in the following language (323 U. S. at 415):

> "The Government urges that such forfeiture is justified by our recent decisions in *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U. S. 488, and *B. B. Chemical Co.* v. *Ellis*, 314 U. S. 495. But those cases merely apply the doctrine that, so long as the patent owner is using his patent in violation of the antitrust laws, he cannot restrain infringement of it by others. We were not there concerned with

the problem whether, when a violation of the anti-trust laws was to be restrained and discontinued, the court could, as part of the relief, forfeit the patents of those who had been guilty of the violation. Lower federal courts have rightly refused to extend the doctrine of those cases to antitrust decrees by inserting forfeiture provisions" (footnotes omitted).

There is indeed a genuine distinction between the *Morton Salt* type of case and an anti-trust case. This can be illustrated by a simple analogy. Suppose that the owner of "A" farm, having unlawfully blocked the owner of "B" farm from any egress except over "A", sues to enjoin the owner of "B" from trespass; he may be denied his injunction until he has removed the block. However, it does not follow that, because the Court will refuse him the injunction until the effect of his unlawful block has been dissipated, it will affirmatively enter an order giving the owner of "B" a perpetual easement or right of way over "A".

The fault may, of course, be dissipated, as in *Novadel-Agene Corp.* v. *Frederic H. Penn.*, 119 F. (2d) 764, 766-7 (C. C. A. 5th), cert. denied 314 U. S. 645; *Sylvania Industrial Corp.* v. *Visking Corp.*, 132 F. (2d) 947, 958 (C. C. A. 4th), app. dism. 319 U. S. 771; *Universal Sewer Pipe Corp.* v. *General Const. Co.*, 42 F. Supp. 132, 134 (N. D. Ohio, E. D.).

The government also makes the inverted argument that if there were no decree and du Pont sued, it could be defeated under the *Morton Salt* doctrine, and that therefore it is the decree itself which is creating a right in du Pont which it would not otherwise have (43-44).

This misses the whole point of equity relief. By taking jurisdiction of the suit by the Attorney General, the Equity Court is discharging its duty of so ordering affairs in the industry as to put an end to the wrong-doing as from the date of the decree. Of course, that changes the legal relations of the parties from that date. It is the decree itself which dissipates the consequences of the assumed violation.

When a private party defendant establishes as a defense to an infringement suit that the plaintiff is using the patent illegally (whether in violation of the anti-trust laws or against public policy generally), that illegality is necessarily then subsisting and continuing. It becomes appropriate to withhold the assistance of equity to the patentee, for to grant that assistance would be to assist the wrong-doer.

But when the Attorney General intervenes, in accordance with the intent that Congress expressed in 1890, to prevent the illegality, and the Court takes jurisdiction and moulds a decree appropriate to that end, then from that time forward the illegality ceases to exist.

The government also marshals cases which do not deal with the *Morton Salt* type of situation, but which deal only with the interpretation and enforcement of patents. In their aggregate, all of these cases establish only that the courts are indeed astute to give every opportunity to contest the validity or scope of patents. They hold in effect that public interest requires that no legal impediments be put in the way of litigants who call patents into question.

The authorities to the effect that the Courts will not admit common law defenses to embarrass contest of validity of patents (applied to the doctrine of *res adjudicata* in the *Mercoid* case, 320 U. S. 661, and to the doctrine of estoppel in the recent *Katzinger* case, decided this term, January 6, 1947) would have application if, for example,

National Lead had asserted some patent right against du Pont, and had then attempted to defeat du Pont's right to defend itself by saying that du Pont had been *in pari delicto*. The principles of the *Mercoid* and *Katzinger* cases would presumably then have applied, so that du Pont's contest of National Lead's patent right could not have been defeated by the plea of *in pari delicto*. The *Mercoid-Katzinger* rule is not a rule to stifle patent proceedings and substitute confiscation. Nor has it been so applied. It is a rule to free patent contests from obstruction through pleas not going to the merits.

The government overlooks the obvious distinction between recognizing a patent right and then confiscating it, on the one hand, and holding that no patent right ever arose at all, on the other hand. In such cases as *Altoona Theatres* v. *Tri-Ergon*, 294 U. S. 477, 493, it was held that the claimant had not obtained a valid patent at all; such cases are not authority for taking a valid patent and then confiscating it.

In conclusion, therefore, there is no valid reason why, when the Attorney General and the Courts have discharged their statutory duty of preventing and restraining violations of the Act, the defendants should not thereafter receive reasonable royalties for use of their property. This is true, at least in cases where, as here, no serious claim can be made that the defendant in question has improperly acquired its patents or used its licensing powers as a weapon for the wrongdoing against which the decree is directed.

(2) Du Pont Has Scrupulously Exercised Its Patent Rights Within the Lawful Limits of the Authorized Grant.

The government brief states (99) that "The parties [*sic*] have tied as a condition to the exchange of exclusive

licenses under existing patents a requirement that all future patents relating to the broad field of the titanium industry be exclusively licensed to the conspirators". There is not a single "exchange of exclusive license" to which du Pont was a party, and in du Pont's licenses to Virginia Chemical and Zirconium there was no requirement that future patents be licensed to du Pont at all.

There follows in the government brief a great deal of discussion of territorial and marketing restrictions accomplished through patents, to none of which was du Pont a party. Then come such statements as these (100): "Licensing has been conditioned upon reciprocal undertakings to furnish all present and future 'know-how' to the cartel parties. The restrictions invoked by the parties as a condition to the waiving of the right to exclude extended beyond the life of any then existing patent".

In the du Pont licenses to Virginia Chemical and Zirconium, there was no requirement that the licensee should furnish any "know-how" to du Pont, there was no provision for future patents and there was no restriction extending beyond the life of any existing patent.

All these arguments of the government are addressed to the issue whether there shall be royalty-free compulsory licensing. They must thus have been directed exclusively against du Pont, for National Lead has expressly conceded that there ought to be such compulsory royalty-free licensing and has urged it. The government knew this when it was writing its brief, for it makes a point of it (58).

When the government does reach the name of "du Pont" (101), all that it can find to blame is this:

> "Competition in the acquisition of patents was proscribed in that defendants du Pont and National Lead adhered to the policy of privately determining

> which had priority in respect of patent claims which were the subject of interference proceedings in the Patent Office".

The government then denounces this practice generically. But the private settlement of Patent Office interferences was in direct conformity with the rule of law as laid down in Mr. Justice Brandeis's opinion for this Court in the *Cracking* case, 283 U. S. at 171:

> "Where there are legitimately conflicting claims or threatened interferences, a settlement by agreement, rather than litigation, is not precluded by the Act".

There was nothing arbitrary about these settlements between National Lead and du Pont. They were hard-fought, even to the extent of charging that one party had stolen the inventions of the other. Each was determined to obtain its own patents. See, for example, Ex. 487 (Ex. R. 1862). This is an extensive report, dated November 17, 1938, concerning "patent interferences", and was addressed by a representative of National Lead to its manager, Mr. Garesché. Reporting a trip to Wilmington, its author expresses his disturbance at finding that du Pont was ignoring "Dr. Jebsen's effort to establish friendly relations between the British and German Titan companies, on the one side, and Krebs [du Pont] on the other side" (Ex. R. 1863), for "we find that there was no possibility of dissuading du Pont from filing an application which might conflict with our application in case T-187 because, we were informed, all divisions of du Pont are under specific orders from the Executive Committee to file patent applications on everything that might possibly contain patentable subject-matter".

The record is clear that du Pont's Executive Committee required "the prompt filing of applications for United States letters patent covering all patentable inventions which may possess commercial value" (Ex. R. 4193).

Similarly, there is no basis for the government's constant and frequent assertion that defendants du Pont and National Lead aggregated three wholly separate competing patented processes, evidently referring to the Barton-Rossi, Jebsen and Blumenfeld processes. There is no finding and indeed no evidence that Barton-Rossi or Jebsen were commercially independent processes. On the contrary, the National Lead manufacturing process was founded on both (FF 37, R. 248). Moreover, that process was directly in conflict with and overlapped Blumenfeld patents, as illustrated by the genuine patent conflict which the Court found arose between du Pont and National Lead, holders of patents covering the respective processes and which eventually led to the cross-licensing agreement.[15]

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[15] Thus, du Pont, following Commercial Pigments' practice, engaged only in pure TiO_2 manufacture until the middle of 1935 when it commenced composite pigment manufacture (Ex. 85, Ex. R. 4369). It followed the Blumenfeld method which entails as its essential feature the precipitation of high yields of TiO_2 from a so-called seeded or nucleated solution by boiling a titanium sulfate solution recovered from the sulfuric acid dissolution of an ilmenite ore (Ex. R. 3887). In such hydrolysis, it is essential to a commercially economical operation and product that a concentrated, rather than a dilute, titanium sulfate solution be used in the hydrolysis, and that in the production of such solution from the titaniferous ore a minimum amount of sulfuric acid should be used, i.e., less acid than is required to form normal salts of iron and titanium (Ex. 190, Ex. R. 1089-94). Precipitation of TiO_2 with the employment of concentrated solutions was covered by the Titan (Jebsen) Patent 1,288,863, dated December 24, 1918, to Fladmark, while Jebsen Patent 1,333,819, dated March 16, 1920, covered the use of less acid than required to form normal

POINT V.

IF COMPULSORY LICENSING IS ORDERED, DU PONT IS ENTITLED TO A RECIPROCAL LICENSE FROM ITS LICENSEES.

We are now assuming that this Court will affirm the provision for compulsory licensing. If so, the admitted purpose of compulsory licensing, *i.e.*, the removing of obstacles to competition in the industry, requires the principle of reciprocity. Otherwise, du Pont, although now one of the two leading American producers, could soon be at the mercy of, and wholly unable to compete with, its licensees. National Lead, the other leading American producer, would be subject to the same fate. If either Virginia Chemical or Zirconium undertook a policy of blocking and fencing, they might soon (while enjoying the benefits of the du Pont or National Lead patents) prevent these concerns from practising their own inventions.[16]

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salts of iron and titanium in the ore dissolution. These Fladmark and Jebsen patents were infringed by the Blumenfeld operation of Commercial Pigments and du Pont in 1931 and 1933 Ex. 196, Ex. R. 1172-1174).

The Barton and Rossi method dominated composite TiO_2 pigment manufacture and is exemplified by patents such as No. 1,205,144 or 2,234,260, in which the hydrolysis or precipitation of the TiO_2 is effected in the presence of an extender such as barium or calcium sulfate to obtain a coprecipitated or extended form of TiO_2 pigment. (Ex. R. 3827, 3830) Since it is essential in the Barton process to resort to hydrolysis and the use of titanium sulfate solutions, the employment therein of the Blumenfeld "seeding" feature and of the Jebsen concentrated solutions and minimum amount of sulfuric acid in the ore dissolution to obtain the solution which is hydrolized, were equally essential to a commercially economical type of operation and to the production of a satisfactory grade of product.

[16]Examination of the colloquy between the District Court and counsel for the government leaves no doubt but that the

This is no mere hypothetical possibility. The record amply demonstrates that the other two existing American producers of titanium pigments, Virginia Chemical and

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Court, and perhaps then the government itself, recognized the inherent unfairness of a system of compulsory licensing which did not involve reciprocity.

"THE COURT. What argument is there to be made in opposition to the proposition that if compulsory or free licensing is to be granted, that a reciprocal obligation from the beneficiary of that privilege should not be exempt? (R. 1272)

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"MR. DIXON. May I ask this question? I do not understand whether your Honor was thinking along the line of having this on a royalty-free basis.

"THE COURT. Assuming royalty-free, why shouldn't it be perfectly proper, assuming royalty-free, that if Virginia Chemical wanted all the National Lead patents free, that Virginia Chemical should offer National Lead an equally free license on all of its titanium patents?

"MR. DIXON. I can see where that might have considerable merit, your Honor.

"THE COURT. And if it is on a stipulated control, modest royalty but compulsory, and if Virginia Chemical wants access to the du Pont patents, why shouldn't du Pont have the advantage of all the Virginia Chemical patents? Otherwise you will arrive at a situation conceivably where Virginia Chemical would simply change places with du Pont in becoming the dominating factor in the industry under this extraordinary advantage of being able to take everything for itself and keeping everything that it has.

"MR. DIXON. Well, if I understand your Honor's question, it is directed to the granting of royalty-free licenses by the defendants?

"THE COURT. No. I am suggesting it on both premises.

"MR. DIXON. I understand, or, in other words, to anyone who wants the use of these patents on a reciprocal basis.

"THE COURT. Of course, a new man going into the industry, probably he has not anything to offer anybody in return.

Zirconium, are both resourceful companies having powerful financial backing. Virginia Chemical was heretofore owned by the Interchemical Corporation, and has now been acquired by one of the most active and powerful chemical companies in the United States; American Cyanamid Corporation. Zirconium continues under the control of the important Glidden Company.

The District Court recognized that the effect of the government's argument is that although du Pont ought to be compelled to enable others to compete, its own capacity to compete with those others should be impaired. Such an argument could only be justified if the Court were imposing some punishment or penalty, regardless of the consequences upon the state of competition in the industry.

The government tries to build an argument out of the possibility that du Pont may have to license only under a "single patent", and that simultaneously its licensee "must surrender licenses under every patent" (125). This is a

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"MR. DIXON. That is what I was about to come to.

"THE COURT. Ordinarily he would have nothing, but if he has it should he keep it as his exclusive property and get everything that his competitors have? There is a vast difference there.

"MR. DIXON. That is the situation that I was coming to, that someone else might come into the industry with no patents and he might be perfectly willing and probably would to assume that reciprocal obligation, and it might well be that the Government would be satisfied with that kind of arrangement, because here the ultimate purpose of this whole case, which has taken so much of your Honor's time and the time of everyone else, is to open up this industry to be certain that it is free and competitive and upon an equal basis, and so that there are no disadvantages foisted on anyone who wants to go into the industry, and on the suggestion that your Honor has made the Government might very well be receptive to it." (R. 1273-1274)

jaundiced way of reading the provisions in paragraph 7 of the decree that the licensee is entitled to select "any or all" of du Pont's patents that it wishes to be licensed under, and that du Pont then can select "any or all" of the patents of the other party under which du Pont wishes to be licensed (R. 313). The government ignores the fact that even if du Pont asks for a license under many or all of the other party's patents, du Pont will have to pay royalties thereon, and the other party will remain free to demand further licenses from du Pont during the operative period of paragraph 7. Any existing vice in the decree in this respect is not that du Pont is entitled to a license under "any or all" of the patents of a licensee when that licensee is demanding a license under "any or all" of the patents of du Pont, but that du Pont is deprived of the right to require others to license it unless they initially request a license from du Pont. The government completely overlooks this fact. Mutuality and open competitive opportunity is already impaired by the decree as it is, in so far as it prevents du Pont from initiating the negotiation to obtain a license under any patent they may issue in the future, for example, to American Cyanamid or the Glidden Company. Such a patent could obviously drive du Pont out of business.[17]

The government purports to find a different vice in the decree, saying that it enables some sort of "pool of patents" to be formed by the defendants from which others are excluded (125). This is a misconception, as it is based on the

[17]From du Pont's standpoint the injustice of the decree in this respect is particularly glowing as regards Zirconium (the Glidden Company). The party that subscribed to the "principles" of the cartel, and to all of its territorial restrictive provisions, is entitled to ask for a license from du Pont, but du Pont is not entitled to ask it for a license in the first instance.

old fallacy that the defendants are one; whereas whatever be one's views as to the prior position, there can be do doubt but that under the decree National Lead and du Pont will be independent and competitive. Du Pont, for example, will only have a pool of other patents to the extent that the others will have elected to ask it for its patents.

The government is correct in pointing out that there is no provision in the decree that third parties can compel each other to license (126). Although du Pont is compelled to license both A and B if they ask for licenses, and in turn is entitled to a license itself under A's and B's patents, neither A nor B can compel the other to license it. In this hypothetical situation, of course, A and B could at any time cross-license each other. But in any event the government did not raise the point below. If it had, the decree might have provided that any applicant for a license under du Pont's patents must give du Pont the right to sublicense such applicant's patents, if any, to third persons. The same could have been provided for in the case of National Lead patents. Or the decree could have provided that a condition of A or B licensing du Pont could be a requirement that A or B license all applicants. Perhaps this Court should so modify the decree. Manifestly the elimination of the reciprocity provision in the decree is not a fair way to resolve the hypothetical lacuna presented by the government.

The principle of reciprocal licensing has been adopted in consent decrees. See, for example, in Appendix B (pp. 10, 12) the decrees in *United States* v. *General Electric Company, Westinghouse Electric & Manufacturing Company*, C. C. H. Fed. Tr. Reg. Serv., Par. 52,777 (D. N. J. No. 1364 (1942)); *United States* v. *American Bosch Corporation*, C. C. H. Fed. Tr. Reg. Serv., Par. 52,888 (S. D.

N. Y. Civil Action No. 20-164 (1942)). The principle is conducive to competition in the industry, and this Court should approve it as a desirable method of implementing a compulsory licensing decree.

POINT VI.

THERE IS NO POSSIBLE WARRANT FOR AN ORDER OF DIVESTITURE OF PLANTS. THE WHOLE SUBJECT WAS THOROUGHLY CONSIDERED BY THE DISTRICT COURT, WHICH EXERCISED ITS DISCRETION BASED ON KNOWLEDGE OF THE RECORD AND AWARENESS BOTH OF THE LEGAL AUTHORITIES AND THE ECONOMIC THEORIES INVOLVED.

The record tells us nothing about du Pont's plants, and the government showed not the slightest interest in them until the hearing on the decree when this idea of divestiture suddenly occurred to its counsel. All that the record shows is that there is one plant at Baltimore, Maryland, and one at Edge Moor, Delaware. That knowledge comes to us from a single sentence in the testimony of Mr. Daley, du Pont's pigments manager (R. 1153), unaccompanied by any description of either plant.

When the divestiture issue was presented to the District Court, counsel for the government repeatedly urged that the proposition was wholly a matter for discretion (R. 1204, 1207, 1208, 1214, 1216). The District Court refused expressly to grant the relief, saying that his refusal was "*an act of discretion*" (R. 1286). The present view of the government that in a case such as this plant divestiture is mandatory can only be explained by the fact that the discretion which it is so clearly felt rested in the District Judge has been exercised contrary to the government's wishes.

This Court has repeatedly recognized the desirability of vesting wide discretion in the District Courts, so that Sherman Act decrees may be framed in the light of the variable factors which are always present in an anti-trust proceeding. Thus, in one of the most recent divestiture cases, *United States* v. *Crescent Amusement Company*, 323 U. S. 173, 185, this Court said: "We recognize, however, that there is a wide range of discretion in the District Court to mould the decree to the exigencies of the particular case and where the findings of violations are sustained we will not direct a recasting of the decree except on a showing of abuse of discretion." See also *Ethyl Gasoline Corporation* v. *United States*, 309 U. S. 436, 461; *United States* v. *Bausch & Lomb Co.*, 321 U. S. 707, 725, 728, and *Associated Press* v. *United States*, 326 U. S. 1, 22.

The underlying reason for this view, which the government here apparently ignores, was stated by Mr. Justice Rutledge in his dissenting opinion in *Hartford-Empire Co.* v. *United States*, 323 U. S. 386, 441, when he said:

> "* * * The reasons which thus ordinarily restrict the scope of appellate review have magnified force in anti-trust proceedings. Their complex character usually requires, as in this case, months or years for the trial court's consideration. With its maximum attention, this Court cannot possibly attain the same detailed familiarity with the cause. Nor can it frame at long distance, with the same assurance, a decree adequate for the necessity."

Indeed, whether divestiture or dissolution should be ordered in a particular case is peculiarly a subject for the District Court's discretion, involving as it does an appraisal which the trial court is obviously in a better position to make than an appellate court.

(1) The Facts:

The following uncontroverted facts in this proceeding establish the inappropriateness of plant divestiture:

1. While both monopoly and attempt to monopolize were charged, the District Judge refused to find any violation of Section 2 of the Act.

2. There is no evidence that du Pont illegally acquired titanium pigment plants or the assets or business of any titanium pigment manufacturer. Du Pont's only acquisition was made to enable its entry into the business, and long before it is even claimed to have entered the combination.

3. Du Pont is not the largest producer of titanium pigments in the United States. As of the date of the decree du Pont manufactured and sold only 35.4% of the titanium pigments made and sold in the United States.

4. In addition to du Pont there are three other manufacturers of titanium pigments doing business profitably in the United States: National Lead; Zirconium, a subsidiary of the Glidden Company; and Virginia Chemical Company, a subsidiary of American Cyanamid Company. All of these large and financially substantial companies will have access to du Pont's patented inventions.

5. Du Pont competes with these three manufacturers for customers through sales efforts and by improvement of quality and by development of new products. There is not now nor was there ever any price agreement, division of territory or allocation of customers as between the four United States competi-

tors. Additional competition is provided by substantial manufacturers of other forms of white pigment.

6. There is no evidence that du Pont ever refused to license its patents or technical information to any other existing or potential United States manufacturer of titanium pigments, and du Pont has no control over the supply of raw materials used in the manufacture of titanium pigments.

7. Throughout the period of the alleged combination prices have declined substantially.

8. Production of all manufacturers has increased consistently since the industry became established in 1931.

The facts summarized above are considered at greater length in our main brief in No. 91. They present a compelling picture of competition in the titanium pigment business within the United States and a complete absence of monopolistic combination.

The government says that du Pont's plants are "strategically located" (53), but gives no record reference for its statement; and it is indeed unsupported in the record. While the record does show that du Pont has two plants equipped to manufacture at least some of its line of titanium pigment products, it does not show any of the following as to du Pont's titanium pigment plants, or indeed as to the plants operated by National Lead:

1. The capacity of titanium pigments plants.

2. Whether the plants manufacture either pure titanium pigments or composite titanium pigments or both; and if the latter, in what proportion

3. Whether other products are manufactured in any of the plants.

4. The extent to which the du Pont plants, for example, are interrelated in their manufacture of titanium pigment products.

5. The effect that dismemberment or complete divestiture would or might have upon

(a) Cost of manufacture;

(b) Capacity to manufacture;

(c) Quality of products manufactured;

(d) Efficiency of operations;

(e) Ability adequately to serve the consumer.

6. The plant capacities of Zirconium and Virginia Chemical.

7. The plans of the four manufacturers for the increase or decrease of manufacturing capacity.

8. The relative efficiency of the two smaller producers; their comparative costs of production, etc..

9. Whether any other concerns are anxious or willing to enter the titanium pigment business.

The state of the record, which is suggested by the foregoing, reflects the primary purpose of the government to punish the defendants. The government was not interested and made no effort to bring before the Court economic data upon which a sound judgment might be made on the delicate questions of competitive balance, which any request for

divestiture relief suggests. *Indeed, it did not even seek findings on the divestiture issue.* Rather the government bluntly urged that both du Pont and National Lead be divested of all their plants (R. 178-179). This was the flat punitive position taken, and it was not until the Judge's views had been made clear (albeit tentatively) in the course of the discussion of the decree, that the government retreated to its present position—that one plant should be divested from each defendant. That position had evidently not been at all thought out.

Against this background, we may again consider du Pont's participation in the conspiracy here alleged. The only acquisition made by du Pont, that of Commercial Pigments, was made in 1931, substantially before du Pont is even alleged to have entered the conspiracy or combination. That acquisition was never criticized or put in issue at any stage of the case, for the very obvious reason that du Pont had not previously been engaged in the business at all and was only enabled to enter it by that acquisition, so that in effect the new concern was the same as the old.[18]

This case was only indirectly concerned with the domestic titanium pigment market. It involved almost entirely territorial cartel restrictions on foreign trade. And what du Pont was found by the Court to have done, was to have given an assurance to the Cartel on an international territorial question, and to have exchanged patents and technical information with National Lead. The decree enjoins against continuation of the territorial understanding and breaks down completely the patent ties between du Pont and

[18] Du Pont did not, however, assume the contractual obligations of Commercial Pigments, as du Pont acquired its assets only, for a consideration (FF 88, R. 300).

National Lead, at the same time making the patents available on reasonable terms to all applicants. The District Judge was conscientiously moulding his decree, subject to the law as theretofore settled by this Court, to a remedy of the evils which he himself found had existed.

(2) The Legal and Economic Principles:

Dismemberment or divestiture of plants is, of course, in the last analysis, merely another form of dissolution. Dissolution, while rarely ordered, has been utilized in the shaping of certain particular types of anti-trust decrees. Where violation arises out of an acquisition of plants or of competing units, or out of a tying together of different corporate interests through stock holdings or merger, the remedy of dissolution has been considered. These cases traditionally present the problem of breaking apart corporate or property aggregations which were in actual fact unlawfully created in whole or in part. Such integrations constitute illegal combinations, and the courts have been willing to utilize the drastic dissolution remedy as the only method of preventing a continuation of the actual violation.

This is after all merely an application of the ultimately governing rule in all anti-trust relief,—as stated in the opening of the argument in the government brief and of this reply,—that the judgment must be moulded to the exigencies of the particular case.

The rule and supporting cases are set forth succinctly in the opinion of this Court in *United States* v. *Crescent Amusement Company*, 323 U. S. 173, 189:

> "Dissolution of the combination will be ordered where the creation of the combination is itself the violation."

Even in such instances, however, the courts have, because of the property rights necessarily involved and the obvious disservice which will result to the public from breaking up aggregations which have demonstrated their efficiency, cautioned against utilizing the remedy except where clearly required to prevent violation and to dissolve and neutralize the illegality. *Standard Oil Company of New Jersey* v. *United States*, 221 U. S. 1, 77; *United States* v. *Aluminum Company of America*, 148 Fed. (2d) 416, 446; *United States* v. *Pullman Company*, 53 F. Supp. 908. Indeed the language of the *Crescent Amusement* case suggests that a District Court is wholly without power to order divestiture against even a unified company whose existence is wholly lawful, a suggestion substantially reinforced by the fact that no court has ever exercised such power.

The government and the District Court clearly recognized on the trial below that the dissolution relief asked by the government in this instance would have gone far beyond anything that has been heretofore sanctioned. Thus, the following colloquy between the Court and government counsel appears at R. 1208:

> "The COURT: * * * Here is what I want to know. I take it from your comment that there is no precise precedent in which a court has taken a corporation and split it in two, or in four, where that corporation had not illegally become the product of four or three or more units, That does not put you out of court. It may be there is no precedent, because the event has not occurred. You would be in worse shape if such events had occurred and the courts refused on principle to do it.

"You may argue that proposition, or argue that as a matter of reason and logic the court should do it; therefore that takes you back to the question, is there any case which says that it is the function of the court to create competition rather than to create opportunity for competition, or to eliminate the obstacles to competition.

"Mr. DIXON: Offhand I can give your Honor no such case. In other words, in that sense, we are here asking your Honor on the broad grounds of discretion, to exercise your discretion——

"The COURT: You are dealing with a matter of relatively first impressions.

"Mr. DIXON: That is right, and that is our position here on this matter. * * *"

Nor is there any valid economic argument to support the government's novel contention. The government bases its economic argument upon phrases,—that National Lead and du Pont are "duopoly", and that "the defendants" control the industry (132-133). As to the first, the government ignores the other two already existing manufacturers, both of which are strong and vigorous. As to the second, it ignores the fact that the District Court refused to find "joint control", but expressly found control only when the defendants were added "together" through the agreements reached between them. The Court in its decree struck down these agreements. With the agreements gone, du Pont and National Lead each stand alone as independent concerns. They are no longer "together".

After suggesting that this case is "not unlike" the *Aluminum* case, 148 F. (2d) 416,—a proposition which is without support, as the Aluminum Company was a single integrated concern,—the government brief (133-134) indulges

in a veritable riot of speculation. It says that the defendants [*sic*] "will utilize to the fullest every advantage"; that they "*unquestionably*[19] will adopt policies designed to prevent outsiders from capturing any portion of the market"; that "the emergence of any, or at least substantial, competition within any foreseeable period is *unlikely*"; that "the existing industrial pattern will *probably* continue"; that "*economic studies* have demonstrated that when two great corporations completely dominate an industry there is *no incentive* for the two corporations to compete with each other"; that such control "*inevitably* has the same basic characteristics and the same ultimate effects as monopolization of an industry by a single corporation"; that "price uniformity resulted from the duopoly even though the lower court found no evidence of express agreement on prices"; that "without divestiture * * * the premium of 'price stability' becomes *a necessity* in the eyes of the management"; that "it ignores the realities *inherent* in the concentration of economic power possessed by these two defendants"; for their "course of conduct over a period of years is too long engrained in the business attitudes of the management"; and that "the titanium industry is only an isolated instance of the dangerous *trend* toward concentration of economic power in the hands of a few industrial giants".

Picking our way through this labyrinth of conjecture, we discern the following statements of supposed fact:

(i) there is price stability;

(ii) there is a course of conduct of these two defendants engrained in the business attitudes of the management;

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[19]Italics ours in these quotations.

(iii) price uniformity resulted from this duopoly.

These propositions are all definitely negatived by the findings and the record:

(i) There was no "price stability". The Judge found that there were "repeated reductions in the price of titanium pigments * * * and a very few increases" (FF 78, R. 290).

(ii) As to the "course of conduct * * * long engrained in the business attitudes of the management", the District Court found it to be one of competition which the record shows was "plenty tough" (R.1158).

(iii) Price uniformity, as we have already explained, is universal in economic experience when dealing in products that are sold, not to consumers, but to large manufacturers with expert buying departments. The judge expressly found, as the government recognizes, that there was no evidence that the prices were the product of agreement or collusion between National Lead and du Pont (FF 78, R. 291). The officials of the two companies, who took the stand and submitted themselves to cross-examination, testified that price announcements were not made concurrently (R. 1150) but rather that one party had to meet competitively any reduced price fixed by the other, and that there was no arrangement, agreement or understanding of any kind on the subject (R. 1077, 1168).

Essentially, the government's arguments are the general traditional arguments against bigness as such. We see no need to take sides on this question. We leave that to Con-

gress, and wish to point out only that in this very case those arguments, whatever their validity, were vigorously urged before the District Court at the time divestiture relief was requested. If space permitted, we would like to set forth in full the colloquy between the Court and government counsel on this question which appears at R. 1194 to 1219. The District Judge showed himself learned in economic theory and conscientiously aware of the social implications which necessarily derived from a Sherman Act decree. He considered the government's economic arguments at length. His very questions, succinctly stated, and the responses he received from government counsel, show not only his awareness of the economic problems but the complete inability of fitting the government's economic theories to the law and facts of this case. For example (R. 1212-18):

> "The COURT. * * * why should not we take advantage of the circumstances here in making our choices? We have four corporations. Why should not we say '* * * That is much better than if we only had one. It has solved one of our problems. That monolith has been broken into four; two big and two little ones. We do not know which is better. We do not know the optimum size for competition. Here we have an opportunity for genuine experimentation; two big ones and two little ones. All we want to make sure is that there is no deal inside here which would destroy the effectiveness of the competition and we want to make sure that in future the door shall not be closed as it was in the past, and we want to make opportunity free.' * * *"
>
> * * * * * * * *
>
> "The COURT. Then you come to the problem of where should you stop. Clearly, if we had ten or

twelve corporations, we might have more competition than if we had four or six. Yet you do not suggest formation of ten or twelve because you think that would be an unreasonable fragmentation of the situation we have here. Why is not four an adequate fragmentation, and why is six so much superior to four when you have the advantage that the four are available breathing institutions whereas the six you would have a situation where at least four of them would be newly born institutions?"

* * * * * * * *

"The COURT. * * * does it follow that little Virginia Chemical cannot effectively compete with big du Pont, assuming that it was under no obstacles? Is that the fact? I mean I do not know. I have not read any economists who say that such is the fact. I have read some professors who say that but I have not seen that. Isn't it true that little corporations efficiently managed can effectively compete with big corporations?"

* * * * * * * *

"The COURT. * * * Is there anything to indicate the consumer cannot get at least as efficient service out of the little corporations as well as the big ones?"

* * * * * * * *

"The COURT. What I am trying to get at, if we are going to have a check-up that will limit size, as such, maybe the Congress should do that directly and not have equity courts determining what the optimum size should be for a competing business. I don't know the solution. I do not know that the courts are qualified to find the answer to it."

* * * * * * * *

"The COURT. * * * let us suppose that Standard Oil acquires one of those companies and the other company is acquired by a new outgrowth of.

small private entrepreneurs: Standard Oil has a large chemical division, and great big laboratories and so on, and unlimited sources of capital and pretty soon it has extended its competitive capacity to three or four times its present size and it then occupies eighty or ninety per cent of the field. * * *"

* * * * * * * *

"The COURT. Just let us suppose you had furious competition. I am assuming that the five other companies that will emerge out of this reorganization would be of Simon pure character and all be staffed by ex-officers of the Department of Justice with an eye single to the preservation of the pure competitive system. Now nevertheless Standard Oil has tremendous capacity and it achieves a condition of eighty per cent of the industry. Is there anything you can do about it under the law as it presently stands.

"Mr. DIXON. I would say no, your Honor."

* * * * * * * *

"The COURT. * * * Assuming that the law is that in an appropriate case you can do what you say should be done here, is this the kind of a case in which that principle should be applied? In other words, what are the criteria when the shrinking down should be done as you suggest?

"Mr. DIXON. To specifically answer your question on that point of the case, we submit that it should be done where the obvious position in the industry of the companies involved is such that that fact in and of itself might reasonably tend to deter other companies from coming into the industry or new capital from coming into that industry.

"The COURT. Now let us see. Let us hold on a minute. Let us suppose that instead of two companies which we are now dealing with, this was a

combination of the four or five big and powerful enterprises, and they had jointly dominated the industry in the sense that those five occupied the fields to the extent of ninety per cent of the consumed products. Now you break up the combination. You sever the bonds which unite those five. There is no doubt that they had grown big, powerful and rich by virtue of illegal law violation. Would you say that in that case we should shrink each of the five down because in view of the magnitude of those five the chances of new competitors entering the field are not as good or at least you surmise they are not as good, as they would be if each of those five was shrunken down to half its size?

"Mr. DIXON. If you had those five companies in the industry and they were approximately on an equal basis as far as ability to compete in the sense of productive capacity and so on was concerned, customers and position in the industry, I would say that would be satisfactory, the object being to create——.

"The COURT. Competition?

"Mr. DIXON. That is right.

"The COURT. What principle of law, or what rule of economics is there which suggests that competition among five is necessarily superior to competition among two?

"Mr. DIXON. None, your Honor."

(Page 1262 of the Record.)

Apart from these considerations, the government's suggestion that there is something implicitly illegal in du Po. owning and controlling a productive capacity for titanium pigments representing approximately 35% of the

whole,[20] an amount less than its percentage before 1933, finds no support in the decisions of this Court. As Justice Cardozo stated in *United States* v. *Swift & Co.*, 286 U. S. 106, 116:

> "Mere size * * * is not an offense against the Sherman Act unless magnified to the point at which it amounts to a monopoly * * *."

This language was cited with approval in the recent *Aluminum* decision by Judge Hand, who went on to point out that under the decided cases it is doubtful whether 60% or 64% is sufficient to establish monopoly, and that "certainly 33% is not enough". Reflecting this same view are the decisions of this Court, which has refused, after consideration, to order dissolution even where a showing of violation of the Act, accompanied by a substantial percentage of market control, is indubitably established. In *United States* v. *United States Steel Corporation*, 251 U. S. 417, a corporation controlling approximately 50% of the steel industry was held not to be in violation of the anti-trust acts and dissolution was refused. Again, in *United States* v. *International Harvester Company*, 274 U. S. 693, the Court refused to grant further relief upon a showing by the government following a consent decree that the defendant still controlled 64% of the United States market, which was charged to constitute a monopoly and restraint

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[20] The government, by its erroneous statement that newcomers or competitors are presently without the benefits of an expanding demand, implies that such position as du Pont now enjoys is apt to be frozen because newcomers would be faced by a saturated demand and capacity in the defendants to supply it. In fact, however, in spite of constant efforts to meet demand, the condition of the industry is one of constantly increasing demand requiring new capacity (Ex. R. 4397-8, R. 1161-5).

of trade. The lower courts have also acted consistently with these decisions in refusing to order dissolution, in spite of proof that substantial market control existed.

There are numerous other cases to the same purport, to-wit: *Standard Sanitary Manufacturing Company* v. *United States*, 226 U. S. 20; *United States* v. *Keystone Watch Case Company*, 218 Fed. 502 (E.D. Pa.), app. dism. mo. United States, 257 U. S. 664; *United States* v. *New England Fish Exchange*, 258 Fed. 732 (D. Mass.); *United States* v. *American Can Company*, 230 Fed. 859 (D. Md.), 234 Fed. 1019 (D. Md.), app. dism. mo. United States, 256 U. S. 706; *American Press Association* v. *United States*, 245 Fed. 91 (C. C. A. 7th). In all of these cases units of combinations found to be in violation of the Sherman Act and constituting substantial proportions of the total capacity, often in excess of 50%, have not been subjected to divestiture of physical property in any form.

Finally, we will deal briefly with the only other argument seriously advanced on the divestiture issue by the government. This is the contention that Congress has not authorized District Judges to enter regulatory decrees in Sherman Act proceedings, and that the District Judge accordingly should have simply entered an order divesting du Pont of at least one of its plants (140). We will not burden this brief with reference to numerous District Court decisions in anti-trust cases which are far more regulatory and complex than the decree here. District Judges, with the full approval of this Court, have consistently undertaken to regulate aspects of the business of concerns found in violation of the Act, and this has been traditional in the judicial administration of the Act. In fact, the government itself has frequently been party to just such decrees, as will be

found from an examination of numerous recent consent decrees.

Moreover, the notion that divestiture or plant dismemberment requires less regulatory action than the present decree is certainly difficult to comprehend. Quite the contrary is the case. The District Judge in fact recognized the administrative and regulatory difficulties which the government's proposal created when, in the discussion of the proposed decree, he said at R. 1206:

> "But have we gotten to the point where an equity court has to authorize stock issues and formulate capital structures and arrange bond issues and stock issues and determine their relative amounts and select boards of directors and then, having created business entities, order them to go into the market and compete?"

Respectfully submitted,

WM. DWIGHT WHITNEY,
Counsel for Appellee E. I. du Pont de Nemours and Company,
15 Broad Street,
New York, N. Y.

GERHARD A. GESELL,
JOHN LOGAN O'DONNELL,
NESTOR SHEA FOLEY,
OSCAR A. PROVOST,
JOHN HANCOCK,
Of Counsel.

January, 1947.

APPENDIX A

Correspondence Between National Lead and Du Pont

June 4, 1946

Mr. J. F. Daley, General Manager
Pigments Department
E. I. du Pont de Nemours & Company
Wilmington, Delaware

Dear Mr. Daley:

We have given careful consideration to the matter of compliance with the directions of the Decree of October 11, 1945, with regard to granting licenses under titanium patents. We have concluded to proceed in this manner:

We shall offer to grant licenses under our patents, as defined in Paragraph 4 of the Decree, at uniform reasonable royalties as follows:

1. In the case of any applicant having no patents demanded by either National Lead Company or Titan Company, Inc., under Paragraph 7 of the Decree, either

(a) a royalty at the rate of one per cent (1%) of the value of the applicant's production based upon the published carload prices for the grades of pigments manufactured under the patents; or

(b) a single royalty payment deemed to approximate the total value to the applicant of the patents of National Lead Company and Titan Company, Inc., as so defined.

2. In the case of any applicant having patents demanded by either National Lead Company or Titan Company, Inc., no royalty in exchange for a license under applicant's patents.

It is recognized that any arrangements made for licenses in accordance with the foregoing may be modified to conform to or as may be permissible under the decision of the Supreme Court on the pending appeals from the above mentioned Decree.

Yours very truly,

C. F. GARESCHE
Manager

June 14, 1946

Mr. C. F. Garesche
Manager, Titanium Division
National Lead Company
111 Broadway
New York 6, New York

Dear Mr. Garesché:

This will acknowledge and thank you for your letter of June 4th, advising of the procedure which the National Lead Company and Titan Company, Inc. have adopted for licensing the TiO_2 patents owned by each under the Titanium Decree.

As you know, Mr. Kaegebehn had previously informed us that National Lead would desire licenses under du Pont patents. Since we also wish to acquire licenses under National's patents, it would appear that you consider us to be under Category 2 of your letter. However, licensing on a royalty-free exchange basis does not appear feasible, nor is it acceptable to us. In our view, the royalty rate is dependent upon the importance of the patents under which each party will become licensed. We do stand ready to undertake negotiations for effecting the desired grants and on a basis which is consistent with the terms of the decree.

If, therefore, you will set a date for a meeting, we will be glad to have our Messrs. Hancock and Booge meet and confer with your representatives and negotiate terms of license.

Very truly yours,

J. F. DALEY

June 28, 1946

Mr. C. F. Garesche
Manager, Titanium Division
National Lead Company
111 Broadway
New York 6, New York

Dear Mr. Garesché:

Supplementing our letter of June 14, 1946, which replied to yours of June 4, 1946, we now write to notify you that, pursuant to the provisions of Paragraph 7 of the Final Decree, dated October 11, 1945, in United States v. National Lead, et al., we wish to acquire a non-exclusive license effective commencing July 11, 1946 and terminable by us upon reasonable notice, under each of the following National Lead Company United States patents:

Washburn	1,889,027	dated	Nov. 29, 1932
Washburn, et al.	2,222,385	"	Nov. 19, 1940
Cole, et al.	2,280,795	"	Apr. 28, 1942

We also wish to inform you that we do not expect to operate under Washburn No. 1,889,027 for more than a period of six months. The Washburn No. 2,222,385 and Cole, et al. No. 2,280,795 relate to but a portion of our present pigment production.

Accordingly, we would appreciate receiving from you at an early date license agreement in form for our execution.

Yours very truly,

J. F. DALEY
General Manager

July 8, 1946

Mr. J. F. Daley, General Manager
Pigments Department
E. I. du Pont de Nemours & Company, Inc.
Wilmington, 98, Delaware

Dear Mr. Daley:

We have your letter of June 28 supplementing your letter of June 14, 1946 and note that you desire to acquire a non-exclusive license effective July 11 under certain National Lead Company patents.

You must realize that the proposals contained in your letter of June 14 and 28 are not responsive to the offer described in our letter of June 4, which was based upon careful consideration of the decree dated October 11, 1945. In our opinion it is impossible to evaluate each patent as suggested in your letter of June 14. In the case of du Pont and other manufacturers having patents desired by our company, we think the terms and purpose of the decree can be carried out only by a royalty free exchange; in the case of manufacturers having no patents, licenses must be granted at a royalty which will clearly permit competition.

Consistent with the foregoing, we desire licenses from and after July 11 under the du Pont patents described in paragraph 4 of the decree.

Very truly yours,

C. F. GARESCHE
Manager

Mr. C. F. Garesche
Manager, Titanium Div.
National Lead Company
111 Broadway
New York City, N. Y.

July 11, 1946

Dear Mr. Garesche:

In reply to your letter of July 8, we must again state that we consider a royalty-free exchange wholly inconsistent with the decree of October 11, inasmuch as such an exchange would result in a continuation of the very agreement which the court has ordered cancelled. We are, however, prepared to license you under the patents described in paragraph 4 of the decree—as to which your letter indicates you desire licenses—at a royalty rate of two per cent of the value of your production based upon your published carload prices for all grades of pigments manufactured under any of these patents. We feel that this rate of royalty, which is consistent with our other existing licenses, is entirely reasonable and, to use your phrase, "will clearly permit competition."

In our letter of June 28, we requested a license from you under only three specified patents. Certainly an evaluation of these three patents presents no serious problem, and we stand ready to pay whatever reasonable royalty rate is established by you consistent with the decree for the licensing of these patents.

Inasmuch as we are entitled to a license under the patents in question pursuant to the terms of the decree, we propose to proceed on the assumption that we are licensed under the patents and, of course, will make retroactive to today's date whatever royalty is finally determined upon.

Yours very truly,

J. F. DALEY
General Manager

September 13, 1946

Mr. C. F. Garesche
Manager, Titanium Division
National Lead Company
111 Broadway
New York 6, New York

Dear Mr. Garesche:

Confirming what was indicated generally by Messrs. Provost and Gesell in their recent conferences with Messrs. Williamson and Webster with respect to the respective requests of du Pont and National Lead for licenses under each other's titanium pigment patents, please be advised as follows:

1. Pursuant to paragraph 7 of the Final Decree dated October 11, 1945, in *United States* v. *National Lead, et al.*, we hereby offer to grant to you a non-exclusive license, terminable by you at will, under such of our patents and patent applications listed in Section VI of the Appendix to such Final Decree as you desire, at a non-cumulative royalty of 2% of the value of your production of pigments manufactured under the licensed patents, such value to be based on your published carload prices for the particular grades of pigments involved.

2. Also pursuant to such Final Decree, we hereby request that you grant to us a non-exclusive license, terminable by us at will, under the following United States Letters Patent:

Washburn	No. 1,889,027
Washburn	No. 2,222,385
Cole et al	No. 2,280,795

We offer to pay for such license a non-cumulative royalty of 1% of the value of our production of pigments manufactured under the licensed patents, such value to be based on our published carload prices of the particular grades of pigments involved.

We understand you contemplate bringing this matter before Judge Rifkind in the near future, since you are not willing to accept a license from us on the terms outlined above or to license us under your specific patents on the basis we have requested. As we have advised we consider your proposals for licensing prohibited by the decree and, for this as well as other reasons, they cannot be accepted by du Pont.

Very truly yours,

J. F. DALEY
General Manager

September 18, 1946

Mr. J. F. Daley, General Manager
Pigments Department,
E. I. du Pont de Nemours & Company,
Wilmington, 98, Delaware

Dear Mr. Daley:

Your letter of September 13th addressed to Mr. Garesche has been received.

Mr. Garesche is out of town, but as soon as he returns, it will be brought to his attention.

Yours very truly,

SECRETARY TO MR. GARESCHE

APPENDIX B

Consent Decrees Containing Reasonable Royalty Clauses

The following consent decrees are reported in C. C. H. Federal Trade Regulation Service:[1]

(1) Before the *Hartford-Empire* case

Par. 52,768. *United States* v. *Standard Oil Company* (*New Jersey*) D. N. J. March 25, 1942.

"IV [Activities Enjoined]

"The defendants * * * are * * * directed and required:

[Issuance of Licenses and Sublicenses]

"(5) to issue licenses or sublicenses, or to direct and compel the licensing agency to so do, on the request of any person or corporation, under the S. I. G. patents and under the Jasco patents, without restriction as to the products to be treated or manufactured or as to the technique to be employed or as to the use to be made of such patents, or as to the price to be charged for any of the products manufactured under such licenses or sublicenses, and without any other restriction whatsoever, save that *reasonable royalty rates*[2] may be charged under said licenses or sublicenses in connection with operations after the present emergency, for the duration of which said licenses or sublicenses shall be royalty free; * * *." (Certain provisos follow.)

[Furnishing "Know-How" with Patent License]

"(6) to furnish with all licenses issued under paragraph (5) above know-how without compensation therefor,

---

[1]We have reason to believe that these cases are examples only, and that there were additional such cases, unreported.

[2]Italics in quotations are ours.

save that the cost of furnishing know-how may be recovered from the licensee, which cost shall include the value of the time spent by defendant's personnel in furnishing said know-how, and save that a *reasonable compensation* may be received for know-how furnished with licenses under Butyl patents."

[Revision of Existing Patent Licenses to Conform to Royalty Provisions of Decree]

(7) This paragraph provides for the above.

[Requirements with Respect to Patents and Licenses under Other Agreements]

(8) With regard to patents title to which or the right to license thereunder is held under the terms of certain named agreements defendant is required for the present emergency to issue licenses to applicants in accordance with the terms of such agreements and after the termination of the present emergency to issue licenses for which *reasonable royalty* rates may be charged.

Par. 52,927. *United States* v. *Standard Oil Company (New Jersey)* D. N. J. Civil Action No. 2091. April 7, 1943.

This decree supplemented the above decree by providing that the compulsory licensing provisions of that decree apply to catalytic refining patents although a *reasonable royalty* may be charged.

Par. 52,777. *United States* v. *General Electric Company, Westinghouse Electric & Manufacturing Company*, D. N. J. No. 1364. April 10, 1942.

"IV [Free Licensing of Patents and Conditions Therefor]

"Defendant Westinghouse, its directors, * * * are * * * required to issue non-assignable licenses

or sub-licenses upon the request of any person under all patents relating to lamps, lamp parts, or lamp machinery, royalty-free and without restrictions to the products to be treated or manufactured, or as to the technique to be employed or as to the use to be made of such patents, or as to the price to be charged for any of the products manufactured under such licenses or sublicenses, and without any other restriction whatsoever, save (1) that a *reasonable royalty* may be charged under said licenses or sublicenses if the licensee or sublicensee does not agree reciprocally to license the defendant Westinghouse upon a royalty-free basis * * *."

Par. 52,776. *United States* v. *Aluminum Company of America*, S. D. N. Y. April 15, 1942.

[Charge of Royalties Permitted at Termination of "Present Emergency"]

"(b) At the termination of the 'present emergency,' each of the corporate defendants and its affiliates shall, upon the written request of any applicant, grant to such applicant, including any of the defendants herein, a non-exclusive, non-assignable right to use, manufacture and sell under any and all 'production patents' where the patent or application therefor was owned by it on the date of the entry of this decree without any conditions or restrictions whatsoever, except such suitable restrictions as may be necessary pursuant to U. S. C. Title 35 Para. 49, 44 Stat. 1058, save that a *reasonable and non-discriminatory royalty* may be charged therefor * * *."

Par. 52,888. *United States* v. *American Bosch Corporation*, S. D. N. Y. Civil Action No. 20-164. December 29, 1942.

IV [Unrestricted Patent Licenses to be Granted]

"Defendant American Bosch is hereby ordered and directed:

"A. In connection with:

"(1) All United States letters patent issued on or before the entry of this judgment,

"(2) All applications for United States letters patent filed on or before the entry of this judgment and all patents issued pursuant to such applications, and

"(3) All divisions, continuances, renewals, reissues, or extensions of the patents and applications described in Clause (1) and in Clause (2), owned or controlled by it or over which it has or may have the required legal power and to the extent to which it has such power, to grant to any applicant therefor absolutely unrestricted licenses or sublicenses to manufacture, use, and sell without any conditions except that *a reasonable and nondiscriminatory* royalty may be charged in connection with operations after the present emergency, for the duration of which such licenses or sublicenses shall be royalty free, * * *." (Certain provisions are made to require payment of *reasonable royalty* by non-reciprocating licenses whether during emergency or thereafter and in a certain situation not to require Bosch to license such non-reciprocating licensee at all.)

(2) After the *Hartford-Empire Case.*

Par. 57,336. *Crosby Steam Gage & Valve Company* v. *Manning, Maxwell & Moore, Inc. United States, Intervenor-Defendant.* D. Mass. Civil Action 2267. Feb. 1, 1945.

"5. Crosby Steam Gage & Valve Company * * * is required

* * * *

"(b) to issue to any applicant, *at a reasonable royalty,* and without any restriction whatsoever, for the period, if any, included between the end of the present emergency and January 14, 1947, a license to make, use and vend the embodiments of the inventions covered by any of said Crosby relief valve patents which may be unexpired during such period."

(Crosby relief valve patents are certain patents issued in 1928 and 1930, and reissues, extensions and renewals thereof).

Par. 57,492. *United States* v. *American Air Filter Company, Inc.,* W. D. Ky. Civil Action No. 574. Sept. 10, 1946.

"IV [Licensing Directed]

"Each of the defendants is hereby ordered and directed:

* * * *

"(b) to grant to any applicant making written request therefor a non-exclusive license to manufacture, use and sell under any one or more of the United States Letters Patent and the patents issued upon applications for United States Letters Patent, the patent numbers and application numbers of which are listed in Schedule C attached hereto * * * with-

out any condition or restriction whatsoever, except that *a reasonable and non-discriminatory royalty* may be charged * * *."

"(c) to grant to any applicant making written request therefor, to the extent that the defendants now have or acquire the power to do so, a non-exclusive grant of immunity from suit under any foreign patents or patents issued on foreign applications for patents, corresponding to the United States Letters Patent or applications for patents listed in Schedule C to import into and sell or use and to have imported, sold or used in any country products made in the United States, without any condition or restriction whatsoever, except that *a reasonable and non-discriminatory royalty* may be charged * * *."

(Patent or patent application includes continuations, renewals, etc.)

Par. 57,444. *United States and Alien Property Custodian* v. *Bendix Aviation Corporation*, D. N. J. Civil 2531. Feb. 13, 1946.

"V [Patents to Be Transferred to Alien Property Custodian; Grants of Immunity; Licensing].

"Bendix, its officers, directors, * * * are ordered and directed:

* * * * *

"(C) To grant to any applicant making written request therefor, to the extent that Bendix and its subsidiaries now have or acquire the power to do so, a non-exclusive license, sub-license or immunity to manufacture, use and sell under any one or more of the United States Letters Patent and the patents issued under applications for United States Letters Patent, the patent numbers and application numbers

of which are listed in Schedule B attached hereto * * * without any condition or restriction whatsoever, except that *a reasonable and non-discriminatory royalty* may be charged * * *.

"(D) To grant to any applicant making written request therefor, to the extent that Bendix and its subsidiaries now have or acquire the power to do so, a non-exclusive grant of immunity from suit under foreign patents or patents issued on foreign applications for patents, corresponding to the United States Letters Patent or applications for patents listed in Schedule B to import into and to sell or use, and to have imported, sold, or used, in any country products made in the United States, without any condition or restriction whatsoever except that *a reasonable and non-discriminatory royalty* may be charged, * * *."

(Patent or patent application includes continuations, renewals, etc.)

Par. 57,456. *United States* v. *The Diamond Match Company*, S. D. N. Y. Civil No. 25-397. April 9, 1946.

"14. Defendant The Swedish Match Company is directed to grant to any applicant therefor a non-exclusive, non-assignable and unrestricted license to make, use and sell, save for *a uniform, reasonable royalty*, under any patented invention of The Swedish Match Company, its subsidiaries, successors, assigns or nominees, conceived within five years after the date of the entry of this judgment relating to everlasting or re-ignitible matches. * * *"

Par. 57,448. *United States* v. *General Electric Company, Corning Glass Works*, D. N. J. Civil Action Nos. 1364 and 2590. March 7, 1946.

"VIII Defendant Corning be and hereby is directed to grant to any applicant making written request therefor a non-exclusive, non-assignable and unrestricted license, save for and at *a uniform reasonable royalty,* under any or all future patents to make or have made, use and sell glass bulbs, tubing, cane or lamps, and to make or have made glass machinery, and to use such machinery for the production of glass bulbs;" (not required to grant such licenses to defendant General Electric Company, however).

(Future patents includes only those applied for on or before January 1, 1950 and all divisions, continuations, extensions or reissues thereof.)

Par. 57,489. *United States* v. *Libbey-Owens-Ford Glass Company,* N. D. Ohio Civil Action No. 5239. Sept. 5, 1946.

"VI [Licensing Directed]

"Defendant Corning be and hereby is directed to grant to any applicant making written request therefor a non-exclusive, non-assignable and unrestricted license, save for and at *a uniform and reasonable royalty,* under any and all of the patents enumerated and described in the schedule hereto attached and marked 'Schedule A,' to use the inventions of said patents for the production of flat glass. Said patents have not heretofore been used in the flat glass industry or licensed by Corning for use in said industry. * * *"

Par. 57,498. *United States* v. *Owens-Illinois Glass Company*, N. D. Cal. Civil Action No. 25861-C. Sept. 18, 1946.

"V. [Granting of Licenses Ordered]

"A. Defendant Owens by and hereby is directed to grant to any applicant making a written request therefor a non-exclusive, non-assignable and unrestricted license, save for and at *a uniform reasonable royalty*, under any and all existing patents, to make or have made, use and sell vacuum-closing machinery for vacuum packing in glass containers and sealing the same with closures. * * *"

(Existing patents means all presently issued U. S. letters patent owned or controlled by defendant Owens or under which Owens has power to issue licenses, consisting of certain named patents.)

APPENDIX C

Supplemental Criticisms of the Handling of the Facts in the Government Brief

(1) The government has frequently followed the practice of citing and purporting to paraphrase a finding, while simply omitting whatever word or phrase there was in the finding favorable to du Pont.

Thus, the government, in its paraphrase (5-6) of the conclusory finding 95 omits sub-paragraph 10 (R. 305), evidently because that was confined to National Lead. Similarly, in dealing with the 1933 patent cross-licensing agreement between du Pont and National Lead (29-30), the government omits the Judge's finding that one purpose was

> "To settle the existing and potential patent disputes and to promote a more rapid development of the titanium business and a greater freedom of action for the parties under titanium pigment patents and developments" (R. 293).

Other illustrations are more hidden. Thus, the government says that "the defendants have imposed restrictions on resales" (5). This comes from the Judge's sub-paragraph 4 (R. 304), and just omits the phrase that "except to the extent found in Finding 93, the evidence does not establish as to DP that such restrictions were the result or effect of its agreement with NL or Tinc". Finding 93 in turn relates only to the du Pont-Tinc licensing agreements of 1940 and 1941, and therefore does not relate at all to the 1933 agreement or to any direct relationship between du Pont and National Lead.

(2) The government, although purporting to base its statements on the findings, has not hesitated to make other

statements of facts which were not found. The government sometimes makes statements of fact which were indeed found to the contrary.

An example of a fact found to the contrary is where the government says by innuendo that du Pont and National Lead had agreed to maintain Canadian prices (21). This precise contention was the subject of debate before the District Judge himself at the hearings on the findings; and he expressly refused so to find (*Cf.* FF 57, R. 269).

An example of a fact not found is where the government says that du Pont and Imperial Chemical Industries of England had an agreement to use a certain Canadian company as the proper vehicle for cooperation in Canada, and gives as a record reference R. 958 (20). As shown by Ex. R. 1508, titanium was in fact *excluded* from the du Pont-Imperial Chemicals agreement.

(3) The government has sometimes taken perfectly innocent practices and referred to them as if they were themselves badges of illegality.

An example is the statement (36) that National Lead and du Pont have cooperated to furnish to each other the raw material ilmenite and titanium pigment products, as if this were a restraint of trade. In the first place, the District Judge expressly found that there was no restraint of trade in ilmenite (FF 94, R. 303). In any event, here was a simple purchase and sale. Du Pont would not have improved competitive conditions in the industry by refusing to sell to National Lead what the latter needs to compete, or *vice-versa*.

(4) The government has prejudiced du Pont by citing findings against it which were expressly confined to National Lead.

An example occurs where the government is charging du Pont and National Lead with concertedly exercising the patent rights to dominate an industry and exclude competition (61). Three record references are given,—272, 291 and 303-6. 272 and 291 deal exclusively with National Lead and make no reference to du Pont. 303-6 is merely the ultimate Finding 95.

The free and easy way in which the facts are dealt with, when the government is in full spate of argument, is illustrated in this same sentence (61), where the government goes on to say that "the defendants" have granted licenses to American Zirconium and Virginia Chemical, when, of course, it was only du Pont that licensed Virginia Chemical.

What the government in its anxiety to attack du Pont has overlooked, is that we ourselves were not parties to, but rather intended victims of, the illegal combination. There was no difference between our position and that of any other potential American entrant into the industry (Zirconium, for example), except that we refused to accept the restrictive "principles" of the cartel and that Zirconium did accept them.

Another extraordinary example of the myopia which arose out of the government's jumping to the conclusion that du Pont was in the combination, is found in its sentence (30) that:

> "The agreement [of 1933 to which du Pont was a party] in substance coincided with the 'licensed field' of the 1920 agreement * * *."

Again, we welcome the government's point. We would urge the Court to read the definition of the "licensed field" in the 1933 agreement side by side with the definition of the 1920 cartel agreement. They appear respectively at

R. 74 and Ex. R. 2. We submit that their utter dissimilarity in draftsmanship proves either that the draftsman of the 1933 agreement never saw the 1920 agreement [which we believe to be the true fact, and which we are entitled to treat as the true fact in the absence of any evidence to the contrary by the government], or, alternatively, that the draftsman of the 1933 agreement expressly rejected the draftsmanship of the 1920 agreement. Certainly, if du Pont by the 1933 agreement were being drawn within the cartel and within the famous "principles" of the 1920 agreement, as the government would like to imply, it could not have played so fast and loose with the draftsmanship of the master document of the cartel.

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CHARLES ELMORE CROPLEY

IN THE

Supreme Court of the United States

OCTOBER TERM 1946

No. 89

UNITED STATES OF AMERICA,

Appellant,

against

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY,

Appellees

No. 90

NATIONAL LEAD COMPANY, TITAN COMPANY, INC.,

Appellants,

against

UNITED STATES OF AMERICA,

Appellee

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

REPLY BRIEF FOR NATIONAL LEAD COMPANY AND TITAN COMPANY, INC.

BETHUEL M. WEBSTER,
Counsel for NATIONAL LEAD COMPANY AND TITAN COMPANY, INC.

CLIFTON P. WILLIAMSON,
EDWARD L. REA,
CAROLINDA WATERS,
Of Counsel

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IN THE

Supreme Court of the United States

OCTOBER TERM 1946

UNITED STATES OF AMERICA, *Appellant,* *against* NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, *Appellees*	No. 89
NATIONAL LEAD COMPANY, TITAN COMPANY, INC., *Appellants,* *against* UNITED STATES OF AMERICA, *Appellee*	No. 90

REPLY BRIEF FOR NATIONAL LEAD COMPANY AND TITAN COMPANY, INC.

The Government's brief raises no question not disposed of in our main brief. It refers, however, to National's petition requesting the District Court to pass on the reasonableness of the royalty demanded by du Pont under paragraph 7 of the judgment (Gov. brief, pp. 55, 58, 71, 101, 105). In this reply we describe the petition and the reasons for submitting it in some detail. We deal also with the arguments against reciprocal licenses, in favor of unlimited disclosure of technology, and in favor of domestic divestiture. Material errors of fact are pointed out in the Appendix.

National's petition in the District Court for determination of the reasonableness of the royalty demanded by du Pont demonstrates the need for royalty-free licensing.

The petition referred to, filed and served October 9, 1946, shows the following:

Under paragraph 7 of the judgment (R. 313), National and du Pont were compelled to arrange for uniform, reasonable licensing of their patents as between themselves on or before July 11, 1946, or run the risk of suits for infringement. (Cancellation of the National-du Pont agreement did not take effect until nine months from the date of the decree, that is, July 11, 1946 [Par. 5, R. 310-12]; cancellation of this agreement was not stayed by the order of Mr. Justice Reed.)

Accordingly, National wrote du Pont on June 4, 1946 stating its licensing policy under paragraph 7 and offering du Pont a license in accordance with this policy. National offered licenses to any applicant having no patents demanded by National at either (*a*) a royalty of 1% of the value of the applicant's production under the patents or (*b*) a single royalty payment deemed by National and the applicant to approximate the total value to the applicant of National's patents; and in the case of any applicant having patents desired by National, no royalty in exchange for a license under the applicant's patents at no royalty.

(The royalty proposed in the case of applicants having no patents was thought to meet the requirement of a uniform, reasonable royalty. National submits, however, that royalty-free licensing is essential to create a condition honestly in harmony with the law [Main brief, pp. 58-63].)

On June 14, 1946 du Pont acknowledged National's letter, stating that National's licensing policy was not satisfactory to du Pont and suggesting that a value be placed on each patent under which either party desired a license and that du Pont was willing to undertake negotiations on that basis. On June 28, 1946 a second letter was received by National from du Pont stating that du Pont requested licenses under three patents owned by National, that du Pont would use one of these patents for a period of six months only, and that the other patents would relate to but a portion "of our present pigment production". On July 8, 1946 National wrote du Pont that "In our opinion it is impossible to evaluate each patent as suggested in your letter of June 14. In the case of du Pont and other manufacturers having patents desired by our company, we think the terms and purpose of the decree can be carried out only by a royalty-free exchange; in the case of manufacturers having no patents, licenses must be granted at a royalty which will clearly permit competition." National in this letter requested a license from du Pont under all of the du Pont patents dealt with in the decree.

On July 11, 1946 du Pont wrote National that "We must again state that we consider a royalty-free exchange wholly inconsistent with the decree of October 11, in as much as such exchange would result in continuation of the very agreement which the court has ordered cancelled. We are, however, prepared to license you under patents described in paragraph 4 of the decree—as to which your letter indicates you desire licenses—at a rate of two per cent of the value of your production based upon your published carload prices for all grades of pigments manufactured under any of these patents. We feel that this rate of royalty, which is consistent with our other existing licenses is

entirely reasonable and, to use your phrase, 'will clearly permit competition'." Du Pont then offered to pay whatever reasonable royalty National determined upon for a license under the three patents requested in its letter of June 28, and closed by saying—"In as much as we are entitled to a license under the patents in question pursuant to the terms of the decree, we propose to proceed on the assumption that we are licensed under the patents and, of course will make retroactive to today's date whatever royalty is finally determined upon."

Du Pont's final letter to National dated September 13, 1946, "confirming what was indicated generally" by counsel for du Pont "at their recent conferences" with counsel for National, restated its offer of licenses under any and all of its patents at a "non-cumulative" royalty of 2% of the value of National's production of pigments manufactured under the licensed patents, such value to be based on National's published carload prices for the particular grades of pigments involved, and requested a license from National under the three patents listed in its letter of June 28, 1946, offering to pay therefor a royalty of 1% to be determined as above. Receipt of this letter was acknowledged by National September 18, 1946.

Whereupon, on October 9, 1946, National filed its petition for a determination of the reasonableness of the royalty demanded by du Pont, together with notice of motion for an order pursuant to the petition returnable October 15, 1946.

In its petition National alleged, and was prepared to prove, that if the du Pont policy should prevail National would be required to pay du Pont at least $1,500,000 net

royalty up to January 1, 1950; that this payment might be increased to over $11,000,000 by January 1, 1961 if National should be unable to avoid certain du Pont patents which National now uses as an integral part of its manufacturing process, and if, after prolonged and costly litigation, it should be determined that such patents are valid; that competition would not be promoted by the payment of millions of dollars by National to du Pont, in that du Pont would be placed in a dominant position in the industry, with all others, new and old alike, paying tribute, and that all other manufacturers would thus be placed at a competitive disadvantage.

National also alleged, and was prepared to prove, that during the period of the National-du Pont agreement (the cancellation of which is not now contested by National) National and du Pont adhered to the policy of privately determining which company had priority in respect of patent claims which were the subject of interference proceedings between them; that National was content to settle interference questions in this way because, even if du Pont received the patent, National received a royalty-free license under the agreement.

The motion came on for hearing before District Judge Simon H. Rifkind, who had presided at the trial, October 24, 1946. Judge Rifkind, after indicating that the court had jurisdiction, stayed the motion, "retaining it upon the calendar of this Court, until such time as the Supreme Court has decided the principal appeal", stating his reasons as follows:

> ". . . I fear that such an inquiry would occupy a very considerable amount of time and would be neces-

sarily premised upon the validity in all respects of the decree now challenged in the Supreme Court. Whether that decree is too broad, as the defendants allege, or too narrow, as the government alleges, is something that I certainly have no opinion on and one which can only be disposed of by the Supreme Court.

"It may well therefore be that the work of this Court in conducting such an investigation at this time would turn out to be academic and moot and fruitless. I think consideration for the Courts' calendars and for the disposition of other business pending in this court warrants staying this matter until we know whether the decree under which this application is made is a final and valid decree."

Following a statement by counsel for National that the court had found that National and du Pont dominated and controlled the business of titanium manufacture in the United States and that they had achieved a monopoly of technical information by virtue, among other things, of a proliferation of patents, the following colloquy took place:

"The Court: No doubt about that. I will believe that forever.

"Mr. Webster: Well, your Honor has certainly found that in terms which are unmistakable.

The Court: I will go further than that. I would have liked to go along on the question of royalty-free patents but I felt that I hadn't been given the green light on that."

Judge Rifkind was acutely aware of the difficulty of determining a reasonable royalty; he indicated that it would be necessary to appoint a master to take testimony and said that he feared "such an inquiry would occupy a very considerable amount of time". (Cf. Gov. brief, pp. 63-78)

The petition is significant as indicating the use to which du Pont proposes to put its patents as a consequence of the judgment and the difficulties which will be encountered in determining and administering uniform, reasonable royalties. Cf. *United States* v. *Hartford-Empire Co. et al.*, 65 F. Supp. 271 (N. D. Ohio 1946).

Du Pont's attitude is expressed in its brief, pages 113-19. While the argument is there made in connection with technical information, it applies with equal force to royalty-free licensing. It is du Pont's position that because American Zirconium and Virginia Chemical (both subsidiaries of very large companies, *infra*, p. 17) were each able to achieve something less than 5% of the aggregate domestic production of TiO_2 over a period of approximately 10 years (Findings 31, 32, R. 244, 245),—National and du Pont having 46.4% and 45.1% respectively of the pure TiO_2 production in the United States in 1943 (Findings 3, 9, R. 236, 237),—neither of these companies has been hampered and, therefore, that anyone else could do as well without the defendants' technology, and without royalty-free licenses.

We submit that this argument is clearly and palpably fallacious (see our main brief, pp. 60-2). Royalty-free licensing (together with the cancellation of the agreements found to be illegal) is essential to "restore titanium to the system of free competition" (63 F. Supp. at 532, R. 222).

II

The reciprocal licensing provision should be retained.

(Answering Plaintiff's Point II, pp. 124-7)

The Government's argument against the provision in paragraph 7 of the judgment (R. 313) requiring an applicant for a license under the defendants' patents, whether royalty-free or at a reasonable royalty, to license the defendants under the applicant's patents is founded on three propositions: (*a*) reciprocal licensing was not required in the *Hartford-Empire* case, 323 U. S. 386; (*b*) because the defendants are guilty they should be penalized; and (*c*) the court has no power to compel non-defendants to license their patents (Gov. brief, pp. 124-7).

We shall discuss each of these contentions.

(a)

Reciprocal licensing was not required in the *Hartford-Empire* case for the reason stated by Judge Rifkind during the argument on the decree in this case, as follows:

> ". . . At this moment I am unable to contrive an argument which has plausibility as to why it [reciprocal licensing] should not be done, and that is why I asked about the Hartford-Empire case, and the answer, of course, was effectively given that in that case you were dealing with a purely licensor organization which had no use for patents except for the control of licensing, and consequently there would be no benefit to it in receiving such cross-license." (R. 1274-5)

(b)

The argument that the defendants are in a better position than non-defendants because of the illegal actions of

the defendants and therefore should be compelled to give up what they have to "restore titanium to the system of free competition (R. 222)" (Gov. brief, p. 124) was considered and rejected by the court below, as follows (R. 1272-4):

> "The Court. What argument is there to be made in opposition to the proposition that if compulsory or free licensing is to be granted, that a reciprocal obligation from the beneficiary of that privilege should not be exempt [sic]?
>
> "Mr. Dixon. Well, I can very well visualize vehement opposition to such a proposal by even the present companies in the industry [subsidiaries of Glidden and Cyanamid] who would regard it as bringing about a difficulty with which they would be faced, or a condition imposed by the Court as a requisite to their receiving the license.
>
> • • • • •
>
> "The Court. I want to know why shouldn't they be exempt.
>
> • • • • •
>
> "The Court. . . . but assuming that the prospective beneficiaries of a free grant do not like it, is there anything by which they could justify their disaffection?
>
> "Mr. Dixon. As to that I am in no position to state, your Honor, I don't know.
>
> "The Court. Well, is it a fair thing to do, or would it defeat the purposes of the statute to exact such a condition from them?
>
> "Mr. Dixon. I can see where that may be argued, and that was the argument made by the defendants

during the course of this trial, that the whole combination or purpose was to permit the industry—

"The Court. After all, there is nothing to prevent Webster from making a private agreement for an exchange. I mean it [reciprocal licensing] is the lesser of the greater evil.

• • • • •

"The Court. That is, an exchange which has a very limited relationship in comparison to making a universal exchange.

"Mr. Dixon. May I ask this question? I do not understand whether your Honor was thinking along the line of having this on a royalty-free basis.

"The Court. Assuming royalty-free, why shouldn't it be perfectly proper, assuming royalty-free, that if Virginia Chemical wanted all the National Lead patents free, that Virginia Chemical should offer National Lead an equally free license on all of its titanium patents?

"Mr. Dixon. I can see where that might have considerable merit, your Honor.

"The Court. And if it is on a stipulated control, modest royalty but compulsory, and if Virginia Chemical wants access to the du Pont patents, why shouldn't du Pont have the advantage of all the Virginia Chemical patents? Otherwise you will arrive at a situation conceivably where Virginia Chemical would simply change places with du Pont in becoming the dominating factor in the industry under this extraordinary advantage of being able to take everything for itself and keeping everything that it has.

"Mr. Dixon. Well, if I understand your Honor's question, it is directed to the granting of royalty-free licenses by the defendants?

"The Court. No. I am suggesting it on both premises.

"Mr. Dixon. I understand, or, in other words, to anyone who wants the use of these patents on a reciprocal basis." (R. 1272-4)

The reciprocal provisions of paragraph 7 should be retained whether this Court compels royalty-free licensing or affirms compulsory licensing at a uniform, reasonable royalty.

(c)

We concede that the court has no power to compel non-defendants to license their titanium patents to any applicant. The judgment requires a non-defendant applicant to license a defendant under its titanium patents only if the non-defendant desires a license under the defendant's patents. No one is compelled to request a license (R. 313).

III

Disclosure of technical information should be limited as provided by the judgment.

(Answering Plaintiff's Point III, pp. 127-31)

The Government takes the position that the defendants should be compelled to furnish all technical information "accumulated" by them to any applicant therefor. The defendants, presumably, would be permitted to make a reasonable charge for this information (Gov. brief, p. 131).

The judgment, says the Government (brief, pp. 127-31), does not give an applicant access to the fund of technology accumulated by the defendants, in that (*a*) it fails to compel disclosure of information on the solution of general problems of the industry; (*b*) it fails to compel disclosure of information "relating to the production of products within the ambit of the restraints of the industry, as defined by the definition of 'licensed field' in the various agreements, which are neither patented nor produced by a patented process or apparatus"; (*c*) it fails to compel disclosure of information relating to "expired patents including the basic patents upon which the industry is based"; and (*d*) it fails to compel disclosure of information "relating to the practice of any patented invention which the defendants have not put into commercial use."

Paragraph 7 of the judgment provides (R. 314) that

> "During a period of three years from the date of this decree such license or reciprocal license may at the option of either party contain a provision for the imparting in writing, at a reasonable charge, by the licensor to the licensee, of the methods and processes used by the former at the date of the license in its com-

mercial practice under the licensed patents in connection with the production of titanium pigments".

The District Court found (Finding 37, R. 249) that

". . . . The patents relating to titanium pigments and compounds comprise considerably more process claims than product claims. The process claims, with the exception of those of the so-called Rutiox patents which relate to the production of rutile-type titanium pigments, cover for the most part improvements in manufacturing processes originally disclosed in the Barton-Rossi, Jebsen, and Blumenfeld patents, which improvements have led to the improved present-day commercial titanium pigments. The product claims cover practically all such improved titanium pigments; thus, of 23 different grades of titanium pigments (i. e. different products) sold by NL, 21 are covered by unexpired patents. . . . .

Surely, the compulsory disclosure of "methods and processes used by . . . [the defendants in their] commercial practice under the licensed patents in connection with the production of titanium pigments" would enable any applicant to enter this industry. This is particularly true in view of the finding that substantially all present commercial products are covered by either process or product patents.

We are unable to visualize the condition which would exist under the Government's proposals. If the defendants were required to disclose information relating to the practice of patented inventions which are not used in their commercial processes, it would mean that they would be required to explain every laboratory experiment upon which a patent had been secured. It would require National to devote its technical organization to the demands of any

applicant. Any such provision would be confiscatory and go far beyond any requirement necessary to create a condition in harmony with the law.

As the Government recognizes (brief, p. 130), this Court deleted a paragraph of similar character in the *Hartford-Empire* judgment (323 U. S. at 418).

The proposal was fully discussed and considered and was disposed of at the hearings on the decree, as follows (R. 1228-9):

> "Mr. Webster. . . . Now again to discuss for a moment those provisions which are intended to create a condition in harmony with the law and to shear us of the right to prevent a development of a plan, development of a condition, consistent with the law, we think the know-how provision is appropriate and we would expect to have a decree in which we would be required to give know-how necessary to put to use patents that are licensed by our company. We think the Government's suggested provision goes far beyond that; that it would require us to become a sort of nursemaid, teaching the manufacturing skills, technological skills that are not related to the use of patents that would put us into the manufacturing business and that would lead to all kinds of controversy and disorder.
>
> "The Court. Isn't your suggestion, theoretically at least, equal to zero, because I was under the impression that a patent to be good, meaning valid, must sufficiently disclose the art so one skilled in the art could practice it without further instruction?
>
> "Mr. Webster. Your Honor, that is a very interesting observation because we have just been discussing that very point together during the noon hour and Mr. Williamson made, at one point, substantially the same observation that your Honor has now made. We think

that theoretically a chemist as skilled as the chemist who made the invention and applied for the patent, or one perhaps who was capable of becoming as skilled as that, would be able to take a series of patents and put them into use. On the other hand, as a practical matter, the know-how that we are talking about is the know-how that would enable a concern or a group of chemists not familiar with the manufacture under patents of titanium pigments, to put the patents into operation as a group to get started in the manufacturing business under the patents, and we think that is as far as it ought to go. We think it is difficult to define exactly what that is, but we are willing to take any amount of trouble to try to do that. We think that the line between that, and as I say serving as a kind of wet nurse to the X Company's chemist or the Cyanamid Company or the Sherwin-Williams Company or the Pittsburgh Plate Glass Company or the Zinc Company for a period in perpetuity or during the life of the patents, is very impractical and very unwise and an unnecessary provision. Indeed, we think it is confiscatory so far as it requires us to devote our technical organization to the solution of the technological problems of those companies."

The District Court and counsel did take "any amount of trouble" in drafting paragraph 7 of the judgment. The defendants are compelled to disclose to any applicant the technology used by them in their commercial manufacture of titanium pigments. We are unable to see why this requirement, coupled with royalty-free licensing, will not enable any company having the other necessary facilities to enter and engage in the business.

IV

No domestic divestiture should be granted.

(Answering Plaintiff's Point IV, pp. 131-43)

We have answered the argument of the Government for domestic divestiture in our main brief, pages 86 to 98. The subject of prolonged discussion below, the argument made here was rejected.

It is interesting to note that counsel for the Government below stressed the alternative nature of the relief sought. Thus at R. 1221:

> "Mr. Dixon. . . . I mean I do not want the Court to understand that should it feel that it would be willing to grant some form of royalty-free licensing, that it would necessarily be the position of the Government that we would also require, in addition thereto, or ask the Court for, complete divestiture under paragraph 9 of the decree. . . . So as I indicated, we are making these requests in the alternative and feel that some form of royalty-free licensing, as laid down in the Vehicular Conveyance [sic] case, may well be granted by the court, and, in the alternative, some form of divestiture, either complete or partial, and if a preference were to be requested by the court it would be the request of the Government that some form of divestiture be granted for the reasons urged in the argument this morning. . . ."

The Government has switched its preference. That this is so is indicated by the fact that in its brief 70 pages are devoted to royalty-free licensing and only 13 pages to domestic divestiture. The switch was compelled by the questions and discussion of the trial judge and by his decision (*e. g.*, R. 1198-1214, 1249, 1252-69). After prolonged argument, the court refused complete or partial divestiture, not for want of power to grant it, but as an act of discretion (R. 1286).

Like the Government in the court below, we submit that it is unnecessary to grant both royalty-free licensing and complete or partial divestiture to "restore titanium to the system of free competition" (R. 222). Royalty-free licensing is essential. We are opposed to any form of divestiture on the ground that there is no factual or legal basis even to consider it in this case.

The Government contends (brief, p. 136):

> ". . . That the courts have . . . recognized that adequate competition cannot be secured in a duopoly situation, much less with a duopoly characterized by an entire history of complete absence of competition, is evidenced from the fact that in every divestiture or dissolution suit in the past, the creation of more than two competing units was required."

This statement (if it means what it seems to be intended to mean) falls apart on analysis. The fact asserted—that the domestic industry is "characterized by an entire history of complete absence of competition"—is in conflict with the facts and the findings; and the statement—"that in every divestiture or dissolution suit in the past, the creation of more than two competing units was required"—misconceives or ignores the effect of the cases referred to.

The trial court found (R. 290-1):

> "78. From 1933 [the date of the National-du Pont agreement] on there was active competition between NL and DP for customers. There has been a vast increase in sales; and repeated reductions in the price of titanium pigments have taken place and a very few increases. DP entered the titanium pigment business in 1931 and since that date it has made frequent plant expansions for the manufacture of pure and composite TiO_2 and its production increased from 20,027 tons in 1935 to 50,674 tons in 1941 and then decreased to 42,843 tons in 1948.

"NL and DP have endeavored to match each other's titanium products; but each also manufactures certain titanium pigments having special applications not manufactured by the other.

"There is no allocation of territory or customers between NL and DP; and each maintains a large, highly trained technical sales force engaged in endeavoring to sell titanium pigments. To a very large extent the salesmen of the two companies are chemists whose contact with consumers (that is, manufacturers of paint, rubber, glass, etc.) consists in endeavoring to demonstrate that their products merit acceptance on the basis of technical superiority. The buyers of titanium pigments are mainly well-informed, experienced purchasing agents. NL and DP sell for identical prices; there is no evidence that such price identity is the product of agreement or collusion."

The statement "that in every divestiture or dissolution suit in the past, the creation of more than two competing units was required" is documented in our main brief at pages 90 to 94. In the cases cited (Gov. brief, p. 136, footnote 46) (*Standard Oil, American Tobacco, du Pont,* and *Corn Products*) the combinations—the fusions resulting from illegal acquisitions—were illegal; the *status quo ante* (or a reasonable approximation of it) could be and was effected by dissolution (divestiture). Here there were no illegal acquisitions. As Judge RIFKIND pointed out (R. 1265-9), it would be impossible to restore the *status quo ante* because there is "no point of reference." The Government, according to Judge RIFKIND, "would create a condition which man has not yet seen, namely, the existence of four enterprises which have had no prior existence either in fact or in human contemplation" (R. 1266). For this the Government's citations are inapposite.

The Government states (brief, p. 53) that National and du Pont are giants to be destroyed in order that small companies may enter the titanium business,—at the same time stating that huge capital is necessary to enter it (*id.* at 132).

It is true that du Pont's assets are in excess of $1,000,000,000 (Finding 9, R. 237), National's in excess of $100,000,000 (Finding 3, R. 235). But the companies most likely to take advantage of the judgment are comparable in size and resources. Thus Glidden (owner of American Zirconium) has assets in excess of $55,000,000; American Cyanamid (owner of Virginia Chemical) has assets in excess of $140,000,000; Pittsburgh Plate Glass has assets in excess of $150,000,000; and Sherwin-Williams has assets in excess of $75,000,000. (Moody's Manual of Investments, 1946, pp. 2469, 2640, 1509, 979.) In 1945 New Jersey Zinc had an operating income (less costs, taxes, depreciation, depletion, and operating expenses) of $6,603,571.80. (Statement to stockholders for year ending December 31, 1945; no statement of assets is available.) These companies are mentioned because their interest in this industry has been established by the record (Finding 33, R. 246; R. 1171-2).

As pointed out by the court below, it would not promote competition to transfer the titanium business of National to Pittsburgh Plate Glass or American Cyanamid (R. 1217-18).

V

Conclusion

We submit, in conclusion—

1. That paragraphs 5 and 6 of the judgment should be modified as suggested on pages 52 and 53 of our main brief to permit normal and proper business arrangements.

2. That paragraph 7 should be amended to require royalty-free licensing and in other respects affirmed.

3. That paragraph 8 should be deleted so as to permit National to retain its stock interest in the British company.

4. That the trial court's refusal, as an act of discretion, of domestic divestiture should be affirmed.

Respectfully submitted,

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Appendix

The Government is in error in stating (a) that National and du Pont acted jointly respecting American Zirconium and Virginia Chemical, and (b) that the Barton-Rossi, Jebsen, and Blumenfeld patents represented "independent and competing lines of development".

(a)

National and du Pont acted independently respecting Zirconium and Virginia Chemical.

In spite of Findings 84 and 85 (R. 295-8) that "The evidence does not warrant the inference that the licenses granted by DP to Zirconium and the cross licensing between NL and Zirconium were made pursuant to a common plan of NL and DP or as a result of concerted action by them",—and that "There is no evidence that the action of NL and DP with respect to VC was the result of agreement between NL and DP",—the Government repeatedly refers to National and du Pont as if they were (and thus implies that they were) engaged in joint action respecting Zirconium and VC. Thus at pages 5 and 6 of its brief the Government says—

> "The findings of fact (R. 234-306) state . . . that *defendants* have restricted the production of their two domestic licensees to limit their competition; . . . "

And at pages 7 and 8—

> ". . . The judgmen' also provided that the two present licensees of *NL and* DP might within six months apply for licenses from *NL and* DP on the described basis (R. 314-315)."

Findings 84 and 85 show that VC was never a licensee of NL and that the NL-Zirconium agreement, unlike the DP

license to Zirconium, contained no production limitation. The judgment (Par. 9, R. 314-15) provides that "Either American Zirconium Corporation or Virginia Chemical Corporation, their successors or assigns, may at their option, if exercised within six months from the date of this decree, apply for licenses *from DP* under provisions of paragraph 7."

Similar distortions of the facts and findings appear in the Government's brief at pages 36 to 40, 50, 61, 70, 100, and 138.

(b)

The Barton-Rossi, Jebsen, and Blumenfeld patents were complementary; they were not "independent and competing lines of development".

The record is clear and conclusive. The findings are explicit. Barton-Rossi (the Americans) contributed composite pigments. Jebsen (the Norwegian) contributed the cheap sulphuric acid attack. Blumenfeld (the Frenchman) contributed an improved method (seeding hydrolisis) for manufacturing pure TiO_2. (See, *e. g.*, Barton, R. 869-73; Kaegebehn, R. 910-11; Jebsen, R. 919, 929. Cf. Findings 33, 34, 37, and 70, R. 245, 247-8, 278.)

Despite the testimony, which stands unchallenged, the Government repeatedly (brief, pp. 43-50) asserts that there were three "competing lines of development" and thus implies that technical competition was stifled at the expense of the public. Nothing could be further from the truth. The relatively pure TiO_2 pigments were a laboratory product—rare and expensive. Without Jebsen's sulphuric acid attack the cost of composite pigments was prohibitive. Du Pont was unable to engage in the business without the

Blumenfeld, Barton-Rossi, and Jebsen patents. The Blumenfeld patents were useful to National. The use of these complementary (not "independent and competing" patents) by National and du Pont has promoted domestic commercial competition, has resulted in a vast increase of sales and repeated reductions of price, until today titanium pigments have largely replaced the more expensive, less satisfactory white lead, lithpone, and zinc oxide pigments. (See our main brief, pp. 11-15, 40-2; Opinion, R. 187-8, 206-7.)

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SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1945

No. [redacted]91

E. I. DU PONT DE NEMOURS AND COMPANY,
Appellant,

vs.

THE UNITED STATES OF AMERICA

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

STATEMENT AS TO JURISDICTION

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Expediting Act of February 11, 1903, Section 2 (c. 544, Sec. 2, 32 Stat. 823, 36 Stat. 1163, 58 Stat. 272, 15 U. S. C. 29) 2
Judicial Code, Section 238(1), as amended by the Act of February 13, 1925 (43 Stat. 936, 938, 28 U. S. C. 345) 2
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DISTRICT COURT OF THE UNITED STATE,
FOR THE SOUHTERN DISTRICT OF NEW YORK

Civil No. 26-258

UNITED STATES OF AMERICA,

Plaintiff,

against

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., E. I. DU PONT DE NEMOURS AND COMPANY, INC.,

Defendants

STATEMENT AS TO JURISDICTION

In compliance with Rule 12 of the Rules of the Supreme Court of the United States, defendant E. I. du Pont de Nemours and Company (hereinafter referred to as du Pont) submits this statement showing the basis upon which it is contended that the Supreme Court of the United States has jurisdiction upon appeal to review the Final Decree in the above entitled cause.

Statutory Provisions Sustaining the Jurisdiction

This is an appeal from a decree of the District Court of the United States for the Southern District of New York in a suit in which the United States, as plaintiff pursuant to Section 4 of the Sherman Act, sought and obtained an injunction against du Pont and others in respect of acts found to constitute a violation of Section 1 of said Act

(Act of July 2, 1890, c. 647, Secs. 1 and 4, 26 Stat. 209; 15 U. S. C. Secs. 1 and 4).

The appeal lies directly to the Supreme Court of the United States under Section 238 (1) of the Judicial Code, as amended by the Act of February 13, 1925 (43 Stat. 936, 938; 28 U. S. C. Sec. 345), and under Section 2 of the Expediting Act of February 11, 1903 (c. 544, Sec. 2, 32 Stat. 823, 36 Stat. 1163, 58 Stat. 272; 15 U. S. C. Sec. 29).

Date of Decree and Application for Appeal

The decree sought to be reviewed was entered October 11, 1945.

The petition for appeal is being presented on December 10, 1945.

Nature of the Case and Rulings Below

On June 24, 1944, the United States filed a complaint against du Pont, the National Lead Company and Titan Company, Inc. alleging that each of such defendants had violated Sections 1 and 2 of the Sherman Act by agreeing, combining and conspiring to restrain and to monopolize the foreign and domestic trade and commerce in titanium pigments. The complaint prayed, among other things, (a) that the defendants' alleged practices be held in violation of Sections 1 and 2 of the Sherman Act, (b) that the defendants be enjoined from continuing such practices, (c) that the defendants be enjoined from threatening or bringing any infringement suits upon any of their United States patents relating to titanium pigments, (d) that the defendants be compelled to grant upon the request of any third person royalty-free licenses under such patents, and (e) that the defendants be compelled to furnish such third person all technical information appropriate to the practice of such patents.

The case came to trial on December 4, 1944, and the trial ended on March 14, 1945. On July 5, 1945, the District Court filed an opinion and on October 2, 1945, the District Court entered its Findings of Fact and Conclusions of Law. Copies of said opinion (which has not yet been reported) and of said Findings of Fact and Conclusions of Law are appended hereto.*

The District Court found that titanium is an abundant element, that titanium compounds are suitable for the manufacture of titanium pigments and that such pigments are desirable in connection with the manufacture of paints, rubber, glass, paper, vitreous enamel and other products. The District Court also found that there was no titanium industry prior to 1920 and that such industry was created by an agreement in 1920 between defendant National Lead, which at that time held fundamental patents covering the manufacture of titanium pigments, and a Norwegian company which held patents of a like character. Under the 1920 agreement the parties cross-licensed their patents, present and future, agreed never to question the validity of the patents of the other, and agreed to exchange technical information respecting such patents. In addition, however, the District Court found that the parties to the 1920 agreement divided the world into trade territories, agreed not to trespass into the territory allotted to the other and to compel sublicensees to abide by like restrictions. According to the District Court, the objects of the parties to such agreement were the elimination of competition and the advancement of the art through the exchange of technology. The District Court further found that the 1920 agreement succeeded in carrying out the intentions of the parties and was the basic agreement pursuant to which defendant Na-

* (Clerk's Note—The Opinion, Findings of Fact, Conclusions of Law and final decree are printed as Appendices to the Jurisdictional Statement in No. 1130 and are not reprinted here.)

tional Lead, through defendant Titan Company, Inc. (described by the District Court as National Lead's "corporate pocket for the deposit of its holdings in foreign titanium enterprises") developed the titanium industry in France, Germany, England, Japan and Canada on a co-partnership basis with local chemical concerns in those countries.

Turning to defendant du Pont, the District Court found that it entered into the titanium industry in 1931 at which time it acquired some titanium patents. It also found that du Pont and National Lead at all times thereafter were in active competition for customers, that they have likewise at all times endeavored to match each other's products and that while they have sold at identical prices, such price identity was not the product of agreement or collusion. It was likewise recognized by the District Court that upon du Pont's entry into the titanium industry patent controversies arose between National Lead and du Pont and that during such controversies National Lead endeavored to have du Pont subscribe to the principles of the 1920 agreement. The District Court further found that du Pont refused, unlike the numerous other companies having contractual relations with National Lead, to do so. Instead, du Pont and National Lead entered into a patent cross-licensing agreement in 1933 which the District Court found to have been prepared in the light of the then recent decision of the Supreme Court of the United States in *Standard Oil Company (Indiana), et al.* v. *United States*, 283 U. S. 163. But while the District Court found that du Pont did not agree with National Lead to refrain from exporting titanium pigments it also found that du Pont did, through the official in charge of its titanium enterprise, Mr. Rupprecht, assure National Lead that, as a practical matter, such exports would not take place. For this reason the District Court concluded that du Pont became a mem-

ber of the illegal combination—in the Court's words, "true, a special member, with a status, rights and obligations, different from that of the other members, but a member nonetheless."

On October 11, 1945, a Final Decree was entered which, among other things, with reference to du Pont (a) cancels its agreements with defendants National Lead Company and Titan Company, Inc., (b) enjoins it from entering into or adhering to any agreement relating to titanium pigments which has as its purpose or effect to divide sales or manufacturing territories, to allocate territories, to limit or prevent United States imports or exports, to grant to any third party any market as its exclusive territory or to keep any third party out of any market, (c) enjoins it from restricting any purchaser of titanium pigments in the use of such pigments, (d) compels it to grant to any applicant a non-exclusive license under any of its patents or patent applications (and under all those which it acquires during the five years following the date of the decree) relating to titanium pigments at a uniform, reasonable royalty, (e) compels it during three years from the date of the decree to impart, in writing, at a reasonable charge, to any such applicant, at the latter's option, a manual of the methods and processes which du Pont uses at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments, (f) enjoins it from bringing or threatening any action against any persons for the alleged infringement prior to the date of the decree of its titanium patents, and (g) compels it to permit the Attorney General of the United States or his proper representative to interview its employees and to have access to its books and records relating to any matters contained in the decree. A copy of said Final Decree is appended hereto.

Cases Sustaining the Jurisdiction of the Supreme Court of the United States

Among the decisions sustaining the jurisdiction of the Supreme Court are the following:

Standard Oil Company (Indiana) v. *United States*, 283 U. S. 163, 170-171;
Interstate Circuit, Inc. v. *United States*, 306 U. S. 208, 226, 227;
United States v. *Masonite Corporation*, 316 U. S. 265, 274-275;
Direct Sales Co. v. *United States*, 319 U. S. 703, 713;
Braverman v. *United States*, 317 U. S. 49, 53;
United States v. *Falcone*, 311 U. S. 205, 210;
Gebardi v. *United States*, 287 U. S. 112, 121;
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Bannon and Mulkey v. *United States*, 156 U. S. 464, 468;
Dealy v. *United States*, 152 U. S. 539, 547;
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United States v. *Britton*, 108 U. S. 199, 204;
United States v. *Hirsch*, 100 U. S. 33, 34;
Hartford-Empire Co. v. *United States*, 323 U. S. 386, 406-410, 413, 414-415, 417, 418;
Associated Press v. *United States*,* 89 L. Ed. 1512, 1524;
The Standard Oil Co. v. *United States*, 221 U. S. 1, 77, 78;
United States v. *American Tobacco Co.*, 221 U. S. 106, 185, 187, 188;

* Not yet officially reported.

De Beers Consolidated Mines, Ltd. v. *United States*, 325 U. S. 212, 218-220;
Appalachian Coals v. *United States*, 288 U. S. 344, 377;
Swift & Co. v. *United States*, 196 U. S. 375, 396;
New Haven R. Co. v. *Interstate Commerce Commission*, 200 U. S. 361, 404;
E. W. Bliss Co. v. *United States*, 248 U. S. 37, 48;
National Labor Relations Board v. *Express Publishing Co.*, 312 U. S. 426, 436-437;
Warner & Co. v. *Lilly & Co.*, 265 U. S. 526, 532;
Federal Trade Commission v. *Beechnut Packing Co.*, 257 U. S. 441, 455;
United States v. *Bausch & Lomb Co.*, 321 U. S. 707, 724, 726;
Ethyl Gasoline Corp. v. *United States*, 309 U. S. 436, 461;
United States v. *Crescent Amusement Co.*, 323 U. S. 173, 185, 186, 189;
United States v. *Aluminum Co. of America*, 148 F. (2d) 416, 446.

The Questions Involved Are Substantial

Defendant du Pont contends that its appeal to the Supreme Court of the United States would involve questions of extraordinary substance. One of them concerns the law of conspiracy and the validity of the District Court's holding that du Pont became a member of the combination by directing National Lead's attention to the fact that it was not, as a practical matter, interested in exporting titanium pigments to Europe even though it simultaneously refused to agree to refrain from such exports.

Another involves the validity of that portion of the Final Decree which compels du Pont to impart technical information concerning its patents. So far as we know, no relief

of this character has ever been granted heretofore. An analogous provision was stricken by the Supreme Court of the United States on its review of the decree in *Hartford-Empire Co.* v. *United States*, 323 U. S. 386 at 413 and 418.

December 10, 1945.

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Supreme Court of the United States

OCTOBER TERM, 1946

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY,
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vs.

THE UNITED STATES OF AMERICA,
Appellee.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

APPELLANT'S BRIEF

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Supreme Court of the United States

OCTOBER TERM, 1946

E. I. DU PONT DE NEMOURS AND COMPANY,
Appellant,
vs.
THE UNITED STATES OF AMERICA,
Appellee.

No. 91

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

APPELLANT'S BRIEF

OPINION BELOW

The opinion of the District Court (R. 185)[1] is reported at 63 F. Supp. 513. Its final decree (R. 307) is reported at 63 F. Supp. 532.

JURISDICTION

The final decree of the District Court was entered October 11, 1945 (R. 316). This appeal was allowed by the District Court December 10, 1945 (R. 350).

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[1]The record in the present case consists of two volumes containing the proceedings below which run from pages 1 through 1289 and four volumes of exhibits which run from pages 1 through 4399. "R." references are to the volumes containing the proceedings below and "Ex. R." references are to the volumes of exhibits.

Jurisdiction is conferred on this Court by Section 2 of the Expediting Act of February 11, 1903, as amended (32 Stat. 823, 36 Stat. 1167; 15 U. S. C. Sec. 29), and Section 238 of the Judicial Code, as amended (36 Stat. 1156, 38 Stat. 804, 43 Stat. 938; 28 U. S. C. Sec. 345). Probable jurisdiction was noted May 20, 1946 (R. 1289).

STATEMENT OF THE CASE

Proceedings Below. The Department of Justice commenced this suit June 24, 1944 (R. 1), pursuant to Section 4 of the Sherman Act (Act of July 2, 1890, c. 647, 26 Stat. 209, 15 U. S. C. Sec. 1 *et seq.*), to enjoin the operation of an international cartel in the titanium pigment industry claimed to be in violation of the anti-trust laws. Trial before Rifkind, *J.*, in the Southern District of New York, began December 4, 1944, and ended March 14, 1945 (R. 361-1175). Thereafter the parties filed proposed findings of fact and conclusions of law (R. 78, 119, 171). On July 5, 1945, the District Court filed its opinion (R. 185), and on October 2, 1945, its findings of fact and conclusions of law (R. 233). It held that a combination and conspiracy existed in the titanium pigment industry in violation of Section 1 of the Sherman Act (R. 306, 308), and entered a decree accordingly (R. 307).

The Appeals. The government and each of the three defendants below has appealed to this Court (R. 329, 334, 344). The government's appeal, No. 89, complains solely of the scope of relief granted by the District Court's decree (R. 330-331). The joint appeal, No. 90, of National Lead and Titan, Inc., which are affiliated companies, has been limited by their brief to questions relating to the scope of

relief (*cf.* R. 336-343). Du Pont's appeal, No. 91, complains as to the merits of the District Court's findings, as well as to the scope of relief (R. 344-350). All testimony and exhibits presented to the District Court are contained in the consolidated record before this Court (R. 356-359, 360).

The Decree and Partial Stay Pending Appeal. On October 11, 1945, the District Court entered a decree which in addition to cancelling the various contracts found to be illegal, subjects both existing and certain future patents and technical information of both du Pont and National Lead to compulsory licensing at reasonable royalties (R. 307). The decree also contains customary injunctive provisions. On application by National Lead, Mr. Justice Reed entered a partial stay on January 2, 1946. Paragraphs 5 (except as to an agreement between du Pont and National Lead dated January 1, 1933, as amended January 1, 1941, which we shall consider in detail *infra*), 8, 9, 10 and 11 of the decree were stayed. These relate principally to National Lead.

Industry's Basic Product and Its Characteristics. The case concerns a type of white pigment known as titanium pigments containing titanium oxide, a chemical compound, as an essential ingredient. Neither the nature nor purpose of such pigments is in dispute. The District Court found (FF 33, R. 245):

> "Titanium pigments and compounds are manufactured from titanium which is the ninth most abundant element on the earth's surface. Titanium is contained in ilmenite and other minerals. Sands and rock formations containing ilmenite are found in India, the United States, Norway, Brazil, and elsewhere throughout the world. Titanium pig-

ments are possessed of great opacity, hiding power and chemical inertness; and are largely displacing other pigments such as lithopone and white lead. Titanium pigments are used in the manufacture of paints and are also used in the manufacture of rubber, glass, paper, vitreous enamels, and many other products. Titanium pigments are sold in the United States and abroad in competition with other forms of white pigments, notably lithopone and white lead, which are sold in the United States in substantial quantities by a number of commercial concerns other than the defendants and some of which are sold by the defendants".

The raw materials for the manufacture of titanium pigments, principally ilmenite which is a mineral sand, are not the subject of this case. The District Court found that (FF 94, R. 303):

> "It is not claimed nor is there evidence that the defendants have controlled the supply of or restrained trade in ilmenite ore used in the commercial manufacture of titanium pigments in the United States".

Industry's Birth and Growth. The industry is of recent origin (FF 33, R. 246):

> "In and before 1920 there was no substantial trade or commerce in, and no commercial manufacture of, titanium pigments * * * ; pigments used for such purposes were lithopone, white lead and zinc oxide".

The growth of the industry, particularly in the United States, has been remarkable (FF 35, R. 247):

> "The production of titanium pigments in the United States has risen from 100 tons (on the basis

of pure TiO_2 content) in 1920 to approximately 110,000 tons in 1943 with a peak production of approximately 128,000 tons in the United States in 1941. The total production of titanium pigments and compounds outside of the United States has shown less growth, the estimated foreign production of titanium pigments and compounds being approximately 1,000 tons in 1920 and approximately 23,000 tons in 1938".

The industry does not sell to ultimate consumers, but to manufacturers, principally of paint, rubber, glass and other products (FF 33, R. 245).

The Case Affecting National Lead and Titan, Inc. The carefully prepared opinion and findings of the District Court[2] make it clear that this suit is divided sharply into two entirely separate disputes, the government opposing National Lead and Titan, Inc. in the one, and du Pont in the other. The principal subject matter of the trial below was the international cartel, called by the Department of Justice at the moment of commencing the case "a textbook cartel". This was the subject matter of the complaint and of practically the entire evidence.

The District Court found that National Lead[3] and Titan, Inc. were American members of a cartel[4] of titanium

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[2]The District Court revised both its findings of fact and conclusions of law and its opinion to incorporate some of the suggestions made by counsel during conferences in chambers lasting over a period of more than a week.

[3]The District Court adopted certain initials set forth in footnote 1 of its opinion (R. 223) for the companies referred to throughout this litigation. For clarity, this brief employs instead the short form name of such companies.

[4]A collection of definitions of the term "cartel" are set forth in footnote 5 of the District Court's opinion (R. 224).

pigment producers which was world-wide (FF 64, R. 272). Other members were Titan companies in Germany, France, Great Britain, Canada and Japan (FF 44-63, R. 251-271). Each member of the cartel owned, or was licensed under, titanium pigment patents in various countries (FF 60, R. 270). The cartel had price and quota agreements with certain members of another combination of foreign titanium manufacturers, the Blumenfeld group (FF 66, R. 273, Ex. R. 178, 197, 221, 233).[5] Each of the members of the cartel was allocated certain countries as its exclusive trade territory and was licensed (with power to sub-license) under all patents belonging to every other member in such countries (FF 44, R. 251 at 253). All members of the cartel agreed to compel their sub-licensees and customers to abide by similar territorial restrictions. These restrictions were embodied in a basic

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[5]Subparagraph (3) of Rule 27 of the Rules of this Court provides in regard to the form of briefs that if the reference therein "is to an exhibit both the page number at which the exhibit appears and at which it was offered in evidence must be indicated". It is not feasible here, however, to refer to any page as being the page at which a particular exhibit was offered in evidence because of the unique method by which exhibits were introduced below. The District Court summarized such method thus (R. 735-736):

> "THE COURT. Let me state on the record that counsel and the Court having conferred in chambers with respect of methods of expediting the trial of the issuance of this case, they agreed to mark all the exhibits tendered by the Government in evidence, reserving to each of the defendants respectively an objection to each and every exhibit so tendered, and that the exhibits being so deemed received in evidence shall then be commented on in rotation by counsel for the respective parties. And if there be an objection relating to the authenticity of a document or the authority of the author of the document to declare what is attributed to him, then such objection shall be taken at that time."

Contract of 1920 which will be considered under heading B of the Statement of the Facts below; and acceptance of the so-called "principles" of that contract became the test of membership in the cartel. All the foreign companies bound themselves to them.

The government's case against National Lead and Titan, Inc. concerns primarily the validity of this cartel under the anti-trust laws (R. 200). Throughout this brief du Pont assumes the validity of the District Court's holding that the National Lead group constituted a combination or conspiracy in violation of Section 1 of the Sherman Act.

The Case Affecting du Pont. As far as du Pont is concerned the trial presented a very narrow issue: Did du Pont join the cartel conspiracy? To settle a *bona fide* patent dispute (FF 72, R. 279), du Pont and National Lead entered into a written patent cross-licensing agreement in 1933 in respect of United States patents,[6] which agreement was consistent with the then recent decision of this Court in the so-called *Cracking* case, *Standard Oil Co. (Indiana)* v. *United States*, 283 U. S. 163 (1931) (R. 214). Neither in its complaint (R. 1) nor in its proposed findings of fact (R. 78) did the government contend that du Pont's patent license agreement with National Lead was illegal on its face. Instead, it urged that du Pont joined the National Lead combination by orally agreeing to subscribe to its principles (R. 23, 106).

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[6] (R. 69) The actual parties were subsidiaries (The Titanium Pigments Company, Inc. and Krebs Pigment & Color Corporation); but no point is made of this fact in defense. Du Pont and National Lead collaterally agreed to conduct their titanium business through Krebs and Titanium Pigments Co., respectively, a provision obviously designed to prevent evasion of the parties' patent and information obligations.

The government's case against du Pont completely disintegrated almost from the outset. It is made plain throughout the findings and opinion below that du Pont was outside the cartel. The District Court expressly held that du Pont never subscribed either orally or in writing to the principles of the National Lead cartel (R. 213). In fact, it made an explicit finding that there was no promise or agreement of any kind on the part of du Pont which implicated it in the conspiracy (FF 73, R. at 287-288).

The trial resolved itself into a minute search day by day for anything in any of the documents that might possibly hold du Pont.[7] After a full and painstaking review of all the evidence, the District Judge found in one or two documents dated in 1933 but which were neither written by or to du Pont the only basis in the entire record for concluding that du Pont was a member of the cartel conspiracy. Even these letters, remote in time, ambiguous in their terms and context, and wholly diluted by testimony of those familiar with the events, were not deemed sufficient by the District Judge to support a finding of agreement or understanding, either express or to be implied from surrounding circumstance and subsequent conduct.

The District Judge was merely able to find that the cartel was strengthened by an alleged "assurance" given by du Pont at the time it entered into the 1933 cross-licensing agreement that export to Europe would not take place

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[7]The parties facilitated, by stipulation, the introduction of documentary evidence (R. 370-375). Over 1400 exhibits were received in evidence (R. 232). The record in this Court (5688 pages) is primarily documentary, containing 809 pages of testimony, 4399 pages of exhibits and 480 pages of pleadings, etc. The exhibits were almost entirely those selected by the government from the files of the defendants which the government's representatives thoroughly culled.

(R. 217, 288), and that du Pont thereby became "a member of the combination—true, a special member, with a status, rights and obligations, different from that of the other members, but a member nonetheless." (R. 218). When du Pont gave this "assurance" it was not exporting to Europe and the District Judge expressly held that the so-called "assurance" given by du Pont was "no more than" a mere expression of its then existing export policy (R. 216) as to which it made no express or moral commitment that it would maintain in the future.

Du Pont contends that this statement of its current export policy was wholly proper under the circumstances and was reasonably necessary to enable it to obtain the non-exclusive licenses by means of which it established competition for titanium pigments in the United States. In the absence of any finding of agreement, express or implied, an essential element of conspiracy and combination is lacking and the case against du Pont should be dismissed.

STATEMENT OF THE FACTS

A.

Competitive Conditions Have Prevailed in the United States Since 1933

1. Du Pont's Entry Into the Industry and Patent Conflict with National Lead

Du Pont entered the titanium pigment business in the United States in the early 1930s (FF 10, R. 238), and, as will be seen, established itself as an arm's-length competitor of National Lead. It was aided in achieving this position through a series of negotiations which we will describe, culminating in a cross-license agreement involving United States patents which it entered into with National Lead in

1933. Its motive for entering the business arose from the fact that titanium pigments constituted a new form of white pigment which du Pont recognized to be of such growing importance in the chemical industry that it would replace du Pont's existing white pigment business (FF 70, R. 278).

Du Pont first attempted to manufacture titanium pigments by processes developed through its independent research (Ex. R. 986), but this proved impractical from a business point of view due to the already well intrenched patent position of the two American producers, National Lead and Commercial Pigments, a subsidiary of Commercial Solvents which had been set up to operate under the United States, but not under the foreign, Blumenfeld patents expiring in 1948 and thereafter (FF 34, R. 247, FF 37, R. 248, FF 70, R. 278). Du Pont accordingly determined to buy the assets of Commercial Pigments (Ex. R. 1051), an acquisition in and of itself not complained of in this proceeding.

Having acquired Commercial Pigments, however, du Pont still found itself unable to proceed economically with the manufacture of titanium pigments in competition with National Lead without infringing the cartel patents. Not only was Commercial Pigments involved in patent difficulties with National Lead but manufacture of titanium pigments by the Commercial Pigments processes alone would have resulted in a product having so much higher cost than National Lead's comparable product that it would not have been possible for du Pont to meet National Lead's price competition (Ex. R. 1353). Du Pont had, however, reason to believe that National Lead was infringing certain of du Pont's patents, and National Lead conceded this when it charged in turn that du Pont was infringing certain of

National Lead's patents (Ex. R. 1309, 1313-1314). There resulted what the Court found to be a *bona fide* patent conflict between du Pont and National Lead (FF 72, R. at 279).

This patent conflict was resolved only after extensive negotiation and exploration of technical processes and infringement claims which covered a substantial period of time (Ex. R. 1024-1025, 1028, 1089, 1150, 1172-1174, 1178-1183). Its resolution was embodied in the 1933 cross-licensing agreement.

The 1933 patent license agreement was fully in accord with the then recent decision of this Court in *Standard Oil Co. (Indiana) v. United States,* 283 U. S. 163 (1931) (*Cf.* the District Court's opinion, at R. 214).[8] Under this agreement the parties exchanged non-exclusive licenses under present and future patents and inventions relating to the titanium field and agreed to exchange technical information. Du Pont agreed to offer to any foreign associate of National Lead, before offering to anybody else, the opportunity to acquire a non-exclusive license for the licensed field under any of du Pont's present or future patents issued in Continental Europe and Great Britain. The agreement was subject to cancellation after December 31, 1933, on three years' notice.[9]

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[8]The application of the *Cracking* case to the 1933 Agreement is discussed below at pp. 84-108.

[9]The agreement also provided for an exchange of releases of infringement for the benefit of the parties and their respective licensees. Each agreed to assist the other to obtain a similar non-exclusive license under any United States patent under which it itself was licensed but did not have licensing rights, under which provision no license ever were in fact acquired. Royalty payments were provided, which were in no event to exceed $40,000 to be paid by either party to the other in excess of the other's payments to it or to be paid by any party after 1936, and such royalties were in fact paid (FF 73, R. at 282).

The District Judge found that this agreement promoted "the more rapid development of the titanium business" and created "greater freedom of action for the parties under titanium pigment patents and developments" (FF 79, R. at 293). Du Pont took advantage of this greater freedom of action to compete vigorously with National Lead, and this competition assisted the rapid development of the titanium pigment business.

2. Commercial Competition

A. *Increasing United States Production.* United States production of titanium dioxide in 1944 was more than twelve times production in 1931, the year du Pont entered the titanium pigment business (Ex. R. 986). The following schedule details the growth of United States production in tons from the time of du Pont's entry into the field (Ex. R. 3786-3787, 3814, R. 1147):

Year	Du Pont	National Lead	American Zirconium and Virginia Chemical	Total
1931.....	825 (5 mos.)	9,767		10,592
1932.....	3,873	9,729		13,602
1933.....	5,511	8,445		13,956
1934.....	10,699	13,264		23,963
1935.....	20,027	18,483	2,206	40,716
1936.....	25,185	25,420	3,053	53,658
1937.....	37,530	28,468	3,616	62,614
1938.....	27,633	22,789	7,299	57,721
1939.....	35,305	38,340	9,295	82,940
1940.....	42,354	49,984	9,853	102,191
1941.....	50,674	64,035	11,967	126,676
1942.....	44,383	61,621	7,551	113,555
1943.....	42,843	61,502	6,673	111,018
1944[10].....	47,102	74,160	11,742	133,004

[10]Estimated on basis of first six months.

This production schedule reflects not only substantial increases made throughout the period in manufacturing capacity but also the keen competition which existed between du Pont and National Lead, as evidenced by the constant variation which took place in the percentage of the total market which du Pont was able to secure through its sales efforts.

B. *No Price Agreements.* The government threatened on several occasions to prove a price fixing case. This failed completely; and the Judge found that the prices established by du Pont and National Lead were not the product "of agreement or collusion" between them (FF 78, R. at 291). He found that "repeated reductions in the price of titanium pigments have taken place and a very few increases" (FF 78, R. 290). Price announcements were not made concurrently (R. 1150). There is no evidence that the contemplated price changes were even discussed between representatives of National Lead and du Pont in advance or that prior notice thereof was given by one company to the other. The testimony of company officials, who appeared and were cross-examined, was specifically to the effect that no arrangement, agreement or understanding of any kind in respect of price changes existed (R. 1077, 1168). There is substantial evidence of price competition (Ex. R. 4345-4360).

C. *No Division of Territory.* The District Court found that "There is no allocation of territory" between National Lead and du Pont in the United States or elsewhere (FF 78, R. at 291).

D. *No Allocation of Customers.* The government requested the District Court to find that there has been no

competition between National Lead and du Pont since the 1933 agreement (R. 110-111). To the contrary the District Court expressly found (FF 78, R. 290-291):

> "From 1933 on there was active competition between NL and DP for customers. * * * There is no allocation of * * * customers between NL and DP * * *".

Du Pont encountered competition from National Lead, Virginia Chemical and American Zirconium in the sale of its titanium pigments (R. 1158), as well as competition from other manufacturers selling large quantities of different forms of other white pigments, particularly lithopone and white lead (R. 1159, Ex. R. 3949). Included among such manufacturers were such companies as National Lead, Glidden, New Jersey Zinc, Sherwin-Williams and Eagle Picher (R. 1159).

Mr. Daley, General Manager of the du Pont Pigments Department, characterized the competition of National Lead as "plenty tough" (R. 1158), and the competition of Virginia Chemical and American Zirconium as "tough" (R. 1159).

Du Pont and National Lead each solicited the customers of the other and du Pont gained customers from and lost customers to National Lead (R. 1066, 1067, 1159, 1168, Ex. R. 4361-4363). Similar changes in accounts resulted as between du Pont on the one hand and Virginia Chemical or American Zirconium on the other by reason of similar sales competition (R. 1159, Ex. R. 4374-4382).

E. *Competition in Quality of Products.* The District Court found that du Pont and National Lead "each main-

tains a large, highly trained technical sales force engaged in endeavoring to sell titanium pigments" (FF 78, R. at 291). It further found (FF 78, R. at 291):

> "To a very large extent the salesmen of the two companies are chemists whose contact with consumers (that is, manufacturers of paint, rubber, glass, etc.) consists in endeavoring to demonstrate that their products merit acceptance on the basis of technical superiority".

The pigments are sold to many industries, but principally industries concerned with the manufacture and sale of paint, paper, rubber, cloth, flooring, etc. (R. 1055). The requirements of the users of titanium pigments vary greatly, not only as between industries but also as within a particular industry (R. 1155-1156). Thus du Pont has developed approximately 28 different grades of titanium pigment, each of which has distinct quality attributes. These pigments recognize such factors as dispersive properties in water, texture, opacity, hiding power, color retention, gloss properties, consistency and oil absorption, chalk and fade resistance, discoloration during baking, tinting strength, ease of grinding and other special properties, emphasized by a given use or manufacturing problem (du Pont Ex. 97).[11]

Differences in quality as between titanium pigments sold by du Pont and other titanium pigments constitute one of the most important areas of competition (R. 1078). Sales forces are technically trained to emphasize these distinctions, and du Pont utilizes special technicians who fol-

[11]This exhibit is not in the printed record but is on file in the Office of the Clerk of this Court and is a part of the record (R. 360).

low the salesmen and work closely, often for substantial periods of time, with du Pont's research staff and the customer or prospective customer in the development of pigments possessing qualities required by that specific customer (R. 1078).

The emphasis upon quality is also graphically demonstrated in the manufacturing operations of the titanium pigment manufacturers. Thus, in the case of du Pont numerous examples were presented of plant additions and improvements made for the purpose of meeting existing or projected quality competition presented by competitors (Ex. R. 4325-4360). Throughout these requests for appropriations to the du Pont Executive Committee run such phrases as: "our existing business will be seriously jeopardized unless we quickly place ourselves in position to meet this improved quality requirement" (Ex. R. 4325); "Project estimates are of high spot nature, due to speed necessary to place ourselves in competitive position" (Ex. R. 4330); "We consider it absolutely essential to install Mikronizers for dry grinding LO grades of TiO_2 at Baltimore in order to avoid a probable serious loss of business to a competitive manufacturer who would be in the position of selling TiO_2 with important quality advantages which would otherwise not be available to us" (Ex. R. 4332); "In recent months our principal titanium dioxide competitor has placed on the market several distinctly improved grades, combining better pigment dispersion, improved paint gloss, and lower grit (all very important properties), which grades have already cut in on some of our trade, and unless duplicated will make serious inroads on our established business" (Ex. R. 4338); "This project is wholly necessary for quality rea-

sons" (Ex. R. 4342); "The justification of the expenditure herein requested is wholly one of quality, due to advancement in the titanium pigment art, and necessary to maintain and better our competitive position" (Ex. R. 4358).

F. *Development of New Products.* The District Court found (FF 78, R. at 291):

> "NL and DP have endeavored to match each other's titanium products; but each also manufactures certain titanium pigments having special applications not manufactured by the other".

The development of new titanium pigment products of improved quality or designed for special uses is given great emphasis by du Pont, which employs over eighty research chemists to work on titanium pigments alone (R. 1160), and these chemists are constantly concerned with the improvement of products or the development of new products, having regular meetings and consultations through a New Products Committee, to which are appointed research, production and sales representatives (R. 1161).

3. History of Exchange of Technical Information between National Lead and du Pont, and of its Abandonment in 1940

As has been seen, the 1933 patent licensing agreement between National Lead and du Pont provided for an exchange of technical information between the parties (R. 70). The industry was still in its initial stage of development and the parties believed that it would be desirable to exchange information.

As the industry rapidly developed in the ensuing years (after 1933), each Company became progressively more

able to manufacture on its own, without access to the technical information of the other. Each developed a technical information of its own.

This development was reflected in a deterioration in the frankness with which each supplied technical information to the other. As time passed, the parties became more and more unwilling to continue the arrangement. An instance of withholding information established by the record occurred as early as January, 1934, when National Lead held back certain information from du Pont (Ex. R. 1841). On February 25, 1936, Dr. Booge, who was in charge of du Pont's titanium pigment research, recorded in a memorandum his impression that Mr. Turner of National Lead was withholding information, stating that this was "definitely the first time that this situation has developed" (Ex. R. 4311), meaning that this was the first time withholding had come to du Pont's attention. Beginning in 1936 there is also evidence that the relations between the technical representatives of the Companies were becoming less cordial and more reserved in respect of mutual disclosures of information (Ex. R. 1848-1876, 4314).

The scope of the exchange also became limited in one way or another. By 1937 the parties had officially narrowed the exchange of technical information in two important respects. They provided that no information was to be exchanged on new pigments and new grades of existing pigments until they were released for sale, and that only where authorization of $5,000 or more for new equipment had been made would research reports be exchanged (Ex. R. 1849, R. 903-904; Ex. R. 3086, 4314). Further limitation of the field of technical exchange occurred in 1939 and

early in 1940, when du Pont insisted upon a very strict interpretation of the licensed field of the agreement and advised National Lead that it insisted on eliminating exchange of processes and information relating to the production of extenders as opposed to titanium compounds (Ex. R. 1870-1900).

In April, 1940, du Pont advised National Lead that it was determined to withdraw completely from the exchange of technical information (Ex. R. 1926-1931); and on April 29, 1940, a formal letter canceling the exchange of technical information as of May 1, 1940, was sent by Rupprecht on behalf of du Pont to National Lead and accepted by the latter (Ex. R. 1942). Subsequent to that date no technical information was exchanged between the parties (R. 907, 1167, Ex. R. 4321), and the elimination of the exchange of technical information was formalized in an amendment dated as of January 1, 1941 (R. 73, 1166-1167).

The District Court found (FF 75, R. 289-290):

> "As of about May 1, 1940, the exchange of technical information between NL and DP was discontinued; and the 1933 agreement between TP and Krebs, which had been assumed by NL and DP, respectively, was, by an agreement between NL and DP dated January 1, 1941, (Ex. E-3) amended to eliminate provisions for exchange of technical information".

4. Du Pont's Licensing Policy and Practice

A. *No Refusal to License Under its Patents.* In addition to licensing National Lead, du Pont licensed American Zirconium and Virginia Chemical under titanium pigment patents, including the important rutile patents. The District

Court found that "No other company or person requested such a license from DP" (FF 83, R. 295).

B. *Licenses to Virginia Chemical.* The government charged in its complaint that du Pont and National Lead agreed they would utilize the threat of infringement proceedings to compel Virginia Chemical to accept a license and that before du Pont granted this license to Virginia Chemical it secured the approval of National Lead to the terms thereof (R. 29). At the trial the government likewise sought to have the District Court find that there was joint action taken by du Pont and National Lead against Virginia Chemical (R. 108). To the contrary, the District Court found that:

> "There is no evidence that the action of NL and DP with respect to VC was the result of agreement between NL and DP" (FF 85, R. at 298).

It also found that "VC was organized in 1935 to manufacture titanium pigments in the United States", that "DP notified VC of its patent holdings in the titanium field", that "Negotiations followed which resulted in an agreement, Ex. L, executed August 15, 1937", that "By this agreement DP granted VC a non-exclusive license under a specified list of U. S. patents subject to royalty payment on all production of TiO_2 and subject to limitation on the quantity produced under the license ranging from 3000 tons of TiO_2 content for the year 1937-8 to 9000 tons for 1946 and any year thereafter", and that "VC granted DP a non exclusive, royalty free license under a named patent" (FF 85, R. 297). It further found that "In November, 1940, DP granted VC a similar license under another patent in this field for an additional royalty", that "On July 22,

1943, DP granted VC a similar license under its patents for rutile pigments, without additional royalty", and that "In November, 1944, DP cancelled the quantity limitations in the licenses" (FF 85, R. 297).

C. *Licenses to American Zirconium.* The District Court found that "Early in 1934 Zirconium, which was owned by Glidden Company and by Metal and Thermit Corporation in equal shares, began to manufacture titanium dioxide. It owned some patents relating to such manufacture which it had acquired from its parent corporations" (FF 84, R. 295). Continuing the theme of collusion between National Lead and du Pont, the government charged in its complaint (R. 27), and at the trial urged the District Court to find (R. 107-108), that du Pont and National Lead agreed that they would use the threat of infringement suits to compel Zirconium to accept the license agreements from them and that they further agreed on the terms of the license agreements which they separately granted Zirconium. The District Court refused to make this finding and held instead (R. 198):

> "NL and DP *severally* notified American Zirconium that it was probably infringing".[12]

It also found (FF 84, R. at 296):

> "The evidence does not warrant the inference that the licenses granted by DP to Zirconium and the cross-licensing agreement between NL and Zirconium were made pursuant to a common plan of NL and DP or as a result of concerted action by them."

[12]Italics ours throughout the brief, unless otherwise indicated.

Du Pont commenced its negotiations with Zirconium on January 8, 1934, almost five months before National Lead made its first contact with it (FF 84, R. 295, Ex. R. 1651, 1656). The license arrangements made by du Pont and National Lead were wholly different in form and substance.

The District Court described National Lead's license as "an agreement dated May 6, 1935, Ex. H, whereby NL in lieu of royalties received 10% of the stock of Zirconium, had its president elected to Zirconium's Board of Directors, and NL and Zirconium cross licensed each other under all patents in the titanium pigment field, then owned or thereafter acquired, and both parties agreed to exchange technical information and experience" (FF 84, R. 295). The District Court found that "Zirconium assumed obligations substantially like those of Article XIV of the 1920 agreement, Ex. A, including restrictions on its exports" (FF 84, R. at 296. The 1920 agreement, Ex. A, is described *infra*, pp. 24-25). In other words, the Court found that Zirconium itself did what the Court found that du Pont would *not* do, viz., agree and obligate itself to the restraints imposed by the "principles" of the cartel as the price for obtaining patent licenses from the cartel. On the other hand, du Pont's license (which was executed on August 19, 1935, more than three months after the execution of National Lead's license) merely "granted Zirconium a non-exclusive license under specified patents, for the life of the patents, subject to the payment of a royalty on all TiO_2 produced and subject to a limitation on tonnage of 3,000 tons in 1935, to 9,000 tons in 1944 and thereafter, of titanium dioxide produced under the license" (FF 84, R. 295).

There was no connection between du Pont and any of the foregoing relations between National Lead and Zir-

conium. The District Court found that "On March 7, 1943, DP licensed Zirconium under additional patents without additional royalty" and that thereafter (as in the case of its licenses to Virginia Chemical) du Pont terminated all tonnage limitations under its licenses in November, 1944 (FF 84, R. 295).[13]

B.

Creation and Operation of the Cartel—du Pont not Concerned in This

1. Introductory

There is no substantial suggestion in the record or by the Court that du Pont had any part in the activities described under this heading B. They were discussed by the District Judge in his opinion under a separate heading (R. 200) entitled "The Case Against NL and Tinc", and with no reference to du Pont.

Yet the cartel was the essential subject matter of the case; and the government commenced the case on the charge that du Pont was a genuine member of the cartel just as was National Lead. This was no mere "part" of the case against du Pont; it was originally *the* case against du Pont, and with its collapse the complaint against du Pont might more fairly have been dismissed.

The government has followed a different course. Defeated on the central issue, it has clung on to a subsidiary issue—that du Pont, in accepting a patent license from the cartel, gave it aid and comfort. In its defense against this issue, a description of the cartel becomes important to du

[13]For a detailed statement of the modification of the Virginia Chemical and Zirconium licenses, see pp. 102, 105 below.

Pont itself, not because du Pont was involved in it, but because it shows what du Pont as a new competitor in a new industry had to face.

The Judge found that du Pont made *no agreement* to become a member of the cartel. Our first point in argument is that this is conclusively in favor of du Pont on the merits, as an agreement is necessary under the anti-trust laws.

In the absence of agreement, the question as to how du Pont or any other new competitor was to defend itself in a cartelized industry is a question of the reasonableness of what it does. It must be measured against the very fact that it has been confronted with the situation which we now describe.

2. The Conspiracy

The cartel conspiracy was formed on July 30, 1920, by the Contract of 1920 between Titanium Pigment Co. and Titan A/S (R. 187). This agreement set forth in Article XIV in explicit terms the basic structure of the cartel scheme. It provided:

> (a) For the assignment of North America to Titanium Pigment as its exclusive territory, and of the rest of the world (except South America which was to be common territory) to Titan A/S;
>
> (b) For a patent exchange of present and future patents to conform to the foregoing territorial assignments;
>
> (c) That neither company would ship into the other's territory without its consent;
>
> (d) That each company would prevent exportations into the other's territory of finished articles containing titanium;

(e) A restriction on the granting of licenses, not only under the patents of the other but under its own, unless the licensees agreed to accept the obligations and restrictions of the Contract of 1920.

In the years which followed, the principles of this Contract served as a guide for the members of the cartel. The development of the cartel involved the execution of more than 60 agreements which closely interlocked National Lead and the various foreign manufacturers (R. 188). It was these agreements which the District Court stated in its opinion "confined the international trade in titanium products within the preordained channels where-through it moves only by the grace and under the regulation of NL and its foreign associates" (R. 192). The cartel was in a position to strike down any incipient independent competitor. The network of agreements established private trade barriers around clearly defined territories. No member of the cartel dared trespass into territory allotted to others. All commerce between territories in titanium products was forbidden except by mutual consent, and this suppression of commerce involved not alone patented articles or articles produced by patented processes but all products in the titanium pigment field (R. 191).

In considering du Pont's unique problem at the time the 1933 agreement was executed, it is worth emphasizing the sources of this tremendous power. The power rested not alone upon private trade agreements. It was strongly bolstered by patents, tariffs, the size and influence of the participating units, state subsidies, and control of raw materials.[14]

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[14]For a discussion of the factors which shaped du Pont's export policy, see pp. 43-46 below.

By the time the 1933 patent licensing agreement between du Pont and National Lead was executed, for example, there were two groups of manufacturers of titanium pigments (FF 37, R. 248). They had consolidated their efforts in every important industrial community in the world except the United States and had full control of essential patents and technical information. The first group was founded upon the Barton-Rossi and Jebsen patents. All the members of this group subscribed to the principles of the Contract of 1920, which according to the District Court was evolved "to prevent competition between the parties to the agreement and between their respective sublicensees and between each of the parties and the sublicensees of the other" (FF 46, R. 255). Participating members were intrenched in France, Germany, the British Empire, and later in Japan, Canada and Newfoundland (FF 49-56; R. 256-267).

The other group, based upon the so-called Blumenfeld patents, consisted of important companies in various countries, including England, France, Austria and Italy (FF 37, R. 248). These companies had also allocated territories and cartelized activities among themselves. The two groups were bound together by a significant series of agreements which were already under way at the time the 1933 patent license agreement between du Pont and National Lead was executed. Indeed, the first of these agreements which formed the pattern, an agreement between Aussig (the Blumenfeld company in central Europe), and Titangesellschaft (the National Lead associate in central Europe), had been settled by June 19, 1933 (Ex. R. 1474). Thereafter, supplementary agreements, fully outlined in the District Court's findings (FF 66, 67, R. 273-277), were completed and embraced both patent arrangements and quota understandings.

The two closely knit groups also developed machinery through International Sales Committee meetings for policing the markets, reviewing trends, enforcing quotas, all for the purpose of excluding competitors, as illustrated by reports of these meetings spread upon the record (Ex. R. 2885, 2892, 2915, 2917, 2932).

We will not burden this brief with a detailed chronological statement of the development or with a review of all manifestations of the complete authority and blanketing of the titanium pigment industry resulting therefrom. It suffices here to say that it was established by the government at the trial beyond doubt that the cartelized condition, briefly summarized above, was firmly rooted in the industry at the time du Pont acquired Commercial Pigments and thus entered the titanium pigment business (FF 37, R. 248). Du Pont, as the District Court found, was not a party to the various contracts and agreements which interlocked and solidified this cartel. Indeed, du Pont had but little knowledge of the cartel's activities and took no part in the negotiation, execution or performance of the various agreements by which the cartel was intrenched. The record is replete with evidence that the cartel functioned without consulting or communicating with du Pont and treated du Pont as an outsider, as in fact it was.

C.

Unsuccessful Efforts to Bring du Pont Into the Cartel

1. Consent of National Lead's Foreign Associates to the 1933 Patent Licensing Agreement

A. *Requirement of Obtaining Such Consent.* Du Pont was a wholly free and independent agent in the negotiations

which led to the 1933 patent licensing agreement, but National Lead was not. National Lead was bound by its pre-existing cartel contracts with its foreign associates which prevented it from entering into any arrangement with du Pont without their approval and consent. Specifically, National Lead was obligated by the principles of the Contract of 1920 not to agree to a non-exclusive contract, unless territorial restrictions should be included. The District Court described the situation thus (FF 73, R. 280):

> "Contract Exhibit A by its terms prevented TP from entering into a contract with Krebs unless Krebs subscribed to the provisions of Article 14 of Contract Exhibit A and particularly unless Krebs agreed not to export into the territories of NL's foreign associates and unless Krebs agreed to grant exclusive licenses to NL's foreign associates under all its present and future patents for titanium pigments and compounds in the territories of the foreign associates".

In 1933 the cartel was already at practically full strength.[15] It was in full command in the two principal industrial centers of Europe—Germany and Great Britain—and had an important operating subsidiary in France and

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[15]In 1933 National Lead's immediate foreign associates were Titan, Inc., Societe du Titane (France), British Titan (Britain) and Titangesellschaft (Germany). Jebsen was Titan, Inc.'s active executive (Ex. R. 514); National Lead owned 87% of Titan, Inc.'s stock (FF 4, R. 236). Titan, Inc. owned 78% of the stock of Societe du Titane (FF 49, R. 256). Imperial Chemicals, Goodlass Wall and Imperial Smelting, being together all the principal companies in the British chemical industry, each owned 17% of British Titan's stock, and the remaining 49% was owned by Titan, Inc. (FF 20, R. 241, FF 21, R. 242, FF 52, R. at 260). Titan, Inc. and I. G. Farbenindustrie jointly owned all of Titangesellschaft's stock (R. 193).

through National Lead had a dominating position in the United States.

No competitor could enter the field in the United States without infringement of the cartel-controlled patents unless it either would accept "the principles" of the cartel or could, through some counter-strength or persuasion of its own, move the cartel to back down from its requirement (as du Pont did).

B. *Du Pont's Refusal to Make Illegal Commitment During Negotiations Culminating in the 1933 Patent Licensing Agreement.* British Titan, the English associate, consented to the execution of the 1933 cross-licensing agreement as written as early as May 29, 1933 (Ex. R. 1488). Titan, Inc. and Societe, the French associate, consented through Jebsen (R. 962, 992). I. G. Farbenindustrie, the German associate, however, at first refused to consent (Ex. R. 1479-1480), but, after much correspondence, finally did consent (Ex. R. 1513). The history of how and why I. G. Farbenindustrie consented,—whether in effect I. G. Farbenindustrie gave in to du Pont (as we contend), or du Pont gave in to I. G. Farbenindustrie and thereby accepted the cartel "principles"—is the central battleground in the du Pont case. It is on the basis of such negotiations that the District Court held that du Pont joined the illegal combination and conspiracy of the National Lead group (R. 215, 280-289).

While there is no evidence that du Pont ever saw the 1920 Contract, the District Court found that "NL advised DP of its contracts with TAS in May of 1932 and of the restricted nature of said license agreements" (FF 72, R. at 279). But du Pont declined from the outset of such negotiations to adhere to the principles of the Contract of

1920 and specifically refused to agree to refrain from exporting into the territories of National Lead's foreign associates or to grant them at that time exclusive licenses under its foreign patents. The District Court recognized this (R. 214), and its essential inquiry was into the *reasons* that du Pont assigned for its refusal. What the District Court held, was that "The reasons assigned by DP for its refusal were several, and varied from time to time, but always conspicuous among them was the claim that its adherence was forbidden by the anti-trust laws" (R. 214).[16]

National Lead was eager to reach some form of agreement with du Pont (R. 213). Its first outline of a proposed cross-licensing agreement was inconsistent with the principles of the 1920 agreement in that it sought no commitment from du Pont limiting its exports. In submitting to Jebsen such outline on February 2, 1933, National Lead noted that, if the agreement was accepted by du Pont, "the Titanium Pigment Company will take the necessary steps to bring about an amendment to the license agreement of 1920 between the Titanium Pigment Company and the Titan Company A/S which will permit said cross-licensing without imposing the burdens upon the Krebs Corporation which said license agreement of 1920 would otherwise impose" (Ex. R. 1426).

National Lead foresaw advantages resulting from an agreement with du Pont even though it was inconsistent with the territorial and other provisions of the 1920 agree-

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[16]Thus when du Pont acquired Commercial Pigments, it found that the latter company was obligated by contract to refrain from selling abroad. Du Pont refused to assume such contractual obligations and refused to make any renewal of such agreement with the other contracting party, Blumenfeld (FF 73, R. at 289).

ment (R. 213). The District Court, however, properly pointed out: "NL's motives for this eagerness are not too important. It matters little whether it sought the reciprocal advantage of DP research; or whether it feared DP's hostile competition more than it feared its less friendly, though competitive, collaboration; or whether it anticipated that NL and DP together would constitute an alliance so formidable as to preclude any other important competition" (R. 213-214).

National Lead considered that there was no *practical* justification for any interference by its foreign associates in its obtaining this non-exclusive cross-license agreement with du Pont. National Lead did give some consideration to the territorial problem but apparently felt it was not of major consequence. G. W. Thompson of National Lead wrote Jebsen in February, 1933, stating explicitly: "It is obvious to me that the Krebs Corporation could not possibly do a profitable export business where our European titanium pigment manufacturers have costs so much lower than we have in the United States" (Ex. R. 1422). A month later, in March, 1933, he again stressed the commercial impracticability of titanium pigment exports in referring to the concern of National Lead's foreign associates over the possibility of foreign competition from Krebs: "This [the lack of any territorial commitment by du Pont] may be more of a mare's nest than a reality because I can not conceive how any product, for many years to come, in the Titanium line can compete in cost with foreign products" (Ex. R. 1443).

Some of the Europeans did not see the matter in the same light, however. The Germans insisted upon adherence by du Pont to the cartel principles. The "deviation"

between the proposed du Pont non-exclusive agreement and the cartel "principles" was so substantial as to shock Jebsen, the author and guiding spirit of the 1920 Contract (R. 1003), as he was prompt to make clear in two letters written to National Lead's Thompson from Europe under date of March 1, 1933 (Ex. R. 1430, 1436).

Thompson recorded in a memorandum his impressions upon reading Jebsen's letters (Ex. R. 1443). He there stated: "It is very doubtful if we could directly bring Krebs into fully accepting the fundamental principle Jebsen refers to" and noted the advantages which would, nevertheless in all probability, accrue directly to National Lead, and perhaps indirectly to National Lead's foreign associates, under the agreement proposed.

On April 8, 1933, Rupprecht, President of Krebs, sent to Beschorman, who by this time had taken charge of the negotiations on behalf of National Lead (R. 990-991), the cross-licensing agreement in the form in which it was subsequently executed, and on the same day submitted the agreement to du Pont's Executive Committee for approval (Ex. R. 1451). The agreement contained none of the provisions which Jebsen felt should be included, i.e., it did not compel Krebs "to refrain from sales outside U. S. A. or North America" or commit it to "technical cooperation outside North America" with National Lead's foreign associates.

After Rupprecht sent Beschorman the proposed agreement in final form, the latter took it with him on a trip to Europe in the Spring of 1933 (R. 960, 988). According to Jebsen, Beschorman insisted throughout this trip that "we have got to sell the agreement to the Germans" (R. 960, 988, 1028). Beschorman was "a very self-willed per-

son" (R. 960, 991, 1028) who did not, in Jebsen's view, comprehend the implications of the 1920 Contract (R. 962), and wasn't interested even in discussing it with him because his relations with Jebsen were apparently not cordial at the time (R. 960, 988, 1028). Although Jebsen was discouraged by the fact that he could not convince Beschorman not to enter into an agreement with du Pont because it did not conform to the principles of the Contract of 1920, he finally decided that it was to his best interests, since he was an employee of National Lead, to help Beschorman's efforts to sell the proposed agreement to the Germans (R. 962, 992).

Jebsen and Beschorman presented the proposed agreement to Kuhne of I. G. Farbenindustrie who "just said that the legal department would go through it and then answer it" and then indicated in addition that he "had no doubt that the thing would be all right because National Lead Company was fifty per cent interested in the German Company, and so on" (R. 961, 988). Kuhne proved to be over-optimisitc.

Later Jebsen conferred in Frankfurt on July 19, 1933, with Kuhne and I. G. Farbenindustrie's lawyers, all of whom refused to consent to the proposed agreement (notwithstanding Jebsen's efforts to make them do so) on the ground that it did not conform to the principles of the Contract of 1920 of benefit to I. G. Farbenindustrie (R. 961, 989-990). A few days later Jebsen advised Beschorman that I. G. Farbenindustrie "put forward exactly the same points" which he had laid down in one of his letters of March 1 to Thompson (Ex. R. 1475) thus noting I. G. Farbenindustrie's concern that the proposed agreement did not conform to the principles of the 1920 Contract. Meanwhile, I. G. Farbenindustrie set forth its objections to the proposed agreement in a letter to Jebsen (Ex. R. 1479):

"We have carefully examined how this contract affects the interest-sphere of Titangesellschaft, and it seems to us, that at least one important point in the new contract has not been clearly expressed, namely that Krebs unconditionally have to respect the territory reserved Titangesellschaft in the License Agreement of October 1927 between Titan Co. A/S and Titangesellschaft, that is that Krebs

"a) shall not themselves manufacture in the territory of Titangesellschaft,

"b) shall not make deliveries in this territory,

"c) shall also impose upon their customers a corresponding obligation not to deliver in this territory,

"d) shall grant sublicenses only to undertakings outside this territory and for use outside of this territory,

"e) shall strictly observe the same limitation as under d) also regarding the experiences of which they get knowledge and which originate from Titangesellschaft.

"We consider it of the greatest importance to have this point made clear, as otherwise the unbearable situation may arise for the Titangesellschaft, that Krebs compete with Titangesellschaft in the latter's territory, with T.G.'s own patent-rights and experiences which are transmitted to Krebs through Titanium Pigment Company."

On June 22, 1933, Jebsen cabled Beschorman advising him of the substance of I. G. Farbenindustrie's objections (Ex. R. 1472). Beschorman did not send Rupprecht a copy of either I. G. Farbenindustrie's letter or Jebsen's

cable but instead sent to Rupprecht a portion of Jebsen's cable which read as follows (Ex. R. 1473):

> "Agreement Krebs acceptable to I G Farbenindustrie provided clearly expressed by Krebs in some form that they will respect Titangesellschafts territory not manufacture there make no deliveries direct or by customers give no sublicenses and no technical aid for manufacture within or for that territory Stop I G considers three years agreement short in view of parting with experience and suggests five years but makes it no condition Stop I Gs reservations should also apply Titan Incs territory."

Jebsen's cable to Beschorman noted that he would leave Europe for New York on July 1, 1933, but Beschorman did not pass on this information to Rupprecht (Ex. R. 1472, 1473, R. 961, 990), and before Jebsen arrived Rupprecht had written to Beschorman a letter dated June 28, 1933, stating, in polite but firm language, du Pont's refusal to change the written contract for the purpose of meeting I. G. Farbenindustrie's objections and giving his reason: that such changes would make the arrangement in violation of the Sherman Act (Ex. R. 1483). This is one of the two crucial letters in the case as far as the District Judge's findings adverse to du Pont are concerned. The letter is discussed and analyzed at some length in subsequent portions of the brief and its full text is set forth in Appendix A.

In an intra-office contemporaneous memorandum to an official of du Pont, written at the same time, Rupprecht noted that he had talked several times with Beschorman on the subject, and that Beschorman felt that Rupprecht's letter "should take care of the situation" (Ex. R. 1485).

Rupprecht's position in his conversations with Beschorman is made clear by the following quotation from the memorandum:

> "I told him that it was a selling job for them to make I. G. realize that they were putting their interests in National Lead's hands, and that they would be well taken care of. Mr. Beschorman told me that when he saw Dr. Kuhne, in charge of the I. G. Titanium Plant at Leverkusen, Germany, the latter definitely said that it all seemed o.k. to him and he would write a letter of approval. Instead of the letter of approval, this cable was received.
>
> "There is no further move to be made now as the next step is up to National Lead. * * *"

And in another contemporaneous memorandum he noted concerning his letter that Beschorman "seemed to feel this ought to take care of the situation, so we now have to sit back and leave the rest to them" (Ex. R. 1487).

Beschorman did not send Rupprecht's letter to I. G. Farbenindustrie immediately on receipt; instead he prepared a letter dated July 12, 1933 (Ex. R. 1496), set forth in full in Appendix A to this brief, which Jebsen eventually enclosed, together with Rupprecht's of June 28, in a letter which Jebsen wrote to I. G. Farbenindustrie on July 21, 1933 (Ex. R. 1495). Beschorman showed his letter to Rupprecht and sent him a copy for Krebs' records before it was sent to I. G. Farbenindustrie (FF 73, R. at 287). There is no evidence as to what, if anything, Rupprecht did about the Beschorman letter. Rupprecht died before the trial (R. 283, 1152); and neither the government, which of course had the burden of proof, nor National Lead, whose officer Beschorman had been, called the

latter as a witness. He was in fact seriously ill, and has since died.

In the interim, on arriving in New York, Jebsen resumed his attempts to get Beschorman to persuade Rupprecht to subscribe to the principles of the Contract of 1920, but his efforts fell upon deaf ears (R. 1028-1029). Jebsen also had one meeting with Rupprecht, at which he himself attempted to persuade Rupprecht to subscribe to the principles of the 1920 Contract (R. 961, 1042). Neither at this time nor at any other time did Jebsen ever succeed in obtaining Rupprecht's oral or written agreement to adhere to such principles (R. 961-2). Rupprecht explained to Jebsen in definite terms that he could not do so (R. 993-994, 1030-1031). Jebsen found that Rupprecht was "too slippery" (R. 961); had "too many answers" (R. 993); was "evasive" (R. 998); was "a man you never could pin down to anything" (R. 1002, 1044); and never got down "from sound to things" (R. 1032). He, therefore, came away from the conference not feeling "happy" (R. 994, 1033, 1035) but "hoping that as time developed I might be able to get him to understand and sooner or later fall in line" (R. 995). Jebsen was also feeling "uncertain about the future" (R. 1033), was not "satisfied" (R. 1043-1044) and was thinking that "we would have to take a chance" (R. 1031).

Jebsen in writing to I. G. Farbenindustrie after his meeting with Rupprecht (Ex. R. 1495) made an effort, similar to the effort made by Beschorman in his letter, to persuade I. G. Farbenindustrie that du Pont would not act in a manner detrimental to I. G. Farbenindustrie's interests, but none of their letters purported to state that du Pont had in fact subscribed orally or otherwise to the 1920 Con-

tract. Like Beschorman, Jebsen was attempting to sell the agreement to the Germans (R. 959-960, 1029, 1036-1040). Jebsen testified that his letter (Ex. R. 1495) was merely a recommendation to the Germans that the best thing to do "was to go ahead and take a chance in the matter" (R. 1038, 1052, 961). Jebsen did not represent I. G. Farbenindustrie's interests at any time during the negotiations (R. 992, 996). The Germans fully appreciated that he was free to advocate National Lead's viewpoint (R. 1034-1035, 1036-1039, 995-996). Jebsen testified that "if there had been any oral understanding" during his visit to the United States "it would be natural for me to go to the Germans and explain that" (R. 1021-1022). He did not do that on his return to Europe (R. 1021-1023). On August 7, 1933, I. G. Farbenindustrie consented to the proposed agreement in a letter to Jebsen (Ex. R. 1513), who was then back in Europe, which concluded, wholly without justification and presumably to save face in view of its prior objections, that Krebs "will loyally respect the territorial delimitations as regards manufacture, granting of licenses and sale" in accordance with the basic agreements of Titan, Inc. and Titangesellschaft (FF 73, R. at 288). The District Court found that "There is no evidence that the aforesaid construction was communicated to DP" (FF 73, R. at 288).

On August 28, 1933, Exhibit E was executed by Krebs and Titanium Pigments Co., as subsidiaries of du Pont and National Lead, in the form originally submitted by du Pont on April 8, 1933, prior to which time it had been approved by du Pont's Executive Committee.[17]

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[17]The 1933 agreement was attached as Exhibit A to du Pont's answer (R. 69); it became Exhibit E at the trial (R. 280).

2. *Du Pont Remained Independent During the Period Subsequent to 1933.* The conduct subsequent to the execution of the 1933 patent licensing agreement need only be briefly summarized here, inasmuch as the District Judge, in spite of the government's urgings, failed to find in it evidence sufficient to support a finding that du Pont entered the cartel conspiracy either in 1933 or at a later date. We have already shown that following this agreement a highly competitive situation developed in the United States titanium pigment market, du Pont and National Lead competing not only with each other but with the two other producers in the field, without division of customers or territory and without price agreement or other restrictive practices.

And that neither National Lead nor its foreign associates regarded du Pont as one of the group, is evident from their files subsequent to the execution of Exhibit E which disclose beyond any question that they were constantly seeking unsuccessfully to persuade du Pont to join forces with them. Thus, in the Summer of 1934, Jebsen wrote to Beschorman stating (Ex. R. 2938):

> "In these matters of technical co-operation, we have, as you know, laid down and established very definite rules between our various associated companies. The basis for co-operation with DuPont is somewhat different and by far not so defined."

On January 4, 1935, Jebsen again wrote to Beschorman in a form clearly indicating that at that time he did not consider du Pont to have subscribed to the principles of the 1920 Contract (Ex. R. 2953-2955):

> "At present we have a better opportunity than at any other time to bring Krebs to our views, be-

cause of their infringement of Titan Co.'s patents, later it will be more difficult because on the one side Titan Co.'s opportunities of making new inventions are lessened and our German and English associates with larger staffs in close contact with actual production are increasing.

"Our aim should be to get the relations with Krebs as far as possible in line with the ideas and conditions laid down in Article XIV of the license agreement of 1920 * * *."

Nothing could have resulted from this, either, for in August, 1937, Jebsen again wrote, this time to National Lead's Kaegebehn, stating: "I hope that DuPont also will come in line and realize the advantage of our co-operation in the whole Titanium field" (Ex. R. 2521), and there was other correspondence in the same year to the same effect (Ex. R. 2536).

The government emphasized the fact that du Pont entered into license agreements with Titan, Inc. (Ex. R. 406, 412, 455, 470, 486), in the years 1937, 1938, 1939, 1940 and 1941. But admittedly these agreements related only to specifically identified patents and were licenses only. None of them precluded du Pont from utilizing its foreign patents abroad, and each of them was negotiated separately pursuant to the provisions of Article V of the 1933 agreement.

The Court considered whether this Article had been in any degree modified by subsequent oral understanding, and found an oral understanding to exist (FF 89, R. at 301) which, however, was not in itself illegal or sufficient to make du Pont a conspirator. While the finding as to the oral understanding is not supported by the evidence (e.g. Ex. R. 3056-3058), we do not stress this point, since it was of no

major consequence in the ultimate decision (R. 213, FF 73 at R. 289). The finding, such as it was, seems to have been based on a misreading of a negotiation in 1938.

Jebsen came to the United States on May 17, 1938 (R. 760). He was still dissatisfied with the relations between the Titan Companies and du Pont because the principles of the 1920 agreement had not been accepted (R. 1039-1040), and he determined to make another attempt to get "Rupprecht into line" (R. 1041). He also found it both annoying and inconvenient to clear each specific license agreement with National Lead's foreign associates and he thought it would be highly desirable to arrange a general agreement between du Pont and National Lead (R. 1040-1041).

Jebsen and Kaegebehn of National Lead had two meetings with Rupprecht during Jebsen's brief stay in the United States (R. 771). The first of these meetings took place on June 3, 1938, in National Lead's offices (R. 771). At this meeting the idea of any general agreement was abandoned after Rupprecht specified the refusal of du Pont's Legal Department to sanction such an arrangement (R. 779-781).

A subsequent meeting was held in Rupprecht's office in Wilmington on June 8, 1938, at which some final details with respect to a specific du Pont-Titan, Inc. patent license agreement were considered, and the negotiations came to an end (R. 771, 778, Ex. R. 3077). Jebsen returned to Europe soon after the June 8 meeting (R. 778).

The upshot of his negotiations had been that he had failed to obtain any satisfaction from du Pont, which continued to refuse any general cooperation. The most that Jebsen was now reduced to seeking was that du Pont should

not, in licenses (individually negotiated) to European companies, reserve rights to itself. Even this was refused.

Rupprecht's memoranda submitting each of the patent licenses to du Pont's Executive Committee for approval also show that the reservation of du Pont's rights was genuine. Rupprecht stated, when recommending approval of the first of them (Ex. R. 4221):

> "Since the patents covered by this agreement offer little possibility of return, this agreement will permit the Company to maintain these patents without expense, and it is, therefore, recommended that the Management be authorized to execute the license as herewith submitted."

And when recommending approval of the second (Ex. R. 3044):

> "Since the patents covered by this agreement offer very little possibility of return, the agreement enables the Company to maintain the patents without expense to us, and also retain all rights of manufacture and sale for the Company in the countries mentioned."

And when recommending approval of the third and fourth (Ex. R. 4224, 4226, 4228, 4236):

> "Titan Company, Inc., assumes all costs incidental to the filing and prosecution of our applications under this license; pays all necessary maintenance fees during their life; and cannot permit abandonment without our approval. * * *
>
> "* * * we retain all rights of manufacture and sales for the Company under our foreign patents, without any filing or maintenance costs."

And when recommending approval of the fifth (Ex. R. 4241, 4244):

> "Titan Company, Inc. assumes all costs incidental to the filing and prosecution of our foreign applications under this license; pays all necessary maintenance fees during their life; and cannot permit abandonment without our approval. * * *
>
> "* * * Furthermore, the du Pont foreign applications and patents under which Titan Company Inc. will be licensed are of relatively minor importance, and we retain all rights of manufacture and sale for du Pont under our foreign patents without any filing or maintenance costs."

It is apparent, therefore, that whatever the pressure of Jebsen and National Lead, du Pont on its side succeeded in remaining clear of the conspiracy and in determining its own policy by reference to *patent considerations only*, in harmony with the anti-trust laws.

3. *Du Pont's Export Policy Maintained for Valid Business Reasons.* Du Pont adhered to the export policy which it had stated in 1933 it was then pursuing. This course of conduct reflected a number of economic, business and legal factors apart from the obvious fact that general economic conditions, particularly in Europe, during this period were not conducive to foreign trade (R. 1137-1141, Ex. R. 711, 1233, 1535).

Of major importance was the fact that du Pont's energies during this period were necessarily wholly devoted toward meeting United States domestic demands for titanium pigments. In spite of the fact that total production in this country increased more than tenfold from 1933 to 1944, this proved no more than necessary to meet the demand.

As the District Court found, du Pont "made frequent plant expansions for the manufacture of pure and composite TiO_2" (FF. 78, R. 290). Nonetheless, new uses and outlets for titanium pigments developed. Du Pont throughout the period following 1933 was faced with a continuing problem of constructing capacity sufficient to meet the demands of the United States market. Du Pont operating at full capacity never had surplus capacity available to permit allocation for export to Europe or other foreign countries even assuming that such exports would have been possible (Ex. R. 4397, 4398).

Mr. Daley who was directly responsible for du Pont's titanium pigment production testified "I was in production exclusively at the time and I remember that sales were ahead of capacity or were forecasting that they very soon would be and I was scrambling for a period of eight solid years. That is my vivid recollection" (R. 1163). Detailed charts introduced in evidence for the purpose of illustrating the relationship which existed in du Pont's manufacture between sales and capacity for both pure tianium oxide and composite pigments showed a constantly over-sold condition in spite of persistent and numerous substantial plant expansions (R. 1162, 1163).

Not only was capacity inadequate to provide a firm basis for a development of export sales, but it is significant that the entire European market has always accounted for substantially less production and sales of titanium pigments than the United States alone (R. 967, 968, 1146, 1147, Ex. R. 2623, 3786, 3787, 3814).

Furthermore, even if du Pont had had any export capacity, it would not have regarded Europe as an attractive potential market. European costs were below American

costs (Ex. R. 2024, 822, 1264), and this was recognized to be a most significant factor (Ex. R. 1422). Moreover, to sell titanium pigments in foreign markets, du Pont would have been required to set up a technically trained sales force which would be in constant communication with the customer's particular problems and thoroughly familiar with the needs and requirements of the particular trades served. This was because titanium pigments cannot be sold in neat packages for ready utilization of a wide consumer market. They must be individually sold for special uses and with regard to many technological manufacturing problems (R. 950, 1055, 1155, 1078, Ex. R. 4325, 4360).

Finally, but of major consequence in connection with the whole United States problem, was the consideration which necessarily had to be given to the strongly intrenched position of competitors manufacturing titanium pigments in the foreign markets. These European manufacturers, particularly in Great Britain, had not only the advantage which flowed from high protective tariffs (Ex. R. 2072, 1270, 753, 1230, 758, 766, 822, 3340, R. 949), but they had also many advantages over United States producers because of special arrangements for obtaining sulphuric acid or other raw materials, because of generous support from their respective governments by subsidy or otherwise, and because of the power which they obtained through various cartel arrangements which existed among these European manufacturers.

They also were in a position to assert their patents against du Pont exports. Prior to the cross-license agreement between du Pont and National Lead, for example, the major European manufacturers had obtained patent rights in foreign countries under the very basic and essential Jebsen and Blumenfeld patents (FF 33-34, R. 245-247).

Du Pont was manufacturing titanium pigments in the United States under the American Blumenfeld patents in infringement of the Jebsen United States patents (Ex. R. 1171). It had no rights under the foreign equivalents of these Jebsen or Blumenfeld patents (FF 34, R. 247, Ex. R. 1419). The result of this was that under the laws of all important foreign industrial countries, the principal foreign manufacturers as owners of these foreign patents were in a position to assert the patents as a bar to the importation of products made abroad under the same processes (R. 1143, 798, 801, 805). These laws are summarized in Appendix C.

In the light of the foregoing facts which the record indicates were well known and considered at the time in the industry, it is not surprising that du Pont failed to export; nor is it surprising that the District Judge accordingly refused to find an agreement by du Pont not to export implied from the course of conduct which it pursued—a course of conduct clearly prompted by sound and reasonable business considerations.

4. *The 1941 Amendment to the 1933 Patent Licensing Agreement Retained du Pont's Independence.* National Lead and du Pont amended Exhibit E by a written agreement dated as of January 1, 1941. The amendment changed the substance of the 1933 agreement so as to (1) specifically include extenders within the term "licensed field", (2) defer exchange of patent applications until six months after filing, and (3) eliminate exchange of technical information (Ex. R. 112).

In the Spring of 1940, as heretofore pointed out, du Pont had insisted upon eliminating its exchange of technical

information with National Lead; and the exchange had in fact ceased at that time. Du Pont then suggested that a new agreement be drafted to confirm this (Ex. R. 1929), as well as to take care of other points. In the Fall of 1940 the question of adjusting the 1933 agreement was referred by National Lead to Jebsen, who was then in Paris (Ex. R. 1948). Jebsen indicated very clearly that he preferred that the matter be handled in the form of an amendment rather than a new contract (Ex. R. 1953). He suggested that an amendment could be effected without consulting National Lead's European associates, and that this course of action was justified by the "international situation" (Ex. R. 1955). Jebsen then went on to point out why a more delicate question would be presented if an entirely new contract was drafted, indicating quite clearly his desire to avoid further discussions with I. G. Farbenindustrie and the foreign associates similar to those which had been brought about in 1933 because of the "drastic deviation" of the 1933 agreement from the fundamental "principles of" the 1920 agreement. Jebsen's letter noted in this connection that the raising of these questions anew would certainly be troublesome because "Du Pont will not be in a position to give more consideration than the last time" (Ex. R. 1956).

Whether these views were ever relayed to du Pont, the record does not indicate, but it is a fact that the matter was eventually handled in the form of an amendment (R. 73). There is no evidence that in connection with this amendment du Pont was asked to enter into any understanding or that it did in fact commit itself in any degree beyond the written terms of the instrument.

SPECIFICATION OF ASSIGNED ERRORS TO BE URGED

The following Assignments relate to the entire Part One of the Argument of this brief: I; II; III-(11); V-(2); VI; VII.

The following Assignments relate to the alleged connection between du Pont and the international cartel, and, therefore, are urged under Point I of Part One of this brief: III-(1), (2), (3), (4—except sub (5)), (7), (8), (9), (10); IV except (3) and (8); V-(1).

The following Assignments relate to the 1933 agreement and amended agreement, and to the competitive situation in the American domestic industry, and are, therefore, urged under Point II of Part One: III-sub(5) of (4), (5), (6), and that part of (7) which relates to the construction of the 1933 agreement; IV-(3) and (8).

Assignment II-(3) deals with paragraph 7 of the decree, and, therefore, covers the subject matter of Part Two of this brief, which deals only with the one sentence of paragraph 7 which (we submit) should be eliminated from the decree even if the decision below be affirmed on the merits against du Pont. The sentence in question orders du Pont to supply technical information to licensees.

SUMMARY OF ARGUMENT

The Sherman Act interdicts "every *contract, combination* in the form of trust or otherwise or *conspiracy,* in restraint of trade." Du Pont contends that it neither conspired, combined nor contracted in a manner prohibited by that Act. This point is discussed in Point I of Part One immediately following.

The District Court concluded that du Pont conspired and combined to restrain trade in violation of Section 1 (R. 306), but this conclusion cannot be sustained in view of the specific findings that du Pont made no promise or agreement, express or implied, either to join the cartel conspiracy and combination or to further its purposes and objects.

The District Court's decision is also open to the interpretation that in some manner du Pont combined with National Lead and its foreign associates through conduct which fell short of that from which agreement can be inferred but yet constituted combination. The suggestion that any proper basis exists for distinguishing a conspiracy from a combination under the Act is in itself novel and has not been previously advanced. Proof of combination, like proof of conspiracy, has traditionally been held to require proof of express or implied agreement.

Even if some such lesser conduct may establish participation in a combination under special circumstances, here du Pont followed a wholly reasonable course of conduct. Its actions resulted in no unlawful restraint but rather brought about the development of a competitive titanium pigment business in the United States.

Du Pont made no contract prohibited by the Sherman Act. Its non-exclusive patent cross-licensing agreement of 1933 with National Lead, which was not attacked by the government, was conducive to competition and wholly consistent with the decision of this Court in the *Cracking* case. We discuss below the validity of this agreement which was criticized by the District Court but not held illegal.

If the judgment of the District Court as to du Pont is not reversed on the merits, du Pont submits that there is

one provision of the decree which should be eliminated. That is the provision requiring disclosure of du Pont's existing and future technical information in the field of titanium pigments. The District Court did not have the legal authority to require the compulsory licensing of such technical information, and its order in this regard in any event constituted a serious abuse of discretion. This point can be very shortly argued, and we, therefore, defer it to the end of the brief (Part Two, *infra*, p. 109).

ARGUMENT

PART ONE

THE DECISION BELOW SHOULD BE REVERSED AS TO DU PONT

POINT I

DU PONT DID NOT BECOME A MEMBER OF THE INTERNATIONAL CARTEL

(A)

THE DISTRICT JUDGE FOUND THAT DU PONT DID NOT AGREE TO BECOME A MEMBER OF THE CARTEL. THE ABSENCE OF AGREEMENT IS FATAL AT LAW.

As far as the merits are concerned this appeal presents at the outset a clearly defined issue, namely, whether du Pont may be legally held to have joined the cartel conspiracy in view of the explicit findings that du Pont made no agreement, understanding or promise of any kind, express or implied.

An examination of the District Court's findings relating to du Pont's entry into the cartel conspiracy should be made in the light of the charges originally tendered by the government in its Complaint and the action taken by the Court on the evidence with respect thereto. In brief, the government's case disintegrated as far as du Pont was concerned. It charged du Pont with participation in the cartel conspiracy on the specifically stated theory that du Pont had by oral agreements subscribed to the principles of the Contract of 1920 and otherwise made explicit commitments

of an illegal character to National Lead. When the evidence was in it wholly failed to support the government's charges as to du Pont's participation. Without burdening this brief, we may in short space present by parallel columns below a comparison of the government's theory of the case, on the one hand, with the facts as established to the satisfaction of the District Judge on the other. The District Judge not only refused to find as requested by the government but actually on many crucial points made findings precisely opposite to the government's position; *cf. Hartford-Empire Company* v. *United States*, 323 U. S. 386 (1945), at pp. 403-406.

After the purchase of Commercial Pigments by Krebs in July 1931, du Pont "continued negotiations to reach a world-wide agreement" which would eliminate competition between the National Lead and Blumenfeld groups. (Govt's Proposed Finding 63, R. 104, see also Complaint, par. 53, R. 22).	After the purchase of Commercial Pigments by Krebs in July 1931, du Pont did not authorize participation in the "continued negotiations to reach a world-wide agreement" between the National Lead and Blumenfeld groups. (FF 71, R. 278).
National Lead's patents "were either not valid or could be avoided at a slight additional expense." Both du Pont and National Lead "agreed not to contest the validity of any of their patents." (Govt's Proposed Finding 64, R. 105).	Both du Pont and National Lead "in good faith claimed that each infringed certain of the other's titanium pigment patents and both in good faith denied such infringement claiming, among other things, that the patents alleged to be infringed were of doubtful validity." (FF 72, R. at 279).

Du Pont was willing to subscribe by "an oral understanding" to "the provisions of the Contract of 1920." (Complaint, par. 54; R. 23). By virtue of the 1920 agreement and oral understandings, du Pont "has in fact subscribed to said Contract of 1920." (Complaint, par. 61, R. 27).

For National Lead to license du Pont without the consent of National Lead's foreign associates it was necessary that du Pont "adhere to the principles of the 1920 agreement; such adherence du Pont refused." (Op., R. 214). Du Pont "did not subscribe to the 1920 agreement; the agreement it did sign in 1933, deviated sharply from the form and from the principles of the 1920 agreement." (Op., R. 213).

Rupprecht, on behalf of du Pont, orally agreed with Beschorman of National Lead that du Pont would not "export any titanium compounds outside of the United States except to South and Central America." (Complaint, par. 55, R. 24; see also Govt's Proposed Finding 66, R. 106).

Du Pont did not agree "that it would refrain from exporting titanium pigments * * *." (FF 73, R. at 288).

The 1933 agreement "restricted the sale of titanium pigments by DP to the United States, Central and South America." (Govt's Proposed Finding 67, R. 106-107).

The District Court refused to make this finding.

Du Pont "did not clearly repudiate" any obligation to the Blumenfeld group until after the execution of the 1933 agreement. (Govt's Proposed Finding 64, R. 105-106).

Before 1933 du Pont "disclaimed any obligation" to the Blumenfeld companies. (FF 88, R. 300).

Du Pont "orally agreed with Blumenfeld that it would not export into the territories of the Blumenfeld companies outside of the United States." (Govt's Proposed Finding 66, R. 106; see also Complaint, par. 65, R. 29-30).

Blumenfeld requested du Pont "not to export." Du Pont advised that it "would make no such agreement * * *." (FF 73, R. at 289).

The District Judge, in rejecting the government's contentions, adopted a very novel theory and relied upon a single circumstance which he isolated from other transactions of record in holding that du Pont joined the conspiracy and combination.

The opinion reflects the course of reasoning by which the District Judge reached the conclusion that du Pont should be held a member of the cartel conspiracy. Appendix B to this brief contains a very detailed and lengthy analysis of the District Judge's opinion. In ordinary circumstances we would have refrained from burdening the Court with such material. The situation confronting du Pont in this case, however, is unique. Not only was the opinion submitted before the findings were finally framed, but in the conferences with the District Judge counsel were instructed to assist the Judge to conform the findings to the opinion for the reason that the opinion represented his considered judgment on the merits. Since the District Judge's reasoning in the last analysis presents essentially the application of legal principles which we here contest, a detailed review of the manner in which such principles were applied to the facts will, we believe, help this Court in reaching a determination of du Pont's appeal on the merits.

It will be recalled from the Statement of the Facts (pp. 29 to 39, *supra*) that Rupprecht, du Pont's represen-

tative during the course of negotiation of the 1933 non-exclusive patent cross-licensing agreement, was shown by Beschorman a copy of the National Lead letter of July 12, 1933 to I.G. Farbenindustrie. This occurred before the letter was mailed. The natural question arose, what did Rupprecht say or do under these circumstances. Rupprecht had died by the time of trial and Beschorman was too ill to testify. No one else was present when Beschorman showed Rupprecht the National Lead letter to I.G. Farbenindustrie. Consequently no oral testimony could be presented either by the government or by the defendants bearing on this question. There was also no written memoranda or other documentary evidence produced covering the conversation which must have taken place. The record merely establishes the simple fact that Rupprecht was shown the letter before it was mailed.

The District Judge found on these facts as follows (FF 73, R. at 287-288):

> "There is no evidence that Rupprecht remonstrated against the sending of Beschorman's letter to IG. Krebs and DP through Rupprecht acquiesced in and ratified the assurance made by Beschorman to IG as to territorial delimitations of the titanium pigment business. In acquiescing in such assurance that DP would not manufacture in or sell in TG's territory, DP was not making a promise; it was doing no more than giving expression to its then existing policy not to manufacture or sell in Germany and other TG territory. * * *
>
> "DP did not agree with TP or NL that it would refrain from exporting titanium pigments into TG's territory; but it assured TP and NL that, as a practical matter, such exports would not take place.

> "DP did not agree with TP or NL that it would grant NL's foreign associates exclusive licenses under DP's foreign patents; but it gave assurances that the practical effect of its conduct would produce substantially identical results as if it did so agree."

These findings, which, as the District Judge indicates in his opinion, form the basis for his conclusion after a review of all the evidence that du Pont became a special member of the conspiracy and combination, boil down to a simple statement that du Pont, on the basis of its then existing export policy, assured National Lead that as a practical matter exports would not take place.

There is no doubt as to what the District Court meant by the term "assurance". The word "assurance" had a very definite meaning in the Judge's mind. "Assurance" was chosen deliberately to express his finding that no agreement, express or implied, between du Pont and National Lead or National Lead's foreign associates could be found on the facts. The Judge used the word in its connotation of "a declaration tending to inspire confidence" [18] and not as signifying an obligation or promise. This is made clear by his finding that in acquiescing in such assurance du Pont "was not making a promise; it was doing no more than giving expression to its then existing policy not to manufacture or sell in Germany and other TG territory" (FF 73, R. at 287-288, Op. R. 216). It is not without significance that the government sought again and again in its proposed findings (Govt's Proposed Findings 66, 68, R. 106, 107) and before the Judge in conferences on the Findings to have the word "assurance" changed to agreement

[18] Webster's International Dictionary.

or promise, but he declined.[19] And in order that there could be no doubt as to his position, the Judge expressly found that du Pont did not agree that it would refrain from exporting or that it would give exclusive licenses,—findings which the government has not challenged and by which it must be bound.

The foregoing analysis of the findings demonstrates that the District Judge held that du Pont's mere unilateral statements with respect to its existing business policy were sufficient to hold it had joined the cartel conspiracy or combination.

The issue of law thus presented is therefore:

> Can the anti-trust laws be violated by a statement on the part of one company to a competitor that it is its existing business policy not to sell in some foreign territory when it is admitted that no agreement or commitment of any sort not to change the policy the next day was expressed or can be implied?

Du Pont contends that the District Court erroneously applied the law of conspiracy to the facts as found and the case against du Pont must accordingly be dismissed. To accept the District Court's affirmative answer to this proposition, which was the sole basis upon which the District Court, after reviewing all the evidence, found du Pont to have participated in the cartel, would represent a substantial step in the direction of the civil law doctrine of crime by

[19] That the Judge meant that an agreement did not exist, however informal or from whatever circumstances deduced or inferred is made doubly clear by his refusal to accede to the government's request to amend the findings by inserting the word "formally" or "in writing" in the phrase "du Pont did not agree."

association and a definite departure from long and well established precedent.

From the genesis of the law of conspiracy down to this case the one essential and necessary element of conspiracy has been the *fact* of an agreement, express or implied, between the conspirators. The earliest definition of conspiracy recorded in Anglo-American law, contained in the Third Ordinance of Conspirators which was passed in 1304, is:

> "Conspirators be they that do confeder or bind themselves by Oath, Covenant, or other Alliance, that every of them shall aid and support the Enterprise of each other falsely and maliciously to indict, or cause to be indicted (or falsely to acquit people) or falsely to move or maintain pleas;" etc.[20]

Gradually, by statute and decision, the offense was broadened to embrace other objectives, but the requirement of agreement has never changed. However proved, whether directly or indirectly, and from whatever circumstances the inference was permitted to be drawn, and whether the agreement was formal or informal or express or tacit, the fact of agreement remained a necessary element of the offense.[21]

The essential nature of a conspiracy under the Sherman Act,[22] and under other Federal conspiracy laws,[23] remains the same as it was at common law.

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[20]See Sayre, *Criminal Conspiracy* (1922) 35 Harv. L. Rev. 393, 396.

[21]Wright, *The Law of Criminal Conspiracies* (London, 1873), p. 69 *et seq.*

[22]*Nash* v. *United States*, 229 U. S. 373 (1913).

[23]*E.g.*, *Section* 37 of the Criminal Code. See *Bannon and Mulkey* v. *United States*, 156 U. S. 464, 468, (1895); *Pettibone* v. *United States*, 148 U. S. 197, 203 (1893).

This Court has times without number reiterated the proposition that "a conspiracy is constituted by an agreement" that "a conspiracy is a partnership in criminal purpose" [24] and that "the gist of the offense of conspiracy * * * is agreement among conspirators".[25] Occasionally, the term "concert of action" has been used, but always as meaning either action taken together pursuant to agreement or action from which the fact of agreement can be reasonably inferred.[26]

The cases have emphasized again and again the necessity for the government to prove at least collective planning or federating or combining for a criminal purpose. The government must show that the parties worked together understandingly with a single design for the accomplishment of a common unlawful purpose.[27] Whatever the definition of "concert of action", it has not been stretched

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[24] *United States* v. *Kissel*, 218 U. S. 601, 608 (1910).

[25] *Braverman* v. *United States*, 317 U. S. 49, 53 (1942), *United States* v. *Falcone*, 311 U. S. 205, 210 (1940). To the same effect see, *e.g.*, *Direct Sales Co.* v. *United States*, 319 U. S. 703 (1943); *Morrison* v. *California*, 291 U. S. 82 (1934); *American Column & Lumber Company* v. *United States*, 257 U. S. 377 (1921); *United States* v. *Andolschek*, 142 F. (2d) 503 (C. C. A. 2d, 1944); *Bacon* v. *United States*, 127 F. (2d) 985 (C. C. A. 10th, 1942); *Hammer* v. *United States*, 134 F. (2d) 592 (C. C. A. 5th, 1943); *Schmeller* v. *United States*, 143 F. (2d) 544 (C. C. A. 6th, 1944).

[26] *E.g.*, *Direct Sales Co.* v. *United States*, 319 U. S. 703 (1943); *Interstate Circuit, Inc.* v. *United States*, 306 U. S. 208 (1939); *Eastern States Retail Lumber Dealers' Ass'n.* v. *United States*, 234 U. S. 600 (1914).

[27] *Braverman* v. *United States*, 317 U. S. 49, 53 (1942); *United States* v. *Falcone*, 311 U. S. 205, 210 (1940); *Gebardi* v. *United States*, 287 U. S. 112, 121 (1932); *Wong Tai* v. *United States*, 273 U. S. 77, 81 (1927); *Frohwerk* v. *United States*, 249 U. S. 204, 209 (1919); *Williamson* v. *United States*, 207 U. S.

to embrace du Pont's wary arm's-length dealings with the combination in this case.[28] Indeed the extension of the law of conspiracy by the courts and the abuse of that law by the prosecuting arm of government has for some time been a matter of grave concern to those interested in the maintenance and development of an equitable system of law according with Anglo-Saxon traditions of justice.[29] We believe that this case presents a clear and dangerous extension of the definition of conspiracy, the seriousness and importance of which transcends this cause and the purely private interests of this appellant and should not be obscured by the fact that this litigation happens to be civil in form. Indeed, a criminal indictment involving precisely the same transactions and allegations is pending against National Lead and du Pont and four individual defendants in the Southern District of New York.

The doctrine that agreement is an essential element in proving conspiracy is so well established and rooted in common law precedents that further discussion would appear unnecessary. Three recent decisions of this Court; namely, *Interstate Circuit, Inc.* v. *United States*, 306 U. S. 208 (1939); *United States* v. *Masonite Corporation*,

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425, 44[illegible]908); *Bannon and Mulkey* v. *United States*, 156 U. S. 464, 468 (1895); *Dealy* v. *United States*, 152 U. S. 539, 547 (1894); *Pettibone* v. *United States*, 148 U. S. 197, 202 (1893); *United States* v. *Britton*, 108 U. S. 199, 204 (1883); *United States* v. *Hirsch*, 100 U. S. 33, 34 (1879).

[28] *E.g.*, *United States* v. *Falcone*, 311 U. S. 205 (1940); *American Column & Lumber Company* v. *United States*, 257 U. S. 377 (1921); *Eastern States Retail Lumber Dealers' Ass'n.* v. *United States*, 234 U. S. 600 (1914).

[29] *E.g.*, see Recommendations of Senior Circuit Judges, Report of the Attorney General (1925), pp. 5-6. See also *Kotteakos* v. *United States*, 66 S. Ct. 1239 (1946).

316 U. S. 265 (1942); and *Direct Sales Co.* v. *United States*, 319 U. S. 703 (1943) may be urged by the government; but analysis of these decisions shows unequivocally that the fundamental rule has not been changed. The *Direct Sales* case, the most recent in point of time, clearly bears out our position, for there this Court recognized that the fact of agreement is "crucial", underlining this by noting that where agreement must be inferred from the facts or a course of dealing "more than suspicion, more than knowledge, acquiescence, carelessness, indifference (or) lack of concern is necessary". The test was made explicit by the Court's statement that there must be established "informed and interested cooperation, stimulation and instigation" and the parties must join "both mind and hand" to the furtherance of the conspiracy. In the *Interstate Circuit* case the existence of an agreement was inferred, and in the *Masonite* case facts were ample to support a finding of actual unlawful agreement. However, *dicta* from the *Interstate Circuit* case, repeated subsequently in the *Masonite* case, require analysis. The Court, in the *Interstate Circuit* case, said after sustaining the trial court's finding of agreement:

> "* * * agreement for the imposition of the restrictions upon subsequent-run exhibitors was not a prerequisite to an unlawful conspiracy. It was enough that, knowing that concerted action was contemplated and invited, the distributors gave their adherence to the scheme and participated in it. Each distributor was advised that the others were asked to participate; each knew that cooperation was essential to successful operation of the plan. They knew that the plan, if carried out, would result in a restraint of commerce, which, we will presently

point out, was unreasonable within the meaning of the Sherman Act, and knowing it, all participated in the plan. The evidence is persuasive that each distributor early became aware that the others had joined. With that knowledge they renewed the arrangement and carried it into effect for the two successive years.

"It is elementary that an unlawful conspiracy may be and often is formed without simultaneous action or agreement on the part of the conspirators. *Schenck* v. *United States*, 253 F. 212, 213, aff'd, 249 U. S. 47; *Levey* v. *United States*, 92 F. 2d 688, 691. Acceptance by competitors, without previous agreement, of an invitation to participate in a plan, the necessary consequence of which, if carried out, is restraint of interstate commerce, is sufficient to establish an unlawful conspiracy under the Sherman Act. *Eastern States Lumber Assn.* v. *United States*, 234 U. S. 600; *Lawlor* v. *Loewe*, 235 U. S. 522, 534; *American Column Co.* v. *United States*, 257 U. S. 377; *United States* v. *American Linseed Oil Co.*, 262 U. S. 371." (pp. 226-7)

We do not believe it can reasonably be said that the language was intended to overrule the long established precedent. Considering that such language as "gave their adherence to the scheme and participated in it", "participated in the plan", and "acceptance * * * of an invitation to participate in the plan" is used, there can be little doubt but that this Court was simply underscoring the well recognized proposition that agreement can be inferred from a course of conduct or concert of action and that a prior understanding to participate was not necessary. From the participation itself, i.e., the subsequent common sharing with others, the agreement to participate in an unlawful

conspiracy could be inferred. *Eastern States Retail Lumber Dealers' Ass'n.* v. *United States,* 234 U. S. 600 (1914), and other decisions relied on by the Court in the *Interstate* case simply stand for the well established rule that unlawful agreements may be implied from conduct and thus give further support to the view taken here.

The very recent decision of this Court in *American Tobacco Co.* v. *United States,* 66 S. Ct. 1125 (1946), discusses the elements of conspiracy in a Sherman Act proceeding, and again emphasizes the traditional and well established view that a conspiracy must be based upon agreement, express or implied. The Court pointed out that while no formal agreement is necessary, proof of understanding or meeting of the minds is a prerequisite. The Court said (p. 1139):

> "* * * No formal agreement is necessary to constitute an unlawful conspiracy. Often crimes are a matter of inference deduced from the acts of the person accused and done in pursuance of a criminal purpose. Where the conspiracy is proved, as here, from the evidence of the action taken in concert by the parties to it, it is all the more convincing proof of an intent to exercise the power of exclusion acquired through that conspiracy. The essential combination or conspiracy in violation of the Sherman Act may be found in a course of dealings or other circumstances as well as in any exchange of words. United States v. Schrader's Son, 252 U. S. 85, 40 S. Ct. 251, 64 L. Ed. 471. Where the circumstances are such as to warrant a jury in finding that the conspirators had a unity of purpose of a common design and understanding, or a meeting of minds in an unlawful arrangement, the conclusion that a conspiracy is established is justified."

See, also, *Pinkerton* v. *United States*, 66 S. Ct. 1180 (1946).

Unlawful agreement has not been established even by inference here, for the District Judge has sought to tie du Pont to the unlawful undertaking by reliance upon du Pont's mere statement of its established policy, a statement made without even moral commitment to act consistently therewith concerning a policy firmly based on reasonable business considerations. It was urged on the trial that agreement should be inferred from the events in 1933 or that it should be inferred from subsequent conduct, but the Judge rejected these promptings after searching, painstaking study of the facts which adequately explained the action taken or not showing that its conduct was in many respects divergent from the cartel conspiracy pattern, that there were business facts which adequately explained the action taken or not taken by du Pont, that there was no change in du Pont's conduct coincident with the development of its relations with National Lead, and that it had no stake in the venture or motive for furthering the objects of the conspiracy.

(B)

ASSUMING *ARGUENDO* THAT AGREEMENT IS NOT NECESSARY TO VIOLATION OF THE SHERMAN ACT, THEN WHAT DU PONT SAID OR DID MUST BE MEASURED BY THE TEST OF REASONABLENESS. CONFRONTED WITH THE NECESSITY OF OBTAINING A LICENSE UNDER THE CARTEL PATENTS, IT WAS CERTAINLY REASONABLE FOR DU PONT MERELY TO STATE THAT IT WAS NOT ITS THEN BUSINESS POLICY TO SEEK EXPORT TRADE, ACCOMPANIED BY A REFUSAL TO BIND ITSELF FOR THE FUTURE. THIS IS ALL THAT THE JUDGE FOUND THAT DU PONT DID.

This Court will appreciate that this point (B) is an alternative to point (A). If we are right that the absence of agreement is fatal to the government's case under the anti-trust laws, then this point (B) is unnecessary.

We proceed in this point on the assumption that the District Judge was right in determining as a fact that Mr. Rupprecht on behalf of du Pont in 1933, in order to obtain the license under the cartel patents, did state to the cartel that it was not then the policy of du Pont to export to Europe, and further that the Judge was right in his determination of law that a statement by du Pont might bring it within the condemnation of the Sherman Act, even though it made no agreement. It does not follow that this particular statement was enough to bring du Pont within the condemnation of the Act.

We submit that the Judge committed error of law in not examining the question whether the statement in itself was a *reasonable* thing for du Pont to do, as a condition to obtaining the license and entering into competition with the cartel. And we submit further that it is so obviously

reasonable that the Judge could not as a matter of discretion hold to the contrary.

In plain words, we submit that it is all out of proportion to give a decision against an American company under the anti-trust laws when admittedly all that it has done is to have succeeded (14 years ago) in obtaining a license under the cartelized patents and thereby developing a competitive industry in the United States, and in doing so at the very low and ultra-reasonable price of making a completely informal statement that it was then its policy not to export abroad, while at the same time refusing to make any commitment or agreement that it would continue to be its policy not to export.

As du Pont's conduct was wholly reasonable, and indeed even beneficial to American trade and commerce, it comes squarely within the general philosophy underlying the decisions of this Court in enunciating and establishing the "Rule of Reason". Indeed, those cases govern this case *a fortiori*, for they were cases of actual restrictive agreements. If agreements in and of themselves restrictive may be held nonetheless lawful, certainly independent conduct from which no agreement can be implied can equally be tested by concepts of reasonableness.

In referring to the rule of reason, we wish to emphasize that we are not advancing the argument which was made below by National Lead, to the effect that cartel agreements may nonetheless be found consistent with the Sherman Act where the restraints were reasonable, nor are we referring to the type of argument which might be made by Zirconium under the rule of reason doctrine to the effect that it had been forced to accept illegal restraints. Du Pont neither agreed to, nor was forced to accept, restraints.

Du Pont had the strongest type of reasonable justification for anything it did in 1933, in that otherwise it could not have then entered the titanium field on a competitive basis at all. The du Pont argument and the Judge's response to it are set out in the opinion itself (R. 218-219):

> "At this point, DP advances the argument that it had no choice but to do business with the cartel unless it was content to stay out of the titanium field. To put it in the words of DP's counsel,
>
> > 'We respectfully submit in conclusion that it cannot be the law of the United States that it is the function of the Courts themselves to impose that form of restraint of competition which must resist from a ruling that whenever a European company has a monopoly in its own country (and practically all of them do), and then has a relation in the nature of a common enterprise with some American company, it becomes the duty of all other American companies to renounce and forego access to the inventions and developments controlled by those foreign companies, and to leave them as the exclusive property of its American competitor, the partner of those foreign companies'.
>
> "Perhaps, the answer is that DP, having discovered the conspiracy, should have asked the Attorney General to break it up. Confessedly, the chances of DP getting NL's patents and know-how after such a hostile act would be, to say the least, dubious. But in any event the courts may not validate unlawful conduct because in a particular instance there may be social losses involved in enforcing the law. The paradox which DP discovers, even if it were a genuine one, would be of interest to Congress, not to the courts. But the paradox

> is not genuine. The conflict is a specious one. Judicial intervention to break up a combination in restraint of trade is not in itself a restraint of trade, although for a time the established channels of commerce may be disarranged. To prohibit adherence to conspiratorial trade restraints hampers trade in about the same way that the prohibition against the circulation of counterfeit money hampers it. It may prevent the consummation of a particular transaction but in the long run it frees business from private regimentation and secures it against those who would trammel it."

It will be apparent that the Judge was not here disputing the validity of the facts upon which the du Pont submission was based. He accepted the facts, but differed with the conclusion of law. The effect of the Judge's holding was:

> Whenever a European company has a monopoly in its own country (and practically all of them do), and then has a relation in the nature of a common enterprise with some American company, it becomes the duty of all other American companies to renounce and forego access to the inventions and developments controlled by those foreign companies, and to leave them as the exclusive property of their American competitor who is the partner of those foreign companies, notwithstanding that there may be social losses involved, and even although for a time the established channels of commerce may be disarranged. American competitive trade must await judicial intervention at suit by the Attorney General to break the cartel up even though the American company might be able in the meantime to wheedle patents from the cartel without subscribing to its principles

Would anything be more unrealistic, or more satisfying to international cartelists, than this doctrine that potential competitors must leave them alone in their cartel until the lengthy judicial process under the anti-trust laws has run its course?

We do not exaggerate. The scheme of the cartel in this case was to effect its purposes by cornering patents and technical information. To compete effectively with the cartel it was necessary to have licenses under its patents and technical information during the initial stages of the art. Unless a concern was willing to subject itself to infringement action or to accept a limited role in the industry by proceeding with the manufacture of certain types of titanium pigments which could be made, albeit uneconomically, independent of the cartel patents, it was impossible to launch an independent competitive enterprise in this field without making arrangements with the cartel to obtain access to its patents and technical information.

The Judge's conception that admitted "social losses" must be incurred arose from a failure to observe that the rule of reason as applied to restraint of trade means that that term is so to be construed as to avoid the "social losses" involved in an arbitrary construction. The rule of reason is to avoid social loss, not to compel it.

In arguing to the contrary, the Judge sought an analogy. He said that the hampering of trade that would have resulted if du Pont had renounced the license and access to the technical information would have operated

> "in about the same way that the prohibition against the circulation of counterfeit money hampers it".

In other words, his conception was that to trade with a violator of the anti-trust laws is in the same class as to

circulate counterfeit money. This is fundamental error. The question of what is a restraint of trade is a question of what is or is not really burdensome or beneficial to trade. It is a comparative question. Counterfeiting of money is an absolute felony. There is no such thing as reasonably counterfeiting money.

From the famous *Standard Oil* and *Tobacco* cases down to today, whatever the differing views of members of this Court as to the degree of latitude in the conduct of trade, it has invariably held that, except for a limited class of well recognized, so-called *per se* violations, questions under the anti-trust laws must be determined in the light of an inquiry as to the actual circumstances of the particular case, the ultimate inquiry being as to whether the conduct was reasonable under all of those circumstances. This is not the sort of rule that applies to counterfeiting money.

The case as to du Pont presents the question as to what rule is to apply to the conduct of a party *when confronted with the power of a cartel and in competition with that power.*

These were the essential features of the problem before du Pont prior to its contract with National Lead:

Du Pont was engaged in the manufacture of lithopone and other ingredients for the production of white paint and related products. A new product (titanium pigments) had, however, been developed over the preceding decade to a point at which it had been apparent that it would be more efficient and more economical than lithopone or any of the older products. It had acquired from Commercial Pigments a titanium pigment operation which its Legal Department had concluded infringed both National Lead

and Titan, Inc.'s patents. Certain necessary and dominating patents covering titanium pigments and its manufacture, and the principal reservoir of technical information in regard to the new art, resided in a world cartel, carefully erected on the basis of deliberately restrictive contracts dividing production and markets.

The cartel embraced the great I. G. Farbenindustrie in Germany, all of the principal chemical manufacturers in Great Britain, and National Lead in the United States, and was bound in Europe by cooperative and pooling agreements with the companies [the Blumenfeld group], notably in France, Italy and Czechoslovakia, which had rights under the second most important group of patents. Du Pont had purchased the company in the United States which had rights in the United States only to the use of this second group of patents, but it had no rights under the cartel's patents and no knowledge of its technical processes.

Du Pont and National Lead each "in good faith claimed" that the other infringed its patents (FF 72, R. at 279); and du Pont was accordingly "manifestly eager to obtain access to National Lead's patents and skill" (R. 213). The record amply supports these findings, as it contains voluminous intra-company correspondence both from the National Lead and the du Pont files as to the number of existing patents, particularly of the large number and strength of those owned or controlled by National Lead, and also of the importance of the technical information, particularly that in the possession of National Lead.

It was not seriously open to du Pont to contest National Lead's patents. At that time the decisions of this Court and of the Third Circuit Court of Appeals, of which circuit du Pont was an inhabitant, were strongly favoring patents.

This was before the recent radical change in the attitude of the Federal Courts towards patents. Circuit Judge Evans (of the Seventh Circuit) has made an interesting study (Journal of the Patent Office Society, April, 1944, Vol. XXVI, No. 4, p. 233, particularly the chart at pp. 254-255) from which it appears, for example, that in the Third Circuit there has been a remarkable change. thus reflected:

	Decisions during 12-month period 1935-6 (37 cases)	1942-3 (28 cases)
Patents held valid and infringed.....	Over 50%	Well under 10%
Patents held invalid	Under 35%	About 75%

In short, even several years after the time of the patent controversy between National Lead and du Pont, the fear of infringing a patent had substantial justification.

Business and economic realities prevented du Pont from undertaking deliberate infringement of a patent structure such as was then controlled by National Lead.

The recognition by the courts of the importance of patents had also been strengthened and clarified, so far as the anti-trust laws were concerned, by the then recent decision of this Court in the *Cracking* case, *Standard Oil Co. (Indiana)* v. *United States*, 283 U. S. 163 (1931), deciding that in cases of *bona fide* patent conflict (such as the Judge expressly held this case to be) cross-licensing agreements, even between major companies already established in the particular industry, are not illegal. The *Cracking* case governed the titanium situation *a fortiori* because du Pont was not yet really established in the titanium industry. And the Judge expressly found in this case that

the 1933 contract was carefully drafted in the light of this Court's decision in the *Cracking* case (R. 214).

What were the economic conditions prevailing at the time? Europe was, at least temporarily (and, of course, it later proved that it was permanently), closed as a practical matter to American exports of this character. In Great Britain the value of the pound sterling had been reduced by governmental action by 40%, and exports of American products (except in the case of necessities meeting no British competition) had been rendered impossible. In Germany, Hitler had come into power, and although the future was not foreseen, it was universally recognized that his policy would at least be strongly nationalist and would support German industry.

The United States was in the very depths of economic depression and on the threshold of that period of governmentally favored cooperation within industry which was principally embodied in NRA. There was ample scope and need for development of capacity by du Pont to supply the domestic market, if only it could obtain a license so as to be free of infringement of National Lead's patents.

At this point, and against this background, National Lead told du Pont that before it could sign the cross-license agreement it must overcome the insistence of the I. G. Farbenindustrie in Germany that du Pont agree to the cartel principles,—division of territory, restriction on customers, etc. Du Pont undertook to obtain the cartel controlled patents of National Lead and thus achieve a position where it could compete commercially in both the fields of pure and composite titanium pigments. It resolutely refused to join the cartel, yet urged upon National Lead that National Lead should in turn do "a selling job" on its foreign asso-

ciates of such a character as to wheedle or cajole out of them the consent that they were refusing to give. To accomplish this, in turn, there were two alternatives open to du Pont. It might have given a promise, with its tongue in its cheek, intending to break it. But this it did not do and refused to do because it recognized and stated that such conduct would violate the Sherman Act (FF 73, R. at 287-289). All that was left for it to do was to try to reach the result by making the statement of a simple fact: "It is not at this moment our policy to engage in export trade". If the Germans would swallow that statement of fact, unaccompanied by any promise for the future, National Lead could give the license, and du Pont could successfully compete in the business.

Du Pont succeeded in avoiding any territorial commitments. What really accomplished it was that National Lead in turn was realizing that du Pont might be the source of important inventions and technical improvements, and was anxious to obtain licenses under those inventions (even if they had to be non-exclusive) and knowledge of that information. National Lead, therefore, undertook to do the selling job on the Germans and succeeded.

Du Pont's conduct was not such as to create any restraint prohibited by the Sherman Act. The District Judge placed undue emphasis upon the solidifying of du Pont's export policy which he apparently felt resulted from its continued reiteration. He overlooked the beneficial effect of du Pont's conduct upon titanium pigment competition in the United States, the reasonableness of du Pont's actions and the numerous business factors which made du Pont's adherence to its independent export policy desirable (see pp. 43 to 46, *supra*).

Du Pont accomplished what no other company entering the titanium field in the entire world was able to accomplish, viz. to obtain a non-exclusive license under the patent rights of a member of the cartel and have access to its technical information, without subscribing to restrictive agreements to which the rules of the cartel required it to subscribe. In other words, du Pont created in this country what did not exist in any other country in the world, and what did not exist in this country until du Pont succeeded in creating it—a competitive situation in the industry. Under the special facts of this case, we submit, the question that the Judge should have posed for himself under the rule of reason was this:

> Measuring the advantage to du Pont and to U. S. consumers of its obtaining immunity from suit under the patents of National Lead and access to the technical information of National Lead, upon the basis of which it might enter into competition with National Lead, *was it reasonable* for du Pont as a price therefor to state (but simultaneously to refuse to commit itself as to the future) to National Lead its then existing business policy not to manufacture or sell in Germany and other Titangesellschaft territory?

We respectfully submit that the answer to this question ought to have been unequivocally: "Yes".

We say with confidence that there has never been a case in which it has been held unreasonable for a defendant to give such an expression as to his existing trading intention, when that statement was necessary to obtain a license, and certainly not where the license was non-exclusive, and above all not where the license was necessary to create a

new competitive industry. All of the prior decisions under the rule of reason involve not mere statements of fact but actual promises by the party in question to restrict his own activities. Ours is a case in which the Judge found that the party in question refused to make any promise or agreement. Ours is thus an extreme case in favor of the defendant.

The cases have arisen only where the statement of intention amounted under all of the circumstances of the case to a promise and agreement; but that in itself has not constituted illegality. What the Court has had to go on to decide in each case, has been whether the promise and agreement was nonetheless a reasonable one, all circumstances considered. Here we do not even reach the question, for the trial court has found as a fact that no promise was given and that the statement was "no more than" a statement.

The governing rule of interpretation was really made necessary by the nature of the statute to be interpreted, which was itself the governing law of American trade and commerce. That rule was essentially the rule of the public welfare, or as it has sometimes been called, the rule of reason.

Circuit Judge, later Chief Justice, Taft in *United States* v. *Addyston Pipe & Steel Company*, 85 Fed. 271 (1898) (with the concurrence of Justice Harlan and Judge, later Justice, Lurton), in his classic opinion summarizing the status of the law of restraint of trade at common law as it was brought into the Sherman Act by the use of the word "restraint", explained that promises and agreements which were themselves restraints of trade might be defended in cases in which they were given as ancillary to

a larger contract, provided that they were necessary to the obtaining of the contract.[80]

As late as May 1940, *after* du Pont had entirely terminated even the exchange of technical information, Mr. Justice Stone was repeating and reaffirming the principles of the *Addyston* case, *Apex Hosiery Co.* v. *Leader*, 310 U. S. 469, 498 (1940). The dissent in that case threw no doubt on the validity of Mr. Justice Stone's review of that branch of the law. His review of the common law, of its adoption by this Court as governing the Sherman Act, of its application in the *Standard Oil* and *Tobacco* and numerous other cases, will be found in 310 U. S. at 494-501. He first pointed out that the phrase "restraint of trade * * * had a well understood meaning at common law" (494-5); then that:

> "A second significant circumstance is that this Court has never applied the Sherman Act in any case, whether or not involving labor organizations or activities, unless the Court was of opinion that there was some form of restraint upon commercial competition in the marketing of goods or services * * *" (495);

he then defined the restraints which were typically illegal *per se*:

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[80]No one has suggested that the principles of the *Addyston* case are no longer law. It certainly was not a decision of judges predisposed against the government in anti-trust cases. Throughout his distinguished career on the bench of this Court, the one branch of the law upon which Chief Justice Taft was most firm, even to the point of dissents from various decisions in favor of defendants, was the law of restraint of trade. And Mr. Justice Harlan's similar firmness in upholding the laws against restraint of trade was signally evidenced by his lone dissent from the discussion by Chief Justice White in the *Standard Oil* and *Tobacco* cases, 221 U. S. 1, 82, and 106, 189 (1911).

> "They were contracts for the restriction or suppression of competition in the market, agreements to fix prices, divide marketing territories, apportion customers, restrict production and the like practices, which tend to raise prices or otherwise take from buyers or consumers the advantages which accrue to them from free competition in the market" (497);

then reviewed the *Addyston* case (498) and the *Standard Oil* and *Tobacco* cases (499-500), obviously reaffirming their holdings; then summarized the position:

> "In the cases considered by this Court since the *Standard Oil* case in 1911 some form of restraint of commercial competition has been the *sine qua non* to the condemnation of contracts, combinations or conspiracies under the Sherman Act, and in general restraints upon competition have been condemned only when their purpose or effect was to raise or fix the market price. * * * Restraints on competition or on the course of trade in the merchandising of articles moving in interstate commerce is not enough, unless the restraint is shown to have or is intended to have an effect upon prices in the market or otherwise to deprive purchasers or consumers of the advantages which they derive from free competition" (500-1).

It may be helpful if we very briefly review a few of the intervening cases that marked the steady path of this Court from its affirmance of the decision of Judge Taft in the *Addyston* case, 175 U. S. 211, down to its decision in the *Apex* case, 310 U. S. 469.

Chief Justice White made the classic expositions of the subject in the *Standard Oil* and *Tobacco* cases, 221 U. S. 1 and 106 (1911). Perhaps the nub of his analysis is in the following, at p. 180:

> "* * * the duty to interpret which inevitably arose from the general character of the term restraint of trade required that the words restraint of trade should be given a meaning which would not destroy the individual right to contract and render difficult if not impossible any movement of trade in the channels of interstate commerce—the free movement of which it was the purpose of the statute to protect".

In our case the individual right to contract was used for the limited and praiseworthy purpose of obtaining non-exclusive rights to enable the contractor actually to increase competition and thereby to increase the free movement of trade which it was the purpose of the statute to protect. Had du Pont refrained from entering into the agreement, the statute would have at least had the effect of rendering difficult, and it would very likely have rendered impossible, the competition which du Pont has developed.

A few years later the duty fell upon Mr. Justice Holmes of restating the rule on behalf of this Court, and he did so in language that has since been frequently quoted.[31] *Nash* v. *United States*, 229 U. S. 373, 376 (1913):

> "Those cases [*Standard Oil and Tobacco*] may be taken to have established that only such contracts and combinations are within the Act as, by reason of intent or the inherent nature of the contemplated acts, prejudice the public interests by unduly restricting competition or unduly obstructing the course of trade".

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[31] For example, in the *Apex Hosiery* case, 310 U. S. 469, at 501, footnote 22, Mr. Justice Stone re-quoted this phrase from Chief Justice Hughes' earlier quotation of it in *Appalachian Coals* v. *United States*, 288 U. S. 344, 360 (1933).

It will be observed how fundamental was the learned District Judge's error in supposing that this law is not concerned with whether its enforcement causes "social losses". The essential question is whether there is "prejudice" to "the public interests". The measure is not an absolute one, but a comparative one—whether what has occurred has been "undue". There is no such thing as "unduly" counterfeiting money.

The turn of Mr. Justice Brandeis to reassert the rule of reason on behalf of this Court came in *Chicago Board of Trade* v. *United States*, 246 U. S. 231 (1918), reversing the decision below in favor of the government. This was an extreme case, as the Chicago Board of Trade actually agreed upon limited hours of business and upon the price that should govern between sessions. Mr. Justice Brandeis explained at 238:

> "Every agreement concerning trade, every regulation of trade, restrains. To bind, to restrain, is of their very essence. The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition. To determine that question the court must ordinarily consider the facts peculiar to the business to which the restraint is applied; its condition before and after the restraint was imposed; the nature of the restraint and its effect, actual or probable. The history of the restraint, the evil believed to exist, the reason for adopting the particular remedy, the purpose or end sought to be attained, are all relevant facts. This is not because a good intention will save an otherwise objectionable regulation or the reverse; but because knowledge of intent may help the court to interpret facts and to predict consequences."

Another strong case was before this Court in *National Association of Window Glass Manufacturers* v. *United States*, 263 U. S. 403 (1923). The handblown window glass manufacturers and the trades union had actually agreed upon limited periods of work, thus restraining themselves in a vital respect in order to meet the competition of the machineblown manufactures. A scale of wages was issued to one group of factories from September to January and to a second group from January to June, with the intent and necessary effect of shutting down the first group from January to September and the second group from June to January. It is not surprising that the lower court found the scheme inherently illegal. Once again, however, the Supreme Court had to point out that this missed the significance of the rule of reason. Mr. Justice Holmes was again the spokesman for the Court, in explaining that:

> "To determine its legality requires a consideration of the particular facts. *Board of Trade of Chicago* v. *United States*, 246 U. S. 231, 238" (411-12).

The first occasion for Mr. Justice Stone to be the spokesman for this Court in support of this principle followed in the *Maple Flooring* and *Cement Manufacturers* cases, 268 U. S. 563 and 588 (1925). In the *Cement* case it was once again necessary to reverse the decision below which had been favorable to the government. The specific facts in both cases involved agreements between a combination of manufacturers to exchange among themselves and discuss information as to current conditions in the industry. The cases were on their facts somewhat different from our case,—and indeed the whole point of the law is that each case is to be separately considered on its specific facts; but there are certain respects in which both the *Maple Flooring* and *Cement*

cases were peculiarly like ours in their emphasis upon the fact that "even combinations of persons or corporations" may exchange and even discuss as among themselves information and statistics, provided that they are not thereby "reaching or attempting to reach any agreement or any concerted action with respect to prices or production or restraining competition" (*Maple Flooring* case at 586), and indeed that such activities are legal "even though it be assumed that the result of the gathering and reporting of such information tends to bring about uniformity in price" (*Cement* case at 604).

Chief Justice Hughes was the spokesman for the Court in another case strongly favorable to the government, yet in which the decision below in favor of the government was reversed for similar reasons, *Appalachian Coals* v. *United States, supra.* A combination of bituminous coal operators there went even further than the handblown window glass manufacturers had gone. Although they controlled 73% of the commercial production in their immediate region, they organized and sold through an exclusive common selling agency. Their defense was that they did this in order to defend themselves against adverse economic conditions in a buyer's market. The court below, once again failing to observe that the problem was to inquire into the particular economic facts, condemned the combination. This required Chief Justice Hughes again to review the principles of the rule of reason, quoting from Mr. Justice Holmes' opinion in the *Nash* case and from Mr. Justice Brandeis' opinion in the *Chicago Board of Trade* case, and also citing the *Standard Oil, Tobacco, Window Glass* and *Maple Flooring* cases, as well as the *Cracking* case. The Court said, at p. 377:

"The Anti-Trust Act aims at substance. Nothing in theory or experience indicates that the selection of a common selling agency to represent a number of producers should be deemed to be more abnormal than the formation of a huge corporation bringing various independent units into one ownership. Either may be prompted by business exigencies, and the statute gives to neither a special privilege. The question in either case is whether there is an unreasonable restraint of trade or an attempt to monopolize. If there is, the combination cannot escape because it has chosen corporate form; and, if there is not, it is not to be condemned because of the absence of corporate integration. As we stated at the outset, the question under the Act is not simply whether the parties have restrained competition between themselves but as to the nature and effect of that restraint."

We have now reviewed a series of cases in this Court, with opinions written by four successive Chief Justices (White, Taft, Hughes and Stone), and by Justices Holmes and Brandeis, all united in propounding and explaining the rule of reason. Again and again we have seen the District Courts fall into the error of assuming that, because agreements and combinations restricted the full and secret competitive efforts of members they must inherently be illegal. What this Court has consistently laid down is that, except in cases where the agreement is directed by intent or necessary effect to the fixing of prices or division of market or the like, every such agreement must be studied independently to see whether it was not founded on some valid economic reason. Even agreements by 73% of an industry to eliminate competition and sale by use of a common selling agency (*Appalachian Coals*), or by an entire industry

to limit seasons of production (*National Window Glass Manufacturers*), or by 100% of the traders in a given line of commerce to restrict hours of trade and actually fix prices for limited periods (*Chicago Board of Trade*), have been upheld when the Court found that they were adopted for reasonable ends and therefore did not unduly restrain trade.

We do not need to ask this Court to go anywhere near that far in this case. Du Pont made no restrictive agreement with National Lead of any sort. The patent license agreement was the only *agreement* that it did make and it was admittedly helpful to competition and to trade. The only wrong charged to it is that, in order to obtain the benefits of that agreement, it did "no more than" state that it had no present intention of attempting to enter a foreign market from which it was in any event barred by practical economic reasons.

We respectfully submit that, however considered and from every viewpoint, this conduct of du Pont was entirely innocent under the decisions of this Court, and far from meriting blame or condemnation, it should have received the strong approbation and endorsement of the District Court for having forced competition into an industry which prior thereto had been a closed monopoly.

POINT II

THE 1933 PATENT LICENSING AGREEMENT WAS DESIGNED TO AND DID PROMOTE RATHER THAN RESTRAIN COMPETITION AND TRADE.

The government did not charge either in its complaint or at the trial that the 1933 agreement constituted on its face a violation of the anti-trust laws. And the District

Court did not expressly pass on the validity from the anti-trust standpoint of the 1933 agreement standing alone. The opinion below, however, states that "The case also presents the question whether the contract between NL and DP is offensive to the anti-trust laws independently of the relation of that contract and the parties thereto to the foreign producers" (R. 219). Thereafter the opinion criticizes seriously the character of the agreement independently of conspiracy considerations. Consequently we must examine the validity of the 1933 agreement apart from any such considerations.

The purpose and effect of the agreement must be reviewed in the light of the facts which led to and inexorably demanded its execution.

When it became evident that du Pont, to protect its competitive position, in the pigment industry, must enter the titanium business (Ex. R. 986-7, 1049), it considered the various possible alternatives. At the outset it recognized that it was a late-comer in the field and that the art was already well developed and protected by patents. Nevertheless, it first attempted to solve the problem by its own laboratory and research work, to which was devoted considerable time and money to develop a patent-free process. During the period 1929 to February, 1931, it expended $130,000 (Ex. R. 986, 1050-1). This effort, as found by the District Court (FF 70, R. 278), failed; and by 1931 it had become apparent that before du Pont could enter the business via this route it would be necessary to make substantial additional expenditures to construct and operate a pilot plant, and to undertake very large research and development expenses in addition to large capital expenditures for the construction of a plant, which in any event probably

would not be completed until 1933 (FF 70, R. 278; Ex. R. 986-7, 1051). This was not an attractive prospect. Not only was it recognized that the existing manufacturers were lowering costs and substantially increasing plant capacity, with the result that opportunities for a newcomer in the field would be definitely more unfavorable by the end of 1933, but in view of the known strong patent position of the two existing United States manufacturers of titanium pigments, National Lead and Commercial Pigments, du Pont had no assurance that it could establish an independent patent-free process (Ex. R. 1051-2).

A second alternative was to remain in the pigment industry solely by the production and sale of lithopone, in which it was presently engaged but the commercial doom of which was clearly indicated. That being clearly unacceptable, it could have endeavored to compete in the pigment field by obtaining its titanium pigments from the existing producers, a solution hardly more acceptable than the first, since it would undoubtedly have been at a heavy commercial disadvantage to the pigment producers who could produce their own. Therefore, the only practical courses left to it were either to attempt to buy out one of the existing producers or in some other way to come to terms with them by way of securing a license or otherwise.

Du Pont, therefore, concluded that the best means of entering the business on a basis which would offer adequate prospects of commercial success would be to acquire, if possible, the patent rights and going business of Commercial Pigments (FF 70, R. 278),[32] and, in the event that this

[32]Commercial Pigments was operating under the Blumenfeld process and patents, the only known commercial process other than that operated by National Lead (FF 34-5, 37, R. 247-9).

could not be done, to discontinue research for developing an independent process and be content to purchase pigments from other manufacturers, and to abandon all prospects of entering the field (Ex. R. 1051).

As has been seen, the acquisition of Commercial Pigments proved to be possible and was made. However, this acquisition, although it brought with it capital facilities and important patent rights, by no means proved to be the answer to du Pont's hope for a process free of the patents of others.

At the time of the acquisition du Pont recognized that the Commercial Pigments process infringed a number of National Lead's patents, some of which it believed to be unquestionably valid and some of which it believed, with varying degrees of conviction, to be invalid. Despite this, however, the acquisition was made, in part for the commercial advantages which immediate entrance into a going business offered, and in part because du Pont hoped that, in possession of the patent rights and technical knowledge of Commercial Pigments, in combination with its own, it could successfully find a way to avoid those patents of National Lead which even then it knew covered important steps of Commercial Pigments' operations, or, alternatively, to have a good trading position to obtain rights under National Lead's patents in the event that its efforts to avoid them proved to be unsuccessful; vulnerable to National Lead's patents as it still might be, it would be in a vastly better position than before (Ex. R. 995, 1024-6, 1052, 1089-97, 1150-1, 1172-89).

However, the relatively optimistic spirit in which this avenue was approached was subdued by actual commercial experience in the business which taught it the strength of the National Lead patent position. Not only did it not dis-

cover an economic and commercially competitive way to avoid National Lead's patents,[33] but, almost as important, neither it nor Commercial Pigments had any experience or a substantial patent position in the production of composite titanium pigments, a closely related field in which as a commercial matter it was necessary that it engage. National Lead alone in the United States was engaged in that field and had a blocking patent position (Ex. R. 1242-50, 1040).

In the exploration and resolution of this patent controversy, found by the District Court to be *bona fide* (FF 72, R. 279), du Pont found itself confronted with infringement claims by National Lead not only of the patents which it itself had previously feared, but of a considerable number of other patents (Ex. R. 1297, 1395, 1397-9, 1404). Furthermore, it became apparent that each had patent applications which, if they issued into patents, would be necessary to either the present or proposed operations of the other (Ex. R. 1295-1332, 1353, 1364, R. 891-2). In short, du Pont found itself faced with an irreconcilable and serious patent conflict with National Lead, both existing and potential, the favorable outcome of which would have been expensive, time-consuming and doubtful at best.[34]

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[33]For instance, certain of du Pont's technical men had, prior to the acquisition of Commercial Pigments, thought it possible to avoid certain National Lead patents at an estimated cost of $20 per ton. However, actual commercial experience, in contrast to its former laboratory experience only, made it clear to du Pont that it would cost $40 a ton to avoid just one of National Lead's patents (Ex. R. 1353). This single cost differential would have amounted to more than 11% of the then selling price of titanium (Ex. 42, not printed but a part of the record on file with the Clerk of this Court).

[34]Similarly, from the National Lead standpoint, National Lead found itself confronted with a number of claims of infringement of du Pont's patents in the operation of National Lead's existing

The resolution of the patent controversy represented by the agreement of 1933 resulted, as it was intended to do and as the District Court found (FF 79, R. 293), in the settling of the existing and potential patent disputes of the parties and the promotion of the more rapid development of the titanium business and a greater freedom of action for the parties under the titanium pigment patents and developments. Among other things, it enabled du Pont, which had never been engaged in the manufacture of composite titanium pigments, to enter this field and to offer substantial competition to National Lead, which had hitherto been the sole producer in the United States (Ex. R. 4361-96), and its effect on du Pont's production of pure TiO_2 was immediate and marked, as is shown on the table presented on page 12, *supra*.

The District Court further found that du Pont had the following purposes in entering into the agreement: (1) to avoid the expense and risks of patent litigation; (2) to avoid research expense in trying to avoid infringement of valid patents of National Lead; and (3) to obtain access to National Lead's technical experience and patents (R. at 292).[35]

Du Pont could, of course, have elected to fight the matter out in the courts if need be, at whatever cost, delay or

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process (Ex. R. 1309, 1313-4). Further, despite its blocking patent position, National Lead wished to adopt (and subsequently did so) a number of du Pont's operations which were protected by patents, *e.g.*, seeding hydrolysis, salt calcination and other procedures (Ex. R. 1364, R. 911).

[35]The District Court also found that an additional purpose of du Pont in entering the agreement was to strengthen its patent position to the exclusion of others. This finding, which we believe to be without any support in the record, will be examined at length below (see pp. 98-99, 176-179).

risk. But du Pont itself had little faith in the favorable outcome of such a struggle, and the legal and commercial risks were critical and incalculable. These risks it was not, and could not reasonably have been, required by law to undertake. The courts, including this Court, have long and consistently recognized that the anti-trust laws do not demand that patent conflicts be resolved only by litigation, but, indeed, that public policy sanctions and encourages their composition in good faith.[36] Du Pont chose the reasonable course of negotiating a license.

The licensing arrangement which the parties entered into, a simple non-exclusive exchange of rights, was the least restrictive arrangement possible. Indeed, it may fairly be said that there was no restriction in it, either with respect to the activities of the parties or the activities of others. Neither party was prohibited, either by covenant or by the withholding of patent rights, from engaging in any portion of the titanium field. Each was entirely free to license third parties under its own patents, it to be the sole judge of the persons to whom, the time when, the duration, and other terms and conditions, including royalty terms, on which such a license should be granted. There

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[36] *Standard Oil Co. (Indiana) v. United States*, 283 U. S. 163 (1931); *Virtue* v. *Creamery Package Co.*, 227 U. S. 8 (1913); *Bement* v. *National Harrow Company*, 186 U. S. 70 (1902); *United States* v. *Aluminum Co. of America*, 44 F. Supp. 97 (S. D. N. Y. 1941), rev. on other grounds, 148 F. (2d) 416 (C. C. A. 2d, 1945); *cf. United States* v. *United Shoe Machinery Company of New Jersey*, 247 U. S. 32 (1918); *United States* v. *Winslow*, 227 U. S. 202 (1913); *Indiana Mfg. Co.* v. *J. I. Case Threshing Mach. Co.*, 154 Fed. 365 (C. C. A. 7th, 1907), dis'm. per stip., 207 U. S. 603 (1907); *Massie* v. *The Asbestos Brake Company*, 95 N. J. Eq. 298, 123 Atl. 155 (1923).

was no provision for cooperation either in or out of the Patent Office for the securing or defense of patents. Nor was there any provision for action, either jointly or individually, against competitors, whether infringers of the patents of either of them or not. And there were no provisions binding either of the parties to recognize the validity of the patents of the other. The exchange of technical information provided by the agreement was likewise on a non-exclusive basis and without restriction as to the use of the information exchanged.

What the cross-license accomplished was simply liberty of action on the part of both parties freely to engage in the titanium field without hindrance by the other. Far from restricting the activities of either, the agreement promoted competition by enabling the parties more effectively to compete with each other and by permitting the parties to do that which they could not theretofore lawfully and safely do: operate under the patents of each other and compete in full measure with each other.

In short, the agreement diminished the individual lawful patent monopoly powers of each and added no new powers to either to restrict the activities of others. Such power to restrict the activities of others as each continued to have was only that which it had before the agreement, i.e., the exclusive right lawfully given to it by valid patent grants of the United States Government, an individual power both before and after the agreement and one which was neither impaired nor enhanced by the agreement.[37]

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[37]When the District Court in its opinion (R. 222) states that "the power to prevent it [the development of competition] must be shorn from those who, by combination, have acquired it", it surely cannot be referring to any such power acquired by du Pont in combination with National Lead by means of cross-

This is not the *Hartford-Empire* case,[38] in which the parties allocated fields not only as between themselves but among their respective licensees, cooperated both in and out of the Patent Office and courts to secure and enforce patents which should not have been issued, to juggle claims as between themselves, to prevent third parties from securing patents, and by patent infringement suits and otherwise to drive competitors either out of business or into channels predetermined by them, and in which the parties exercised a veto over the licensing of third parties and bought up rivals and competitive patents. This is not the *Bathtub* case,[39] or the *New Departure* case,[40] in which competitors used patent licenses as a mere device or cloak to add a color of legality to price fixing and the restriction of competition *inter se*. Nor is it the *Blount* case,[41] in which each cross-licensing patentee, among other things, agreed not to compete with the others in various fields and imposed restraints on the conduct of others under their own

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license, since du Pont acquired no such power by the agreement. Had du Pont and National Lead truly pooled their patents and adopted a joint offensive policy and concertedly used their pooled patents against their competitors, or had they pursued a joint policy in the Patent Office, etc., the matter might well be different. Such power could perhaps be said to be achieved by combination, but that is not this case. The findings of the District Court, both in what they said and what they omitted, make perfectly clear that beyond the simple, non-exclusive exchange of rights, the parties did not act concertedly in any manner.

[38] *Hartford-Empire Company* v. *United States*, 323 U. S. 386 (1945).

[39] *Standard Sanitary Manufacturing Company* v. *United States*, 226 U. S. 20 (1912).

[40] *United States* v. *New Departure Mfg. Co.*, 204 Fed. 107 (W. D. N. Y. 1913).

[41] *Blount Mfg. Co.* v. *Yale & Towne Mfg. Co.*, 166 Fed. 555 (C. C. D. Mass. 1909).

patents and accepted restraints on its own conduct under its own patents.

The actions of the parties in this case were consistent with the complete freedom provided by their agreement. The rights exchanged or retained were widely exercised. The parties' competition with each other in the production and sale of titanium pigments was, as found by the District Court (FF 78, R. 290-1), extensive in scope and active in character. As found by the District Court (FF 84-5, R. 295-8), the only applicants to du Pont for licenses under its titanium patents were granted licenses,[42] and independently of National Lead. There is no finding, nor any evidence to support a finding, that the parties cooperated either in or out of the Patent Office or in the courts to secure patents for themselves, to defeat the patent applications of others or to stifle or impede the operations of third parties in any respect.

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[42]Not only were such applicants, American Zirconium and Virginia Chemical, freely licensed by du Pont when they requested a license, but such licenses were equally freely subsequently broadened by du Pont. On May 7, 1943, in response to a request by American Zirconium, du Pont modified the license agreement by including 15 patents and 18 patent applications then owned by du Pont covering processes for producing rutile titanium dioxide. No increased royalty was required (FF 84, R. 295-6). Similarly, in November, 1940, the Virginia Chemical license was broadened at its request to permit it to operate under a specific du Pont patent application covering antimony treatment for chalk resistance of pigment, an improved process for the manufacture of pure titanium dioxide, at an increase of 1% in the specified royalty. And the field of the license agreement was again broadened in July, 1943, at which time du Pont on its own motion granted Virginia Chemical, without increased royalty, a non-exclusive license under the above-mentioned rutile patents and applications (FF 85, R. 297-8; Ex. R. 4293-5).

The legality of a non-exclusive, unrestricted exchange of patent rights *per se* has been sustained whenever the issue has been presented to the courts, particularly when such an exchange arose out of and determined a *bona fide* patent controversy.[43]

What, then, are the bases upon which the District Court found the agreement to be unlawful? There were three: (1) the inclusion of future patents, (2) the inclusion of a technical exchange, and (3) the tonnage limitations in the du Pont licenses to third parties (R. 219-222).

We respectfully submit that as a matter of law the District Court was in error; that this case is controlled in all substantial respects by the *Cracking* case in which Mr. Justice Brandeis in 1931 spoke for a unanimous court.[44] In that case, this Court held that the cross-licenses there involved were reasonable and lawful, notwithstanding the fact that every one of the grounds applicable to du Pont on which the District Court in this case based its conclusion that the cross-license was unlawful also existed in the *Cracking* case and was strenuously urged by the government at that time.

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[43] *Standard Oil Co. (Indiana)* v. *United States*, 283 U. S. 163 (1931); *United States* v. *Line Material Co.*, 64 F. Supp. 970 (E. D. Wis. 1946), appeal pending in this Court; *United States* v. *Aluminum Co. of America*, 44 F. Supp. 97 (S. D. N. Y. 1941), rev. on other grounds, 148 F. (2d) 416 (C. C. A. 2d, 1945); *Lynch* v. *Magnavox Co.*, 11 F. Supp. 768 (S. D. Cal. 1935), rev. on other grounds, 94 F. (2d) 883 (C. C. A. 9th, 1938); *United States* v. *Motion Picture Patents Co.*, 225 Fed. 800 (E. D. Pa. 1915), app. dism., 247 U. S. 524 (1918).

[44] Mr. Justice Stone not sitting.

(1) ALL OF THE FEATURES COMPLAINED OF IN THE 1933 AGREEMENT WERE PRESENT IN THE AGREEMENTS IN THE OIL CRACKING FIELD AND APPROVED BY THIS COURT.

(a) The Exchange of Rights Under Future Patents.

The District Court inferred that one of du Pont's purposes (in addition to the other three which were unobjectionable) was to strengthen its own patent position to the exclusion of others by pooling its patents with National Lead (FF 79, R. at 292), and found that the "necessary effect" of the exchange of licenses under future patents was to increase "the capacity of such a combination to dominate the market" and "the capacity for the exclusion of outsiders" (R. 220, 292). It appears to recognize what must be the fact, that these consequences follow, if at all, even from an exchange of present patent rights, but that the exchange is nevertheless lawful under the *Cracking* case if, but only if, limited to the settlement of conflicting patent claims.

However, not only did the patent exchange in the *Cracking* case include future patents,[45] but even the ex-

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[45] In the *Cracking* case the cross-license agreements, entered into in the early 1920s, covered patents to be acquired by the parties until January 1, 1937. This fact was clearly presented to this Court by the government in its brief (pp. 16, 22-3, 29), and indeed it was stressed in the complaint as making the cross-licenses illegal. In alleging the combination complained of the complaint stated:

"By granting rights under prospective as well as existing patents provision was made for extending the combination and monopoly beyond the life of any patents now owned by the defendants. Each thus protected its patents and asserted rights against attack by the others and they were enabled to present a solid front to all manufacturers of gasoline who

change of present patents was not confined to conflicting patents.[46]

Because of the inclusion of future patents, coupled with covenants not to contest patent validity (which were deleted before the case reached this Court on appeal), the District Court, on the basis of the same line of "patent proliferation" reasoning as is used by the District Court in this case, held the cross-licenses in the *Cracking* case to be unlawful (33 F. (2d) 617, 630); but this Court reversed. In our case, the agreement between National Lead and du Pont has never contained a covenant not to contest patent validity. Thus the government, in the *Cracking* case, unsuccessfully raised every point made by the District Court in this case, including the argument of "proliferation of patents". Indeed, in the *Cracking* case, many of the third-party licensees of the parties were required to grant back rights under future patents (*Cracking* case Record, Vol. I, p. 12).

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were compelled by competition to avail themselves of the economies resulting from the use of the cracking process" (*Cracking* case Record, Vol. I, p. 11).

The complaint went on to ascribe the following effects to such an exchange:

"to provide for the perpetuation of the plan beyond the life of any of the existing alleged patent rights by providing for a pooling of after-acquired patents" (*Cracking* case Record, Vol. I, p. 40).

[46]It was found as a fact that the principal cross-licensed patents of the primary defendants could be practiced without infringement, that subsequent to the cross-license each of the primary defendants continued to follow the teachings of its own patents, that the processes described in the claims of many of the patents were not adopted by any primary defendant not then owner of such patents, and that some of the claims of some of the patents were not followed by any of the primary defendants (33 F. (2d) 617, 625-6).

In short, this Court did not in that case require a meticulous measuring of conflicting patent claims or require that, to be lawful, a settlement of a patent controversy must be limited to precisely those patents in conflict, but rather it recognized that, at least in a fluid, fast-developing, highly complex art, it was lawful, and indeed necessary, for the parties to obtain a broad freedom to conduct their operations, rather than to compel the parties perpetually and on a piece-meal basis to settle the numerous points of conflict as they must inevitably have arisen from time to time.

Not only did the 1933 agreement between du Pont and National Lead not have the "necessary effect" ascribed to it by the District Court but that this Court in the *Cracking* case necessarily, and in the face of urgent argument to the contrary, held that exchange of non-exclusive licenses under present or future patents does not have such effect. Indeed, it would seem that if this were not so, the *Cracking* case must have gone the other way.

Under the non-exclusive, unrestricted exchange of patent rights, each party had precisely the same powers of exclusion by means of its own patents as it had had before—less, in fact, for the parties no longer could exclude each other. Even if it be assumed that the exchange of patent rights, by enabling the production of superior products, etc., increased the parties' ability to compete against third parties in the market, this increased merely the individual abilities of each, but not to the extent of either party gaining the power to fix market prices or to exclude competitors. While it is possible that the parties collectively and acting in concert could have done this, the Court expressly found (FF 78, R. 290) that no such concert of

action took place. Even if such collective power be assumed, which we submit has not been proved, surely it is a fatal fallacy to ascribe such power to either of the parties in the face of the fact, as found, that no concert of action existed. To the extent that some competitive advantage in the market accrued to the benefit of the parties as an incident of the exchange of rights, such a result was equally of necessity inherent in the *Cracking* case cross-license arrangements. Had the parties jointly asserted their patent rights against third parties, or had they acted concertedly in the Patent Office,[47] there might be ground for asserting that the parties by combination had enhanced their capacity to exclude. However, they did not do so, and the District Court did not find this, but expressly found no concert in the assertion of their patent rights against third parties (FF 84-5, R. 295-298).

With respect to du Pont's alleged intent to exclude (R. 292), the District Court's opinion (R. 220) makes absolutely clear that it was merely inferred from what the Court deemed to be the "necessary effect" of the agreement. There is no competent evidence whatsoever in the record to support the District Court's finding of inferred intent. In fact, the only competent direct evidence with respect to du Pont's intent, the contemporaneous statement by Rupprecht, made to his Board of Directors in connection

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[47]Throughout du Pont's relations with National Lead it has at all times insisted upon independently patenting its own inventions and frequently filed applications in the Patent Office which were placed in interference with applications of National Lead. In each such instance du Pont insisted upon its rights to establish priority under and in accordance with Patent Office rules (Ex. R. 1862, 3089).

with his submission of the cross-license to the Board for its approval, is to the contrary.[48]

We submit, therefore, that the District Court's finding of necessary effect and intent, was not supported by the record, was based entirely upon an inference of "necessary effect" contrary to what this Court has held in the *Cracking* case, and should be accorded no weight.

(b) The Exchange of Technical Information

It is likewise clear that such an exchange was also involved, and of necessity sustained, in the *Cracking* case. The definitions of patent rights in two of the three principal agreements included, in addition to patents, all inventions relating to processes and apparatus, whether patented or not (33 F. (2d) 617, 626-7). The only difference between the technical information provisions of these agreements and the technical information provisions of the agreement between du Pont and National Lead is that the latter contains express agreements to disclose. Obviously, however, the licenses in the *Cracking* case of necessity had to be implemented by actual disclosure, so that the difference is without substance.

The District Court's belief that the information exchange added to the capacity of the parties to exclude outsiders is of no more substance than its same belief with

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[48]This statement (Ex. R. 1451-1453), which sets forth what du Pont expected to achieve by the cross-license, is persuasive that du Pont's purpose did not embrace the exclusion of third parties from the titanium field. This conclusion is reinforced by the absence of exclusionary intent in the record of negotiations and the inference impelled by such evidence and the internal records of du Pont regarding the patent conflict that the securing of freedom of action for du Pont in the titanium field was the motivating force behind the agreement.

respect to the exchange of rights under future patents. The technical information exchange was also on a non-exclusive basis. Not only has neither party been restricted with respect to what it may do with its own technical information, but the agreement stated that the technical information given by each to the other should be at its "full disposal" (R. 70). *Cf. Associated Press* v. *United States*, 326 U. S. 1 (1945).

The District Court's finding (FF 95, R. 305), that the National Lead and du Pont agreement had the necessary effect of securing a monopoly on technical information to the exclusion and detriment of other producers is not only not supported by the record, but is obviously inconsistent with the other findings of the District Court. That the parties have in fact neither individually nor collectively achieved a monopoly of technical information is, we think, conclusively demonstrated by the entrance and successful competition in the field of Virginia Chemical. Although it was licensed under du Pont's patents, it never requested or obtained du Pont's technical information. And, of course, Virginia Chemical was not even licensed under National Lead's patents and did not get its technical information.

Nor, in fact, did Zirconium obtain or request du Pont's technical information.

Finally, as has been detailed at length above (pp. 17-19), the information exchange was ended at du Pont's insistence in 1940, long before the present litigation was commenced or, so far as du Pont is aware, contemplated. Even were such an exchange illegal, the matter is, on the authority of the *Cracking* case, clearly moot.[49]

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[49] 283 U. S. 163, 181-2 (1931).

(c) The Tonnage Limitations on du Pont's Licensees

The tonnage limitations in the Virginia Chemical and American Zirconium licenses were never restrictions on the amount of titanium which could be produced by the licensees, but simply limitations on the amount which could be produced under du Pont's patents, beyond which the licensees could produce only on risk of infringement and suit for infringement (Ex. R. 282, 397). The licensees were placed under no different disability than they suffered before the execution of the agreement. In other words, the limitations amounted to nothing more than limitations upon du Pont's covenant not to sue.

Such a limited waiver of a lawful patent monopoly has always been considered to be lawful and within the patentee's rights.[50] Just as with the so-called field of use restrictions, it has never been held that the patentee has either to keep entirely to himself his patent monopoly or to release it wholly if he releases it at all.[51]

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[50] *Hartford-Empire Co.* v. *United States*, 323 U. S. 386 (1945); *Mitchell* v. *Hawley*, 16 Wall. 544 (1872); *Rubber Tire Wheel Co.* v. *Milwaukee Rubber Works Co.*, 154 Fed. 358 (C. C. A. 7th, 1907); *United States* v. *Parker-Rust-Proof Co.*, 61 F. Supp. 805 (E. D. Mich. 1945); *Aspinwall Manf'g. Co.* v. *Gill*, 32 Fed. 697 (C. C. D. N. J. 1887), app. dism., 140 U. S. 669 (1891); *Burr* v. *Duryee*, 4 Fed. Cas. 806 (C. C. D. N. J. 1862), aff'd, 1 Wall. 531 (1864). But *cf. American Equipment Company* v. *Tuthill Building Material Co.*, 69 F. (2d) 406 (C. C. A. 7th, 1934). A tonnage limitation accomplishes nothing more than could be accomplished by a time limitation, which was approved in *Ethyl Gasoline Corporation* v. *United States*, 309 U. S. 436, 456 (1940).

[51] *Hartford-Empire Co.* v. *United States*, 323 U. S. 386 (1945); *General Talking Pictures Corporation* v. *Western Electric Co.*, 304 U. S. 175 (1938); *Bement* v. *National Harrow*

Similar quantity limitations were contained in various licenses issued by Gasoline Products Company and Standard Oil of New Jersey, two of the primary defendants in the *Cracking* case. (Main Brief for Primary Defendants in that case, pp. 65-9.) Such quantity limitations were alleged in the complaint to be unlawful (*Cracking* case Record, Vol. I, pp. 32-8). As in this case, however, such licenses were issued by the cross-licensing patentees under their own respective patents and not pursuant to the cross-licensing agreements or under the patents of others.

(1) American Zirconium

Even were such limitations questionable, du Pont never actually enforced them. The tonnage limitations in Zirconium's license were relaxed by agreements reached between the parties on November 18, 1937 (Ex. R. 1706), November 9, 1939 (Ex. R. 1745), and August 8, 1941 (Ex. R. 4269). These were the result of the only requests for modification made by Zirconium of du Pont, the first and third of which were granted in their entirety (Ex. R. 1706,

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Company, 186 U. S. 70 (1902); *Rubber Company* v. *Goodyear*, 9 Wall. 788 (1869); *Sinko Tool & Mfg. Co.* v. *Casco Products Corporation*, 89 F. (2d) 916 (C. C. A. 7th, 1937); *Becton, Dickinson & Co.* v. *Eisele & Co.*, 86 F. (2d) 267 (C. C. A. 6th, 1936), cert. den., 300 U. S. 667 (1937); *Vulcan Mfg. Co.* v. *Maytag Co.*, 73 F. (2d) 136 (C. C. A. 8th, 1934), cert. dism., 294 U. S. 734 (1935); *Westinghouse Electric & Mfg. Co.* v. *Tri-City Radio Electric Supply Co.*, 23 F. (2d) 628 (C. C. A. 8th, 1927); *Radio-Craft Co., Inc.* v. *Westinghouse Electric & Mfg. Co.*, 7 F. (2d) 432 (C. C. A. 3rd, 1925); *Pope Manf'g Co.* v. *Owsley*, 27 Fed. 100 (C. C. N. D. Ill. 1886).

4269), while the second, that of September 15, 1939 (Ex. R. 1728), was granted in part at that time (Ex. R. 1745).[52]

Moreover, the tonnage limitation, in fact, never resulted in any limitation of Zirconium's production.[53] Zirconium was authorized to produce 63,000 tons of titanium dioxide in the period 1935-1944, but in fact it produced only 35,637 tons during the period, or about 56% of the licensed quantity. The following schedule shows the quantity allowed

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[52]On September 15, 1939, Zirconium asked du Pont for permission to increase production to 9,000 tons per year beginning January 1, 1940 (Ex. R. 1728). After some correspondence and negotiations du Pont on November 9, 1939, authorized Zirconium to carry over to 1940 the entire amount of production allowed for 1939 but not utilized, thus permitting Zirconium to produce 6,719 tons in 1940; and this modification was accepted by Zirconium (Ex. R. 1745). During the year 1940, Zirconium, however, produced only 4,829 tons (R. 1147), and after renewing its request was authorized to produce 9,000 tons for 1941 and subsequent years (Ex. R. 4269).

[53]The only evidence to the contrary is the following: In support of its request of September 15, 1939, Zirconium indicated that it was prepared to expand its plant to enable it to produce 9,000 tons (Ex. R. 1737); stated that the company hesitated to expand to a 9,000-ton unit which would assure at least a 6,000-ton production solely because the additional investment might result in production in excess of 6,000, which went beyond the quantity permitted under the license agreement (Ex. R. 1743), and argued that the quantity limitation prevented operations on a profitable basis (Ex. R. 1737).

However, that these representations were mere argument, not justified by the facts, is clear. As late as November, 1941 (after du Pont had relaxed the tonnage limitation to permit a production of 9,000), the question of increasing Zirconium's capacity sufficiently to enable it to produce 9,000 tons was still under discussion by its directors, and it appears conclusively from Zirconium's own minutes that directors representing Metal & Thermit and National Lead which together held 55% of the Zirconium common stock, were unwilling to make available capital necessary for the increase, for a variety of reasons involving the question

under the modified license, the actual production of Zirconium, and the ratio of actual production to the allowed amount for each of the years 1935-1944:

	Quantity Specified in License as Amended[54]	Actual Production[55]	Ratio Production to Specified Quantity
1935	3,000	2,206	73.53%
1936	3,000	3,053	101.76
1937-38	9,000	7,713	85.70
1939-40	12,000	10,110	84.25
1941	9,000	6,568	72.97
1942	9,000	1,796	19.95
1943	9,000	243	2.70
1944	9,000	3,948	43.86
TOTAL	63,000	35,637	56.56%

of the adequacy of the company's management and the business soundness of the project (Ex. R. 4042, 3974, 3990, 3978, R. 1086, 1089, 1094). It is also clear that in 1939 Zirconium operated at a profit (Ex. R. 3978). Indeed, the record shows that Zirconium's operations were profitable in 1937, 1938, 1939, and while a loss was experienced in 1940, profits again appeared in 1941, these profits being made in spite of substantial sales commissions and management fees paid to parent companies (Ex. R. 3978, 3979). Thus, it appears that Zirconium's production of titanium dioxide was not in fact restricted by the tonnage limitations, but by factors not within the control of du Pont, and that du Pont, whenever requested, and to the full extent necessary, authorized relaxation of the quantity limitation.

[54]Ex. R. 283, 1706, 1745, 4269.

[55]R. 1147—with 1944 production estimated on basis first six months' production.

(ii) Virginia Chemical

As in the case of Zirconium, the quantity limitations in the Virginia Chemical license were frequently relaxed, either at its request or voluntarily on du Pont's part. There was no instance where a request for modification was made which was not granted by du Pont. In the short period from October, 1937, to August, 1941, Virginia Chemical was granted six specific relaxations of the quantity restrictions. The modifications were made on October 11, 1938 (Ex. R. 1818), March 9, 1939 (Ex. R. 1823), November 21, 1939 (Ex. R. 1825), August 5, 1940 (Ex. R. 1827), May 21, 1941 (Ex. R. 4287), and August 8, 1941 (Ex. R. 4290).

The liberality and flexibility of these modifications may be seen from the fact that while the original license agreement provided for a quantity of 3,000 tons in the period of October 1, 1939, to September 30, 1941, this amount was increased on request of Virginia Chemical, first to 3,600, then, to 4,500, and finally, to 5,000 tons (Ex. R. 1823-1827).

As modified, the license agreement permitted for the period October, 1937, to September, 1944, a total tonnage of 43,000, but Virginia Chemical was not able to produce this quantity, and produced in the period only 33,572 tons (R. 1147), or about 78% of the licensed amount.[56] In fact, the largest production of Virginia Chemical occurred in 1943-1944, at a rate of 6,437 tons in 1943 and 7,294 in 1944 (R. 1147), during which Virginia Chemical was authorized under the license to produce 9,000 tons per annum.

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[56] A schedule showing the ratio of Virginia Chemical's actual production by years to the allowed amount, such as was presented with respect to Zirconium, was not set forth, due to the inadequacy of record data.

There is no evidence that Virginia Chemical ever objected, at the time of the negotiation of the license or subsequently, to the quantity limitations, and in the absence of evidence, it may be assumed that no objections were made. Similarly, since there is no evidence to the contrary, it may be assumed that Virginia Chemical operated under the license at a profit.

Finally in November, 1944, prior to the trial of this cause, although subsequent to the filing of the complaint, du Pont voluntarily canceled the quantity limitations in both the Zirconium and Virginia Chemical licenses (FF 84-5, R. 295, 297). Even if it is believed that the quantity limitations were improper, it is submitted that this action renders the question moot. It is beyond the power of du Pont to reinstate the limitations in those licenses, and injunctive relief is, therefore, completely unnecessary. Such was the holding in the *Cracking* case, in which similar action was taken after the trial had commenced.

(2) THE DECISION OF THIS COURT IN THE *CRACKING* CASE IS CONTROLLING

We believe we have shown that the legality of the agreement between du Pont and National Lead, and even the District Court's findings of "necessary" effect and intent are controlled in every substantial respect by the *Cracking* case and that such agreement substantially promoted rather than restrained competition and trade. Indeed, the District Court, in its opinion (R. 222), unconsciously in effect conceded this when it assumed "that such exchange of rights standing alone is lawful". It went on, however, to state that the agreement is an instrument of restraint because the parties were the only producers of

titanium and even at the time of the trial between them did approximately 90% of the titanium business in the United States. The *Cracking* case was no different, for the licensor parties included the largest producers in the industry, and with the licensees substantially all of the large producers in the industry were within the contractual orbit.

In this connection, the Court referred only to the *Associated Press* case, 326 U. S. 1 (1945), in which newspapers controlling 96% of the total news circulation of the United States had made their news sources available to each other. The citation was inapposite. The vice of the Association in that case lay in the *exclusive nature* of the arrangement, coupled with the by-law provisions giving each member, in effect, the power to *exclude competitors* from membership in the Association. In short, each member of the Association was not only bound not to furnish news to non-members, but each member had the power to prevent non-members from obtaining access of the news of each and every other member. No comparable power on the part of either du Pont or National Lead by virtue of their agreement, or otherwise, existed or has in fact been exercised. In fact, the Court found to the contrary.[87]

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[87]That this distinction is valid has been hitherto recognized by the Department of Justice. In 1930, it filed a complaint against Radio Corporation of America, General Electric Company, Westinghouse Company, American Telephone and Telegraph Company, and others in the United States District Court for Delaware. These companies, substantially occupying the entire radio field, were parties to an exclusive cross-licensing arrangement. The Department of Justice consented to the entering of a consent decree against certain of the defendants which enjoined the recognition of any of the cross-licenses as exclusive. The Department also dismissed its complaint against American Telephone and Telegraph Company and Western Electric Company, who, with the approval of the Department, had substituted non-exclusive cross-licenses between them and the Radio Group for the prior exclusive cross-licenses.

If wholly unrestricted, non-exclusive exchanges of licenses are to be held invalid, we believe that it is obvious that progress in the arts and sciences and effecting competition will be seriously impeded, and particularly so in this industry, as to which the District Court found that the cross-license promoted the more rapid development of the art and a greater freedom of action of the parties (FF 79, R. at 293).

PART TWO

THE PROVISION IN THE DECREE COMPELLING DISCLOSURE OF EXISTING AND FUTURE TECHNICAL INFORMATION SHOULD IN ANY EVENT BE ELIMINATED.

Assuming *arguendo* that the decree below is to be affirmed on the merits as to du Pont, we turn to an aspect of such decree. Du Pont contends that the provisions of this decree compelling it to disclose its existing and future technical information are improper both on the ground that the District Judge had insufficient power to order such disclosure and on the ground that his order constituted a serious abuse of discretion and operated contrary to the objectives of the Sherman Act. We say that the District Judge was without *legal power* to order disclosure of technical information under the rule of the *Hartford-Empire* case, 323 U. S. 386, and in the light of well established equity doctrines. We say that the District Judge, moreover, *abused his discretion* in that the order as to disclosures of technical information was unnecessary to permit competitors to operate under the compulsorily licensed patents, that disclosure will destroy competition which now exists and bring competitors closer together, that disclosure will remove incentives for future technological advancement, and that disclosure is wholly onerous and unnecessary in view of the fact that its exchange was discontinued between du Pont and National Lead long before the suit was initiated and more than six years ago.

The provision in question appears in a single sentence in the middle of paragraph 7 of the decree, as follows:

> "During a period of three years from the date of this decree such license [the compulsory license] or

> reciprocal license may at the option of either party contain a provision for the imparting in writing, at a reasonable charge, by the licensor to the licensee, of the methods and processes used by the former at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments".

The various points concerning this provision will now be discussed below:

1. The District Court Exceeded Its Legal Authority

The power of a court in a Sherman Act proceeding to compel the compulsory licensing of technical information was considered in the *Hartford-Empire* case, 323 U. S. 386, at 418, and this Court there held that, like royalty-free licensing, compulsory licensing of technical information was an inappropriate remedy even in a situation such as was there presented involving most extreme forms of restraint. On this issue there was no dissent. Paragraph 24 (c) of the *Hartford-Empire* decree was summarized by this Court as being

> "(c) to make available to any licensee, under '(a)' and '(b)' [the compulsory licensing provisions], at cost, plus a reasonable profit, all drawings and patterns 'relating to the machinery or methods used in the manufacture of glassware' embodied in the licensed inventions (with immaterial exceptions)" (p. 413).

This Court then ruled:

> "Paragraph 24 (c) should be deleted" (p. 418).

There is no possible warrant for distinguishing the two cases so as to impose a more severe decree in this respect

on du Pont in the present case than was imposed upon the Hartford-Empire Company and its co-conspirators. If this Court does uphold this provision in the present case, its decision must necessarily be read as overruling the *Hartford-Empire* case. Yet the *Hartford-Empire* case was decided only two years ago, and was reaffirmed on rehearing, after there had been two extensive and thorough oral arguments.

If any distinction is to be drawn between the cases, surely it must be one favorable to du Pont. The whole tenor of the District Judge's opinion and findings in this case are charged with recognition of the relatively very moderate degree to which du Pont was implicated in violation of the law, if at all. Moreover, in the *Hartford-Empire* case, the technical information involved was limited to drawings and patterns. In this instance the "methods and processes" used in commercial practice require the disclosure not alone of plant layouts and other information comparable to drawings and designs, but require the disclosure of information which in the last analysis is buried in the minds of persons skilled in the art and in intimate daily contact with the operation of the processes.

We need hardly remind this Court of the contrasting position of many of the Hartford-Empire defendants. Its violations of law were deliberate, continuing and even shocking. As Mr. Justice Black said in dissenting, 323 U. S. at 436-437:

> "The history of this country has perhaps never witnessed a more completely successful economic tyranny over any field of industry than that accomplished by these appellants".

Mr. Justice Rutledge in his dissenting opinion, 323 U. S. at 439, stigmatized the defendants' conduct as a

> "long adventure in monopoly and unlawful restraint of trade".

And the majority opinion itself held, 323 U. S. at 406, 407:

> "It is clear that, by cooperative arrangements and binding agreements, the appellant corporations, over a period of years, regulated and suppressed competition in the use of glassmaking machinery and employed their joint patent position to allocate fields of manufacture and to maintain prices of unpatented glassware".

In our case, du Pont had no part in any allocation of fields of manufacture. It had no part in any program to maintain prices. Competition under all significant headings clearly existed between it and other United States producers. As summarized in 4 *Pomeroy's Equity Jurisprudence* (5th Ed., 1941) 943:

> "It is, however, a familiar doctrine that a court of equity will not exercise its jurisdiction to grant the remedy of an *affirmative* specific performance, however inadequate may be the remedy of damages, whenever the contract is of such a nature that the decree for its specific performance cannot be enforced and its obedience compelled by the ordinary processes of the court. A specific performance in such cases is said to be impossible; and contracts stipulating for personal acts have been regarded as the most familiar illustrations of this doctrine, since the court cannot in any direct manner compel an actor to act, a singer to sing, or an artist to paint."

Compare *Rutland Marble Co.* v. *Ripley*, 77 U. S. 339, 358-359 (1890) ("Another serious objection to a decree for a

specific performance is found in the peculiar character of the contract itself, and in the duties which it requires of the owners of the quarries. These duties are continuous. They involve skill, personal labor, and cultivated judgment. It is, in effect, a personal contract to deliver marble of certain kinds, and in blocks of a kind, that the court is incapable of determining whether they accord with the contract or not." *Id.*

True, the doctrine ordinarily finds application in the refusal of an equity court to enforce personal contracts in an affirmative way. But the principle underlying the rule, *i.e.*, the impracticableness of judging adequate performance, applies equally to the provision of the District Court's decree. It is one thing to order the granting of a license under a patent and quite another thing to order an exchange of technical information. The former requires the exercise of ministerial acts on the part of the persons subject to the order; the latter calls for the rendering of highly specialized services by them which it is impracticable for a court of equity to police.

2. The District Court Abused Its Discretion

Even if this Court finds that the District Judge had legal authority to order compulsory licensing of both existing and future technical information, the present record demonstrates that such an order is not necessary to promote competition in the titanium pigment industry as it has now existed for many years past. Neither American Zirconium which entered the industry in 1934, nor Virginia Chemical which entered the industry in 1935, ever exchanged technical information with or received it from du Pont (*supra*, pp. 20-23, 100). Both compete successfully

with National Lead and du Pont; Daley, General Manager of du Pont's Pigments Department, characterized the competition of American Zirconium and Virginia Chemical as "tough" (R. 1159). The government did not challenge his position by other testimony or documentary evidence and did not even cross-examine him with respect to it (R. 1168-1172). In fact, the government did not call a representative of either Zirconium or Virginia Chemical and presented no proof that technical information was required for prospective competitors.

National Lead exchanged limited technical information with Zirconium (*supra*, p. 22). But this is no reason for compelling du Pont to disclose its technical information. American Zirconium has competed in the industry up to the present time without it. Furthermore, Virginia Chemical has never exchanged with or received technical information from National Lead. This has not prevented Virginia Chemical from competing in the industry. What it has done, others can do.

Moreover, the compelling of competitors to disclose to one another their technical information would seriously reduce the incentive to make developments, to the ultimate disadvantage of the consuming public. It is the theory of our economic system that research, development and progress will be stimulated by the rewards to be gained in competition as a result of superior quality, lower costs, etc. The thing that impels development is the competitive advantage, frequently even a temporary one, to be gained by the one making the development and the correlative fear of competitive disadvantage from falling behind in the race for improvement. If the producers in this industry must turn over their developments to their competitors and may ex-

pect to receive the developments of their competitors, the "pleasure-pain" motive will obviously be diminished.

There is a vital distinction between exchange of information in an infant industry and exchange in a matured industry. In an infant industry, where one company has gained a great initial advantage, competition will often benefit if a way can be found to compel or induce an exchange among competitors. As an industry matures, however, and there become available chemists skilled in the art, competitors are able to operate without access to the secrets of operation of each other, and indeed competition to a considerable extent becomes competition in the field of research and development of new products, new uses and better qualities.

The District Court's own finding is eloquent on the entire subject (FF 78, R. 290):

> "78. From 1933 on there was active competition between NL and DP for customers. There has been a vast increase in sales; and repeated reductions in the price of titanium pigments have taken place and a very few increases. * * *
>
> "NL and DP have endeavored to match each other's titanium products; but each also manufactures certain titanium pigments having special applications not manufactured by the other.
>
> "There is no allocation of territory or customers between NL and DP; and each maintains a large, highly trained technical sales force engaged in endeavoring to sell titanium pigments. To a very large extent the salesmen of the two companies are chemists whose contact with consumers (that is, manufacturers of paint, rubber, glass, etc.) consists in endeavoring to demonstrate that their products merit acceptance on the basis of technical superi-

ority. The buyers of titanium pigments are mainly well-informed, experienced purchasing agents. NL and DP sell for identical prices; there is no evidence that such price identity is the product of agreement or collusion".

There is an evident distinction between compelling the grant of a non-exclusive license on uniform, reasonable terms, on the one hand, and compelling disclosure of technical information, on the other. The first only removes a barrier otherwise imposed by the legal monopoly conferred by the patent laws. The second removes an incentive to compete.

The fact is that the chief reason the District Court ordered a compulsory exchange of technical information doubtless is that National Lead, for the purpose of getting into a position where it would be able to have the competitive benefit of du Pont's technical information built up during the period of du Pont's total independence under this heading from National Lead, conceded in the hearings on the decree that this would be a proper remedy. Du Pont, of course, has no objection to National Lead disclosing its technical information. But du Pont should not be prejudiced by National Lead's concession.

Nor do we need in this case to contend for an absolute rule against insertion of such a clause in any decree, although we believe that the order by this Court to delete the clause in a case so strongly favorable to the government on the merits as the *Hartford-Empire* case is a decision to that effect. In this case, suppose that the exchange of technical information between National Lead and du Pont had continued unabated until the date of the decree, or at least until the commencement of the suit; it might well have been argu-

able that, under those circumstances, the Court ought to have done what it did here in order that new competition might be let into the industry with equal access to the presumably pooled information. Indeed, this was what the situation was in the *Hartford-Empire* case. The District Court's opinion, 41 F. Supp. at 553, discloses that the exchange of technical information there involved had always been important and continued to be up to and including the commencement of the litigation:

> "The agreement not only divided the fields of wars by giving the container field to Hartford and the non-container field to Corning, but it eliminated the impending competition between Hartford and the Corning interests in the glass making machinery field. In this connection it is well to note that Corning had 'consistently maintained that the contract was *a continual exchange of inventions and developments for prescribed fields regardless of patents*'". (Italics supplied.)

In addition to urging the current importance of the exchange of technical information in the glass industry, the government argued in the *Hartford-Empire* case that compulsory granting was "necessary to give full effect to the licensing requirement and to avoid useless and perhaps costly repetition of experiments already performed" because "patents as complicated as those here involved seldom reveal all of the details essential to the manufacture and operation of the patented invention" (Brief on Rearg. in this Court, 143).

To do as the Court has done in this case, viz. to attempt to compel exchange of secret technical information independently developed which has been withheld, because of

the existence of competition, for more than seven years last past, can only be justified if this Court is in effect now going to say that the *Hartford-Empire* decision was so entirely wrong that hereafter the rule must be that in all cases involving patents under the anti-trust laws, there must be inserted in decrees a provision for compulsory disclosure of the secret technical knowledge known to the parties as of the date of the decree.

And on the specific subject of exchange of information, du Pont's record is a singularly good one. The critical fact is that du Pont terminated all exchange of technical information with National Lead early in 1940. It told National Lead of this decision in the Spring of 1940 (Ex. R. 1926-1939), obtained National Lead's confirmation on April 29, 1940 (Ex. R. 1942), and added further assurance by a formal document as of January 1, 1941 (R. 73). The decisive action was, therefore, taken more than four years before the commencement of this action. In other words, du Pont's decision to terminate all exchange of technical information with National Lead was an independent decision, taken neither under threat of suit nor under compulsion of law nor of national policy.

Indeed, even before 1940 du Pont had strictly limited the field of exchange of information. We have given under the Statement of the Facts a detailed history of that exchange. Summarized, it was that in 1933 the art was still in its infancy and it was impossible for any company to engage in full competition with the American member of the international cartel, unless it could obtain access to the accumulated technical information at that time; that within three years, however, the spirit of competition had developed to the point at which already the parties were

commencing to hold back information from one another (Ex. R. 4309); that in 1937 the parties contractually restricted the exchange of information; and, finally, that by April, 1940, du Pont determined to withdraw completely from any exchange. The effect of its decision was dramatically evidenced by the document in the record which showed that a year later a representative of du Pont, in the hopes of knowing what National Lead was doing, had to reach his conclusion by standing outside the gate of National Lead's plant and counting the number of smoke stacks in operation (Ex. R. 4321).

We respectfully submit, therefore, that whatever be the decision as to the merits, the fourth sentence of paragraph 7 must be stricken from the decree.

WM. DWIGHT WHITNEY,
Counsel for Appellant,
15 Broad Street,
New York, N. Y.

GERHARD A. GESELL,
JOHN LOGAN O'DONNELL,
NESTOR SHEA FOLEY,
OSCAR A. PROVOST,
JOHN HANCOCK,
Of Counsel.

January, 1947.

APPENDIX A

KREBS PIGMENT & COLOR CORPORATION

June 28, 1933.

CONFIDENTIAL

W. C. BESCHORMAN, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:-

We have considered the various points raised by I. G. in their cable to you with the desire, if possible, to comply with its request.

As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article II of the Krebs-Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

The I. G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclusive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis. Since all licenses received from Krebs under its foreign patents, are

subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally, we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of much care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Very truly yours,

C. H. RUPPRECHT,
President.

July 12, 1933

I. G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Gruneburgplats.

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, a copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you a copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such

a practice would tend to create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subsequently to the points brought out in your letter of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both as to use, manufacture and selling to the territory granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good co-operation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outside of their territory which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licenses in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in a position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these respects, which are also our own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your interests than to complicate the situation with a separate contract.

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advice from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours,

W. C. BESCHORMAN,
Executive Vice President.

Copy to—Dr. Kuhne
Dr. Jebsen
Mr. Rupprecht
Mr. Tasker, Vice Chairman, British T. P. Co.

APPENDIX B

ANALYSIS OF THE DISTRICT JUDGE'S OPINION ON THE ISSUES INVOLVING DU PONT SHOWS CLEARLY HIS ERRORS OF FACT AND LAW.

1. The District Judge's Heading II

The issue of du Pont's relation to the international cartel is treated in the portion of the District Judge's opinion numbered "II" and commencing at R. 213.

(a) The District Judge found a sharp deviation and contract between the conduct of du Pont and that of the other defendants, with which du Pont competed.

(*First paragraph of Opinion, R.* 213)[1]

The opinion gives a clear picture of just how the Judge settled the issue. In his opening sentence, the Judge *contrasted* the du Pont case with the National Lead case, saying for du Pont that

> "the facts are by no means as clear"

as for National Lead. The Judge then recognized that:

> "much of the evidence supports its [du Pont's] denial" of "an complicity in the combination".

The attention of this Court is respectfully called to the fact that the Judge was thus not merely pointing out that there was an insufficiency of evidence under many headings. He was saying that there was "much" affirmative evidence to support the denial of "any" complicity whatever.

---

[1]These italicized references in parentheses are to the respective paragraphs of the Opinion below, with record references.

This Court will recall that the 1920 agreement was the basis of the cartel. The Judge said not merely that du Pont

> "did *not* subscribe to the 1920 agreement"; [italics ours, in all quotations]

he went on to say that

> "the agreement it [du Pont] did sign, in 1933, *deviated sharply* from the form and from the principles of the 1920 agreement".

This "sharp deviation" was apparent, in that the du Pont agreement provided only for an exchange of non-exclusive licenses under patents with National Lead and for an exchange of technical information, and contained no territorial or other commercial restraint. The Judge further pointed out that:

> "In 1940, it [du Pont] withdrew from the exchange of technological information with NL".

Thus, four years before this action commenced, the agreement between du Pont and National Lead had been reduced to a patent license agreement, without even any exchange of technical information added.

The next question was as to the substance of competition between the two in the United States. On this, the Judge said:

> "It [du Pont] competed with NL for the American market".

(b) The District Judge recognized that if du Pont was a member of the combination at all, it was not a regular member.

The next question was as to the markets outside the United States. On this the Judge said:

> "It [du Pont] was never regarded by the Titan group as a full fledged member of their family. Its anomalous position was the subject of frequent discussion and apprehension among the Titan members, and efforts were made to convert DP into a fully conforming member".

On the whole, this was also an entirely favorable decision to du Pont. But the Judge was here (for the first time) shading his decision a bit. While recognizing that du Pont's independence was a source of "apprehension" to the cartel, and that the cartel therefore considered it necessary to endeavor "to convert DP", he did not quite hold that du Pont was completely free of contamination. He held that du Pont was not "a full" fledged or "a fully" conforming member. Here we have a narrow issue between ourselves and the Judge: Whether he was entitled to hold that this admittedly non-conforming and unconverted party [du Pont], which was even causing apprehension to the members of the cartel, must nonetheless be itself held to have been a member to such an extent as to bring down upon it the severe consequences visited by our law on a conspirator.

(c) The District Judge also recognized that du Pont had an alert consciousness of the anti-trust laws, violation of which it was at least seeking to avoid.

(*Second paragraph of Opinion, R.* 213)

The Judge, in passing from his introductory paragraph to his analysis of the evidence relative to du Pont, referred once again to the

> "sharp contrast"

between the disregard by National Lead of the Sherman Act and the postion of du Pont, which

> "exhibited, from the very beginning of its interest in titanium, an alert consciousness of the anti-trust laws and moved cautiously and under the guidance of trained anti-trust lawyers".

This could hardly in itself be a ground of condemnation of du Pont,—rather the contrary. At least, it was trying to comply with this complex of laws known as the Sherman Act. The point is not without significance on any issue of purpose or intent.

The Judge then posed this question and gave his answer:

> "The question is whether it [du Pont] succeeded in avoiding not only the form but also the substance of transgression".

This seems to admit that du Pont did avoid the "form" of transgression. The thought is that its "trained anti-trust lawyers" saved it from that. That certainly does not permit an inference that it transgressed in "substance". Astute as the Courts sometimes are to separate substance from form, they have hardly reached the stage of imputing guilt in substance *because* none is apparent in form. The inquiry must be whether there is substantial evidence *aliunde* that the substance was indeed different from the form. The Judge himself of course concluded that there had been transgression:

> "I have concluded that it has not [avoided the substance of transgression]; and I arrive at that conclusion by the following analysis of the facts".

(d) The District Judge also recognized that du Pont's purpose and intent was to obtain access to patents and technical information. This was obviously lawful.

(*Third paragraph of Opinion, bottom R.* 213)

The Judge's "analysis of the facts" opened, quite properly, with a consideration of du Pont's *purpose*. We say "quite properly" because the *purpose* of the defendant has always been held by this Court to be of pre-eminent importance in anti-trust cases. Was the purpose of du Pont directed to some commercial objective such as price-fixing or territorial limitation, or was it directed to a subject not repugnant to the anti-trust laws, such as the obtaining of licenses under patents? Here is what the Judge says:

> "DP was manifestly eager to obtain access to NL's patents and skill in the titanium field".

Surely, that also is favorable to du Pont.

The next sentences do not derogate at all from this conclusion, but deal exclusively with the motives and purposes of National Lead, concluding with a statement that National Lead was limited by its agreement with the Europeans that, before National Lead could license du Pont under its patents, National Lead must obtain du Pont's adherence to the principles of the 1920 agreement. But:-

> "Such adherence, DP refused. The reasons assigned by DP for its refusal were several, and varied from time to time, but always conspicuous among them was the claim that its adherence was forbidden by the anti-trust laws".

Again, surely a finding entirely favorable to du Pont. The Judge was evidently concluding that whatever its conduct, at least the *purpose* of du Pont was innocent. It

will appear that he failed thereafter to give sufficient weight to this conclusion which ought to have been of paramount importance.

(e) The District Judge further recognized that the 1933 agreement was drawn under the principles established by this Court in the *Cracking* case, 283 U. S. 163.

The Judge then turned to the written contract of 1933 between National Lead and du Pont:

> "In this troubled atmosphere, the 1933 agreement was drawn, after long negotiation, by lawyers who were aware of the then recent decision in the Gasoline Cracking case. *Standard Oil Co.* v. *United States,* 1931, 283 U. S. 163".
>
> (*Paragraph at middle R.* 214)
>
> "Carefully, they cast the agreement into the form of a settlement of patent disputes".

Again, we ask: What better could they have done than "carefully" to follow the recent decision of this Court? But the District Judge seemed troubled by some idea that the fact that the agreement was a "settlement of patent disputes" must in itself be somehow suspicious. Surely, the agreement speaks for itself, particularly in view of the fact that the Judge expressly *found* that du Pont and National Lead were engaged in a *bona fide* patent dispute (FF 72, R. at 279).

The Judge noted one element in the agreement as "disturbing". Was it some offensive clause, or clauses? Not at all. It was again suspicion, for the "disturbing" element was only that its terms were in the Judge's opinion "vague". But du Pont was unharmed by that, except atmospherically, for once again the Judge drew no direct

inference against du Pont. He did draw an inference against National Lead, because one of its officers wrote that

> "the vagueness in the writing is deliberate and the product of fear of the anti-trust laws".

Du Pont did not have a copy of that letter, and

(*Paragraph commencing bottom R.* 214)

> "Consequently I draw no inference therefrom against DP; but I do draw an inference as to NL's frame of mind in its negotiations with DP".

This is but one of the many examples of a continuing difficulty that du Pont was under throughout the entire trial, in that National Lead and its associates provided documentary evidence that the anti-trust laws did not bulk large in their deliberations; and although this was not known to du Pont, there was a tendency for du Pont to be contaminated.

With du Pont it was just the opposite. It was determined not to violate the law. For example, the Court will recall that in and after 1933 National Lead attempted frequently to explain to its own associates its failure to bring du Pont into the conspiracy by ascribing du Pont's refusal as due to du Pont's concern about the anti-trust laws,—at the same time seeking to cover itself with its associates by suggesting that it would try to prevail upon du Pont to go along anyway. But it never succeeded.

(*First paragraph, R.* 215)

The Judge here turned to evidence outside the cross-licensing agreement itself,—evidence of its negotiation.

(f) The District Judge, however, concentrated attention on two documents—two letters written at the time to prevent the Germans from voiding the license agreement of 1933.

He held that the material evidence reduced itself to two documents, which he set out in the margin (R. 228-231) and which we have reproduced in Appendix A. Before they are considered, it is necessary to understand their background. National Lead had been bound to its foreign associates, by Article XIV of the Contract of 1920 and the other cartel agreements, not to pass on to American competitors information received from its foreign associates unless the American competitors should in turn agree to adhere to the "principles" of the Contract of 1920. National Lead's German associates [I.G. Farbenindustrie and its affiliated companies], the only ones of the cartel who were then in actual production in Europe (Ex. R. 3623), were particularly concerned lest du Pont as a competitor should acquire from National Lead the technological information supplied to National Lead by the Germans themselves and then should export into the Germans' territory products made in consequence of acquisition of that information.

The problem before du Pont was whether to abandon the contract, and thereby to renounce access to the patents and information developed by the cartel and in the possession of National Lead, or whether to make an effort to save the agreement by assisting National Lead to give some reassurance to the Germans. As the cartel and National Lead were obviously in possession of the greater part of all the information in the world about titanium, renunciation of the agreement by du Pont would be in effect an admission that the cartel had a monopoly and that du Pont could not enter into business in competition with it.

(g) But the District Judge recognized that the first document—a letter from du Pont—did not violate the law.

Du Pont therefore set out to find a formula whereby the Germans could be quieted so that National Lead could sign the agreement, but without du Pont itself entering the cartel or making any territorial agreement or commitment.

Du Pont accomplished this by writing the first of the two documents in question, a letter from Rupprecht, President of Krebs, to National Lead's Vice-President Beschorman; and the Judge indeed found that in this letter du Pont avoided transgression of the law. He could hardly have found otherwise. In this letter (R. 228, quoted in full in Appendix A), dated June 28, 1933, Rupprecht said that he had considered the various points raised by the Germans; that the anti-trust laws "*definitely* prevent this Corporation from making *any* commitments respecting the [European] territories"; that "the whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis"; etc. In sum, the letter was a carefully drawn statement that du Pont was prevented by the anti-trust laws from making any agreement or commitment.

The District Judge, we think quite rightly, attached no importance to the few polite phrases in Rupprecht's letter which were evidently meant to let the Germans down easily, for example, "with the desire, if possible, to comply with its [I. G. Farbenindustrie's] request"; that since the cross-licensing agreement with National Lead "definitely provides that Krebs is limited both in respect to use and sale to the territories set forth [North and South America] * * *, we think the result will be eminently satisfactory to your foreign associates"; and the like. It would have served no purpose for du Pont to be rude or unfriendly. What it wished was to get the substance of the rights under the

German inventions and technological development, in so far as they could be [illegible]d through exchange of information with National Lead, without having to give away anything in return other than general expressions of good-will. And this is what was accomplished.

(h) The District Judge then pinned his decision adverse to du Pont on a single document, one written by National Lead, not by du Pont.

The second document (R. 229, also quoted in full in Appendix A), was not a du Pont letter at all, but was one from Beschorman (Vice-President of National Lead) to the Germans, dated July 12, 1933, of which a copy was sent to Rupprecht. The Judge *based* his decision against du Pont on this letter from National Lead to the Germans, saying:

(*Second paragraph, R.* 215)

> "If DP is bound by the second letter, it unquestionably joined the conspiracy then in effect between NL and its foreign associates".

We pause here to remark that it is a result which at least invites careful scrutiny by the appellate court when in a major litigation the trial court holds a defendant liable for violation of the anti-trust laws, notwithstanding the innumerable important findings in that defendant's favor which we have just reviewed, upon the basis of one document not written by or on behalf of that defendant itself and where, as we will see, the independent proof *aliunde* is wholly dependent upon inference.

(i) That National Lead letter, addressed to the Germans, itself enclosed the innocent du Pont letter which stated du Pont's position. The National Lead letter ought not, therefore, to have been construed apart from the enclosed du Pont letter, or in disregard of du Pont's conduct.

We suggest that, quite apart from the error of proportion involved in ascribing such importance to one letter,

it ought not to have been even construed alone, but with the Rupprecht letter. As Beschorman's letter transmitted Rupprecht's letter, the former ought not to be construed against du Pont independently from and as adding to the latter. Indeed, Beschorman himself opened to I. G. Farbenindustrie by requesting them to read Rupprecht's letter carefully:

> "A careful reading of the Krebs' letter will surely indicate to you *the spirit* in which they are entering into this contract and their efforts to meet your views. *We* feel that experience will prove that such will be the case".

The first of these sentences was obviously sales talk and left the Germans nothing better than what they could obtain from "a careful reading" of the Krebs' letter itself, which, as the Judge himself appears to agree, could not be the basis of a decision against du Pont. The second quoted sentence was merely an expression of opinion by National Lead itself about the future, and as thirteen years have passed since the letter was written, and six years before war broke out, there was ample opportunity to test whether in fact du Pont did thereafter meet the views of the Germans. A full record has been introduced about every sort of detail in the conduct of the industry here and abroad during all those years; and the Judge did not find, nor could he have found, that du Pont did in fact enter into or join the conspiracy during those thirteen years. It is surely out of all proportion that for the full history of thirteen years' experience, there should be substituted a single letter written by a third party, itself distinguished by mere expressions of wishful thinking for the future.

The whole of the Beschorman letter is open to similar comment. Thus, in the second paragraph, he says that to explain why the licenses are only non-exclusive

> "we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to create a monopoly".

His next sentence opens with "therefore"; but it was a complete *non sequitur:*

> "Therefore, the use of this phrase 'non-exclusive license' is simply to comply with the United States Laws and in practice the licenses under each other's patents will undoubtedly prove to be, to all intents and purposes, exclusive".

We can well imagine that Rupprecht never troubled to read the Beschorman letter carefully, or that if he did, he renounced it or said something of this sort to himself: "Oh, well, what difference does it make what Beschorman said? He enclosed our letter and that states our position. We are not committed in any way by what he says".

(*Third paragraph, bottom R.* 215 *to middle R.* 216)

The Judge, in explaining why he attached such importance to the Beschorman letter, gave two reasons, *first,* that Rupprecht had asked Beschorman to persuade the Germans to consent, and *second,* that Rupprecht did not repudiate Beschorman's request.

As to the first, we do not dispute that du Pont wished the contract with National Lead to go through. That was obviously so, as it had made the contract. And the contract, a non-exclusive license, was beneficial to American competitive trade, for it enabled du Pont to enter the field in full competition with the American representative of the inter-

national cartel. Therefore, there can be no vice in the fact that du Pont did wish National Lead to procure the necessary consent.

(j) It was error of law to hold that the omission of du Pont affirmatively to repudiate the National Lead letter constituted du Pont a conspirator.

We submit that the Judge committed a clear and prejudicial error of law when he held that

> "Such quiescence on the part of DP can only be construed as ratification".[2]

[2]The fact that Rupprecht asked or, more accurately, told Beschorman that it was necessary to persuade Titangesselschaft to consent to the proposed form of agreement is, taken by itself, wholly innocuous. By so doing Rupprecht did not authorize Beschorman to convey any promises or "assurances" with respect to du Pont's future conduct. That Titangesellschaft could legitimately and lawfully have permitted du Pont to have a cross-license without any unlawful restrictions on its conduct is clear. A request to Beschorman to persuade Titangesellschaft to act lawfully cannot conceivably be itself unlawful. Therefore, the imputation of Beschorman's letter to du Pont can only rest, if at all, on du Pont's alleged "quiescence".

While the evidence does show that Rupprecht was cognizant of the letter, and there is no direct evidence that Rupprecht, on behalf of du Pont, repudiated anything that was said in the letter, to assume, as the District Judge did, that du Pont had the burden of proving repudiation, and that in the absence of direct evidence of repudiation du Pont failed to carry the burden, is erroneous, as a comparison of the facts in this case with those in the *Interstate Circuit* case, with which the Judge drew a parallel, makes evident.

In the *Interstate Circuit* case, a number of facts existed which were believed by this Court to justify the inference that the distributors acted in concert and in common agreement in imposing restrictions on their licensees in a number of Texas cities. The distributors unanimously failed to tender testimony, at their command, of any officer or agent of a distributor who knew, or was in a position to know, whether in fact an agreement had been reached among them for concerted action. Whereupon, this Court said:

A party cannot be held to have joined a conspiracy because it did not affirmatively object to a statement by a conspirator, unless it was itself *already* a conspirator or otherwise was under a duty to object. Du Pont owed no duty either to National Lead or to the Germans,—certainly none to the latter, who were complete strangers to it. And the Judge himself gave no indication of why there was any duty on the part of du Pont to correct or object to what Beschorman had chosen to write to his co-conspirators in Germany. Du Pont was not interested in the conspiracy. Du Pont

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"When the proof supported, as we think it did, the inference of such concert, the burden rested on appellants of going forward with the evidence to explain away or contradict it. * * * The failure under the circumstances to call as witnesses those officers who did have authority to act for the distributors and who were in a position to know whether they had acted in pursuance of agreement is itself persuasive that their testimony, if given, would have been unfavorable to appellants. The production of weak evidence when strong is available can lead only to the conclusion that the strong would have been adverse. * * * Silence then becomes evidence of the most convincing character." Interstate Circuit v. U. S., 306 U. S. 208, 225-6 (1939).

In contrast, in this case, repudiation could have been done by letter, telephone call or in person, and if either of the latter two methods were employed the only persons able to testify would have been either Rupprecht himself, or Beschorman. However, Rupprecht was dead at the time of the trial and Beschorman was ill and unavailable as a witness. He has since died. Under such circumstances du Pont's failure to prove repudiation by direct evidence is not a proper ground to found an inference of acquiescence.

To the extent that it lay in du Pont's power, du Pont did prove that it did not acquiesce in any "assurances" that it would become a party to the territorial aspects of the conspiracy. Added to the fact that Rupprecht's own letter firmly refused to enter into the conspiracy, is the unimpeached testimony of Jebsen, one of the principals directly concerned in the 1933 agreement negotiations,

had "definitely" refused to participate in the conspiracy. Du Pont was interested only in the license. And the license was perfectly legitimate. It was all that du Pont received.

(k) The District Judge was greatly influenced by his own mistake of fact in attributing to du Pont a phrase used by the Germans in their reply to National Lead, but not communicated to du Pont.

At the outset in his legal analysis, the Judge made a mistake of fact which proved in the end to be very prejudicial to du Pont. In the middle of the same paragraph in which he was discussing the Beschorman letter, and immediately after his conclusion that "quiescence on the part

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who testified most definitely and positively to the effect that Rupprecht made no oral agreement to refrain from exporting at that time (R. 2899, 3047-8), and refused to subscribe to the principles of the 1920 agreement, which, of course, included the principle of territorial restriction (R. 2956-7, 3026-7). The documents also show that du Pont considered the 1933 written cross-licence agreement to constitute the full understanding at that time (Ex. R. 1451, 1463, 1485, 1505, 1509). There is also the enormous quantity of evidence in the record covering the period subsequent to 1933 which indicates that throughout this period National Lead and its foreign associates did not consider du Pont committed to any of the principles of 1920, including the principle with respect to territorial delimitations. Finally, the present head of du Pont's titanium business, Mr. Daley, who succeeded Mr. Rupprecht, testified unequivocally that, to his knowledge, du Pont has always considered itself entitled to export or sell in Europe at any time, and this testimony stands uncontradicted (R. 1167).

Moreover, du Pont was in no event obliged to repudiate Beschorman's letter or to prove that it did so. Du Pont was interested only in obtaining rights under National Lead's patents, a lawful objective. When asked to join in the conspiracy, it repeatedly refused, and its final word, Rupprecht's letter of June 28, in answer to I. G. Farbenindustrie's demands, was unequivocal in such refusal. What National Lead chose to tell its foreign associates was its business and not du Pont's. Du Pont's only obligations were to National Lead. Although there may be cases in which one has a duty to speak and failure to do so is the legal equivalent of ratification, this is not one of them.

of DP can only be construed as ratification", he said (R. 216, line 6):

> "It follows that the assurance that 'Du Pont will loyally respect the territory of TG' which TG discovered in the communications from Rupprecht and Beschorman was an assurance which must be attributed to DP, despite the painstaking efforts on its part to sever the line of imputation. At least then as to territorial delimitations of the titanium pigment business, DP joined the combination".

The Judge was at the time that he decided the case under the mistaken impression that the very damaging phrase "Du Pont will loyally respect the territory of TG" was contained in the Rupprecht and Beschorman letters, or one of them, for he put the phrase in quotes, said that it was "discovered in the communications from Rupprecht and Beschorman", and concluded that it constituted "an assurance" that "must be attributed to DP". If du Pont gave an assurance that it would loyally respect the territory of Titangesellschaft, we agree that it would be a very serious matter. The word "loyally" would evidence membership in the conspiracy and the phrase as a whole would, as the Judge said it would, amount to "an assurance".

Now, as a matter of fact, no officer or representative of du Pont ever did write that phrase, and no officer or representative of du Pont ever saw that phrase (FF 73, R. at 288).

The nearest thing in the record to the quoted phrase occurs in a letter from the Germans [the I. G. Farbenindustrie legal department] to Dr. Jebsen, representative of Titan, Inc., dated August 7, 1933, of which a copy was sent by Jebsen to Beschorman (Ex. R. 1516), *but was never*

sent to du Pont. It appears in the record in the original German, and also in the following translation:

> "The point of view which the National Lead Co. has taken in the letter of July 12th 1933 signed by Mr. Beschorman, Vice-President, and which appears from a letter from the Krebs Pigment & Color Corporation of June 28th 1933 signed by Mr. C. H. Rupprecht, President, of which also a copy has been submitted to us, does not formally correspond with the wishes which we expressed to you in our letter of June 20th 1933. We note[8] though from these letters the assurance that National Lead Co. and Titanium Pigment Co. as well as their new American Contract Partner, the Krebs Pigment & Color Corporation, will loyally respect the delimitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement between Titan Co. and Titangesellschaft. Relying on this loyal promise, we renounce on the formal confirmation of the wishes expressed in our letter of June 20th 1933 [the letter in which I. G. Farbenindustrie had asked National Lead to require du Pont to agree to the territorial and other restrictive terms of the 1933 agreement]".

It will be at once apparent that the sentence about loyalty and assurances was based on nothing more than a reading of the two documents emphasized by the Judge ("We note though from these letters * * *").

(1) What really happened in Germany, was that the Germans, in order to "go along with" National Lead, indulged in a little wishful thinking about du Pont, not supported by the terms of du Pont's letter.

If the Germans misread du Pont's letter, that surely is not evidence against du Pont, at least in the absence of

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[8]Jebsen testified (R. 1021) that a better translation would have been "deduce".

du Pont being shown the Germans' letter. So much the better for American trade and commerce if du Pont, as it did, in fact obtained a non-exclusive license and access to the technological information of National Lead, as a result of the Germans' either misreading the letters from America, or (as is more probable) as a result of the Germans arguing themselves into such a misreading in order to save their face in withdrawing their objection.

Although we consider it all immaterial and irrelevant so far as du Pont is concerned, the fact that the Judge based his opinion upon this German communication impels us to go into the record to see what really happened in Germany. The story is told by Jebsen. On the face of his letter to National Lead enclosing the I. G. Farbenindustrie letter (Ex. R. 1513), it appears that he had seen a draft of that letter in advance and had had several telephone conversations about it, and had indeed "suggested some changes". Apparently Jebsen was involved in a selling job to win over the Germans, notwithstanding the fact that they were not getting from du Pont what they had expected to get.

Jebsen told the story fully on cross-examination both by the government and by du Pont. The gist of his story was that it was his duty as a representative of National Lead to try and get the Germans to feel happy; that the Germans in turn wanted to accommodate National Lead: that although they recognized that the relationship with du Pont was very different from the basic principles presented to them by National Lead in 1927, he prevailed on the Germans to go along in the hopes that they would later get du Pont in line. That showed that the Germans went along, not because they got what they wanted, but because on the whole they concluded that they should not break

with National Lead, and became convinced that they should go on in the hopes that du Pont would be brought into the conspiracy later. (A full review of Jebsen's evidence on this subject appears later in this Appendix.)

There is no justification, therefore, for the finding that du Pont entered the conspiracy in 1933.

And even the Judge did not hold that it entered the conspiracy later.

(m) And, regardless of what happened in Germany, it was error of law to base a decision on it against du Pont.

An additional and independent point is that, regardless of what motives moved the Germans, and regardless of what they deduced from American writings, it was error on the Judge's part to found a decision against du Pont on the basis of what the Germans did or thought, as evidenced in a communication that was never even shown to du Pont (FF 73, R. at 288).

(*Paragraph at middle R.* 216)

That the Judge did erect his structure upon this error appears in the next paragraph of the opinion, in which he draws his inferences. Immediately after his citation of the *Masonite* case, the Judge was forced to recognize:

> "It may well be, and I take it as a fact, that in giving the assurance not to manufacture in or sell in TG's territory, *DP was not making a promise;* * * *."

The Court will observe that this was on the *assumption* that du Pont had given such an assurance, which assumption itself was unsupported, as we have just seen.

(n) Indeed, the District Judge expressly held that du Pont did no more than give expression to its then [1933] business policy not to export to Europe.

The Judge held that the assurance that he mistakenly supposed that du Pont had given did not itself amount to a promise:

> "it was doing no more than giving expression to its then existing business policy not to manufacture or sell in Germany and other TG territory; and it may well be that in any event DP could not successfully compete in Germany."

Here we have the Judge's definite finding: That du Pont, at its maximum, was ("no more than") "giving expression to its then existing business policy not to manufacture or sell in Germany and other TG territory". The Judge's later statement that du Pont *might have* competed in other territories adds no more to this.

(*Bottom R.* 216)

The Judge next said:

> "Legally, it [the defense that du Pont was only stating its existing business policy] is insufficient,
>
> because concerted abstinence from commerce is proscribed even where there are valid unilateral reasons for abstaining; and also
>
> because DP's assurance, in part, formed the consideration for the continued abstinence of the European producers from exporting to the United States".

There is no basis for the Judge's insertion of the word "concerted" in the first sub-paragraph, since du Pont made a unilateral statement of its existing business policy, a

policy which we have seen found strong support from economic and business factors which prevailed. As to the second sub-paragraph, the Judge's conception that the du Pont statement of present intention had some sort of decisive effect in Europe was expanded upon in the next succeeding paragraph of the opinion, and provided the only ground upon which the Judge based any finding that the *effect* of what happened in 1933 was actually to constrain trade in any way.

(o) A statement thus innocent in itself does not become unlawful because people abroad, unknown to the maker of the statement, proceed to act upon a misconstruction of it.

(*First paragraph, R. 217 at line 3*)

The Judge suggested that "In a very important way, DP's assurance closed the breach which was in the making in the wall built around the titanium business by NL and its foreign associates. It also removed the last obstacle to the establishment of a commercial collaboration between the Titan group and the Blumenfeld companies".

Even if it were true that the effect of what du Pont did was that the Titan group and the Blumenfeld group were brought together, and that some breach between them was healed, that would be no ground for a decision against du Pont. It has been universally held by this Court that it is not every "effect" that causes liability under the anti-trust laws, but only every "necessary" effect, the reason being that it is essential to show illegal purpose on the part of the defendant, and that such purpose may be inferred if the conduct under review had a *necessary* effect. The District Judge, in misapplying this established rule of law, overlooked his own wise dictum that *"Post hoc, propter hoc*, is

an invalid argument whether used by the plaintiff or the defendant" (R. 208).

The only legitimate inquiry should have been whether the two documents which the Judge was considering would have the necessary effect of healing a breach between two European groups and bringing them together under a single combination. No such finding could possibly have been made, as there was no reason for Ruppprecht to have foreseen such an unconnected result (assuming it to have occurred, which we deny) of the two documents in question. The inquiry, therefore, whether that did happen as an effect of the two documents, ought never to have been entered upon by the District Judge.

(p) And the statement did not in fact have the effect that the District Judge imputed to it (elimination by agreement of competition between the two groups inside of Europe).

Assuming for the purpose of the argument that it was legitimate to enter upon the inquiry as to what happened in Europe, there is no support in the record for a finding that what du Pont did or did not do in 1933 had the effect of bringing the two European groups together. The history of their negotiations over the years before and after 1933 is fully set out in the record, and the references to du Pont are but incidental and are generally to the effect that it is too bad that du Pont refuses to cooperate and that an effort should be made to bring it into line. This was as true of 1933 as of the later years.

The documentary history of the European cartel has been reviewed under the Statement of the Facts, *supra*. We need here refer only to a single document; and this Court's particular attention is respectfully called to the dates involved. Ex. 266 (Ex. R. 1474) was a letter from Jebsen

to Beschorman dated June 23, 1933, with annexed copies of a letter from I. G. Farbenindustrie to Jebsen and of a cable from Jebsen to Beschorman. The I. G. Farbenindustrie letter (dated June 20) and the cable (dated June 22) are important in another connection, in that they set forth the conditions which I. G. Farbenindustrie was proposing that National Lead must impose upon du Pont before consenting to the 1933 agreement. This was the letter and cable to which the document relied upon by the Judge, the Beschorman letter of July 12 (Ex. R. 1491), enclosing the Rupprecht letter of June 28 (Ex. R. 1483), was the reply. Nothing that happened before those letters were sent could have been the result of them.

Ex. 266 gives a detailed description of a meeting at Frankfurt on June 19 between Jebsen, the I. G. Farbenindustrie officials and the representatives of the company "Aussig", of Czechoslovakia, which was the Central European company of the Blumenfeld group that threatened competition to I. G. Farbenindustrie. It was this threatened competition that is described by the Judge in his opinion as constituting a "breach which was in the making in the wall built around the titanium business by NL and its foreign associates", the healing of which he charged to "DP's assurance". Ex. 266 is decisive in showing that the Judge was chronologically in error. The exhibit, after naming all of the people present at the meeting of June 19, proceeded (Ex. R. 1474):

> "The agreement between Aussig and Titangesellschaft was discussed and the main points agreed upon,—details to be worked out by Mr. Schaeffler and Mr. Borgwardt" [subordinates of Aussig and I. G. Farbenindustrie attending the meeting].

[Evidently the Aussig people at that point left the meeting, the main points of their agreement having been settled, and whatever breach there was between I. G. Farbenindustrie and its Blumenfeld competitor having thereby been healed.]

"*Afterwards* the same gentlemen from IG discussed with me the draft agreement Titanium Pigment Co./Krebs".

This destroys the Judge's theory that it was the so-called "DP assurance" which accomplished the "commercial collaboration" between the Titan group and the Blumenfeld companies. Elimination of this point removes from the Judge's opinion any *effect* of du Pont's alleged "assurance", even assuming that there had been such an assurance.

Ex. 266, convincing though it is, does not stand alone. There is ample evidence in the record that the Titan-I. G. Farbenindustrie group and the Blumenfeld-Aussig group were always determined to work together, in accordance with the cartel system which was nearly universal in Europe in those years. The European groups were not waiting for du Pont, or anyone else in America, to assure them that they were not proposing to export or to do anything else from America. If they had been waiting, they would have been far more likely to effect a "commercial combination" among themselves if they had been told that du Pont was going to export, as they would then have needed to combine their forces to meet the threat.

(q) If the du Pont statement could have been anticipated to have any effect in Europe, it would have been just the opposite.

If the statement by du Pont that it was not then its intention to export would have had any *necessary effect* upon the

Europeans' action, it would have been to reassure them that they could afford to remain independent of each other, because not needing to close their ranks in order to meet a common enemy from America.

The Europeans did not, therefore, close their ranks because of threat of competition or otherwise. They closed their ranks for European purposes, regardless of America, as reflected in the many exhibits showing their meetings among themselves. See Statement of the Facts, *supra*.

(r) The District Judge drew the same inference from the oral testimony as from the documents—no promise by du Pont, only an explanation of du Pont's already existing policy.

(*Middle R.* 217)

Before concluding this paragraph, the Judge referred to conversations between Rupprecht and Blumenfeld. There were only two such conversations, the first in 1931, and the only one of any conceivable importance being in July of 1933. Blumenfeld was produced by the government as its principal witness. It was quite obvious that he was trying to please the government.

Although we think that no reliance whatsoever can be placed upon Blumenfeld's testimony, we do not really need to go further than to accept the Judge's own evaluation of it, which is shown in the first few lines of the concluding sentence of the paragraph under consideration:

> "From the somewhat conflicting testimony as to the nature of Rupprecht's conversations with Blumenfeld, I conclude that Rupprecht made no promise; but that he did explain to Blumenfeld DP's policy with respect to the European market".

to which the Judge once again tacked on the same adverse inference as to du Pont policy which we have shown had no support in the record,

> "a policy made unilaterally in many respects, but undoubtedly strengthened and territorially extended as a result of the assurances to NL".

Here the Judge was merely returning to his main theme, and was emphasizing by repetition his findings that

(1) Du Pont's representative made no promise; but

(2) He did explain du Pont's existing policy with respect to the European market.

(s) Du Pont had "valid unilateral reasons"—thus described by the District Judge—"for abstaining" from the fruitless effort to invade the European market of 1933.

We have seen that du Pont had its own reasons for its decision as of 1933 not to seek to enter the European market (had, as the Judge himself recognized, "valid unilateral reasons for abstaining", "a policy made unilaterally in many respects"). That the Judge did not recognize that du Pont's own business decision was the sole cause, is again shown by these quotations to have arisen out of his mistake of fact in thinking that there was evidence that du Pont gave some "assurance" to the contrary. As we have shown, and as appeared in detail on the review of the evidence in our Statement of the Facts, it is just not the fact that du Pont ever gave any "assurance". Indeed, a curious thing is that the Judge himself had so decided when, a little earlier in the opinion, he had held "as a fact" that in doing what he called "giving assurance" du Pont was doing "no more than giving expression to its then existing business policy not to manufacture or sell in Germany and other TG territory".

It thus appears, not from a single quotation, but from a repetition in different forms of precisely the same ideas, what the Judge's mental process was. Again and again he was making very strong findings in favor of du Pont, both that all it did was to explain to the Europeans that in truth and in fact in 1933 it did not have a policy of exporting to Europe, and that in truth and in fact that policy was its own unilateral policy. But he was then shading those conclusions by suggesting that these statements constitute some sort of "assurance", and from the shading he was drawing inferences about "concerted abstinence from commerce" and consequent "consideration for the continued abstinence of the European producers from exporting to the United States". But these unfavorable inferences find no support except in the single erroneous belief that there had been an "assurance" that "du Pont will loyally respect the territory of TG" and, as we have seen, that is traceable only to a letter from Titangesellschaft itself, which was addressed to another member of the conspiracy and was never even shown to du Pont.

It becomes increasingly apparent how du Pont became the victim of the dangerous technique of a modern conspiracy trial. The government was free to introduce a mass of evidence consisting of communications between the various members of the cartel. One of these communications was the German letter in question. When thinking about du Pont, the Judge's mind was colored by that communication. As it were, his mind was poisoned at the source by the government. The consequence was that, although he recognized, and repeatedly recognized, that du Pont was only stating a fact and not making a promise, and that that fact was one reached by du Pont's independent and "unilateral" decision, the poison remained.

Du Pont has been held, not for what it either did or said or decided, but because of some misconstruction put by some German on what had been communicated to the Germans by National Lead about du Pont.

(t) The evidence was unequivocal that the Europeans remained discontented with du Pont's position, and that du Pont never changed it (from 1933 on).

(*Second paragraph, R.* 217)

The next paragraph of the opinion is that in which the Judge deals with what happened subsequently to 1933. Our submission is that the straightforward way to deal with this is to recognize that events subsequent to 1933 confirmed that du Pont had not in fact joined the conspiracy. The Judge's language does indeed seem to indicate that he accepted that submission; but again his acceptance is a grudging one. The most reasonable and consecutive history of the 1933 events was that given by Jebsen. Here is what the Judge said of it:

> "This description of DP's position in 1933 is consistent with subsequent developments. To Jebsen, devotee of the precise covenant, advocate and practitioner of clarity and definition in language and obligation, such vague and Janus-faced language [as Rupprecht's] was a source of disquiet and apprehension".

Here the Judge is telling us that the principal architect of the conspiracy had "disquiet and apprehension" about du Pont's position; that Jebsen found no satisfaction in Rupprecht's language. Why the Judge should describe Rupprecht's language as "vague and Janus-faced" would be inexplicable, in the face of the Judge's own repeated state-

ment that it was "no more than giving expression to its [du Pont's] then existing business policy", were it not for the continued working of the poison (the misconception that du Pont had given some "assurance" about "loyally", respecting the territory, etc.); but if Jebsen had heard from du Pont itself an assurance of loyalty, how could he possibly be in the mood which the Judge describes in the next ensuing sentence of the opinion:

"But he [Jebsen] hoped for the best"?

If Jebsen had an "assurance" of "loyalty" from du Pont, he would not have been compelled only to "hope". Indeed, the Judge himself said that Jebsen "appraised DP as an organization that would not repudiate an unwritten obligation". An "assurance" from that organization would have given rise to more than "hope". The reason that there was only "hope" was that there was *no* "unwritten [or other] obligation". We respectfully submit, with great respect to the learned Judge, that in these sentences he has conclusively revealed his own misinterpretation of the facts.

The Judge himself had held that du Pont made no "promise" or "agreement". How then could it have an "obligation"? That the Judge said it had, is useful only as showing how the Judge's mind leaped ahead to some inference against du Pont, inconsistent with his own reference to Jebsen's mere "hope". But the Judge did not need to resort to inference, for Jebsen testified at length, and was cross-examined by the government. Moreover, voluminous contemporaneous writings by him are in evidence. Far from showing that he considered that du Pont had assumed an unwritten obligation, they show his constant concern because of the fact that du Pont had *not* assumed any.

(u) Jebsen, the principal architect of the conspiracy and principal witness in the case, explained that he never had more than a "hope" that du Pont might be induced to join, and that he never succeeded in bringing it into, the conspiracy.

The Judge described Jebsen (R. 217) as

> "devotee of the precise covenant, advocate and practitioner of clarity and definition in language and obligation".

The Judge said this after both hearing Jebsen on the witness stand, and after reading about 200 exhibits written by Jebsen and covering more than 750 pages of the record, all introduced by the government itself. It must be taken, therefore, that what Jebsen said was the truth and that the government was bound by what he said; indeed, no one was better qualified than he, as he had been the principal activating figure in the whole business from his original inventions thirty years ago right down to the present. Unlike Blumenfeld, who was an old man speaking poor English, Jebsen appeared on the witness stand as a vigorous figure, speaking clear English, as indeed he had written it over the thirty preceding years ("advocate and practitioner of clarity and definition"). Jebsen made repeated trips between Europe and America throughout the period, and he saw Rupprecht both in 1933 and 1938 in an effort to bring du Pont into the cartel. No one was better qualified than he to answer the ultimate question: Whether du Pont became a member of the cartel.

Taking up at once the situation in 1933, Jebsen first foresaw with perfect accuracy what the I. G. Farbenindustrie was going to say about the proposed non-exclusive cross-licensing agreement between du Pont and National Lead, viz. that du Pont must agree to the cartel principles

of the Contract of 1920. He wrote to Thompson of National Lead two letters to this effect on March 1, 1933 (Ex. R. 1430 and 1436). He then met with the I. G. Farbenindustrie people and had his views confirmed (Ex. R. 1474-1475), and cabled the confirmation (Ex. R. 1482). He then traveled to America for the purpose of attempting to convince du Pont.

We here set up Mr. Jebsen's testimony on the subject, in narrative form. Where phrases are repetitious, we eliminate the repetition, but are satisfied that we are following closely the substance of what was said and using Jebsen's own phraseology:

Under examination by Mr. Webster for National Lead (R. 961-2):

> "Mr. Rupprecht did not, either in 1933 or ever, accept the provisions of Article XIV of the 1920 agreement. I never got him. He was too slippery for that, quite frankly".

Under examination by the Court (R. 962):

> "The substance of my conversation with Mr. Rupprecht in 1933 is more or less expressed in this letter he wrote [Ex. R. 1483]. He said that, after all, we haven't exported to these countries, you are protected by patents in these countries; how can we export? And I think the whole thing will work out to be eminently satisfactory to you. He talked about the non-exclusive license, which I didn't like at all and which I couldn't see the reason for. He said that it was a rule from the executive committee or finance committee [of du Pont] not to part with any property entirely; he would have to put it up to the executive committee, and he thought that the approval would not be given. He used that execu-

> tive committee as something which he could not work up against. Frankly, I thought National Lead should not accept the treatment of that kind. But, nevertheless, at the same time he said it would work out satisfactorily. Beschorman [of National Lead] expected a certain amount of advantage in getting technical information and engineering service and so on from the du Pont Company. I think he and Thompson [of National Lead] were rather fascinated by the big du Pont Company and so on, which I think I wasn't quite so impressed with. But, finally, after all, I was an employee of the National Lead Company, and found that I would have to help the matter along and be a good soldier."

In other words, du Pont refused to do more than (1) exchange a non-exclusive license and (2) state that it had not been engaged in export business; and not being licensed therefor, how could it be? Jebsen was dissatisfied, thought du Pont's arguments against joining the cartel unconvincing, and thought National Lead ought to stand up to du Pont. But unable to convince National Lead, Jebsen had to accept du Pont's refusal. Under cross-examination by Mr. Dixon for the government, and by the Court, Jebsen did not change his evidence. He only made it more precise (R. 993-5):

> "This July meeting was the first time I had met Mr. Rupprecht. I was trying to get Beschorman to get Rupprecht to see the difficulties we were encountering with regard to the IG. I wanted to persuade Rupprecht to go along on the territorial arrangement and on the technical exchange [with the Europeans], and to get as far as I could to accept the 1920 agreement. He [Mr. Rupprecht] had too many answers in one way. One moment he talked

about the executive committee, they would not accept that kind of thing. At another moment, he said, 'You are secured against any invasion from us through your patents', and so on. At the third time, he said, 'For legal reasons'. Now, with regard to legal reasons, I couldn't take that serious. With regard to the other things, I found it very difficult to take those serious too; but at the same time my impression was that he had a desire of trying to accommodate us and he was trying to paint a picture in that direction, that there wasn't anything to be feared. But I didn't get, what I would say, down from sound to things, to get down to some definite understanding. So, to me of course the question was, in sending these letters back to the Germans, what shall I say? I felt on the one side I had to be a good soldier, and at the same time I thought this may work out all right when the time comes. So I just wrote a few words to the Germans trying to convey that opinion. I only had the one conversation with Mr. Rupprecht. It may have been an hour, it may have been two hours; I can't say. I was not satisfied by what Mr. Rupprecht said. I did not feel happy about the thing. I was satisfied to the extent that he had been able to sell himself to the extent that I believed that there might work out something as he called eminently satisfactory. I was hoping that as time developed I might be able to get him to understand and sooner or later fall in line. It was a matter to me of further development. I felt I was lost practically at that time."

Under cross-examination by Mr. Dixon for the government (R. 996):

"Q. Were you satisfied when you left the meeting with respect to the action of Krebs in respecting

the territorial limits of the Titan companies?—A. I was hoping——".

Under cross-examination by Mr. Dixon for the government (R. 998):

> "I was endeavoring to get Mr. Rupprecht to understand the principles of the 1920 agreement. He was always very evasive. I was not satisfied that he understood".

Under examination by the Court (R. 1004-6):

> "My general impression from that time was that I was very dissatisfied really with the situation as it was. I had to act as a good soldier. And I was trying to convey the situation to the Germans with the idea of being neutral or of being diffident. * * * If you look back at it, I felt at that time, I felt that I was in a very difficult position, and I felt that on one side my personal interest was not very much of doing this thing; on the other side, National Lead wanted to have this thing through, so my intention was to put the responsibility on Beschorman and National Lead as much as possible".

Under cross-examination by Mr. Dixon for the government (R. 1021-2):

> "If there had been any oral understanding—some explicit discussion between Rupprecht and myself in that meeting with Beschorman, I think it would have been natural for me to go to the Germans and explain that. Whereas I didn't pay any visit to Germany at all. In other words, I left the weight of the thing on the correspondence as it was".

Under cross-examination by Mr. Whitney for du Pont (R. 1027):

> "I have never discussed my testimony with you or with any other representative of du Pont whatsoever".

(At R. 1030, *et seq*);

> "I did not take seriously what Mr. Rupprecht said about legal reasons, because, after all, when a man puts forward three or four different things and they are contrary to what was arranged between the National Lead Company and the European companies, because after all they had been accepted over here [in America], you could not ask me to take it serious. In other words, I had understood that the 1920 structure was legal under American law and therefore when Mr. Rupprecht gave me that reason I thought that he was trying to put forward an excuse to stop me. I found it very difficult to take seriously too the other explanation with reference to the Executive Committee. Where the patent protection was concerned, I could use my own judgment, but when you come to the Executive Committee, that seemed to me to be just an excuse. I thought that the thing was important enough to get the Executive Committee to accept the matter. I thought it was a very highhanded way and I think I even wrote Mr. Beschorman at one time too about this Executive Committee and about the manner Rupprecht dealt with these matters; that the negotiations ought to be with the Executive Committee then if there were higher interests which we could not touch. I felt reassured to some extent, with some doubt, to be quite frank, at the same time. I mean I could not say I was entirely relieved. There was a certain vibration in my mind, so to say. I was not

entirely happy about it but I thought we would have to take a chance.

"I think you will note from various of this correspondence that I steadily came back and tried to get Rupprecht in line and did not get him in line. He was trying to be friendly and re-assuring, to relieve my mind, and I was trying to get him down from sound to things, down to a matter of fact instead of talking. The impression that I sought to convey to the Germans was the impression of we should take the chance. But I did not feel happy about the thing. My duty to National Lead made me feel that I ought to do what I could to make the Germans give their approval to sign this agreement. I would like to take a neutral attitude as to how they should feel about it. As a business man, as a representative of the National Lead Company, of course it was my duty to try to get them to feel happy, but at the same time I did not want to take more responsibility than absolutely necessary. I did not feel that it was my duty to give them a precise analysis of what I really thought. I left that to them, and personally I think they knew what they did when they wrote back their letter. Their position was, as far as I understand, always, without having talked with them, but I am just reasoning, but from my talk in Frankfurt before I went over, that they wanted to accommodate the National Lead Company.

"I felt uncertain about the future. I had not got as clear a basis as it was desirable to have vis-a-vis the Germans and vis-a-vis the whole thing. I wanted to get du Pont down to the 1920 agreement but I could not get them. Mr. Rupprecht was slippery and elusive and left me in doubt. I was hoping that as time developed I might be able to get him to understand and sooner or later fall in line. The

hope was that I might have to further develop the opportunity to get Rupprecht to accept the sound principles. I was not reassured; I was lost at that time. I was doubtful, but hoping. My general impression from that time was that I was very dissatisfied really with the situation as it was.

"The position was difficult for me. After all, we were asking the Germans to accept the position or relationship with du Pont which was very different from the relations we had, the basic principles that we had presented to them in 1927. It put me in the necessity of trying, in effect, to get the Germans to accept something which I did not like. At the same time I thought we should take the chance. We had not gotten down from sound to things—the thing was too indefinite in certain respects, if you understand what I mean. If it had been left to me to decide what National Lead should do, I would not have made that agreement—I mean the agreement of 1933.

"I was still in hope and planning for future developments. To put it more explicit, hoping that as years went on, as one got to know each other better we will get the du Pont Company in line."

We submit that the line of answers was remarkably consistent, whether to the Court, government counsel or to du Pont counsel, and that Jebsen was saying this:

(1) Du Pont's agreement was so inconsistent with the principles of the cartel that I would not have made it myself.

(2) I tried to convince Rupprecht to adhere to the principles of the cartel, but he was slippery and evasive, and refused to agree.

(3) Rupprecht gave me two reasons why he would not agree. First, he said that the Executive Committee of du Pont would approve only a non-exclusive license. Second, he said that he was prevented by the anti-trust laws. I was not satisfied with either reason. As to the Executive Committee, I thought that National Lead ought to be entitled to speak directly to the du Pont Executive Committee in order to convert them to the principles of the cartel. As to the anti-trust laws, I thought Rupprecht must be wrong, as I had been told by National Lead that the whole 1920 cartel set-up was legal under American law. Therefore, I thought that Rupprecht was only making excuses.

(4) Rupprecht did say that his Company had not exported to Europe, and asked "how could it?" as it was not licensed under the patents in Europe. But he would not make any promise or agreement, and I was not satisfied.

(5) Rupprecht was trying to be polite and reassuring in manner ("sound", not "things", i.e. "talk", not agreement). I felt that as far as accomplishment was concerned, I was lost.

(6) I was prepared to go on hoping that at some time in the future I would have an opportunity to develop the matter further and get du Pont into line.

(7) I was, therefore, very embarrassed in communicating with the Germans, as I knew that from their point of view they ought not to be satisfied, but it was my duty, as an employee of National Lead and as a good soldier, to try to bring them around.

(8) I think that the real reason that the Germans consented was not that they were convinced, but that, just like me, they wished to accommodate National Lead, and were willing to go on hoping that as time developed du Pont might be brought into line, although in 1933 we were failing to bring them into line.

(9) In subsequent years, I steadily came back and tried to get Rupprecht into line, and I did not get him into line.

If these be the right conclusions to draw from the Jebsen testimony, the Judge made an erroneous decision in this case, and the decision must be reversed on the merits.

It is, of course, universally admitted that du Pont never thereafter was brought into line.

(v) And after 1933 repeated efforts to bring du Pont into line only resulted in failure. It remained outside the conspiracy.

We need not here recount all of the references in the Jebsen correspondence after 1933 to the fact that du Pont was not in line and ought to be brought into line. One or two examples will suffice. The Court will find a full brief of Jebsen's complaints against du Pont, addressed by him to Beschorman under date of January 4, 1935 (Ex. R. 2953). The letter opens with a lecture on the avoidance of competition, that commercial competition is avoidable by dividing markets and technical competition by application of the principle of exclusivity. Jebsen points out that these are the principles that govern "our agreements", and from which the du Pont agreement radically deviates. "At present", Jebsen argues, "we have a better opportunity than at any other time to bring Krebs to our views because

of their infringement of Titan Co.'s patents". Our aims should be to "get the relations with Krebs as far as possible in line with the ideas and conditions laid down in article XIV of the license agreement of 1920". There follows an explanation of why Jebsen cannot believe that the anti-trust laws are an obstacle, for if so "both your and our lawyers would then have been wrong in 1920 in forming Article XIV". Complaint is also made about the du Pont rule against giving up manufacturing rights in any country and granting exclusive licenses, and once again it is suggested that there should be a direct assault upon "Dupont's financial committee". The letter recognizes that, as a practical matter, du Pont cannot compete in Europe: "Personally I am inclined, as far as Europe is concerned, to agree with Mr. Rupprecht that there is no possibility of the reservation [of a non-exclusive license by du Pont] becoming of practical importance, but why then make it? It seems high-handed". Jebsen points out the opportunity to du Pont: "If the agreement provides satisfactorily for no competition between the parties, I think our companies will be inclined to a cooperation as full and open as possible in the same lines as we have between our companies".

This letter was followed immediately after by another of similar tenor (Ex. R. 2961), to say that the Germans were in agreement that they would "welcome an arrangement by which Krebs 'enter into the family by whole-hearted cooperation' ".

Surely it is difficult to sustain the decision below that all the time that these letters were being written, du Pont had already become a member of the "combination or conspiracy".

Similar expressions will be found in Jebsen's letters in each of the ensuing years. But 1938 brought matters rather to a head, as Jebsen was in that year beginning his second effort to argue to Rupprecht directly. His assault opened with letters to the National Lead official who had been designated to handle patent matters (Mr. Kaegebehn) and of these a letter to Kaegebehn of February 2, 1938 (Ex. R. 3029), is a fair sample. Complaining that "The existing agreement between National Lead Company and Du Pont is a deviation from the 1920 agreement and, as you say, inconsistent with the principles laid down in this", it commences with a statement of the procedure by which the effort should be made to bring du Pont into line. A few weeks later, Jebsen was on March 8, 1938, writing to a senior officer of National Lead (Mr. Garesche) along the same lines (Ex. R. 2543). Referring to "the Du Pont's agreements' inconsistency with the agreements of the National Lead group", and using as a contrast the agreements with Canada, and as supporting argument that once again the Germans have now brought the matter up, Jebsen complains that du Pont may possibly get access to group knowledge through some cross-licensing agreement with the Canadian company, and argues that either a precaution should be taken to limit the Canadian company in any information that it might pass on, or "By a revision of the arrangement with Du Pont bringing this company wholeheartedly into the family. I hope this last will come off".

Again, we ask, how could this correspondence possibly have existed, if the Judge had been right in holding that du Pont became a member of the combination in 1933?

Jebsen then came to America in 1938 to make the effort. There are several long memoranda in the record, prepared

by Jebsen and Kaegebehn, showing what they hoped to pin du Pont down to. Some suggestion was made at the trial that they obtained du Pont's agreement to their wishes, and that du Pont repudiated them after the meeting. We think the suggestion unfounded and that there is no evidence that Rupprecht ever agreed to them even temporarily. In any event, all parties agree, as the Judge agreed, that if du Pont (through Rupprecht) ever did agree to the proposals, it certainly repudiated them immediately after the meeting. The story is best told in Jebsen's own words on the witness stand (R. 1039-1041), which we give here in the same style as the former quotations from Jebsen's testimony:

> "I came over to America in the summer of 1938. I certainly was very dissatisfied with the development of the relations with du Pont. I arranged to make a trip to Wilmington with Mr. Kaegebehn to see Mr. Rupprecht and Mr. Hancock. After I went to lunch with Dr. Sparre, a high official of du Pont and the head of its development department. The talk was more or less repetition of what du Pont said several times. You never got to the grip of things. I had one object particularly in mind and that was the following:
>
> "During the years that had passed when we negotiated these license agreements it was a very tedious thing for me. I wanted some kind of an understanding or agreement on a standard form for license agreements if and when such were to be exchanged. * * * Naturally at the same time I discussed the matter in general again, as I had done before, trying again to get Rupprecht into line, because he had never been in line,—and there was the same kind of evasions. If I remember right when I left I thought we had got Rupprecht and

Hancock to accept this idea of trying to standardize this license agreement form if and when we agreed upon licenses, but I think the following correspondence did not bear that out—as usual with Rupprecht.

"Then we had lunch. We did not talk business during the lunch, but leaving, and going down the elevator, there is one thing which I remember very distinctly because it shocked me. It gave me a little sho(ck), so to say. I said to Dr. Sparre in the elevator that what I am aiming at, Dr. Sparre, is to get as close cooperation as possible between du Pont and our companies, and he said, 'Not too close, Dr. Jebsen; not too close'. And I was puzzled somewhat at the same time about it. But that was all, and I left to take the train. I have never seen Sparre since then."

Mr. Dixon for the government went into the subject on re-direct examination, but only to bring out that, in fact, du Pont did not export during the years in question. He made no attempt to check the testimony of Jebsen, which stands uncontradicted, that he never succeeded in bringing du Pont into line with the "principles", which was his word to describe what our laws describe as the "illegal combination and conspiracy".

If the Judge had thought it important to make any reference to the five individual license agreements between Titan, Inc. and du Pont (Ex. R. 406, 412, 455, 470, 486), executed in the successive years 1937-41, this would perhaps have been the place to have done so. He evidently did not think them important; nor do we. The only point upon which we differ with his view of them is that he found as a fact (FF 88 and 89, R. 300-301) that although they were executed in five different years and related to different spe-

cific individual patents, they were all executed pursuant to a single oral agreement that that would be the practice. There is no evidence to support that finding, and we think that it cannot stand in the face of the only evidence on the subject, to-wit: (1) documentary evidence of the separate individual annual reports on the subject by Rupprecht on behalf of the pigments department to the Executive Committee of du Pont (Ex. R. 4220, 3043, 4224, 4231, 4238), which show on their face that each was independently considered and that there was no connection between them, and (2) the oral testimony of Jebsen, who was explicit in his statement that he did wish for one general agreement but that he was unable to obtain that result. The significance of the point is only that du Pont, as usual wishing to confine its agreements to specific patent subject-matter, and not to have any general understandings with the cartel, was insisting that each license be considered on its individual merits. Jebsen's testimony is as follows (R. 1040-1041):

> "I had one object particularly in mind and that was the following: During the years that had passed when we negotiated these license agreements it was a very tedious thing for me. Things were negotiated with Kaegebehn over here and everytime Mr. Hancock or somebody down there,—he wanted to change some of those agreements and Kaegebehn wrote over to me if he was not able to talk Hancock out of it, and I was not in a position to say 'yes' or 'no.' I had to go back to the Germans and the English, in view of the 1920 agreement. It made the whole thing a very tiresome process, and what I wanted was to get some kind of an understanding or agreement on a standard form for license agreements if and when such were to be exchanged, to make it clear to Rupprecht and Hancock we could

not go on with this eternal and tedious correspondence about these matters, and I wanted to have left that clearly into their minds. Naturally at the same time I discussed the matter in general again, as I had done before, trying to enforce the principles, or rather to get them—enforce is not the right word—but to try to get Rupprecht into line again—not again, because he had never been in line.

"Q. You mean try again? A. Yes, try again to get him in line and there was that same—in other words the same kind of evasions. If I remember right when I left I thought we had got Rupprecht and Hancock to accept this idea of trying to standardize this license agreement form if and when we agreed upon licenses, but I think the following correspondence did not bear that out—as usual with Rupprecht."

The documentary evidence shows the independent reasons that motivated the Executive Committee of du Pont in approving these agreements. In substance, they were that du Pont was enabled to maintain its European patents at the expense of the foreign companies while retaining a nonexclusive right in the foreign countries for itself, and indeed in three of the years while obtaining additional nonexclusive rights under United States patents. These last were found by the District Court to have been "of significance to DP's operations" (FF 90, R. at 302).

The reason that we think that all are agreed that these contracts are not of outstanding importance is of course that, under the troubled conditions that prevailed in Europe and Japan in the years 1937-41, and in the light of the cast-iron nature of the monopolistic position of the members of the cartel in their respective European countries and in Japan in those years, there was obviously no other

way of economically maintaining any patent right in those countries than to grant a license to the local cartel member, reserving a non-exclusive right in the grantor. The government argued at the trial that du Pont did not really expect to use this reserved right. Doubtless, this was true; but it was true not because du Pont was joining the cartel, but because it was economically impossible to consider an invasion into European markets in those years. Du Pont did all that it could do; it did reserve the right.

(*Bottom R.* 217)

Nothing is added by the next comments by the Judge:

> "Rupprecht, on the other hand, found the business of practicing one code, and writing another, rather strenuous and emotionally confusing. No wonder that communication between DP and NL became somewhat difficult; and, at times, NL's and Tinc's representatives left a conference with very different impressions of what had been agreed to from those entertained by Mr. Rupprecht."

Separating in these sentences the statements of fact from the Judge's characterizations, they amount to this: That Rupprecht did not agree with National Lead and Titan, Inc. as to what, if anything, had been agreed to, and that communication between National Lead and du Pont was "somewhat difficult." These in themselves are certainly not statements binding du Pont to National Lead as a member of the cartel and conspiracy. As a matter of fact, however, they are definitely misleading in that they suggest that there was frequent communication, albeit difficult, and that there were frequent conferences, albeit not resulting

in agreement, and that Rupprecht was practicing some code, albeit differing from his writings. The evidence supports none of these three assumptions.

There was only one important conference (the one in 1938), and that resulted in an unequivocal statement by Rupprecht that du Pont was not bound even to exchange technical information with the Europeans and would not do so.

(w) The records of the Executive Committee governing du Pont were introduced in evidence. None showed any commitment to the conspiracy. All showed a preoccupation only with licenses under patents.

(First paragraph, R. 218)

The Judge next turned to the point that we consider a very important one, viz., that although the record contained voluminous extracts from detailed statements placed before the governing Executive Committee of du Pont, none of it supported any theory of conspiracy. All of it related to patents and licenses under patents. The Judge handled this evidence in the following paragraph:

> "The point is made in behalf of DP that there is no evidence that its Executive Committee knew of Rupprecht's commitments. It is true that no direct evidence of such knowledge is in the record; and I need not trouble to decide whether the circumstances warrant an inference of knowledge. There is abundant evidence that Rupprecht's authority was broad enough to justify charging the corporation with his acts in its behalf."

Once again, the Judge is continuing the argument based on the *assumption* that Rupprecht had made some sort of commitments, and committed some sort of "acts". But an ar-

gument is no stronger than its factual base. And all of this is being evolved in the teeth of the Judge's own basic finding of what Rupprecht's commitments and acts really were, to-wit, that he had made no promise or agreement at all, but had merely made a statement of du Pont's existing policy in 1933 ("no more than giving expression to its then existing policy not to manufacture or sell in Germany and other T. G. territory"). The Judge's recurrence here to the word "commitments" must be put down to his original error of fact in having attributed to Rupprecht what the Judge had called "the assurance that du Pont will loyally respect the territory of T. G.", which we have seen to be derived only from a German document never shown to Rupprecht.

As to the Executive Committee of du Pont, there was ample evidence in the record that this was a governing body of du Pont, that it met every week and that all commitments of du Pont had to be specifically approved by it upon the basis of written reports made to it (see e.g. Ex. R. 961, 965, 967, 971, 986, 1048, 1060, 1072, 1083, 1114, 1118, 1201). All of the written reports to the Executive Committee relating to titanium were put into evidence, and they cover more than 100 pages of the record. The Judge was constrained, with this great amount of evidence before him, to recognize that there was

> "no direct evidence of such knowledge [by the Executive Committee] in the record".

We suggest that the Judge was not warranted in inserting the invidious word "direct" to clarify his finding of "no evidence", and was clearly not warranted in suggesting that it was even open to inquiry as to "whether the circumstances warrant an inference of knowledge". This

sort of judicial approach is proper in a case in which the parties have not put before the Court any substantial evidence of what went on at meetings. In this case, all of the records of du Pont were opened to the government investigators, and then either the government attorneys or du Pont did in fact put into the record all of the records of the Executive Committee; and they were full and detailed. In such a case, we submit, the duty of the District Judge is to make his findings on the assumption that the full record before him is a true and complete one. He has no right to speculate that there may have been some other wrong-doing. The government has the burden of proof, in equity as well as in criminal law, and our legal system does not permit a judge to suspect a fire where he admits that there is no smoke.

The fact that the Judge did indulge in such surmise and suspicion in this case is traceable not to any prejudice on his part (for he showed none whatsoever) but rather to the fact that he had been misled by the erroneous assumption that there had been evidence that Rupprecht himself had given "the assurance" about "loyally" respecting foreign territory, when in truth and in fact, not merely had the Executive Committee not been advised of such assurance, but it had never in fact been given.

(*Middle R.* 218)

The next paragraph of the opinion contains the Judge's summary conclusion:

> "My general summary of the evidence on this issue is that DP was a member of the combination—true, a special member, with a status, rights and

obligations, different from that of the other members, but a member nonetheless."

This of course adds nothing to what had gone before. The Judge leaves us in the dark as to the "status", "rights", and the "obligations". These are more than rhetorical phrases, they are harmless, for the only "rights" were rights under the contracts,—a non-exclusive license and a right (terminated by du Pont's action early in 1940) to obtain technical information,—and the Judge had just himself found that there were no "obligations", for he had found "that DP was not making a promise". And he certainly made no finding of "status". In the review of the evidence that opens this brief, the Court will have seen that du Pont *could not* have obtained any status in the combination, for it never received any of the extensive information about the conduct of the combination, notwithstanding that most of it was in fact sent to National Lead.

(*Last paragraph, R.* 218 *and first, R.* 219)

In these paragraphs the Courts dealt with our argument as to the reasonableness of du Pont's conduct which has been considered, *supra* pp. 65-84.

2. The District Judge's Heading III

The subject of the 1933 agreement is treated in the portion of the District Judge's opinion numbered "III" and commencing at R. 219. We now review this branch of the opinion in detail:

(a) The District Judge made express findings that du Pont's purposes were to obtain technical information and immunity from patent infringement. These enabled it to compete more effectively with National Lead.

(*Paragraph commencing bottom, R.* 219)

The Judge opened with a statement that when the 1933 agreement was made, the "two producers" were "competing", but between them controlled 100% of the commerce in titanium products in the United States. This is deceptive. Together, they aggregated 100% of the business simply because no one else had yet entered the field. The 100% was a mathematical fact only. They did not "together control" the industry, for, as the Judge found, they were "competing".

The Judge made express findings of "DP's purposes in entering into the agreement", as follows (FF 79, R. 292):

> "1) To avoid the expense and risks of patent litigation.
>
> "2) To avoid the research expense in trying to avoid infringement of NL valid patents.
>
> "3) To obtain access to NL's technical experience and patents in the titanium pigment field as well as the patents and the experience of NL's foreign associates."

So far, these were perfectly innocent purposes, supported by the authority of the *Cracking* case.

(b) The District Judge's adverse characterization of "pooling" "to the exclusion of outsiders" rested on a single item of evidence which he himself recognized to have been effectively disavowed by its author, and therefore to be valueless.

The Judge added the fourth finding:

> "4) To strengthen its [du Pont's] own patent position in the titanium pigment field to the exclusion of others than NL by pooling its patents with NL".

The only support that the Judge could find for this fourth finding was in a single document, to which he proceeded (in his opinion) to give disproportionate importance. The document was a letter from a Mr. Ewing, du Pont's London manager, to an officer of Imperial Chemicals in London, in which Mr. Ewing said (Ex. R. 1540):

> "We look upon this Patent Pool as a definite advance in cooperation and the strengthening of both parties' position to the exclusion of outsiders".

The Court will at once recognize the source of the language of the fourth sub-finding above quoted.

Now what are the facts about this Ewing letter? Ewing himself was put on the stand by du Pont and was submitted to cross-examination by the government (R. 744, 751). He said that he had been a subordinate official in London in 1933, had absolutely no knowledge about the National Lead deal or the policy of his company in regard to it, and had made this gratuitous statement without authority (R. 751-753). Indeed, the Judge himself accepted as correct the testimony of Ewing (R. 220):

> "whose disavowal of authority * * * I accept".
> [quoted from the opinion]

We did more at the trial. We introduced affirmative, documentary evidence from two higher officials of du Pont, which gave affirmative proof that Ewing had been in error.

(c) Moreover, that single item of evidence, authored by a du Pont subordinate, was overruled by two documents having the greater authority of two senior du Pont officials.

The first was an express instruction to Ewing, sent by his superior at Wilmington, Mr. Swint, the head of the foreign department of du Pont at its home office in the United States, and which made it plain that no pooling of patents to the exclusion of outsiders was involved (Ex. R. 1506). Swint never saw the Ewing letter quoted by the Judge, and indeed Swint's letter had been written before Ewing's letter (Ex. R. 1505-1510). Secondly, we introduced a quite contemporary memorandum of a conference in Paris at which a still higher official of du Pont, Mr. Pickard (Vice-President), had instructed the Manager of the large Italian company (Montecatini) as to du Pont's position (Ex. R. 1368-1369):

> "Mr. Donegani was told by Mr. Pickard that the du Pont Co. always looked favorably on any measure which was for the good of an industry and that the pooling of patents might probably be a good thing. As to whether or not our Company can be a party to such pooling of patents, opinion of our Legal Dept. would have to be obtained. Mr. Donegani having inquired as to whether we would consider going into a price agreement, it was explained to him that this would be absolutely illegal, according to American laws, and that, therefore, we would not be interested.
>
> "Summing-up the situation, Mr. Donegani stated that he understood that we had no fundamental objection to a talk with the other group of Titanium producers regarding the pooling of patents, but that we were first to inquire into the legal situation to find out if we might even consider such a possibility. Regarding price agreements, which would take place

> between European producers, we were precluded from taking any share in them, due to American laws. He was told that the situation, as summed up by him, was correct."

For the Judge to have still persisted, in the teeth of all this, in drawing inferences from Ewing's statement, must surely be unwarranted. How is any great company, which necessarily has a large number of scattered employees, ever to defend itself in an anti-trust action if a single odd statement by a single odd employee stationed 3,000 miles away from the home office is to be preferred to the authoritative, documentary evidence provided by higher officials at the home office itself, and is even to be preferred to the oral evidence at the trial of the odd employee himself, and that even when the Judge purports to "accept" the oral evidence?

(d) It was not open to the District Judge, having accepted the disavowal of the subordinate, to treat his views as "obviously" true, in disregard of the views of his seniors.

The Judge in this case got around this dilemma by ingeniously suggesting that, although he did not attribute any authority to the Ewing letter (notwithstanding that he was at pains to quote it and to use its precise language as his finding), he was making the quotation only to state what was anyway

> "no more than the obvious".

But this destroys the validity of the quotation, and refers one back to whatever it is that the Judge had said before. Whatever that was, he was now calling it "obvious". What he had said before, however, was only that,

> "though these exchanges are not on an exclusive basis",

it was in the Judge's view clear

> "that the capacity of such a combination to dominate the market is vastly increased, that the capacity for the exclusion of outsiders from the industry is multiplied".

But this was only to draw an inference of law from what had in turn gone before it. That was a finding that the parties had agreed

> "to exchange [under non-exclusive license, of course] all future patents and patent applications and know-how".

But this in turn amounts to nothing more than the Judge saying that he thinks that it is "obvious" that the *Cracking* case in this Court ought to be overruled. In the *Cracking* case, the grant of non-exclusive licenses between the parties extended not merely to their existing conflicting patents, but to future patents and patent applications for many years in advance.

Thus, we are brought back to the point considered in Point II of our brief, and the District Judge's quotation from the Ewing letter has in the upshot added nothing to it.

(*Middle R.* 220)

This paragraph is but another statement of general principle which can have no greater weight than the facts upon which it is based. We now follow the Judge's opinion in so far as it deals with that inquiry:

(c) Du Pont's relations with Zirconium and Virginia Chemical were entirely independent of National Lead's, and were innocent.

(Paragraph bottom, R. 220)

This paragraph related only to National Lead and Virginia Chemical, not to du Pont. There is no suggestion that du Pont had anything to do with the relations, such as they were, between National Lead and Virginia Chemical; and indeed there is an express finding (FF 85, R. at 298) that:

> "There is no evidence that the action of NL and DP with respect to VC was the result of agreement between NL and DP."

(Paragraph top, R. 221)

The next paragraph of the opinion did deal with du Pont. We quote it:

> "DP licensed both American Zirconium and Virginia Chemical. In both instances the licenses were subject to a severe tonnage limitation on the product made under the license and to a royalty on all titanium dioxide produced, whether under the licensed patents or not. DP makes much of the fact that the evidence shows that it never refused a license. It is also true, however, that until 1944, DP did refuse licenses unencumbered by tonnage limitations."

Favorably to du Pont, this establishes both (1) that du Pont never refused a license, and (2) that it licensed both potential competitors who asked for licenses. At least, therefore, the Judge was admitting that he had been wrong in the inference that he had drawn a page earlier that it was "obvious" that both the purpose and effect of du Pont's 1933 agreement was to operate "to the exclusion of outsiders".

But with great respect to the learned Judge, we think that the emphasis that he here gave to the so-called tonnage limitations on the products made under the du Pont licenses was wholly disproportionate. The whole position as to the tonnage limitations has been set out *supra*, pp. 102-106.

If the Judge were right in his viewpoint about there being a "pooling" between National Lead and du Pont "to the exclusion of outsiders", we would expect that du Pont would at least have favored Zirconium, as Zirconium became a partial subsidiary of National Lead (which acquired 20% of its stock) and adhered expressly to the conditions of the international cartel, including even Article XIV of the Contract of 1920. If du Pont was strict in its concessions to Zirconium, this could hardly be evidence of conspiracy with Zirconium's parent National Lead.

(f) The cross-license agreement conferred no power of concerted action and imposed no restraint.

(*Paragraph middle, R.* 221)

The next paragraph of the opinion dealt with the so-called "proliferation of patents". This, as it developed in the Judge's opinion, was but another argument as to why the Judge thought the *Cracking* case had been wrongly decided. He said that the non-exclusive cross-licensing in the agreement between du Pont and National Lead had the result that:

> "The chief spur to private resistance to the grant of patent monopolies has been withdrawn from the parties who, ordinarily, would be chiefly concerned".

He next pointed out that:

> "not a single one of the hundreds of patents here involved has ever been litigated".

But this is a fact wholly without significance, for it follows automatically from any grant of a non-exclusive license under patents that the grantee will not go to the onerous expense of litigating against a patent under which he has received a license. Yet in fact here each party was assiduous in obtaining its own patents on its own inventions,—a point which the learned Judge might have here noted in their favor. The point about non-litigation was the same point that had impressed the three-judge District Court in Chicago in the *Cracking* case, but whose decision was expressly overruled by this Court in the following words of Mr. Justice Brandeis, 283 U. S. at 171:

> "Where there are legitimately conflicting claims or threatened interferences, a settlement by agreement, rather than litigation, is not precluded by the Act."

It remains the law today that, at least in the absence of a showing by the government that the patents are invalid, or of a showing by the government by evidence *aliunde* that the parties were seeking to dominate and control the industry by other means and for other purposes, a mere settlement of patent disputes by exchange of non-exclusive licenses is not illegal. It really was not open to the learned District Judge thus to seek to overrule the *Cracking* case.

(*Bottom R.* 221)

The next paragraph of the opinion returns us to the facts of this case:

> The exchange of know-how between NL and DP was abandoned in 1940 when, as DP says, the

> industry matured. The exchange of patents and patent applications continues".

We pause here merely to mention that the Judge must have meant:

> "The exchange of non-exclusive licenses under patents and patent applications continues".

The paragraph continued:

> "The tonnage limitations in the licenses of American Zirconium and Virginia Chemical was eliminated in 1944. The power of concerted action is still there".

The last sentence is entirely unwarranted, as there is no finding of fact upon which to base it, except only the finding that the parties were exchanging non-exclusive licenses. The argument that the Judge proceeded to erect upon it, and that is found in the next paragraph of the opinion (top R. 222), has already been considered at the opening of this section of our brief.

On this branch of the case, if the judgment below be reversed, the situation will simply be that du Pont and National Lead will be exchanging royalty-free, non-exclusive licenses under the numerous patents owned by each of them, subject, however, to the right of either of them to terminate upon giving three years' notice to the other. The licenses by du Pont to the successors of both Virginia Chemical (American Cyanamid) and American Zirconium (Glidden) will continue without tonnage limitation. We do not know what the status is of any license granted by National Lead.

APPENDIX C

Memorandum Regarding the Protection Afforded in Certain Foreign Countries to Process Patent Claims in Connection with Importation into such Countries of Products Made by a Process Patented in such Countries.

The purpose of this memorandum is to set forth briefly the statutory and case law of certain principal foreign countries relating to the question whether the process claims of patents issued in such foreign countries may be utilized by the owner of the patent to bar imports into the country of products made outside the country in accordance with the patented process. Du Pont through acquisition in 1931 of Commercial Pigments secured the U. S. rights only to certain basic patents dominating the so-called Blumenfeld process used by both Commercial Pigments and du Pont for manufacturing titanium pigments. Foreign patents equivalent to these U. S. Blumenfeld patents existed in the principal industrial countries of the world. In addition foreign equivalents to the National Lead and Titan group of patents issued in similar countries.

The countries under consideration fall into three distinct groups as follows:

Group 1—those whose statutes explicitly extend the protection afforded a patented process to the product of the process, i.e., Czechoslovakia, Germany, Japan and Norway;

Group 2—those whose statutes implicitly extend such protection, i.e., Canada and Great Britain; and

Group 3—those whose statutes are silent on the matter, i.e., France and Italy.

Group 1

CZECHOSLOVAKIA. The Czechoslovakian law of May 27, 1919, extended the Austrian law of January 11, 1897, to the territory of Czechoslovakia, and Section 8 of that Austrian law reads:

"The patent has the effect that the patentee shall exclusively be entitled to commercially produce, bring into the market, expose for sale, or use the subject of the invention.

"If the patent be granted for a process, the effect shall extend also to the articles made directly by this process".*

GERMANY. Paragraph 6 of the German law of May 5, 1936 (which corresponds in substance with Paragraph 4 of the German law of April 7, 1891), reads:

"The effect of a patent is that the patentee alone is entitled to produce the subject matter of the invention industrially, to bring it on the market, to keep it from sale or to use it. If the patent is granted for a process, the effect of the patent also extends to the products made directly by the process."

JAPAN. Article 35 of the Japanese law of April 29, 1921, reads in part:

"As regards a patent of invention of an article, the patentee has the exclusive right to manufacture, use, sell and/or circulate the article, and in the case of a patent of invention of a process, to use the process and to use, sell or circulate articles manufactured by such process.

"A new identical article is presumed to have been manufactured by the same process."

---

*All translated quotations of patent laws in the text of this memorandum are taken from "Patent Laws of the World", Edition of 1911 and Supplements thereto published by the Chartered Institute of Patent Agents, London. This publication is available to the public in the Patent Office Library at Richmond, Va., and presumably elsewhere. The quotations from the Canadian and British Laws are taken from officially published copies of those laws.

NORWAY. Section 5 of the law of June 17, 1910, reads:

"A patent has the effect that no person without the consent of the patentee may use the patent for the purpose of gain by making, importing, offering for sale, trading in, or using the object of the invention (see Section 36).

"If a patent has been granted for a method (see Section Ib), the effect of the patent extends also to the products made thereby."

Section 36 reads:

"A person is guilty of infringement of a patent who, in contravention of this law makes use of the invention in any business or work (see Section 5), after becoming aware that an application for a patent had been lodged, or after the publication mentioned in Section 27 has taken place.

"Prosecution for infringement cannot be commenced before a patent has been granted for the invention."

And Section 1 reads:

"Under this law new inventions which are capable of industrial applications are protected by patent.

"But the following are excepted:—

"(a) Inventions the use of which would be contrary to law, morality or public order.

"(b) Inventions the object of which is an article of food, consumption, or medicine, or a chemical compound, but a patent may be granted for special means of producing the article.

"In order to obtain a patent for an invention, an application for a patent in conformity with the provisions of this law must be lodged at the office for the protection of industrial rights."

Group 2

Of the countries under consideration, Canada and Great Britain fall into this group. They can conveniently be considered together, because the relevant sections of their respective statutes are identical, and the court decisions thereunder have given them the same construction.

Section 40(2) of the Canadian Act of 1935 (which reproduces in substance part of Section 17 of the Act of 1923) and Section 38A(2) of the British Act of 1907 each read:

> "In an action for infringement of a patent where the invention relates to the production of a new substance, any substance of the same chemical composition and constitution shall, in the absence of proof to the contrary, be deemed to have been produced by the patented process."

As the decisions make clear, these sections of the Canadian and British Acts are based upon the premise that a patent for a process protects the product of that process.

Turning first to the British cases, all of which constitute precedents in Canada as well as in Great Britain, in *Saccharin Corporation Ltd.* v. *Mack & Co.* (R. P. C.* vol. 23, p. 25), the plaintiffs sued for infringement of seven patents. It was held that, to constitute infringement, the article complained of must have been made by some process covered by the plaintiff's patents.

In *Saccharin Corporation Ltd.* v. *National Saccharin Co., Ltd.* (R. P. C. vol. 26, p. 654), the plaintiffs sued for infringement of three patents relating to processes used in the manufacture of saccharin. The importation of saccharin from abroad was alleged to constitute the infringement. The defendants alleged that the imported material was made by the processes of expired patents. It was held

*Ruling Patent Cases.

that the plaintiffs were entitled to an interlocutory injunction.*

In *United Horse Nail Co.* v. *Stewart* (R. P. C. vol. 2, p. 122), the pursuers sued for infringement of four patents relating to machines for use in the manufacture of animal shoe-nails. The sale of nails allegedly made by infringing machines was claimed to constitute the infringement. It was held that two of the patents were invalid but that the other two were infringed. The case was carried to the Lord Ordinary, the Court of Session and the House of Lords, and the original decision as to infringement sustained in each instance (R. P. C. vol. 5, p. 260).

Turning to the Canadian cases, in *Toronto Auer Light Co., Ltd. et al.* v. *Collins* (Ottawa Reports, vol. XXXI, p. 18), and *The Auer Incandescent Light Manufacturing Co., Ltd.* v. *O'Brien* (Exchequer Court Reports vol. 5, p. 243), it was held that the importation into Canada of incandescent gas mantles made abroad infringed a Canadian patent for the method of making such mantles. In the former case, the Ontario High Court of Justice said:

> "A patent granting the exclusive right of making, constructing, using and selling to others to be used, an invention, as described in the specifications setting forth and claiming the method of manufacture, protects not only the process but the thing produced by that process, and an action will lie against any person purchasing and using articles made in derogation of the patent, no matter where they come from."

In the latter case, the Court said:

> "It is not open to anyone in Canada to report for use or sale appliances made in a foreign country in

*See also *The Saccharin Corporation Ltd.* v. *Haines, Ward and Co.* (R. P. C. vol. 15, p. 344); *Saccharin Corporation Ltd.* v. *Dawson* (R. P. C. vol. 19, p. 169).

accordance with the process protected by the plaintiff's patent."

Fisher and Smart, in "Canadian Patent Law & Practice" 1914—Toronto, Canada Law Book Co., Ltd.—Philadelphia—Cromarty Law Book Co. (pp. 184, 185) state the law, as follows:

> "A process patent protects not only the process, but the thing produced by the process, and an action will therefore lie against any person purchasing and using or selling articles made in derogation of the patent, no matter whether they are made in Canada or elsewhere. . . .
>
> "The onus is on the patentee of proving that the articles said to infringe were in fact made by the patented process. Where, however, the articles were made in another country, a prima facie case made by the patentee will throw the onus on the defendant to show that the articles were not made according to the process. Where it is shown that the process is the only known method of making the product, such a prima facie case is made out. . . ."

See also Fox, "Canadian Patent Law & Practice", 1937—The Casewell Co., Ltd., Toronto, pp. 325, 326, who states:

> "Infringement is committed by the importation of infringing articles made abroad. Use in the country of articles made abroad on a patented machine or by a patented process constitutes infringement. If there is some act committed in Canada by the defendant in derogation of the patentee's rights there is infringement. Thus, where a foreign firm were requested to supply goods which constituted an infringement of a patent to England and they sent an invoice stating that the goods were sent to a forwarding agent also abroad to be at the

disposal of the persons ordering, it was held that prima facie this was only a colourable evasion of delivery in England and leave was given to serve them. And where infringing articles made abroad were exhibited in England but without sale or intention of sale, it was held nevertheless to be such a user of the invention as to amount to an infringement. A contract for sale and for delivery abroad of a patented article made abroad and delivery accordingly does not constitute infringement."

Group 3

FRANCE. Article 41 of the French law of July 5, 1844, reads:

> "Those who have knowingly received, sold, or exposed for sale, or introduced into French Territory one or more infringing articles, shall be punished with the same penalties as infringers."

French patents contain no claims, and a patentee is permitted, on the institution of suit, to make any claim within the ambit of his disclosure. Consequently, on the importation of a product the production of which is described in a French patent, the patentee would naturally draft a claim to the product itself, and such claim, if valid, would undoubtedly be sustained by the Courts. In "Chemistry and Continental Patent Law" Dr. E. Muller, Verlag Chemie, Berlin, 1932, discussing French law, states:

> "In accordance with court decisions, a process patent protects also the product of such process, even where the product is not mentioned in the résumé of the patent. For example, where a patent was directed to a process of producing aniline blue and aniline violet, the court held that these products came under the scope of protection of the process patent."

In the "Handbook of (French) Patents", 1931, p. 66, Section 126, Massius states:

> "If a means or process patent covers only the means or steps claimed in such patent, such means or steps must be understood in their broadest meaning.
>
> "The process patent, in addition to the means explicitly claimed therein, also covers means which may be derived, either directly or indirectly, from the process used by the patentee.
>
> "It is understood that such means are integral parts of the discovery of the patented process. If the patentee did not indicate them, it is because their number was too large for him to subject himself to such enumeration, but the protection afforded by the process, nevertheless extends to them."

The same author, in the same handbook, page 60, Section 107, also states:

> "The distinction between 'product' and 'means' is not very clear.
>
> "A product may always be considered to be a means; if it is viewed from the point of view of the use to which it is put, it is a means; if it is viewed as the article obtained, it is a product."

ITALY. The present law in Italy is the Royal Decree of June 29, 1939, which became effective on May 1, 1940. Prior to that time, the governing law was the law of January 31, 1864, Articles 1 and 2 of which read:

> "1. The author of a new invention or discovery in the industry has the exclusive right of working the same and of deriving profit therefrom during the time, within the limits, and under the conditions prescribed by the present Decree.
>
> "This exclusive right constitutes an industrial privilege.

"2. An invention or discovery is said to belong to industry whenever the immediate object is:—

1) An industrial product or result

2) An instrument, machine, tool, engine, or any mechanical arrangement

3) A process or method of industrial production

4) A motor, or the industrial application of a force already known

5) Finally, the technical application of a scientific principle, provided it give immediate industrial results.

"In this last case the privilege is limited solely to those results expressly pointed out by the inventor."

In "Chemistry and Continental Patent Law", referred to above, Dr. E. Muller, in discussing Italian patents, states that a process patent affords automatic protection to the product produced thereby, even if the latter is not specifically claimed.

It will be observed that France and Italy are the two countries in which the doctrine is not plain on the face of the statute and in which presumably the doctrine of product protection for process claims would be more arguable in its application to any particular case. This fits in with Dr. Blumenfeld's testimony (R. 805).

However, the principal industrial countries to which du Pont would presumably have exported (if it had wished to export at all), e.g. Great Britain, Canada, Germany and Japan, are all countries in which on the face of the statutes themselves there is a restraint, explicit or implicit, upon importation of a product manufactured by a process patented in that country.

In all countries covered by this memorandum, as well as in others, the Blumenfeld and Titan groups had extensively patented their respective titanium pigment inventions.

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Supreme Court of the United States

OCTOBER TERM, 1946

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY,
Appellant,

vs.

THE UNITED STATES OF AMERICA,
Appellee.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

APPELLANT'S REPLY BRIEF

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February, 1947.

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APPELLANT'S REPLY BRIEF

I. The Merits

The government in its brief as appellee states the question as being "whether the finding of the District Court that du Pont was a party to the unlawful combination is supported by the evidence" (2).[1] We do not accept this. *The question is whether the findings of the District Court are as a matter of law sufficient to sustain the conclusion that du Pont became a party to the unlawful conspiracy and combination.* The legal sufficiency of a specific finding of the District Court is thus placed directly in issue. That finding reads: "DP, through Rupprecht and Krebs, by these assurances and Exhibit E, joined the conspiracy found herein to exist between NL and its foreign associates" (R. 289). This was the only finding of fact on which the District Court based its decision that du Pont did become a member of the combination. Du Pont contends that neither the assurances as found nor Exhibit E (the non-exclusive cross-license agreement, R. 69) is sufficient as a matter of law to make du Pont a member of the combination.

The government cannot avoid this issue. It did not assign as error any finding of the District Court or any refusal of the District Court to find (R. 330-331); indeed at page 8 of its brief in No. 89 the government specifically states that the findings of fact "are not challenged by the government". The government, however, undertakes once again in its brief as appellee to present many carefully culled bits of evidence in support of the broad assertion

[1]Reference numbers in parentheses are to the pages of the proof of the government brief as appellee received by us January 21, 1947.

that the evidence taken as a whole establishes du Pont's participation in an unlawful conspiracy and combination. The record references are often to odd sentences in occasional documents and are presented apart from their context. Very few of them can be attributed to du Pont at all, since they are admissions of National Lead or other alleged conspirators and not independent proof *aliunde* as to du Pont.

Whatever their probative value, all of the government record references and points were argued at length before the District Court. Indeed, the government proposed many findings based upon these very points which the District Court as the primary trier of the facts, after carefully reviewing all the evidence, denied. (See, for example, pages 52-54 of du Pont's main brief in No. 91.) This denial was based upon substantial evidence which the government in no place refers to.

The sole issue presented under the appeal papers which the government must meet, in view of Rules 9 and 13 of this Court, is whether the District Court's conclusion is supported by his specific findings.

(A) The "Assurances".

The suggestion (60) that du Pont has concocted an ingenious technical argument designed to take unfair advantage of the District Court's findings is amazing, to say the least. Du Pont's position in this Court on the issue under discussion here has not varied in the slightest from the position it has taken in this litigation from the outset and long before the findings were settled. It argued vigorously and at length before the District Court that an agreement must be shown, and that what du Pont did was reasonable

and beneficial to trade and to competition. The District Court felt otherwise and carefully preserved this issue of law for review by this Court.

The District Court chose the word "assurance", having well in mind its inability to find any territorial agreement or commitment by du Pont. It refused to find an oral agreement or an agreement of any kind by implication. The government seeks to twist this by now saying that the District Court used the word "assurance" in the sense of a guaranty, pledge or commitment which was not legally enforceable (62). This is just not so.

The District Court specifically stated[2] that it used the word "assurance" to mean a statement by du Pont from which it could withdraw at any time and as to which it was not even morally bound by considerations of business practice or ethics. Indeed, this was plainly reflected in Finding 73 (R. at 287-288) in which the District Court expressly said that "DP was not making a promise * * * it was doing no more than giving expression to its then existing policy * * *". The constant effort of the government to avoid the clearcut legal issue presented on this appeal can only reflect a recognition that the position of du Pont is basically sound.

The government cases throw no further light on the issue. We need not repeat here our statement as to our understanding of the meaning and effect of the *Interstate Circuit* and other recent decisions of this Court on the question of conspiracy and combination. (See pp. 60 to 64 of du Pont's main brief in No. 91.) We feel that these

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[2]This statement was made at informal conference on the findings, but we are confident our assertion will not be challenged by government counsel who participated in the trial.

cases are not properly interpreted by the government. The numerous lower court decisions cited principally at pages 68-69 of the government brief stand only for the proposition that a conspiracy may be established by circumstantial evidence, and that the conduct of the parties may be analyzed for the purpose of determining whether or not an unlawful agreement, association or partnership in crime exists; but these cases in no way sustain the government's apparent view that no "meeting of the minds" is necessary. Indeed most of the cases cited hold specifically to the contrary.

The recent decision of this Court in *Direct Sales Co.* v. *United States,* 319 U. S. 703, makes clear the standards which apply. The Court pointed out (p. 713) that "more than suspicion, more than knowledge, acquiescence, carelessness, indifference [or] lack of concern" is necessary. The Court must find not alone that du Pont had clear and unequivocal knowledge and that it acquiesced, but also that it joined "both mind and hand" with the other alleged conspirators for the purpose of accomplishing the objects of the conspiracy (319 U. S. at 713). A definite difference between "lawful cooperation and criminal association" is recognized (319 U. S. at 713), particularly where the transactions involve normal commercial relationships.

The cases have emphasized again and again that the government must show that the parties worked together understandingly with a single design for the accomplishment of a common unlawful purpose. *Braverman* v. *United States,* 317 U. S. 49, 53; *United States* v. *Falcone,* 311 U. S. 205, 210; *Gebardi* v. *United States,* 287 U. S. 112, 121; *Wong Tai* v. *United States,* 273 U. S. 77, 81; *Frohwerk* v. *United States,* 249 U. S. 204, 209; *Williamson* v. *United States,* 207 U. S. 425, 447; *Bannon and*

Mulkey v. *United States*, 156 U. S. 464, 468; *Dealy* v. *United States*, 152 U. S. 539, 547; *Pettibone* v. *United States*, 148 U. S. 197, 202; *United States* v. *Britton*, 108 U. S. 199, 204; *United States* v. *Hirsch*, 100 U. S. 33, 34.

The findings will not support a contention that du Pont knowingly co-operated to further the objects of the cartel, that there was "informed and interested co-operation, stimulation and instigation", or that there was any "stake in the venture" or joining of both "mind and hand" in the enterprise (319 U. S. at 713). Du Pont followed a course of conduct at all times independent; and its actions did not prevent competition with National Lead. They created it. The absence of a finding of unlawful agreement express or implied is fatal to the government's case.

(B) The Reasonableness of du Pont's Conduct.

In our main brief in No. 91 at pages 65 to 84 we presented arguments and authority in support of the proposition that what du Pont said or did must be measured by the test of reasonableness, assuming *arguendo* that agreement is not necessary to establish violation of the Sherman Act. It was there demonstrated that du Pont's conduct was in all respects wholly reasonable and proper under the circumstances. It is only necessary here to observe that the government has defaulted on this point, since its brief wholly fails to discuss it.

(C) The Non-Exclusive Cross-Licensing Agreement.

Du Pont has not, as the government states (71), conceded that the District Court found the cross-licensing agreement between du Pont and National Lead unlawful. The findings speak for themselves and there is no such

finding. The District Court in its opinion appeared to criticize the agreement, however, and we therefore submitted, as our main brief in No. 91 explains under Point II at p. 84, an argument that the cross-licensing agreement was lawful under the decision in the *Cracking* case, *Standard Oil Company (Indiana)* v. *United States*, 283 U. S. 163.

The government in its brief now for the first time states that it considers the cross-licensing agreement illegal. The government did not ask for a finding below to this effect (R. 78-118) nor did it charge that the agreement was illegal in its complaint (R. 1-40) or opening argument. Its present position that the agreement is illegal seems wholly inconsistent with its past position and assignments of error (R. 330-331).

The government invokes the *Cracking* case as authority for its contention that the agreement is illegal. In its treatment of the *Cracking* case, however, the government falls into its recurrent error of failing to distinguish between an agreement between two parties at arm's length and a joint program undertaken by both together. In this case, the license agreement related only to the two parties, du Pont and National Lead, and was only a non-exclusive exchange between them of patent licenses and technical information. Such an agreement, as the opinion makes clear, raises no question under the anti-trust laws. This was the subject-matter of Mr. Justice Brandeis's opinion down to the bottom of p. 170, concluding:

> "The government concedes that it is not illegal for the primary defendants to cross-license each other and the respective licensees; and that adequate consideration can legally be demanded for such grants."[3]

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[3]The "primary defendants" were the Standard Oil Companies of New Jersey and Indiana, The Texas Company and Gasoline Products Company.

Up to this point in the opinion there was no consideration whatsoever of the size of the defendants or the nature of the industry. None was necessary, for the rule to permit cross-licensing is absolute, as no restraint of trade can be involved in a non-exclusive unrestricted cross-license, the only effect of which can be to liberate trade, particularly where (as here) there were mutually blocking patents.

But in the *Cracking* case the primary defendants went further. They not merely cross-licensed each other; they agreed on a joint licensing program, under which they fixed minimum royalties that each should charge for the patents of the other, pooled the royalties, and divided them in agreed proportions. It was to determine whether these provisions for joint action had the actual effect of restraint of trade that the parts of the opinion relating to domination, from which the government takes its quotations, were directed. 283 U. S. at 172-179. The subject is introduced with the sentence beginning in the last line on p. 170 and runs throughout the balance of the opinion. The sentence reads:

> "But it [the government] contends that the insertion of certain additional provisions in these agreements renders them illegal".

The additional provisions all relate to joint action by the patentees in granting sub-licenses, including joint fixing of royalties and pooling of royalties. No such provisions existed between du Pont and National Lead. The question of domination is therefore wholly extraneous to this case.

II. Technical Information.

This point is covered fully in Part Two of du Pont's main brief in No. 91, and we will therefore only answer succinctly matters raised for the first time in the government's brief.

The government says (77):

(1) Du Pont's current technical information was acquired as a result of the unlawful combination.

(2) Technical information acquired by du Pont prior to 1940, when the exchange with National Lead ceased, is a prerequisite to technical information subsequently acquired.

(3) No segregation of technical information before and after 1940 can be made.

There is no evidence supporting these extraordinary statements. The government not only has no findings to support them but never even asked for such findings. It does not now even cite record references.

If the facts established what the government asserts, that would be one thing; but they do not. All evidence is to the contrary, for competitors have entered the industry and successfully competed without *any* du Pont technical information, and the industry is now by the government's own admissions mature (Gov'ts Brief No. 89, pp. 32, 52). The art essential to basic manufacture is well known and publicized, many basic patents have expired, and obviously experienced and trained personnel is available.

Respectfully submitted,

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February, 1947.

Supreme Court of the United States

OCTOBER TERM, 1946

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY, *Appellant*,

v.

THE UNITED STATES OF AMERICA, *Appellee*.

Appeal from the District Court of the United States for the Southern District of New York.

APPELLANT'S SUPPLEMENTARY BRIEF CALLING ATTENTION TO NEW MATTER.

When this matter was argued before this Court, appellant du Pont sought to focus attention upon the slender thread by which the District Court found du Pont to have joined the extensive world-wide conspiracy and combination in titanium pigments, namely, the two letters printed at pages 121-4 of our main brief in No. 91. The Government refused to meet this issue squarely in its briefs or on oral argument, but rather by parade of all the evidence sought to create the impression that the District Court found that du Pont joined the conspiracy in some other manner. (Cf. Brief for the United States Nos. 90, 91)

This supplementary brief is submitted in view of a statement which has just come to the attention of counsel, made by the United States in another antitrust proceeding, which specifically recognizes that du Pont was in fact found by Judge Rifkind to have entered into the conspiracy on the

basis of the above two letters and those two letters only. The statement is as follows:

> General Electric employs this same argument to minimize the Government's direct evidence of conspiracy. General Electric emphasizes the small number of documents produced by the Government (p. 123) and undertakes to have the Court disregard them by comparing them with the great mass of testimonial assertions of General Electric witnesses as to "policy," denials of conspiracy, protestations of active competition. The direct evidence of conspiracy is a substantial body of *documents*, "cinematographic photographs" of purpose and intent *in action*. But further, there is confirmation of these purposes, for the written expressions of purpose were carried out and the conspiracy therefore can be traced both forward and backward. We have discussed these documents in our main brief. They must be considered together, not piecemeal. By this most obvious and requisite treatment of evidence, Judge Rifkind, in the *National Lead* case, found that a great industrial corporation, Dupont, conspired to join a great international titanium cartel, from TWO LETTERS. Only one was written by Dupont. The other was from the addressee, National Lead, to I. G. Farben with a copy to Dupont. The copy, however, was not even found in Dupont's files. From these two letters Judge Rifkind found conspiracy even though on this issue he declared that as to Dupont (63 F. Supp. at page 527):
>
> > • • • the facts are by no means as clear. Stoutly it denies any complicity in the combination; and much of the evidence supports its denial, • • •
> >
> > In sharp contrast with National Lead, Dupont exhibited, from the very beginning of its interest in titanium, an alert consciousness of the antitrust laws and moved cautiously and under the guidance of trained antitrust lawyers. The question is whether it succeeded in avoiding not only the form but also the substance of transgression.
>
> In its letter to National Lead, Dupont pointed out that it was intent upon obeying the antitrust laws (63 F. Supp. 513, note 11) and would not make any com-

mitments as to territories but assured National Lead that in result affairs "will be eminently satisfactory to your foreign associates." National Lead then wrote to I. G. Farben sending a copy of the Dupont (Krebs Pigment & Color Corp., an affiliate) letter and saying that careful reading of the letter "will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case." Upon the strength of these two letters, and expressly finding that Dupont was bound by the second letter, Judge Rifkind found that: "as to territorial delimitations of the titanium pigment business, Dupont joined the combination." (Reply Brief for the United States, filed in the District Court of the United States for the District of New Jersey, in *United States* v. *General Electric Company*, Civil Action No. 1364, Pages 21-3).

We call attention to the fact that this statement was made on January 10, 1947, immediately prior to the argument in this case before this Court.

We also call attention to the fact that this statement evidences the intention of the United States to use the decision of Judge Rifkind in the District Court below as authority for broadening and extending the conspiracy doctrine beyond previous limits in a manner which, as we suggested in this Court, will undermine the traditional rules which in the past have protected the rights of persons accused of conspiring against the law.

Respectfully submitted,

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Nos. 90, 91

In the Supreme Court of the United States

OCTOBER TERM, 1946

NATIONAL LEAD COMPANY, TITAN COMPANY, INC.,
APPELLANT

v.

THE UNITED STATES OF AMERICA

E. I. DU PONT DE NEMOURS AND COMPANY,
APPELLANT

v.

THE UNITED STATES OF AMERICA

ON APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

BRIEF FOR THE UNITED STATES

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ON APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

BRIEF FOR THE UNITED STATES

OPINION BELOW

The opinion of the district court (R. 185) is reported in 63 F. Supp. 513.

JURISDICTION

The judgment of the district court was entered on October 11, 1945 (R. 307). The Government's

petition for appeal and the separate cross appeals of the defendants were all filed and allowed on April 18, 1946 (R. 329, 334, 335, 350).

The jurisdiction of this Court is conferred by Section 2 of the Act of February 11, 1903, 32 Stat. 823, 15 U. S. C., sec. 29, and Section 238 of the Judicial Code, as amended by the Act of February 13, 1925, 43 Stat. 936, 938, 28 U. S. C., sec. 345. Probable jurisdiction was noted on May 20, 1946.

QUESTIONS PRESENTED

The questions presented by du Pont in No. 91 are: (1) Whether the finding of the district court that du Pont was a party to the unlawful combination is supported by the evidence; and (2) whether the district court had the power to require du Pont to disclose to a licensee under paragraph 7 of the judgment, the methods and processes used by du Pont at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments; and, if such power exists, whether the district court abused its discretion in compelling such disclosure in this case.

The first question presented by No. 91 will be considered in point I and the second question in point II herein.

The questions presented by National Lead in No. 90 are: (1) Whether paragraphs 5 and 6 of the judgment, which enjoin the performance of

contracts found to be in violation of the Act and the making of contracts comparable in purpose and effect, have been or could be shown unduly to restrict the right of National Lead to enter into necessary and proper contracts; (2) whether the district court should not have compelled the defendants to license any applicant royalty free under their existing patents and patent applications and all patents issued within 5 years; (3) whether National Lead should be prohibited from owning jointly with some of its foreign co-conspirators certain foreign producers of titanium pigments; and (4) whether National Lead should have been required to divest itself of certain of its physical properties and facilities.

The first of these questions will be considered as point III herein and the third question as point IV.

As to the second point, the Government agrees with National Lead that the defendants should not be permitted to exact royalties for the use of the patents which have been abused. Its argument in support of this position is contained in its brief in No. 89, pp. 54–121. The Government, unlike National Lead, has not contended that, under the facts of this case, the defendants should be enjoined from enforcing patents issued within five years from the date of the judgment, unless issued on a pending application. The fourth question presented by National Lead will

not be discussed in this brief, since it is considered in the Government's brief in No. 89, pp. 131–144.

STATEMENT

The brief for the United States in No. 89, this Term, pp. 4–40, contains a Statement of most of the facts pertinent to the issues raised by the appeals in No. 90 and No. 91. Such additional facts as are necessary will be set forth in the Argument.

SUMMARY OF ARGUMENT

I

The evidence supports the finding that DP was a party to the unlawful conspiracy. DP, the largest domestic producer of lithopone, was aware of the threat of titanium pigments to its lithopone business. Therefore, in 1931, it purchased the assets of Commercial Pigments, the only domestic producer of titanium pigments other than NL.

Prior to the purchase of CP by DP, plans were already under way for a world-wide patent pool. These plans could be carried out only if an arrangement was made between the American producers. The arrangement then being considered by the American producers, CP and NL, was a cross-licensing of patents, the exclusionary effect on potential competition of such an arrangement being specifically recognized. The consummation of the plans for a world-wide patent pool was postponed and not effected until after DP and NL entered into the 1933 agreement.

NL was prevented by Article XIV of the 1920 agreement from executing the agreement with DP until NL had secured the approval of its foreign associates. IG, NL's German associate, refused to give its approval on the ground that the agreement did not clearly indicate that DP would respect its exclusive territorial rights. It requested that NL "clearly" express "in some form" that it would do so. DP wrote an ambiguous letter to NL referring to its inability to make "any commitments" in view of the antitrust laws, but stating that the results would be satisfactory to "your foreign associates." NL, after conferences with DP, wrote a letter to IG construing and interpreting the DP letter as satisfactorily replying to the request of IG. This letter was shown to and read by DP. Jebsen, NL's foreign representative, then forwarded these letters to IG along with a letter written by him in which he stated that DP had verbally expressed to him the same views as were contained in the NL letter. IG replied, noting the assurances of DP and NL that they would respect the TG territory and, "relying on this loyal promise," approved the agreement.

After the execution of the agreement, DP cooperated with the members of the combination. It exchanged technology with NL's foreign associates; exchanged patents and patent applications on a royalty-free basis with them; and did not export to the exclusive markets of NL's foreign

associates. On the other hand, it did not exchange technology with VC and Zirconium, its American licensees; refused to exchange future patents with Zirconium, and drastically limited their production. Its competition with NL is restricted and does not affect the price structure.

The District Court found that although du Pont had not agreed with TP or NL that it would refrain from exporting titanium pigments into TG's territory and that it would grant NL's foreign associates exclusive licenses under DP's foreign patents, in order to obtain the consent of IG to Exhibit E, DP gave assurances that as a practical matter such exports would not take place and that the practical effect of its conduct would produce substantially identical results as if it did so agree to grant exclusive licenses. It carried out these assurances in accordance with the expectations of the other conspirators. Such knowing and intentional cooperation with other conspirators for mutual benefit was clearly sufficient to support the finding that du Pont was a party to the conspiracy. Binding commitments such as are required by the law of contracts are obviously not necessary. *Interstate Circuit* v. *United States*, 306 U. S. 208. The NL-DP agreement of 1933 was not a lawful interchange of patents such as was permitted in *Standard Oil Co. (Indiana)* v. *United States*, 283 U. S. 163. The setting and effect of the agreement by itself and in conjunction with other understandings and the conduct of the parties

clearly brings it within the caveats in the *Standard Oil* case that patent pooling where domination exists or which effects a monopoly is unlawful.

II

The provision in the judgment requiring du Pont at the request of a licensee to impart in writing the methods and processes used by it in its commercial practice under the licensed patents was neither beyond the power of the district court nor an abuse of discretion. Such relief was essential if effective competition is to enter the industry. Defendants, prior to 1940, exchanged such information among themselves. A large and inseparable portion of du Pont's technology was acquired as a result of the unlawful combination.

III

National Lead does not demonstrate that paragraphs 5 and 6 of the judgment, *infra* p. 79, impose unjustified restrictions on its right to contract in the future. Paragraph 5 enjoins the further performance of existing contracts found to be unlawful. The challenged portion of paragraph 6 merely enjoins the entering into of any agreement or plan having the purpose or effect of continuing or renewing any of the agreements the further performance of which was enjoined in paragraph 5. The requested enlargement of the proviso in paragraph 6 to include producers has not been shown to be necessary.

IV

NL contends that paragraph 8 of the judgment constitutes an abuse of the trial court's discretion. Paragraph 8 prohibits NL from continuing with certain of its coconspirators jointly to own certain foreign corporations engaged in the titanium pigment business. These jointly owned corporations were formed in furtherance of a purpose of NL to protect the markets allocated to it by the 1920 agreement and to strengthen its position in the domestic market vis-a-vis potential domestic competitors. The continued joint ownership of these corporations will have the necessary effect of preventing the growth of foreign competition. That the prohibition will not assure foreign competition is immaterial since it is the duty of the court to remove unlawful obstacles to the emergence of competition. It is unnecessary to consider if the joint ownership arrangements standing alone would be unlawful since the court has power to prohibit arrangements which would be lawful apart from the conspiracy. Here the joint ownership was used as an effective means of restraining trade and the restraint will continue if the prohibition is eliminated. NL claims that the prohibition will cause it a financial loss. Even if this be true it is immaterial since effective relief cannot be granted without the prohibition.

ARGUMENT

I

DP WAS A PARTY TO THE UNLAWFUL CONSPIRACY AND EQUALLY RESPONSIBLE WITH NL FOR THE UNLAWFUL RESTRAINTS IMPOSED UPON THE INTERSTATE AND FOREIGN COMMERCE OF THE UNITED STATES

The district court found that DP became a party to the unlawful combination (R. 289). It further found that a common purpose of DP and NL in entering into the agreement of 1933, Exhibit E, was to strengthen their patent position in the industry to the exclusion of all others, and that an effect of the agreement was to give DP and NL together domination and control over the titanium pigment business in the United States (R. 291–292). These findings are amply supported by the evidence.

1. DP entered the industry by purchasing a competitor, a purpose being the protection of its lithopone business

Prior to its entry into the titanium pigment business, DP, the largest producer of the competitive pigment lithopone (RE. 961), had become increasingly aware of the threat of titanium pigments to its position in the pigment market. It was of the opinion that "lithopone has apparently reached its maximum and a decline in lithopone business is indicated" while "titanium pigments are of increasing importance" (RE. 1049). It recognized that there was a direct relation

between the price of lithopone and titanium pigments and that reductions in the price of titanium dioxide would require reductions in the price of lithopone (RE. 1067). At this time the price of titanium dioxide had already dropped from 40¢ a pound in 1928 to 20¢ a pound in 1931 (R. 1149–1150).[1] In addition, CP estimated its production costs at 7.65 cents per pound (R. 1111), and believed that it could be sold at a satisfactory profit for 12 cents per pound (R. 1036).

During the years immediately preceding 1931, DP had several times discussed with NL and CP a close association in the manufacture of titanium pigments (RE. 1049). NL was not then receptive to DP's overtures. However, CP became receptive after DP commenced development work (RE. 1049). DP, after an extensive and exhaustive survey of the titanium pigment industry in February 1931, concluded that, if it continued its program of independent action in this field, a capital expenditure of more than two and one-half million dollars for the construction of a commercial plant, etc., would be required in the next two years and that, by that time, the two American producers "would be firmly in the saddle with established business so that the entrance of du Pont in the field with a large plant could only mean lower prices and our plant operated at only part capacity for some time" (RE. 1051). Unquestionably, a purpose of DP in

[1] The price lists therein referred to, Exhibits 24 and 42, were not printed but are a part of the record.

entering the industry by purchasing, in July 1931, the assets of CP, an actual competitor in the pigment field and a potential competitor in the titanium pigment field, was to prevent a substantial decline in the price of titanium pigments and a consequent decline in the price of lithopone. The effectuation of this purpose would necessarily require cooperative competitors.

2. The world-wide pooling of patents and commercial cooperation between the titanium producers of the world were aided by the DP cooperation with the combine

At and prior to the time DP was negotiating for the business of CP, the companies operating in the United States and the rest of the world under the Barton-Rossi-Jebsen patents and under the Blumenfeld patents were engaged in negotiations for a pooling of patents and technical information and for further cooperation. A *tentative* agreement had been worked out by representatives of all of the producers at a meeting in Paris in March 1931. It was recognized, however, that a world-wide combination of producers could only occur if the two American producers "enter into some agreement as regards patents and development in the U. S. either by a combination of companies or by cross-licensing agreement" (RE. 1271).[2]

[2] The United States producers were considering a cross-licensing of their respective patents. An advantage of such an arrangement was stated to be the establishment of a "stronger position of both as against a possible third com-

The acquisition by DP of the business of CP, one of the two American producers, did not terminate the negotiations for a world-wide patent pool and commercial understanding; the consummation of the world-wide arrangements was merely deferred until *after* a satisfactory agreement had been worked out between the two American producers. This was in accord with the understanding reached at the Paris conference.

3. DF was willing to aid in the negotiations abroad in order to secure the kind of pooling agreement it desired in the United States

In August 1931 Rupprecht was elected president of the new DP company "Krebs," which took over the assets of CP (R. 587). Tichnor and Chase, directors of Krebs, continued to maintain the contacts previously established by them with the European companies. Blumenfeld was advised that the "whole situation will be strengthened" (RE. 3619). They explained to Dr. Jebsen, NL's foreign representative, at a meeting in London in September 1931, that the acquisition of CP by DP would "in no way impair the planning of a coming together of their and our group—it would rather further the matter" (RE. 1224). Mr. Ewing, manager of the DP London

pany" (RE. 1271). It was recognized that the combined patents would present "a very formidable set-up against anyone attempting to enter the titanium field" (RE. 1563). However, negotiations between NL and CP were held in abeyance pending the Paris conference (RE. 953).

office, was present at this meeting. After similar assurances from Chase and Tichnor, Dr. Blumenfeld was willing to await the outcome of continued conversations between DP and NL in the United States (R. 1225). That such conversations were continued in the United States is evident. Jebsen was advised in December 1931 by NL that Chase and his associates "would like to secure a working arrangement in the United States and in order to get it are willing to be of any assistance they can in helping us to secure a similar arrangement in Europe" (RE. 768).[3]

By January 1932, the DP interest in an exchange of licenses in the United States was becoming keener as Jebsen was then informed by NL "the du Pont interests as well as the Commercial Solvent people seem very keen on the exchange of licenses in this country" (R. 1234).[4]

[3] Jebsen had been previously advised by NL in November 1931 that an agreement between the two American producers in the form of a license could be very easily arranged (RE. 1232).

[4] While the district court found that Chase and Tichnor, the directors of Krebs, were without authority from DP, there is nothing in the record to indicate that they did not have authority to act in the negotiations for DP. The district court apparently felt the burden of proof was on the Government to show actual authority and the fact that they were directors of Krebs was immaterial (F. 71, R. 278). The record nevertheless discloses that DP desired an exchange of licenses with NL and the inference is inescapable that they were at least conducting negotiations in an unofficial capacity and with the knowledge of DP, for as directors of Krebs their only interest in the matter could be that connected with the interests of Krebs.

It is significant that Barton, the inventor of the Barton patents and one of the founders of the industry, expressed the opinion to NL in February 1932, that the future of the titanium pigment industry depended more on the technical and business initiative and aggresive development than upon patent protection.[5]

Chase and Tichnor, having assured Blumenfeld "that du Pont would continue the conversations with National Lead Company" (RE. 1225, 3619), and the groundwork having been fully laid for further negotiations between DP and NL, Rupprecht, the president of Krebs, thereupon continued further negotiations with NL. These negotiations which commenced in April 1932, resulted in the agreement of 1933, Exhibit E. It is important to note that NL advised DP of the

[5] He informed NL in February 1932 that "future progress in the titanium pigment industry will probably depend more on technical and business initiative and aggressive development than upon patent protection; and in any arrangement for pooling interests the chief advantages will probably result from the exchange of technical information and cooperation relative to construction, operation, purchase of raw materials and marketing" (R. 1249). This is of import since the 1933 DP–NL agreement provided for an exchange between NL and DP of technical information on an unlimited basis within the licensed field. The Government regards the Barton comment as to the future of the titanium-pigment industry as significant since it contends that the 1933 agreement was essentially and principally a commercial arrangement and that one of the principal purposes and objects thereof was to give DP and NL joint domination and control of this industry. The district court found this to be one of the necessary effects of the agreement (R. 292).

restrictive license agreement which NL had with its foreign associates in May 1932 (RE. 1286). It is also clear that by this time DP had apparently discussed other things with NL than merely settling patent disputes, for NL advised Rupprecht at the time the plant inspections commenced that "there are some things which you have in mind that will have to be held in abeyance for development" (RE. 1286).[*]

4. The negotiations leading to the 1933 agreement

The negotiations for the agreement took the form of the settlement of a patent infringement controversy. Plans were made whereby the two companies would send representatives to inspect the plants and plant operations of the other for the apparent purpose of determining whether either company was infringing patents of the other (RE. 1283). In accordance with the plan, representatives of the two companies visited the respective plants of the other (RE. 1290, 1295). These plant visits went beyond a mere investigation for alleged infringement and covered an exchange of information relating to technical problems or "know how" of the industry (RE. 3651–3731), which was unrelated thereto. For example, DP informed NL in June 1932 that (RE. 3651):

[*] DP kept no records of the negotiation with NL other than those introduced in evidence. It is impossible therefore to tell what Rupprecht had in mind except as his subsequent conduct may throw some light on this statement.

> For conveying barium sulphide solution, most economical service has been had from a five-ply water hose furnished by Sibley Hose and Rubber Company. Two-and one-half-inch hose is used mostly for pressure lines. There is in service now a test section of "Newtype Cord Suction Hose" furnished by Sibley Hose and Rubber Company which is proving very satisfactory for gravity flow lines where ordinary hoses collapse.

It is also significant that though DP was not producing composite pigments at this time, the inspection of the NL plant by DP covered these operations even though DP had informed NL it did not intend to manufacture composite pigments until it was "free to do so through patent expiration" (RE. 1289–1290). This was a recognition by du Pont that the composite field would be patent free in 1934. The conclusion, therefore, is inescapable that these plant visits were in fact for the purpose of initiating the exchange of technical information before the signing of the agreement therefor.

Further, if the negotiations and subsequent agreement were for the purpose of settling a patent controversy, it would seem that DP would have ascertained who owned the patents alleged to have been infringed by it. That DP was not concerned about such a vital consideration is clear by reference to the patents which NL claimed DP infringed. NL claimed that DP infringed nine

patents (RE. 1297) in the total field of approximately one hundred patents in this industry. DP claimed NL infringed eight of its patents (RE. 1313). A total of seventeen patents therefore constituted the field of the "controversy" which was purportedly settled by the 1933 cross-licensing agreement.* Seven of the nine patents involved were not owned by TP (the party granting the release for infringement) but were in fact owned by Titan A/S (RE. 3743). DP never received a license from this company to use the seven patents alleged to be infringed, nor does the record show that it ever received a release for any alleged past infringement of these seven patents. It is submitted, therefore, that whatever "controversy" might have existed as to seven of the nine patents which it was alleged DP infringed, it was not settled by Exhibit E or any subsequent agreement to which DP was a party.

The failure of DP to concern itself with the legal ownership of the patents which it was charged with infringing was not merely an oversight. One of Rupprecht's advisors in these negotiations specifically directed his attention to the necessity of determining title to the patents involved, in April 1933, when he wrote: "I am also

* The eight DP patents involved will not be considered herein as only NL would be concerned with title to those patents and no claim is made that DP did not own the patents it claimed were infringed by NL. As to any infringement claim based on these patents NL obviously secured a valid release.

assuming, *as I have stated previously*, that you know for a fact that the Titanium Pigment Company owned the various patents under which you desire to obtain licenses * * *" (RE. 1459). [Italics supplied.] Rupprecht merely replied to this note of caution that he had been informed that all of the patents on titanium pigments were owned by the Titanium Pigment Company and not NL (RE. 1461). Thus what should have been of primary concern to the negotiators of a patent-settlement agreement was not even regarded as sufficiently important by Rupprecht to warrant a check of the matter after the question of title had been specifically called to his attention. Such conduct on the part of Rupprecht definitely belies du Pont's contention that these negotiations were conducted at arm's length and that such was in fact DP's relation with NL and the other members of the combination at all times.[8]

It was also decided in this "patent infringement inquiry," that the validity of patents was

[8] Titanium Pigment Company was the NL company that executed the 1933 agreement with Krebs, the DP subsidiary (F. 11, R. 239; F. 10, R. 238).

[9] The two remaining patents which it was alleged DP infringed were of no practical consequence. Number 1,196,031 was issued in 1916 and contained but a single claim and expired on the day the 1933 agreement was executed. DP had concluded in June 1931 that the last of the nine patents (No. 1,338,473) was of doubtful validity and easy to avoid (RE. 1180). DP naturally denied any infringement whatever of the aforesaid nine patents (RE. 1387).

not to be questioned except as a last resort (RE. 1373, 1387). It was even suggested that one of the patents alleged to be infringed might be valid "in respect to the operations of all others than ourselves and the du Pont Company" (RE. 1364) because of the long industrial use of the subject matter by NL prior to the date of the patent. A further consideration bearing upon the claim that Exhibit E was for the purpose of settling a patent controversy, is the fact that DP had made an exhaustive survey of the patent situation in the industry and knew that the patents upon which NL's business was originally founded would expire in 1932 and 1934 and that NL had failed to enforce against CP any claims for patent infringement (Fdgs. 37, 72, R. 248, 279, RE. 1038–9, 1171).

DP and NL negotiated an agreement acceptable to them, herein referred to as Exhibit E (R. 69). Its provisions are summarized in the Statement in the brief for the United States, No. 89, this Term, pp. 26–29. Like the negotiations, the agreement was cast in the form of a settlement of a patent controversy. As stated by the district court in its opinion (R. 214):

> Carefully, they cast the agreement *into the form of a settlement of patent disputes.* The disturbing fact about that instrument is that despite the high professional skill

expended upon it, its terms are, in important respects, so vague that upon the trial, counsel for NL and counsel for DP did not agree upon its meaning. It is clear, and I believe not disputed, *that the 1933 writing is far from the lawyer's ideal of clarity and precision.* The only explanation which the record affords for this unexpected obscurity is contained in a letter from Mr. Beschorman to NL's English associates, that *the vagueness in the writing is deliberate and the product of fear of the anti-trust laws.* [Italics supplied.]

In view of the requirements of Article XIV of the 1920 agreement, it was necessary to secure the approval of NL's foreign associates before the contract could be executed. The German associate of NL, IG, objected to the proposed contract. It stated in a letter to Jebsen, dated June 20, 1933 (R. 1479):

> We have carefully examined how this contract affects the interest-sphere of Titangesellschaft, and it seems to us, that at least one important point in the new contract has not been clearly expressed, namely that Krebs unconditionally have to respect the territory reserved Titangesellschaft in the License Agreement of October 1927 between Titan Co A/S and Titangesellschaft, that is that Krebs—
>
> (a) Shall not themselves manufacture in the territory of Titangesellschaft,
>
> (b) Shall not make deliveries in this territory,

(c) Shall also impose upon their customers a corresponding obligation not to deliver in this territory,

(d) Shall grant sublicenses only to undertakings outside this territory and for use outside of this territory,

(e) Shall strictly observe the same limitation as under (d) also regarding the experiences of which they get knowledge and which originate from Titangesellschaft,

We consider it of the greatest importance to have this point made clear, as otherwise the unbearable situation may arise for the Titangesellschaft, that Krebs compete with Titangesellschaft in the latter's territory, with T. G.'s own patent-rights and experiences which are transmitted to Krebs through Titanium Pigment Company.

The wording of Art. 5 paragr. 2 of the new agreement does not so far quite correspond with (cover) the above-mentioned basic principle, that Krebs shall not grant any licenses within the territory of Titangesellschaft and/or to be made use of for this territory, inasmuch as the term "nonexclusive license" has been used. Further, it would better correspond to the spirit of the agreement between Titangesellschaft and Titan Co A/S, if such licenses were granted Titangesellschaft free of cost, it should then be (es sei denn) that Krebs acknowledge, that also they have to pay to T. G. a corresponding compensation for the use of patent-rights originat-

ing from T. G., as it, according to information from Mr. Beschorman, seems to be intended, without we being able hitherto to find a confirmation of this in the agreement. The above-mentioned basic principle that, according to the spirit of the contract between T. G. and Titan Co A/S, Titangesellschaft should be granted a license free of cost under the Krebs patents, applies also to new inventions as such naturally practically always will result from the experiences resulting from the cooperation Krebs/Titanium Pigment Co/ Titangesellschaft.

We should be obliged if Titanium Pigment Co. could give us a certain reassurance also with regard to these points.

Jebsen of NL discussed the proposed contract with the German company and advised NL by cable dated June 22, 1933, that IG would approve the proposed contract provided DP would "clearly" express "in some form" that it would respect TG's territory (RE. 1482).[10] This message was conveyed to Rupprecht of DP by NL. After several conversations with NL, Rupprecht drafted a reply dated June 28, 1933 (RE. 1483) and delivered it to NL personally. At this time he told

[10] He also wrote NL on June 23 that, "Mr. Weber-Andreae seemed to have a fairly good knowledge of the way of cooperation between du Pont and I. C. I. He considered it, though, necessary to have a clear statement from du Pont about the important points,—not necessarily embodied in the agreement, but for instance by exchange of letters between National Lead Company and du Pont" (RE. 1475).

NL that "it was a selling job for them to make IG realize that they were putting their interests in National Lead's hands, and that they would be well taken care of" (RE. 1486). Rupprecht's letter (Ex. 267, RE. 1483) was as follows:

KREBS PIGMENT & COLOR CORPORATION

Confidential June 28, 1933.

W. C. BESCHORMAN,
Vice Pres., National Lead Company,
111 Broadway, New York City, N. Y.

DEAR MR. BESCHORMAN: We have considered the various points raised by I.G. in their cable to you with the desire, if possible, to comply with its request.

As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan, Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article II of the Krebs-Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the diffi-

culty both from a legal and practical standpoint.

The I. G. request that Krebs grant no sublicenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclusive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis. Since all licenses received from Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally, we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of much care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Very truly yours,

C. H. RUPPRECHT,
President.

CHR:

A letter dated July 12, 1933 (Ex. 271, RE. 1491) was prepared by NL, and shown to (Ex. 271, RE. 1490) and read by Rupprecht before it was sent to IG. This letter read as follows:

July 12, 1933.

I. G. FARBENINDUSTRIE, *Aktiengesellschaft,*
Frankfurt (Main), Grüneburgplats.

DEAR SIRS: Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen,

copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subsequently to the points brought out in your letter of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both as to use, manufacture and selling to the territory granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium

Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good cooperation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outside of their territory which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licenses in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co., Inc., which has granted exclusive licenses to the Titanium Pigment Co., Inc., you are not in position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these respects, which are also our own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter,

but have dropped this idea as we felt that you would be better served to have us look after your interests than to complicate the situation with a separate contract.

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask further advice from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours,

Executive Vice President.

Copy to—
Dr. KUHNE
Dr. JEBSEN
Mr. RUPPRECHT
Mr. TASKER, *Vice Chairman, British T. P. Co.*

A copy of this letter to IG was mailed to DP by NL on July 17. It was not found in the DP files (R. 215).

The Rupprecht letter of June 28 and the NL letter of July 12 were sent to IG with an accompanying letter dated July 21 from Jebsen, the foreign manager of NL. This letter (Ex. 274, RE. 1502) was as follows:

July 21, 1933.

DR. H. K HNE:

I enclose copy of my letter of today to I. G. Farbenindustrie Aktiengesellschaft transmitting a letter from Mr. W. C. Beschorman, copy of which also is enclosed, dealing with the various points raised in the letter from I. G. Farbenindustrie of June 20th to me regarding the contemplated agreement between Titanium Pigment Company, Inc. and Krebs Pigment and Color Corporation.

I have met Mr. Rupprecht, President of Krebs Pigment and Color Corporation, who verbally has expressed to me the same views as to the future cooperation which has been expressed by Mr. Beschorman.

Considering the views and interpretations as expressed by Mr: Beschorman, and by Mr. Rupprecht in his letter to Mr. Beschorman, it seems to me that a cooperation can be looked to which will be of important benefits to Titangesellschaft.

It is considered desirable to treat the matter strictly confidential.

At the time NL transmitted the Rupprecht letter to IG, it requested IG to advise NL as to whether the Rupprecht letter and the NL letter made the matter satisfactory (RE. 1498). IG replied on August 7 that it had noted the assurances of both NL and DP that they "will loyally respect the delimitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement between Titan Company and Titangesellschaft," and, "relying on this loyal promise, we renounce on [sic] the formal confirmation of the wishes expressed in our letter of June 20th, 1933, * * *"[11] (RE. 1516, 1479).

[11] DP contends in its brief that the District Judge made a mistake of fact in attributing to DP what it describes as a very damaging phrase, i. e., "that DP will loyally respect the territory of TG." The District Judge did not say that this phrase was found in the letter of June 28 from DP to NL or in the letter of July 12 from NL to IG. He stated that the IG letter of August 7 consenting to the agreement clearly indicated that IG had accepted the letters as an assurance that both NL and DP "will loyally respect" the territory of TG. The Court was obviously referring to the fact that IG had read the two letters and had "discovered" therein the assurances and commitments they had asked for from DP and which DP had obviously intended to convey. The District Judge was obviously placing the phrase in quotes for emphasis as "DP" as such was never mentioned in any of the correspondence, although IG was aware that Krebs was a DP subsidiary. The language referred to by DP was contained in the opinion of the court (R. 218) and any doubt as to the fact that the court was there giving a reasonable construction to the language in the Rupprecht and NL letters is shown by his Finding 73 (R. 288) wherein he stated:

"IG construed the communications to mean that Krebs 'will loyally respect the territorial delimitations as regards manu-

The two NL letters and the Rupprecht letter thus secured the approval of the foreign associates of NL to the 1933 contract which in form did not comply with Article XIV of the 1920 contract.

Rupprecht of DP anticipated and was convinced that his letter and the NL letters would together secure their intended result, that is, the approval of IG to Exhibit E. Rupprecht indicated in a letter of July 25 to the DP Foreign Relations Department *before the actual notice of approval was in fact received from IG* that the DP Foreign Relations Department might proceed to notify the London Office of the Contract, as final approval of the contract by IG was expected any day. Rupprecht expressly stated in this letter that he thought that IG's questions had been "satisfactorily answered" (RE. 1509).[12]

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facture, granting of licenses and sale, which are fixed in the agreement' between Tinc and TG; and in reliance thereon, withdrew its objections to the agreement/Exhibit E."

[12] In the letter of the DP Foreign Relations Department concerning Exhibit E, to the DP London manager (RE. 1506), the DP Foreign Relations Department pointed out that Exhibit E limited the territory of DP's manufacturing operations to the United States with rights to sell in the United States, Central and South America.

It was also suggested in this letter that the DP London manager advise ICI of the agreement and that CIL may still acquire the Blumenfeld patents in Canada and if they desire to do so, "it is quite possible that further negotiations with NL would result in extending the present arrangement to Canada" (RE. 1508). CIL, in which DP had a 45% interest, was a vehicle for many DP operations in Canada, and it ultimately did enter into a contract with NL whereby CTP

Jebsen described the arrangement entered into between DP and NL and the other producers as a result of these letters and his conversation with Rupprecht in October 1933, in his "Short Outline Regarding the Relations in the Titanium Industry." In this outline he referred to the arrangement between DP and NL and stated: "It is understood that the Krebs Corp. will not manufacture or sell outside the American continent" (RE. 1933). He consistently maintained and asserted this position in his writings (RE. 1953, 3070).

Other evidence also indicates the nature of Rupprecht's assurance or commitment of July 1933. Dr. Blumenfeld had conversations with Rupprecht at that time. He testified that the proposed agreement between the European producers was discussed with Rupprecht and Chase at that time and that the substance of his conversation with Rupprecht about that subject was that DP would not export into the territories of the European producers (R. 790, 791, 821, 827–8, RE. 2063).[11]

was created to handle the Canadian market (RE. 342). CTP acquired the Blumenfeld rights in Canada from LaPorte when it purchased the Canadian business of that company in 1937 (F. 58, R. 269).

It was this DP letter (RE. 1506) which brought forth the comment of its London manager in his letter advising ICI of the American agreement between DP and NL that "we look upon this patent pool as a definite advance in cooperation and the strengthening of both parties' position to the exclusion of outsiders" (RE. 1510).

[11] The cartel agreements between the competing European

The DP letter of June 28 was prepared by Rupprecht and Hanley of the DP legal department and thereafter personally delivered by Rupprecht to the NL representative (RE. 1487) for transmission to the other members of the combine, who held the power to withhold the benefits desired by DP, for the purpose of indicating to them that although DP could not take the oath, in the form required, it would nevertheless be a most satisfactory member. As we have seen, the letter stated, "* * * we are unable to make any *direct* commitments. However, * * * we think the result will be eminently satisfactory to your foreign associates" (RE. 1483). [Italics supplied.] The clear implica-

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producers were consummated shortly *after* the approval and execution of Exhibit E as contemplated in the March 1931 Conference. These agreements were executed as follows:

Ex. G (RE. 178), Nov. 23, 1933.
G-1 (RE. 197), June 17, 1935, Effective as of May 1, 1934.
G-2 (RE. 221), June 17, 1935, Effective as of May 1, 1934.
G-3 (RE. 233), June 17, 1935, Effective as of May 1, 1934.
F-8 (RE. 178), Sept. 1941.

The District Court found that these agreements had the intended effect of preventing any exports of titanium pigments to the United States (F. 68, R. 277). The Japanese and Canadian markets were also organized by the combine *after* Exhibit E was approved and executed. (Japan—RE. 292-341; January 1936; Canada—RE. 342-394, January 1937).

tion was that an indirect commitment was being undertaken, and this was confirmed by the DP-approved NL letter to IG. That was the only way it could have been done, as DP had no contract relations with IG, and to have placed a provision satisfactory to IG in Exhibit E would have made the contract illegal on its face and would have rendered the whole pooling arrangement between DP and NL in the United States clearly illegal. The record does not disclose what was said by Rupprecht at the time he delivered the letter to NL.[14]

Rupprecht knew that his letter was to be used to secure IG's consent to Exhibit E and indicated to

[14] Rupprecht died September 1944. The NL representative Beschorman was incapable of testifying at the trial. Hanley, who has been the head of the Foreign Relations Department of DP since 1940, was not called as a witness by DP to throw any light on the letter or any conversation he had with Rupprecht of DP at the time of its preparation. E. C. Thompson, director of Krebs, and since April 1942 general manager of the Grasselli Chemical Department of DP (RE. 585) and with whom Rupprecht had also discussed the IG request for expressions "by Krebs in some form that they will respect Titangesellschaft's territory" (RE. 1485) was also not called by DP as a witness to offer such explanation of the contents or the purpose of the letter as he might offer. Wm. Richter, another director of Krebs, to whom Rupprecht also sent a blind copy of the letter of June 28 (RE. 1485, RE. 584) was also not called as a witness by DP. The failure of DP to call such officers or employees as witnesses to aid the court in construing Rupprecht's ambiguous conduct and letter, justifies the conclusion that their testimony, if given, would have placed a construction on such ambiguous conduct or actions of the defendant unfavorable to the defendant's claim. *Interstate Circuit* v. *United States*, 306 U. S. 208.

NL that it could also assure IG that its interests "would be well taken care of" by NL (RE. 1485). DP therefore placed in the possession of NL an instrument of assurance which it knew was necessarily ambiguous in content and in addition thereto and in order to make doubly certain that the proper reply would be conveyed to IG, had authorized NL to assure IG that NL would look after IG's interests.

Armed with this authority which was apparently given in the several conversations which Rupprecht had with NL which are referred to in the Rupprecht letter to Thompson (RE. 1485), NL proceeded to amplify the Rupprecht letter of June 28 by its letter to IG dated July 12, set forth *supra*, pp. 24–27. This NL letter was obviously intended to clear up any ambiguities in the Rupprecht letter and fully to satisfy the IG request that DP "indicate in some form" that it would fully respect TG's territory. A copy of this letter was read by Rupprecht in NL's office and mailed to DP for its records (RE. 1490). DP therefore clearly knew about the NL letter of July 12, although a copy of it was never found in the DP files or records. Such knowledge is significant, and the inference to be drawn therefrom is an inescapable admission of guilt as to the intent and purpose of DP to commit itself to respect the territories of the foreign producers of NL.

NL was thus authorized by DP to vouch for its future conduct as being eminently satisfactory to

IG. The manner of taking the "obligation" was different from the written form required by the provisions of the 1920 agreement. There was, however, no doubt in the minds of the other members of the combination or in the mind of NL, the DP sponsor, that DP would respect the fundamental obligation of the members of the combine to each other and would not transgress their exclusive territorial rights. That DP was in fact a most satisfactory member appears from the statement of Jebsen of NL in 1940 that

> The cooperation with du Pont, as far as the European associates are concerned, has, however, been satisfactory in the years passed * * * (RE. 1956).

The record shows that whatever the DP policy may have been with reference to selling in foreign markets[15] it never did sell or export into the territories of other members of the combine. It did open up its know-how to them.[16] It did make

[15] Rupprecht indicated in February 1933 that DP had always been doing some export business and had shipped titanated lithopone to England and that DP had an office in Buenos Aires and one or more offices in Japan and China (RE. 1428). The Government contends that this indicates that DP's argument that it was not its policy to export is a specious one.

[16] There was no provision in Exhibit E for the granting or exchange of know-how for the foreign associates of NL. DP thus went outside the contract in this respect and did so immediately after the approval of Exhibit E by the foreign associates of NL. The Government contends this was a recognition by DP of a commitment by DP to "cooperate" with the combine, and evidences the existence of an "understand-

its patents and patent applications available to them on a royalty-free basis. In return it received the benefits of membership in the combine—an U. S. market free from any foreign competition, the know-how of the foreign associates of NL and access to their patents and patent applications on a royalty-free basis. What more could a full-fledged member give or receive?"

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ing" outside the provisions of Exhibit E between DP and the other members of the combine.

"DP suggests in its brief that Exhibit E was approved by the foreign associates of NL, including BTP, before its actual execution, and urges this as evidence that its action did not beget the approval of Exhibit E. The record shows the contrary to be true, as BTP approved Exhibit E on July 29 *on the basis of the DP letter of June 28 and the NL letter of July 12 to IG* (RE. 1984).

DP also argues at length in its brief that the court misconstrued its letter of June 28 to NL and that it merely put over a "clever business deal" with NL, its foreign associates and the Blumenfeld companies. The record belies this construction.

DP argues at length in its brief that Jebsen's oral testimony indicates that he was never able to get an agreement from Rupprecht in compliance with the requirements of the 1920 contract. It is, of course, not in dispute that DP did not express itself in writing to that effect for obvious reasons. Jebsen, a devotee of the written word, would have much preferred to have Rupprecht express himself in the clear and unequivocal language of the 1920 agreement, and would have been fully satisfied with no less (R. 1043). That Dr. Jebsen, a Norwegian, did not understand "a gentlemen's agreement" is shown by Dr. Thompson's statement as follows: "It appears to me that Dr. Jebsen cannot appreciate that a friendly and cordial relation with Krebs would take the place of specific legal obligations." (RE. 1443.) His testi-

5. The cooperation between DP and the members of the combination after the 1933 DP–NL contract clearly shows membership in and cooperation with the combine

The attitude of DP after the approval and execution of Exhibit E in 1933 toward the members of the combine and new risk capital entering the industry reflect DP's status with the combine. It cooperated with the foreign members of the combine in making its patents and know how available to them on a reciprocal basis and did not compete with them in their respective exclusive territories. Such conduct is more consistent with membership than nonmembership. Such conduct is particularly persuasive as indicating membership since DP did discriminate against new risk capital attempting to enter the industry.

It has already been shown that the European cartel agreements were made possible and were entered into after the 1933 agreement, between DP and NL, as approved by the foreign associates of NL, had been executed. It has also been shown that the Japanese and Canadian markets were

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mony on the trial—13 years after the approval of Exhibit E by IG, is in some respects in apposition to his written expressions as to the arrangement between DP and the foreign associates of NL previously referred to on page 31. To the extent that his oral testimony may be at variance with his written expression, it is submitted that the contemporaneous written expression of his understanding of the arrangement between DP and the other producers of titanium pigments is clearly the best evidence of that understanding.

completely organized by the combine *after* the '33 agreement. The complete elimination of all competitors in the Canadian market in 1937 and the joint control of that market by the Canadian vehicle of DP (CIL) and its American contract party NL amply protected the U. S. market and of course DP from any possible threat of competition from its closest potential competitor.

6. DP cooperated with foreign producers and members of the combine by exchanging "know how" with them

The record shows that the relations between DP and the foreign members of the combination after 1933 were those of cooperative members of the combine. DP permitted representatives of the foreign producers to visit their plants and secure the DP know-how. Raspe of TG visited the DP plant immediately after IG and TG had given their approval to the 1933 agreement.[18] In November 1933 Dr. Raspe was "spending all of his time in the Krebs plant learning all that they

[18] The Government contends that this is significant evidence that DP was giving the combine and its members its full cooperation, for if DP had no understanding with the foreign producers and had not joined the combination and was in fact a competitor, either actual or potential, of the combine, as argued by DP, it would not have permitted TG to have access to its plant know-how in the absence of an understanding "*in some form*" that it was not going to compete.

have therein" (RE. 1540). Dr. Kuhne of TG was likewise permitted to visit the DP titanium plants (RE. 1853). DP enjoyed similar privileges from the foreign producers. Dr. Booge of DP visited the plants of both the German and British companies in 1937 (RE. 1849). The know-how of DP was, therefore, directly available to the foreign associates of NL until the exchange of all technical information and experience between DP and NL was terminated in May 1940 (RE. 1841–1855, 1990, 3009). NL and DP also extensively exchanged know-how during this period (RE. 1841–1942, R. 903–4), thus aiding each other to establish their domestic market positions against any potential or actual domestic competition. This DP aid to the foreign producers was, of course, of comparable benefit to them in their respective exclusive territories.

Plant visits were denied members of the Blumenfeld companies by DP in 1938 (RE. 1861). This definitely disproves the DP contention that the "know-how" exchanged between DP and the other producers was available to anyone in the industry. The record fails to show that DP ever made its "know-how" available to anyone except NL and its foreign associates who had approved the 1933 agreement on the basis of the DP letter of June 28, 1933, and the NL letter accompanying it.

7. DP exchanged patents and patent applications with foreign producers on a royalty-free basis pursuant to an oral understanding

The patents and *patent applications* of the foreign associates of NL were likewise available to DP on a royalty-free basis after it had joined the combination in 1933, a fact which further shows DP's cooperation with the combine. Article V of the 1933 agreement gave NL's foreign associates the first rights to secure licenses on any foreign patents relating to the manufacture or use of titanium pigments which DP might secure in the territory of such foreign associates. DP, on the other hand, through NL, was entitled to similar rights on the foreign associates' patents in the United States. The basis under which these rights could be reduced to license form was left to negotiation under the 1933 contract.

The foreign associates of NL desired a general arrangement covering the exchange of patents between DP and themselves in order to eliminate the details of negotiating licenses under specific patents as required by Article V of Exhibit E (RE. 2989–3059). The District Court found that DP refused to make a *written*[19] general agreement for the

[19] DP also carefully refrained from keeping any written memoranda regarding the conferences in which the oral understanding was worked out. Rupprecht suggested to the Tinc representative, Kaegebehn, that he should not keep any written records of the conferences. Kaegebehn testified, "I recall Mr. Rupprecht cautioning me not to keep any

exchange of licenses on present and future patents with NL's foreign associates. As in the 1933 negotiations, they gave as their reason for refusing that such an agreement would be in violation of the antitrust laws (F. 89, R. 300). The District Court found, however, that DP did enter into an oral understanding with the foreign associates of NL whereby each of the parties agreed to exchange such of its patents and applications within the licensed field, as defined in the 1933 agreement, as might be desired by each from the other (F. 89, R. 301). Under the oral understanding such patents and applications as were desired by each were to be licensed to the other on a *royalty free basis* in separate annual license agreements. These licenses were to be exclusive except as to DP and in England as to ICI, but DP expressed the view that the reservation was without practical importance (F. 89, R. 300). The reservations were never utilized, so the licenses granted by DP were exclusive in fact as Rupprecht indicated they would be in his letter of June 28, 1933. He stated (RE. 1484):

> The whole agreement, you will recall, for definite reasons, was placed on a non exclusive basis * * * we believe there will be no difficulty in working out a solution that will be acceptable to all parties. It may well be that such negotiations will

notes on my conferences during 1937 and 1938" (R. 778). Although DP was subpoenaed to produce any memorandum concerning these negotiations, DP produced none (R. 781).

result in exclusive licenses to your foreign associates.[20]

The district court found that acting in accordance with the oral understanding, royalty-free licenses were exchanged between DP and NL's foreign associates in 1939, 1940, and 1941 and no licenses under the applications of NL's foreign associates were granted to any other producers in the United States except NL and DP (F. 90, R. 302).[21]

[20] That the DP patents which it made available to the foreign associates of NL were exclusive in practice cannot be lightly dismissed by DP. The DP argument that the oral understanding of 1938 was of no consequence is not sustained by the record when viewed in the light of the relationship between DP and other members of the combination *after* the 1933 agreement. The exchange of patents and patent applications between DP and the foreign members of the combination was obviously of definite value in furthering the objects and purposes of the combination throughout the rest of the world. On the other hand, the availability of the "know how" and patents of NL's foreign associates to DP was of inestimable value to it in enabling DP together with NL to secure, maintain, and guarantee their market position in the United States against all actual or potential competition.

[21] The existence of an oral understanding in which DP participated is another example of the cooperation between DP and the members of the combination *and of the form in which it was arranged for.* The cooperation necessarily could stem only from membership in the combination as cooperation does not generally exist between *bona fide* competitors in the absence of some kind of general understanding between them.

The licenses granted under the oral understanding were of great value to DP as 35% of its TiO_2 sales in 1941 were covered by licenses granted to DP by Tinc in 1941 (RE. 486, 3201, 3206). Since NL had to approve these licenses (F. 89, R. 301), it is hardly likely NL would have been thus aiding a competitor by giving its approval, if any competition likely to result therefrom might affect the price structure.

Under this oral arrangement DP deferred the inclusion of certain applications and patents in specific license agreements until it desired such application or patents to be included in certain cross licenses (RE. 3112, 3118, 3126, 3131). The patents and applications so deferred were, however, available to DP at all times for use even though not licensed. Among the patents and applications so deferred, but available to DP, were the Rutile pigment applications available to DP from June 1938, but not licensed to it until May 10, 1940 (RE. 3118, 3089).[*] The Government submits that such action of DP in thus selecting certain applications and patents for specific license agreements, although available to it at any time,

[*] The Rutile patents were Nos. 2,303,305, 2,303,306, and 2,303,307. In connection with these patents DP assured NL and its foreign associates in November 1938 that before it filed its patent application relating to the manufacture of Rutile it would consult with the representatives of NL's foreign associates in order to avoid interference proceedings with the Rutile pigment applications of NL's foreign associates (RE. 3089, 3096, 3097).

could only have been intended to make the licenses appear legal and to have been individually negotiated as distinct and separate transactions apart from the oral understanding pursuant to which they were actually made.

8. The DP foreign patents were used to prevent imports into the United States

It is also significant that the DP foreign patents were only sublicensed by NL's foreign associates if the sublicensee agreed not to export from the territory of the foreign associate (RE. 3148). Such action clearly shows that the DP foreign patents, which were made available to the foreign producers under the oral understanding of 1938, were used not only to protect the territories allocated to the producers under the various agreements but also to protect the United States market, and of course DP, from foreign competition. DP imposed a comparable restriction on the exportation by domestic purchasers of titanium pigments manufactured under patents licensed in the 1940 and 1941 DP–Tinc cross-licensing agreements (Exs. R and S, RE. 470–486). These cross licensing agreements provided for and were intended to restrict, the use and export by purchasers of titanium pigments manufactured under any of these patents (RE. 3132–

3139).[23] DP thus extended reciprocal protection to the foreign producers in these agreements.

It is accordingly submitted that commercial and technical relations between DP and NL as well as between DP and NL's foreign associates were on a most friendly and cooperative basis after Exhibit E was approved and executed. DP did exchange "know-how" with members of the combine. DP exchanged its patents and patent applications with NL pursuant to the 1933 agreement, and with its foreign associates pursuant to an oral understanding. Previous to the oral understanding of 1938 it had expressed its good will in a one-way royalty free license agreement of certain DP foreign patents (Ex. M, RE. 406). Such cooperation can hardly be said to be consistent with arm's length relations between actual or potential competitors. It could only result from membership in the combine.

9. The relations between DP and Zirconium and V. C.

It has been previously pointed out (*supra*, p. 19) that there was extreme doubt concerning the validity of many of the patents involved in this industry. The validity of none of these patents has ever been questioned in any court any-

[23] Mr. Hancock of the DP patent staff did not endeavor otherwise to explain or repudiate these restrictions nor did he testify concerning the 1938 understanding between DP and NL and NL foreign associates in which he participated (RE. 3077).

where in the world. That patents of doubtful validity may be a very effective weapon to suppress or deter potential competition, particularly in the hands of a corporation with vast financial resources, is obvious.

DP was not averse to using patents as a weapon. In December 1932, Rupprecht recognized that, of the four Auer patents owned by DP, "there was only one that we consider to be of any real value and even that is doubtful" (RE. 1585).[24] In 1933, he referred to the possibility that another Auer patent "might be a very valuable weapon in our hands" (RE. 1587).

In the license negotiations between DP and Zirconium in 1934 the record shows that Zirconium relied on the early Barton and Weintraub expired patents as prior art in opposing DP's claims of alleged infringement (RE. 4258). In these negotiations DP asserted Blumenfeld # 1504669 against Zirconium. This is one of the patents DP felt could be avoided or proved invalid before it acquired the patent with the assets of CP in 1931 and when it was in the same position as Zirconium was in 1934 (RE. 1029). DP also cited 1795467 (reissue 18854) against Zirconium (RE. 4263). This is one of the patents NL had stated might be valid "in respect to the operation of all others than ourselves and the du Pont Company" (RE. 1364, 1366). DP also cited 1633621

[24] The district court found the Auer patents were not of much consequence (F. 38, R. 249).

against Zirconium who argued that prior art anticipated this patent (RE. 4259). NL was of the same opinion in 1932 when it was asserted against it by DP, for it stated then that "It is well known that such solutions have been used since the manufacture of titanium pigments were placed on a commercial basis" (RE. 1356, 1365).

In view of the foregoing it is no wonder that Zirconium felt the industry was substantially patent free in 1934 (as Barton suggested it would be in 1932 (RE. 1249)), and advised NL in its negotiations with it that (RE. 1659):

> Many of these patents are very questionable where there is any invention involved due to the prior art and knowledge already existing. Of course, questions pertaining to the validity of these patents could only be settled by court action. Unfortunately there has been no litigation involving titanium oxide processes, and the validity of these patents has never been tested out in court.

DP admitted that it had no proof of patent infringement at the time Zirconium decided to accept a restricted license from DP on a royalty basis without "know how" and access to its future patents and applications on an exchange basis. The Executive Committee of DP advised the finance committee on July 18, 1935, that although it believed Zirconium has infringed some of the DP patents " * * * no proof is available, and it would be necessary to institute court inter-

rogatory proceedings against American Zirconium Corporation to develop definite proof" (RE. 1690).

DP restricted the production of its licensees, Zirconium and V. C., and to that extent restricted their capacity to compete not only with itself but also with N. L. The district court found that the DP licensees to Zirconium and V. C. had the necessary effect of restricting competition (Fs. 95–96, R. 304; F. 84, R. 296–7).

The restrictions which DP imposed on the productive capacity of Zirconium and V. C. effectively restrained and prevented them from increasing their productive capacity to a point where they could give DP any competition in either production or price. The DP restrictions not only prevented the development of the licensees as competition in the pure titanium dioxide field but also operated to prevent them from entering the composite pigment field. The restrictions imposed by DP were, therefore, of direct benefit to NL also. The licensees required Zirconium and V. C. to pay a royalty on all titanium dioxide irrespective of whether produced under the DP patents (F. 84, R. 295), and thus further restricted the ability of the licensees to compete by increasing their production costs through royalty payments.[25]

[25] The Government, in answer to DP's contention that the restrictions in the license agreements with Zirconium and FC are legal, contends that, as a matter of law, the quantity restrictions on production were illegal *per se* under the Sher-

DP refused to exchange future patents with Zirconium in its license with that company, although Zirconium had requested such a provision in the license. DP replied to the Zirconium request, "relative to your suggestion that provision be made to have our license include rights under any of our future patents in the titanium dioxide pigment field, and that we would also be granted rights under any of your patents now issued or which may be issued, we regret that this is not of interest or acceptable to us * * *, we are sorry that any blanket allowance rights under future patents cannot be considered by us * * *" (RE. 1674). It is submitted that the DP conduct in refusing the Zirconium request for a cross licensing agreement of future patents *comparable to that between DP and NL* shows discrimination by DP and its conduct is in sharp contrast and in direct opposition to its conduct and patent policy toward the other members of the combination. This refusal of DP answers their repeated contention that their license agreements promoted

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man Act. Restrictions in excess of the monopoly covered by a patent grant imposed on a license are illegal *per se* as a patent affords no immunity for a monopoly not within the grant. *Ethyl Gasoline Corporation* v. *United States*, 309 U. S. 436. The use of a patent grant to suppress competition in the sale of an unpatented article is unlawful. *Morton Salt Co.* v. *Suppiger Co.*, 314 U. S. 489.

The attempt of Du Pont to restrict the quantity of the unpatented products which the licensees could produce under the licensed process patents is beyond the limits of the patent grant and as such *per se* illegal. *American Equip. Co.* v. *Tuthill Building Material Corp.*, 69 F. 2d 406 (C. C. A. 7).

rather than restrained competition in this industry and shows that, although Zirconium took a license from DP, it did not get and could not get the kind of license it wanted.

The distinction between the Zirconium license and its license with NL is that the Zirconium license "* * * does not call for any exchange of information, know-how or *future developments* and is confined entirely to Krebs present issued patents in the pure titanium dioxide field" (Re. 1690).

It should be observed that DP admitted in 1940 that the frequent visits of NL to the DP plants resulted in bringing down NL's manufacturing cost to somewhere near the DP level (RE. 4317). No such privileges were, of course, accorded Zirconium and VC. They were thus deprived of the same ability to compete with DP as DP indicates was available to NL. This evidence further shows the value of "know-how" in this industry.

The record, therefore, clearly answers the DP contention that its treatment of the licensees, Zirconium and V. C., promoted rather than restrained competition, since DP refused to give them the same consideration that was given the members of the combination with whom DP says it had no arrangement,[26] and of which it contends

[26] DP even gave the foreign producers a royalty-free license on one of its foreign patents in 1937 for merely paying the upkeep costs on the patent (RE. 406).

it was not a member. If DP was not a member of the combination, as it contends, what reasonable and plausible explanation can it give for its sharply different and contrasting treatment between NL and the non-conspirator American producers? The fact that DP restricted the capacity of Zirconium and V. C. to compete in the pure TiO_2 field and excluded them from the composite field by limiting their productive capacity at a time when DP and NL were strengthening and establishing their market positions in both fields by increasing their plant capacities by additional construction as fast as possible, is reconcilable and consistent only with a finding of membership in the combination. Further the record is replete with evidence to the effect that DP's principal problem at the time the licenses were granted and while the restrictions were effective[11] was to find ways and means to construct and increase its plant capacity to a point where it could meet the increasing market demand for titanium pigment products. (R. 4396 and exhibits attached, R. 1162–1165).

DP admitted that as production increases the cost of production will ordinarily be reduced proportionately (R. 1171). It is submitted that the restrictions imposed by DP and its licensees were a most effective way of preventing them from

[11] DP cancelled all restrictions on the productive capacity of its restricted licenses in November 1944 after the instant case was filed and before trial (F. 85, R. 297).

ever reaching a position in this industry where they might be regarded as even potential competition to either DP or NL. It should not be overlooked that the industry was maturing while these restrictions were in effect and that DP as well as NL were establishing their market positions with the users of titanium pigments during this period. The fact that DP had over 80 research chemists working in this field alone (R. 1160) shows the importance which DP attached to this industry. It should require no extended argument to support the contention that the restricted licensees necessarily had no incentive to develop products through research in this industry when their production was so restricted that any developments would be of little import to them from a practical point of view."

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[28] DP argues that its restrictions were of no effect in restraining competition and contends that it frequently waived the production restrictions. The record shows that this magnanimity on the part of DP, amounted merely to the granting of permission to the licensees to lump their carry-over production in cases where they had not realized the maximum production allowed in any one year. Even then the DP permission was reluctantly given to Zirconium and Rupprecht wrote its licensee "* * * we must ask that in the future you strictly adhere to the maximum quantities specified in the contract" (RE. 1707). Management is obviously restricted in planning an efficient production and marketing program when it knows it cannot produce in excess of a stipulated quantity of the product it manufactures. The DP vice was in restricting the production of its licensees while it and NL were securely establishing their own manufacturing and marketing position in the industry, so they

It is accordingly submitted that the action of DP in imposing the restrictive provisions upon its two licensees, V. C. and Zirconium, definitely prevented the development of even any potential competition from these companies and prevented and still prevents them from effectively attacking the position of dominance enjoyed in the titanium pigment market today by both DP and NL. That DP and NL do enjoy a dominant position in the market cannot be denied. Together they produce 100% of the composite pigment and approximately 90% of the pure pigment sold in the American market. The position of dominance in the American market which DP and NL now enjoy is the result of their illegal action in combining together as well as cooperating with the other producers of titanium pigments throughout the world for the purpose and with the necessary effect of restraining foreign as well as domestic trade and commerce in this industry.

10. DP respected the territories of the foreign producers

DP admits that it did not export into the territories of the foreign members of the combine. It argues, however, that this is not to be con-

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could effectively dominate and control the price structure. Zirconium allowed 36,000 1935 through 1941, producing 29,676; VC allowed 23,500 Oct. 1937 to Dec. 31, 1941, producing 17,733. NL expressed the view in 1940 that a production of 10,000 tons a year was necessary for anyone to operate a new plant in this industry on a profitable basis. (RE. 3642).

strued as evidence that it made a commitment with the members of the combine to respect those territories.

It first contends that for business reasons it was not the policy of DP to export. This contention was lightly regarded by the district court for the reasons stated in its opinion (R. 217). In February, 1933, DP had no policy against exporting [29] (RE. 1428). DP then contends that it never had any products to export and that its productive capacity was always behind the market in the United States. This argument is specious. The undisputed facts show that DP did in fact export titanium pigments to every country in the Western Hemisphere (RE. 537–551). In addition, we

[29] NL wrote Jebsen, its foreign representative, in February 1933, that, "We have practically made up our minds that unless the Krebs Corporation in back of DP will agree not to sell for export out of the United States our cross license system cannot go into effect" (RE. 1422). DP objected to this because Rupprecht "said *they have always been doing some export business.* They have shipped titanite lithopone to England, have an office in Buenos Aires and one or more offices in Japan and China. He did not think they would want to accept the restriction proposed. He said that the legal department advised him that as long as this was a cross licensing agreement between two United States companies any restriction of territory might be considered in violation of law" (RE. 1428).

The record contains evidence of exports of American purchases of titanium pigments to markets in Asia and the policing of such exports by NL (RE. 3319–3329). The fact that such exports could be profitably made by purchasers of titanium pigments in the United States shows a manufacturer of the product such as DP could have sold in Asiatic and other markets at a profit.

submit that it cannot be argued, in view of the background and other evidence in this case, that it is a mere coincidence that DP's export market was in fact the same as that allocated to its contract partner and co-defendant NL under the 1920 agreement.

DP then contends that its failure to export is explained on the ground that the foreign patent situation prevented such exports. There are three answers to this attempted explanation: (1) The basic titanium patents expired in England in 1933 (RE. 791); (2) there are many countries in the territory of the foreign members of the combine in which there were no patents;[30] and (3) it is obvious that this argument did not prevent DP from exporting into the Canadian market even though it had no patents in that country (RE. 437).

The fact that it did not export to the exclusive territories of the foreign members of the combine cannot be lightly disregarded or explained on the grounds of DP business policy or foreign patent protection. We again submit that the record clearly supports a finding that DP joined the combination and made a commitment to respect the exclusive territories of the foreign producers whether it was in the form of assurances as found by the district court or by a tacit or oral understanding to that effect.

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[30] TG's territory, for example, included most of Europe and Asia (Ex. C–Cp, incl., RE. 46–87).

The DP attempt to explain their failure to compete in the territories of the foreign producers also falls in view of the recognition of such an understanding on the part of Rupprecht in 1936. He advised the president of NL in March 1936, by telephone that DP was filling a small order for export to England but "was inclined to send it as a sample, no charge; not wanting to have any question raised about their selling outside of the United States." This statement would have been unnecessary if there had been no understanding that DP was not to export (RE. 3300, F. 73, R. 289). The documentary evidence as to this in NL's files also shows what the 1933 negotiations made obvious, namely, that Rupprecht preferred oral understandings and conversations rather than written ones if the arrangement or conversation was likely to reflect a violation of the antitrust laws.

It is accordingly submitted that such evidence, together with the written summary of the titanium industry, as made by Jebsen in October, 1933,[11] and the oral understanding of 1938 cannot be likely dismissed by DP on the grounds urged in their brief. The evidence amply supports the district court's finding that a necessary effect

[11] In this summary Jebsen wrote, "It is understood that the Krebs Corps will not manufacture or sell outside the American Continent" (RE. 1533).

of the agreements and understandings it found to exist between DP and the other defendants and co-conspirators, was that DP refrained from exporting titanium pigments outside the Western Hemisphere and has refrained from competing outside the Western Hemisphere with any of its co-conspirators in their respective exclusive territories (F. 95–2, R. 304). The relations between DP and the other members of the combination *after* the 1933 contract, together with the specific evidence before discussed, adequately and substantially sustained the ultimate finding of fact that DP joined the combination.

11. Any competition existing in the titanium pigment industry in the United States is a co-operative competition between DP and NL and does not affect price

DP suggests that the 1933 contract promoted competition in the industry and relies on F. 78, R. 290, to support its contention. This finding cannot of course be isolated and read apart from the other findings and opinion of the court which are definitely adverse to DP.

It should be noted at the outset that DP produces many types of titanium pigments which are not produced by NL and which are therefore not in competition with NL products.[*]

[*] DP sells about 40 different kinds of titanium pigments (R. 1153). NL does not sell any titanium pigment which is

Further, price stability has existed and has been maintained in the American market since the 1933 agreement (F. 95, R. 304). Neither DP nor NL have any records showing the manner or method of arriving at its price lists (R. 1148), and DP purports not to know its exact costs (RE. 4317). Although the NL and DP productive capacity and the production in this industry have increased tenfold since the 1933 agreement, prices have only decreased from 17¢ a pound in 1933 to a low of 13¢ a pound in 1940 to 14½¢ per pound in 1941. The interest of DP in maintaining a high price for titanium pigments in order to protect its lithopone business was the principal reason for DP entering the titanium pigment business. The interest of DP in operating its lithopone plants on a profitable basis plus NL's natural desire to avoid price competition and the total lack of any actual or threatened competition from foreign or domestic producers necessarily operated to stabilize the price at which titanium pigments were sold in the United States.[32] The competition of VC and Zirconium, which DP's sales director of six weeks

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the commercial equivalent of 22 of these 40, and DP does not sell the commercial equivalent of three of NL's products (R. 1149).

[32] In 1931 representatives of DP stated to NL that "they had to keep at least a 2¢ a pound margin between the price of titanox and lithopone and, therefore, if we (NL) reduced the price of our titanium they would have to reduce the price of lithopone" (RE. 1067).

(R. 1152) called "tough", plainly was not sufficient to undermine the price structure. Both of these companies were themselves purchasers of titanium pigments from NL and DP, and together, undoubtedly as a result of restrictions imposed by the defendants upon their output, could only produce less than 10% of the total United States production of pure titanium pigments and no composite pigments whatever. While it is true, therefore, as claimed by DP, that the complaint in the instant case does not charge price fixing, one of the necessary effects of the 1933 and other agreements has been, as found by the court, to maintain and stabilize prices in this industry. Both DP and NL had obvious reasons, supported by the record, to maintain price stability and avoid price competition.

12. The district court properly held that du Pont had joined the conspiracy

Substantially all of DP's assignments of error are based on the contention that it was not a member of the conspiracy found by the lower court. The district court stated succinctly in its opinion the problem of DuPont's participation in the cartel as follows (RE. 213):

> The question is whether it [DP] succeeded in avoiding not only the form but also the substance of transgression.

The lower court, after painstaking review of the evidence, concluded that du Pont had not

avoided the substance of a violation of the anti-trust laws.

Defendant du Pont in its brief (pp. 53–63) has argued, somewhat ingeniously, that the form of transgression is lacking since no agreement to join the cartel was found by the lower court, but carefully avoids the lower court's findings relating to the substance of the violation. By careful excision of the district court's findings, defendant du Pont attempts to present a picture of unilateral action by du Pont which has been construed by the district court as the product of conspiracy (see pp. 54–55 of defendant du Pont's brief). A fuller quotation from the findings gives a more complete picture (R. 292–293):

> There is no evidence that Rupprecht remonstrated against the sending of Beschorman's letter to I. G. Krebs, and DP through Rupprecht acquiesced in and ratified the assurance made by Beschorman to IG as to territorial delimitations of the titanium pigment business. In acquiescing in such assurance that DP would not manufacture in or sell in TG's territory, DP was not making a promise; it was doing no more than giving expression to its then existing policy not to manufacture or sell in Germany and other TG territory. DP's aforesaid assurance in part formed the consideration for continued abstinence of the European producers from exporting to the United States.

IG construed the communications to mean that Krebs will loyally respect the territorial delimitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement between Tinc and TG; and in reliance thereon, withdrew its objections to the agreement Exhibit E. There is no evidence that the aforesaid construction was communicated to DP.

DP did not agree with TP or NL that it would refrain from exporting titanium pigments into TG's territory; but it assured TP and NL that, as a practical matter, such exports would not take place.

DP did not agree with TP or NL that it would grant NL's foreign associates exclusive licenses under DP's foreign patents; but it gave assurances that the practical effect of its conduct would produce substantially identical results as if it did so agree.

Tinc and NL's other foreign associates approved the agreement between TP and Krebs on the basis of the DP assurances.

NL agreed with DP that all of NL's titanium pigment business would be done exclusively through TP, and DP agreed with NL that it would only engage in the titanium pigment business through Krebs. The conduct of DP of its titanium business after January 1, 1936 through the Krebs Division of DP did not breach or violate this agreement or any assurances previously given by DP through Krebs.

DP, through Rupprecht and Krebs, by these assurances *and Exhibit E,* joined the conspiracy found herein to exist between NL and its associates. DP's status, rights and obligations were different from those of the other members of the combination. DP did not thereafter withdraw. [RE. 287–289.] [Italics supplied.]

The necessary effects of the agreement Exhibit E and of DP assurances have been—

* * * * * *

(3) To give NL and DP together domination and control over the titanium pigment business in the United States.

(4) To remove obstacles from the execution of the TG-Aussig agreement—Ex. G, the Blumenfeld agreements G–1, G–2, G–3, the Japanese agreement Ex. J, the Canadian agreement Ex. K and the price agreement between BTP and Laporte for the British Empire.

(6) To restrict and obstruct exports from the United States outside of the Western Hemisphere.

(7) To restrict and obstruct imports into the United States. [R. 292–3.]

A reading of Finding 73 (R. 280–289) demonstrates that the lower court used the word "assurances"[34] not to denote that there was no under-

[34] Webster's New International Dictionary, Second Edition, "Assurance—Act of assuring, as by personal engagement; a pledge or guarantee; also, a declaration tending to inspire full confidence."

standing or meeting of the minds between du Pont and the other conspirators, but merely that du Pont had not made binding commitments or contracts which the other conspirators could enforce against it. du Pont's argument that the court erred in finding that it joined the conspirators resolves itself into the contention that because the lower court did not find agreement by du Pont to refrain from exporting and to grant exclusive licenses to NL's foreign associates, a finding by the court that du Pont in fact joined the conspiracy must be error. This hypothetical argument ignores the concrete results of the agreement embodied in Exhibit E that in fact du Pont gave assurance [25] that it would not export to or manufacture in various foreign countries, knowing that the foreign conspirators would not import into or manufacture in the United States; that in fact DP thereafter did not export to the exclusive territories of the foreign producers and gave licenses exclusive in effect to NL's foreign associates. This unrefuted evidence demonstrates conclusively that it was no offhand expression of a unilateral policy that DP made to NL and its foreign associates. Nor should it be overlooked that IG, the powerful chemical trust of Germany,

[25] An important fact is that the letter from National Lead to IG which on its face indicates that du Pont was cooperating with the cartel not only was shown to Rupprecht by National Lead but a copy sent to du Pont. du Pont here argues that since neither Rupprecht nor Beschorman were able to testify, there is no proof that Rupprecht acquiesced in the

had vigorously disapproved the proposed cross-licensing agreement between NL and du Pont, since it departed from the restrictions imposed upon other cartel members. Yet, after the assurances made by du Pont were transmitted to IG, it withdrew its opposition and thereafter both du Pont and IG conducted themselves in accordance with the understanding. (RE. 282–288.)

Although the lower court did not go so far, it is clear that there was abundant and sufficient evidence for a finding that du Pont by agreement, partially written and partially oral, joined the existing conspiracy in 1933 (*Interstate Circuit* v. *United States,* 306 U. S. 208; *American Tobacco Co.* v. *United States,* decided June 10, 1946, Nos. 18–20, last Term), and that du Pont's subsequent conduct resolves any conceivable doubt as to its participation in the cartel. Indeed, it seems clear that the lower court leaned over backwards in resolving any inferences to be drawn from the evidence in favor of defendant du Pont. The fact that du Pont had full knowledge that an illegal conspiracy was in existence, that it was invited

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letter rather than objecting to it. But clearly du Pont did not object in writing to the letter even after a copy was sent to it, and just justifies an inference that du Pont did not regard the letter as inaccurately stating its true position. That this inference is a proper one is corroborated by the fact that National Lead and IG interpreted the correspondence as indicating that du Pont intended to cooperate, and that in fact du Pont's subsequent conduct was entirely consistent with this interpretation.

to participate in the illegal activities of the cartel, that it entered into a licensing agreement with the cartel (assuming *arguendo* that Exhibit E is legal on its face), knowing that it would further the purposes and objectives of the conspiracy, that du Pont received all the benefits of the conspiracy, would ordinarily be sufficient to justify a finding that du Pont became a member of the conspiracy. *United States* v. *Masonite Corp.*, 316 U. S. 265, 275; *Interstate Circuit* v. *United States*, 306 U. S. 208. This conclusion can be reached quite apart from any consideration of the assurances given by du Pont at the time of the execution of Exhibit E.

The simple answer to du Pont's contention that the "assurances" were made to mislead the cartel members and were never commitments on du Pont's part is found in in the fact that du Pont carried out the assurances and enjoyed the fruits of the conspiracy. Later-day declarations by du Pont to the contrary are sufficiently answered by the fact that they "must be held to have intended the necessary and direct consequences of their acts and cannot be heard to say the contrary." *United States* v. *Patten*, 226 U. S. 525, 543.

Defendant du Pont seizes upon the failure of the lower court to use the word "agreement" in its findings, and argues from this that the use of the word "assurances" is not sufficient to justify a finding of participation by du Pont in the conspiracy. Quite apart from the fact that the evidence demonstrates that du Pont gave its "in-

formed and interested cooperation," *Direct Sales Co.* v. *United States*, 319 U. S. 703, 713, and that by its assurances a meeting of the minds in fact resulted, defendant DuPont errs in its interpretation of conspiracy law. In the *Interstate Circuit* case, *supra*, the late Chief Justice carefully disposed of a similar contention, stating (pp. 226–227):

> While the District Court's finding of an agreement of the distributors among themselves is supported by the evidence, we think that in the circumstances of this case such agreement for the imposition of the restrictions upon subsequent-run exhibitors was *not* a prerequisite to an unlawful conspiracy. * * *
>
> It is elementary that an unlawful conspiracy may be and often is formed without simultaneous action or agreement on the part of the conspirators. [Citing cases.] Acceptance by competitors, without previous agreement, of an invitation to participate in a plan, the necessary consequence of which, if carried out, is restraint of interstate commerce, is sufficient to establish an unlawful conspiracy under the Sherman Act. *Eastern States Lumber Assn.* v. *United States*, 234 U. S. 600; *Lawlor* v. *Loewe*, 235 U. S. 522, 534; *American Column Co.* v. *United States*, 257 U. S. 377; *United States* v. *American Linseed Oil Co.*, 262 U. S. 371. [Italics supplied.]

This language was cited with approval and applied in *United States* v. *Masonite Corp.* 316 U. S. 265, 275.

More recently, in *United States* v. *Bausch & Lomb Co.*, 321 U. S. 707, 723, the Court, holding that there was a conspiracy between Soft-Lite and various optical wholesalers, reaffirmed the principle plainly expressed in the *Interstate Circuit* opinion in saying:

> • • • Whether this conspiracy and combination was achieved by agreement or by acquiescense of the wholesalers coupled with assistance in effectuating its purpose is immaterial.

DP attempts to nullify the effect of the *Interstate Circuit* and *Masonite* decisions by the assertion that in truth the Court merely held in those cases that in the circumstances recited, an agreement could be implied. Not only is this construction contradicted by the express language of the court, but in the *Interstate Circuit* case, the Court indicated that the finding of conspiracy would be justified even if the evidence had not supported the finding of an agreement among the distributors, and in the *Masonite* case, *supra*, the opinion states that there was an illegal price fixing combination.

> • • • though the District Court found that, in negotiating and entering into the first agreements, each appellee, other than Masonite, acted independently of the

> others, negotiated only with Masonite, desired the agreement regardless of the action that might be taken by any of the others, did not require as a condition of its acceptance that Masonite make such an agreement with any of the others, and had no discussions with any of the others * * * [pp. 275].

The lower federal courts have also recognized that the absence of an agreement does not preclude a finding of unlawful conspiracy. *United States* v. *Paramount Pictures,* 66 F. Supp. 323 (S. D. N. Y.). In *William Goldman Theaters* v. *Loew's, Inc.,* 150 F. 2d 738, 745 (C. C. A. 3), the court announced that:

> * * * Uniform participation by competitors in a particular system of doing business where each is aware of the other's activities, the effect of which is restraint of interstate commerce, is sufficient to establish an unlawful conspiracy, under the statutes before us * * *.

In *United States* v. *Tuffanelli,* 131 F. 2d 890, 893 (C. C. A. 7), the court held that a verdict of guilty on a conspiracy charge was justified by the evidence, since it was not

> * * * necessary to establish that the acts of the defendants were pursuant to mutual agreement. It is enough if the proof shows that two or more persons, in voluntary cooperation, have participated in an enterprise which necessarily involves the commission of an indefinite number

of substantive offenses, *United States* v. *Wroblewski*, 7 Cir., 105 F. 2d 444.

It is also a well established principle that one who knowingly aids or cooperates in furthering an unlawful conspiracy, thereby becomes a party to it. *Martin* v. *United States*, 100 F. 2d 490 (C. C. A. 10), certiorari denied, 306 U. S. 649, 651; *Beard* v. *United States*, 82 F. 2d 837 (App. D. C.), certiorari denied, 298 U. S. 655; *Capriola* v. *United States*, 61 F. 2d 5 (C. C. A. 7), certiorari denied, 287 U. S. 671; *Coates* v. *United States*, 59 F. 2d 173 (C. C. A. 9); *Parnell* v. *United States*, 64 F. 2d 324 (C. C. A. 10); *Booth* v. *United States*, 57 F. 2d 192 (C. C. A. 10); *Di Bonaventura* v. *United States*, 15 F. 2d 494 (C. C. A. 4); *Simpson* v. *United States*, 11 F. 2d 591 (C. C. A. 4), certiorari denied, 271 U. S. 674; *Allen* v. *United States*, 4 F. 2d 688 (C. C. A. 7), certiorari denied, 267 U. S. 597, 598; *Rudner* v. *United States*, 281 Fed. 516 (C. C. A. 6), certiorari denied, 260 U. S. 734.

This rule was applied to a Sherman Act conspiracy in *United States* v. *Standard Oil Co.*, 152 Fed. 290 (E. D. Mo.), where the court stated at 294:

> * * * One who learns of a conspiracy after it is formed, and then joins it, or knowingly aids in the execution of its scheme, and shares in its profits, becomes from that time as much a co-conspirator as if he were one of those who originally designed it and put it in operation [cases cited].

Although many conspiracy cases do speak in terms of agreement, express or implied, analysis of these cases shows that what was meant was nothing more than knowing cooperation in the furtherance of the illegal scheme. *Eastern States Retail Lumber Dealers' Assn.* v. *United States*, 234 U. S. 600; *American Column Co.* v. *United States*, 257 U. S. 377; *Direct Sales Co.* v. *United States*, 319 U. S. 703.

These decisions should dispose of du Pont's contention. du Pont accepted an invitation to participate in a plan the necessary consequence of which was restraint of interstate and foreign commerce. du Pont acted in accordance with its assurances and the other conspirators relied upon such assurances and acted in accordance therewith. du Pont received the benefits of the conspiracy. It hardly lies in the mouth of defendant du Pont now to argue that it entered the cartel with its fingers crossed. The Sherman Act is concerned with substance, not with form, *Standard Oil Co.* v. *United States*, 221 U. S. 1; insofar as the Sherman Act is concerned, the result must turn not on the skill with which counsel has manipulated language but on the significance of the business practices in terms of restraint of trade. *United States* v. *Masonite Corp.*, 316 U. S. 265, 280. The context of the lower court's opinion and findings makes clear that the "assurances" were conspiratorial in nature and resulted in concerted action violative

of the Sherman Act. Exercises in semantics must not be allowed to subvert enforcement of the Sherman Act.

13. The trial court was correct in holding Exhibit E to be an unlawful agreement and that Standard Oil Company (Indiana) v. United States, 283 U. S. 163, does not hold to the contrary

du Pont concedes that this agreement was found by the District Court to be unlawful (p. 94). If this finding is correct, du Pont's guilt is conclusively established, quite apart from its participation in the illegal international cartel and du Pont has therefore assumed the burden of overturning this finding as well as the finding of participation in the cartel. Its entire attack on this finding (pp. 85–107) is based upon a discussion of selected innocent circumstances preceding the making of the agreement coupled with the assertion that the court's finding of illegality was based upon the presence of three provisions respectively relating to future patents, technical exchange, and tonnage limitations, which were also present in *Standard Oil Company (Indiana) v. United States*, 283 U. S. 163[*] (the *Cracking* case). The fact that the parties to the agreements in the *Cracking* case were there found not guilty of violating the Sherman Act is then

[*] The Government had not based its claim of Sherman Act violation in the *Cracking* case upon the presence of such provisions.

said to be conclusive upon the liability of du Pont in this case.

du Pont argument ignores the fact that the finding of illegality in this case was necessarily based upon unreasonably restrictive effects flowing from the making of this agreement as revealed by the record made in this proceeding. The provisions referred to in du Pon'ts brief were merely recited in the court's findings. The findings which made this agreement illegal are those relating to the agreement itself (F. 79, R. 291–293), together with the finding (F. 95, R. 303–306) as to the effects of the agreements and understandings between the defendants, which, of course, includes this basic agreement. The later finding which sets forth in detail the effects necessarily flowing from the agreements previously found, including Exhibit E, states that "NL and DP control and dominate the manufacture and sale of titanium pigments and compounds in the United States to the exclusion of all actual or potential competitors" and that they "secured a monopoly of technical information" relating to the titanium business "to the exclusion and detriment of other producers" (R. 304–305). There were, of course, no such findings in the *Cracking* case, since the defendants in that case had not achieved by means of the challenged cross-licensing agreements, or otherwise, a collective position in the gasoline industry remotely

approaching that of either du Pont or national Lead in the industry here involved."

The preceding discussion in this brief of the facts in the record regarding du Pont's participation in the violations charged is sufficient to establish the validity of the findings as to the effects of this agreement. In the *Cracking* case, after pointing out that a pooling of process patents where domination exists (p. 174) or a cross-licensing agreement used to effect a monopoly (p. 175) would violate the Sherman Act, the Court said, "We must, therefore, examine the evidence to ascertain the operation and effect of the challenged contracts" (p. 175). Thus, du Pont's attempt to convert the question of the validity of this agreement into a matter of abstract law by reliance on the *Cracking* case fails at the outset. When the findings in this case as to the effects of the agreement are compared with the Court's conclusions in the *Cracking* case that the evidence there showed "no monopoly, or restriction of competition," in the production (p. 177) or sale (p. 178) of gasoline and that "no monopoly of any kind, or restraint of interstate commerce, has been effected either by means of

[37] As the Supreme Court said in the *Cracking* case (283 U. S., at 176): "The output of cracked gasoline in the years in question was about 26 percent of the total gasoline production. Ordinary or straight run gasoline is indistinguishable from cracked gasoline and the two are either mixed or sold interchangeably."

the contracts or in some other way" (p. 179), the attempted analogy becomes absurd.

It is immaterial for present purposes whether Exhibit E would be illegal in isolation. The setting and effect of the agreement in conjunction with other understandings and the conduct of the parties unquestionably brings the case within the caveats in the *Cracking* case that patent pooling agreements where domination exists (which obviously means domination outside of the agreement) or which effects a monopoly would be unlawful.

Even without consideration of the actual exclusionary and monopolistic effects of this agreement found by the court below, it is apparent that the mere making of such an agreement by two parties who themselves represent the sole domestic possessors of patent rights and technology required to engage in a particular industry could never be justified under the Sherman Act. Obviously, those who dominate an industry are under different Sherman Act disabilities in dealing with each other than those who are merely seeking a competitive foothold. The agreement on its face was one which embraced entire fields of business activity in which there were then no domestic competitors of the parties and was by its express terms an obvious device for preventing the entrance of potential competitors into the fields covered, except on terms fixed by the defendants. The permanent nature of the licenses granted, the

wide scope of the present and future patent coverage, and the complete inclusion of all technical data relating to the field covered, regardless of its application to any particular patent licenses, all show that the parties must have contemplated exactly the result that the evidence showed they achieved. When an agreement of this character, made by such parties, is coupled with a record of performance showing that the contemplated exclusionary effects were actually achieved, there can be no question as to its illegality. The *Cracking* case supports this conclusion rather than the contrary.

II

THE PROVISION OF PARAGRAPH 7 REQUIRING DU PONT AT THE REQUEST OF A LICENSEE UNDER PARAGRAPH 7 TO IMPART IN WRITING THE METHODS AND PROCESSES USED BY IT IN ITS COMMERCIAL PRACTICE UNDER THE LICENSED PATENTS WAS NEITHER BEYOND THE POWER OF THE DISTRICT COURT NOR AN ABUSE OF DISCRETION

Du Pont requests elimination of the requirement that it must, at the request of a licensee under paragraph 7, impart in writing, at a reasonable charge, the method and processes used by DP at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments. The Government in No. 89 has contended that this provision should be amended to provide access to the entire technology of the industry. Brief

pp. 127–131. The argument in support of that contention answers most of the arguments now made by du Pont. We will here consider only arguments not answered in our brief in No. 89. It is important to note that DP agrees that the possession of this technology is a competitive advantage (DP Br. 115–116) and that in an infant industry competition will benefit by access to the technology of competitors (*ibid.* 115–119). Its further statement that this is a mature industry disregards the obvious fact that while it may be mature as to the defendants it is, as a result of the unlawful conspiracy, an infant industry to all others.

While vigorously contending that it would have been impossible for it to have entered the industry in competition with National Lead without access to the technology of National Lead (DP Br. 119), DP asserts that any who now wish to compete with DP and NL can do so effectively without access to the technology which they have accumulated. It implies, without stating, that this technology is now readily available to all (DP Br. 115). There is nothing to support this implication in the record, and it strains credulity to believe that this valuable and closely guarded secret has been revealed. Moreover, it can find no support for its contention in the fact that Zirconium and VC have been able to operate without access to its technology. The District Court specifically found that the defendant's

monopoly of technology was to the exclusion and detriment of the other producers engaged in the titanium pigment business in the United States (R. 305).

That DP did not exchange technology with its co-conspirators after 1940 does not militate against compulsory disclosure. Basically, the relief requested is predicated upon the fact that access to this technology is essential to dissipate the effects of the conspiracy. Its availability does not turn upon a showing that it was acquired as the product of an unlawful agreement. However, it is obvious that a vast amount of DP's current technology was acquired as a result of the unlawful combination and that this information was a prerequisite to any additional technology DP may have acquired since 1940. Moreover, even if there was any basis for treating DP's after-acquired technology on a different basis, the fact remains that it is utterly impossible to segregate the technology acquired as a result of the conspiracy and that technology which is in no way dependent upon that acquired prior to 1940. Since no segregation can be made, under settled principles of law all the technology must be similarly treated. See brief for the United States No. 89, pp. 118–121.

DP argues that a court of equity will not exercise its discretion to prevent irreparable injury when it is impractical to determine if there has been compliance with its order. We do not

find persuasive the notion that DP should not be required to divulge technology acquired, at least in large part, as a result of an unlawful conspiracy when necessary to dissipate the effects of its unlawful conduct, on the ground that a court would find it difficult to determine if du Pont was complying in good faith with the court's order. But, in any event, the suggested practical difficulties do not exist. Much of the technology obviously does not and cannot reside exclusively in the minds of DP's employees; and there would be no problem in determining if this technology were made available. As to that in the minds of defendant's employees, the capacity of the technology divulged to produce that which DP itself produces furnishes an adequate test. Moreover, a mere inspection of the plant and operations of DP by a skilled technician would quickly detect an incomplete or inaccurate disclosure. Finally, we suggest that the problem of enforcement is one which arises only in the course of enforcement proceedings, and, to the extent that enforcement is difficult, the Government rather than DP is hurt.

DP's contention that a court is without power to compel disclosure of technology is based primarily upon the decision of this Court in the *Hartford Empire* case, 323 U. S. 386. The Government's views with respect to this decision and the effect which should be given to it are set forth

in its brief in No. 89, pp. 104–123, 130, and will not be repeated here.

III

THE PROVISIONS OF PARAGRAPHS 5 AND 6 OF THE JUDGMENT DO NOT UNDULY RESTRICT NATIONAL LEAD'S RIGHT TO CONTRACT

Defendant NL contends that paragraphs 5 and 6 of the judgment, quoted below, should be amended by deleting the italicized words and inserting the capitalized word:

> 5. The following agreements are hereby adjudged to be unlawful under Section 1 of the Sherman Act and each of them is hereby cancelled *and the defendants and each of them and all persons acting or claiming to act throu[illegible], for or under them and all successors and subsidiaries of any of the defendants are hereby enjoined and restrained from the further performance of any of the provisions of said agreements and of any agreements amendatory thereof or supplemental thereto:* [followed by a list of the cancelled agreements].
>
> 6. Each of the defendants and each of their directors, officers, agents, employees, successors and subsidiaries and all persons acting, or claiming to act under, through or for them or any of them are hereby enjoined and restrained (a) *from entering into, adhering to, maintaining or furthering, directly or indirectly, or claiming any rights under any contract, agreement, understanding, plan or program among them-*

selves, the co-conspirators, or with any other person, partnership or corporation, which has as its purpose or effect the continuing or renewing of any of the agreements listed in paragraph 5 hereof; (b) from entering into, adhering to, maintaining or furthering, directly or indirectly, any contract, agreement, undertaking, plan or program with any other producer or dealer relating to titanium pigments which has as its purpose or effect (1) to divide sales or manufacturing territories, (2) to allocate markets, (3) to limit or prevent United States imports or exports, (4) to grant to any third party any market as its exclusive territory, (5) to keep any third party out of any market; provided, however, that nothing contained in this subdivision (b) of this paragraph 6 shall prohibit any normal and usual arrangements between any defendant and its directors, officers, employees, agents, subsidiaries, or any PRODUCER, dealer, or distributor, whether or not a co-conspirator; (c) from restricting any purchaser of titanium pigments in the use thereof.

These paragraphs go no further than is reasonably necessary to grant effective relief. The contracts enumerated in paragraph 5 were some of the instrumentalities through which the international cartel was created and the defendants' power to dominate and control the interstate and foreign commerce of the United States in titanium pigments was acquired. That these contracts,

specifically found to violate the Act (R. 310–311), a finding not challenged in this Court, should be cancelled is conceded by NL and beyond dispute. To implement that cancellation, the judgment enjoins the further performance of any of the provisions of the cancelled contracts. It also enjoins the further performance of any existing agreement amendatory of or supplemental to any of the cancelled agreements. This implementation was necessary to insure that all existing agreements should henceforth be unenforceable and also to create a sanction against disregard of the order of cancellation. Since this paragraph deals solely with the future enforceability of existing contracts, NL's contention that the deletion of the italicized portion is necessary in order to remove barriers to future contracts is incorrect.

Paragraph 6 deals with future contracts. Clause (a) enjoins the defendants from entering into or adhering to any agreement, plan or program "which has as its purpose or effect the continuing or renewing of any of the agreements" enumerated in paragraph 5. Since the enumerated agreements were found to violate the Act, this provision can impose no unjustified restriction on NL's power to contract.

NL's contention that the proviso in clause (b) of paragraph 6 should be amended to include producers, is based upon vague unsupported allegations of hardship. Such allegations furnish no basis for a conclusion that that district court abused

its discretion. If, at some future time, National Lead can demonstrate that its right of contract has been unduly restricted, it may apply to the district court for a modification of the judgment.

IV

THE TRIAL COURT DID NOT ABUSE ITS DISCRETION IN REFUSING TO PERMIT NL AND ITS FOREIGN CO-CONSPIRATORS JOINTLY TO OWN FOREIGN PRODUCERS OF TITANIUM PIGMENTS

Defendant NL contends that the provisions of paragraph 8 of the judgment are an abuse of the trial court's discretion and should be eliminated (NL Br. 64, 99). This paragraph requires NL and Tinc, within one year from the date of the judgment, to present to the Court a plan for divesting themselves, within two years, of all their stockholdings and other financial interests in the British, Canadian, German, and Japanese companies, or for the purchase of the entire holdings and other financial interests of the foreign co-conspirators in these companies (R. 314).[38]

The circumstances under which the stock and other financial holdings in these companies were acquired are set forth in detail in the Statement in the brief for the United States in case No. 89, this Term, pp. 16–22. Briefly stated, these holdings were acquired in consummating a plan to

[38] NL states that it has entered into an agreement to purchase all of the stock of CTP and, therefore, consideration of the relationship between NL and CTP has been taken out of this case (NL Br. 66).

utilize TAS (the predecessor of Tinc) and its rights under the 1920 contract further to control competition in all markets of the world, including competition in the interstate and foreign commerce of the United States. The plan was as follows: TAS was to form in each of the important industrial countries, in association with a local company which contemplated the manufacture or sale of titanium pigments or which could contribute to the commercial or technical development or which threatened to be a serious competitor of NL or TAS, a new company in which NL or TAS was to have a part interest. Each company so formed was to be given as its exclusive territory a portion of the territory assigned to TAS by the 1920 agreement and was to refrain from competing with NL in its exclusive territory or in the exclusive territory of any other company associated with NL. All of the present and future patents of NL or TAS or of any of the companies associated with either in the formation of such new companies, as well as those of the new companies to be organized, were to be licensed exclusively to NL for North America and to the new companies to be organized for their respective territories and to TAS for the rest of the world. Pursuant to this plan, TAS entered into agreements with the most important potential competitors in Germany, England, Canada, and Japan, which resulted in

the formation and joint ownership of TG, BTP, CTP, and TK.

The trial court found that these agreements were in violation of the Act and ordered them canceled (R. 310–311). However, the consummation of the plan with the resulting joint ownership of the foreign producers created a condition inherently destructive of competition. The foreign co-owners will not otherwise enter into the business so long as they are substantial owners in a company engaged in the titanium pigment business; a jointly owned company is not likely to export to the United States to compete with NL, the owner of a substantial block of its shares, and NL will not export to markets now served by its affiliated jointly owned companies. Indeed, it is difficult to believe that NL would be so intent upon remaining a co-owner of these companies if it expected serious competition to arise between it and them or between them.

The Government contended below that these jointly owned foreign competitors, having been formed for the purpose and having the necessary effect of suppressing competition with the defendants in the interstate and foreign commerce of the United States, should be freed from the influence of National Lead. It therefore requested divestiture by National Lead of its stock interest in these jointly owned companies. The trial court granted this request but permitted NL, as an alternative to divestiture, to

purchase the entire remaining financial interests of its co-conspirators in the jointly owned companies. This alternative was apparently permitted upon the theory that adequate relief would be afforded if the association or community of interest between NL and its co-conspirators was terminated. The effect of this was to permit National Lead to continue to control the major foreign producers of titanium pigments and to exclude competition from foreign producers unless and until National Lead's foreign partners should organize new companies to engage in the titanium pigment business.[*]

Defendant NL now contends that it was an abuse of discretion to prohibit continued joint ownership of the foreign producers. It argues that nobody can assert with assurance that the prohibition will, in fact, stimulate foreign trade (NL Br. 51). But it would not be material if foreign competition could not be assured. There are few cases in which a court can compel or assure competition, especially when the potential competitor is located in a foreign country. Yet this does not relieve the court from the duty to remove unlawfully created obstacles to the rise of competition or terminate an unlawful association of competitors. The very theory of the Act is that in the absence of unlawful restric-

[*] Although not persuaded that this is a proper provision, the Government has not assigned it as error and will not attack it in this case.

tions the profit motive will develop competition. In this connection it is material that continued joint ownership will, as we have shown, substantially prevent the development of future competition from the foreign producers. Certainly a court does not abuse its discretion when it refuses to foreclose the competition the Act was designed to promote.

As a supplemental argument National Lead contends that the injunctive relief granted by the judgment would eliminate the evil of joint ownership. This contention disregards the obvious fact that restraint is inherent in the arrangement, and that agreements such as those proscribed by the judgment are unnecessary. But apart from this consideration, entering into such agreements would be facilitated and their detection rendered virtually impossible by continued joint ownership, since the books, records of shipments, and other relevant data would be located in a foreign country beyond the jurisdiction of the court. Under these circumstances it is not an abuse of discretion to prohibit joint ownership. As this Court said of an analogous situation in *United States* v. *Crescent Amusement Co.*, 323 U. S. 173, 189–190:

> The fact that the companies were affiliated induced joint action and agreement. Common control was one of the instruments in bringing about unity of purpose and unity of action and in making the con-

> spiracy effective. If that affiliation continues, there will be tempting opportunity for these exhibitors to continue to act in combination against the independents. The proclivity in the past to use that affiliation for an unlawful end warrants effective assurance that no such opportunity will be available in the future.

National Lead suggests that an American concern can most satisfactorily engage in business in foreign countries by combining with foreign concerns to create a joint enterprise. From this it argues that such arrangement should be regarded as one of the "normal and usual" commercial arrangements for expanding trade which this Court said were exempted from the Act by the so-called "rule of reason." We do not agree that the "rule of reason" can be invoked to legitimatize arrangements so contrary to the basic policy of the Act. However, it is not necessary to determine this question. The issue here is the quantum of relief the trial court was justified in granting to dissolve and to dissipate the effects of an unlawful combination and not whether the series of partnership arrangements standing alone would be unlawful. As Mr. Justice Douglas stated in his concurring opinion in *Associated Press* v. *United States*, 326 U. S. 1, 24:

> * * * it is well settled that a feature of an illegal restraint of trade, which is innocent by itself and which may be lawfully used if independently established, may be

> uprooted along with the other parts of an illegal arrangement. *Ethyl Gasoline Corp.* v. *United States*, 309 U. S. 436, 461; *United States* v. *Univis Lens Co.*, 316 U. S. 241, 254.

United States v. *Bausch & Lomb Co.*, 321 U. S. 707, 724, is to the same effect. In this connection it is apparent that the joint ownership of these companies was promoted for an illegal purpose, was an integral part of the unlawful combination, and, if permitted to continue, will perpetuate some of its unlawful effects.

NL's contention that the prohibition against joint ownership will cause it a pecuniary loss rests upon the bare unsupported assertion that NL will not receive the full value of its shares in BTP. Moreover, if this were true, there is no way of accurately measuring the loss of NL since it cannot be shown how much of the present value of the shares is the product of the illegal combination. But even if NL will suffer a loss, this is no reason for voiding the order of the trial court. In *United States* v. *Crescent Amusement Co.*, 323 U. S. 173, 189, this Court said, in overruling a contention that divestiture should not be granted:

> Those who violate the Act may not reap the benefits of their violations and avoid an undoing of their unlawful project on the plea of hardship or inconvenience.

See also Brief for the United States in No. 89, this Term, pp. 114–117.

CONCLUSION

For the above reasons it is respectfully submitted that the exceptions raised by the defendants to the judgment below are without merit.

Respectfully submitted.

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SUPREME COURT OF THE UNITED STATES

Nos. 89, 90, 91.—October Term, 1946.

The United States of America, Appellant, 89 v. National Lead Company, Titan Company, Inc., and E. I. du Pont de Nemours and Company.	On Appeals from the District Court of the United States for the Southern District of New York.
National Lead Company, and Titan Company, Inc., Appellants, 90 v. The United States of America.	
E. I. du Pont de Nemours and Company, Appellant, 91 v. The United States of America.	

[June 23, 1947.]

Mr. Justice Burton delivered the opinion of the Court.

This action was brought by The United States of America, June 24, 1944, in the District Court of the United States for the Southern District of New York, against National Lead Company (a New Jersey corporation, here called National Lead or NL), its wholly owned subsidiary, Titan Company, Inc. (a Delaware corporation, here called Titan Inc. or Tinc) and E. I. du Pont de Nemours and Company (a Delaware corporation, here called du Pont or DP). It is a proceeding in equity instituted under § 4 of the Sherman Antitrust Act, 26 Stat. 209, 36 Stat. 1167, 15 U. S. C. § 4, to prevent and restrain alleged violations of §§ 1 and 2 of that Act, 26 Stat. 209, 50 Stat. 693, 15 U. S. C. §§ 1 and 2. The trial was conducted by Judge Simon H. Rifkind of that court. It began December 4, 1944, and ended March 14, 1945. His opinion was filed July 5, 1945. His 96 findings of fact and two conclusions

of law were entered October 2, 1945. After extended consideration of its terms, by the court and by counsel for all parties, the decree was entered October 11, 1945. The opinion and decree are reported in 63 F. Supp. 513–535. The findings of fact, conclusions of law and much of the detailed discussion of the decree are in the record. Separate appeals were filed in this Court, in case No. 89 by the United States, in case No. 90 by National Lead and Titan Inc. and in case No. 91 by du Pont. The three companies are sometimes referred to as "the appellant companies." We noted probable jurisdiction in each appeal, May 20, 1946, and the three appeals were argued together February 3–5, 1947. A partial stay of the decree had been granted by MR. JUSTICE REED, on January 2, 1946, pending determination of the appeals. Reference is made to the opinion of the District Court for a recital of the complex facts which it had to consider in order to reach its conclusion that National Lead, Titan Inc. and du Pont each violated § 1 of the Sherman Act,[1] although it found a marked difference between the conduct of National Lead and of its subsidiary, Titan Inc., on the one hand, and that of du Pont on the other. This Court affirms the judgment of the District Court, except as to the original effective dates of certain of its provisions, and our discussion will relate largely to the assignments of error as to the terms of the decree.

I. The first issue presented to the District Court was that of the participation of National Lead and Titan Inc.

[1] "SECTION 1. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal: . . . . Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding $5,000, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court. 50 Stat. 693–694, 15 U. S. C. § 1.

in a so-called "international cartel" dating back to 1920, and constituting a combination or conspiracy in restraint of trade and commerce in titanium pigments and compounds, among the several states of the United States and with foreign nations, which combination, after 1933, was alleged to include du Pont. The District Court found such participation.[2] In their brief on appeal in No. 90, National Lead and Titan Inc. said:

> "The Government's case was based on a series of closely related agreements made between 1920 and 1944. The agreements have been cancelled and continuation or renewal has been enjoined. The appeals are greatly simplified by the fact that we accept the cancellation and the injunction against continuation or renewal. We submit, however, that the court went too far in forbidding normal and usual contractual arrangements."

Accordingly, the finding of the District Court, as to the participation of National Lead and Titan Inc. in the violation of § 1 of the Sherman Act, is accepted here without further discussion.

II. The second issue was that of the participation of du Pont in such combination after 1933. The District

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[2] The conclusions of law of the District Court were as follows:

"1. Beginning on or about July 30, 1920, NL and co-conspirator TAS [Titan Co. A/S to which Titan Inc. became a successor in interest] and on various dates thereafter Tinc, DP and the others found herein to be co-conspirators continuing at all times thereafter to the date of these findings have been continuously engaged in a combination and conspiracy in restraint of trade and commerce in titanium pigments and compounds among the several states of the United States and with foreign nations and have been and are now parties to contracts, agreements and understandings in restraint of such trade and commerce.

"2. Plaintiff is entitled to a decree." See also, *United States* v. *National Lead Co.*, 63 F. Supp. 513, 527, 531, 532.

Court found that du Pont "joined the conspiracy found herein to exist between, NL and its foreign associates. DP's status rights and obligations were different from those of the other members of the combination. DP did not thereafter withdraw." Finding of Fact 73. The District Court, in its opinion, also stated that—

> "At least then as to territorial delimitations of the titanium pigment business, DP joined the combination. . . .
>
> . . . . . .
>
> "My general summary of the evidence on this issue is that DP was a member of the combination—true, a special member, with a status, rights and obligations, different from that of the other members, but a member nonetheless." 63 F. Supp. at 530, 531, and see the preamble to the decree at 532.[3]

This finding is contested vigorously by du Pont and is the principal subject matter of its appeal in No. 91. After careful consideration, we agree with the following conclusion of the District Court:

> "In sharp contrast with NL, DP exhibited, from the very beginning of its interest in titanium, an alert consciousness of the anti-trust laws and moved cautiously and under the guidance of trained anti-trust lawyers. The question is whether it succeeded in avoiding not only the form but also the substance of transgression. I have concluded that it has not; . . . ." *Id.* at 527.

It would serve no beneficial purpose to review here the evidence upon which that court based its conclusion. Its opinion analyzes the facts (*Id.* at 527–531) and, in the light of the record as a whole, we find in those facts the support necessary for the conclusion reached.

[3] See note 4, *infra*.

III. Related to these issues was a third. This was whether the contract between National Lead and du Pont was offensive to the antitrust laws apart from the relation of that contract, and of the parties thereto, to the foreign producers. The District Court found that it was and also related it to the international situation. It found that—

> "The defendants NL, DP and Tinc have utilized their patents which relate to the manufacture and use of titanium pigments to control and regulate the manufacture and sale of titanium pigments and compounds in the United States; and NL and Tinc with the co-operation of DP have done so throughout the rest of the world." Finding of Fact 95, subparagraph 9.

In its opinion the District Court emphasized also "the great power they acquired" (*Id.* at 531) and indicated criticism of limitations originally inserted in certain important licenses, although later removed from them. *Id.* at 532. Added together, the control of the patents covered by this agreement gave to National Lead and du Pont "domination and control over the titanium pigment business in the U. S." Finding of Fact 79. The District Court referred to the "proliferation of patents" as another "inevitable consequence" of the agreement. *Id.* at 532. This was explained to mean the great multiplication of related patents, resulting in increasing the difficulty of an attack upon them. The validity of none of the hundreds of patents involved has been litigated.

> "These patents, through the agreements in which they are enmeshed and the manner in which they have been used, have, in fact, been forged into instruments of domination of an entire industry. The net effect is that a business, originally founded upon

> patents which have long since expired, is today less accessible to free enterprise than when it was first launched." *Id.* at 532.

Referring to the exchange of patents between National Lead and du Pont, the District Court added:

> ". . . in the context of the present case, . . . this exchange between two corporations, who between them controlled the entire market, becomes an instrument of restraint, available for use and used, to continue the mastery of the market which NL and DP achieved by means of the illegal international agreements." *Id.* at 532.

These facts are important not only in affirming, as we do, the finding that National Lead, Titan Inc. and du Pont each has violated § 1 of the Sherman Antitrust Act, but also in passing upon the terms of the decree entered in order to prevent future violations of that Act by them.

IV. The remaining issues relate to the terms of the decree. The entire decree, exclusive of its Appendix, is reported at 63 F. Supp. 532–535, and, for reference purposes, is here reprinted in the margin, as there reported.[4]

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[4] "This cause came on to be heard upon the complaint and the answers thereto upon the evidence and upon argument of counsel. The Court having thereafter rendered and filed its opinion and having made and entered findings of fact and conclusions of law wherein the defendants have been found to have been engaged in a combination in restraint of trade and commerce in titanium pigments among the several states of the United States and of foreign nations, and that the defendants have been and now are parties to contracts, agreements, and understandings in restraint of such trade and commerce in violation of Section 1 of the Sherman Act, 26 Stat. 209, 15 U. S. C. A. § 1;

"Now, therefore, upon motion of plaintiff by Wendell Berge, Assistant Attorney General, Herbert Berman and William C. Dixon, Special Assistants to the Attorney General, Julian Caplan and Ephraim Jacobs, Special Attorneys, and John F. X. McGohey, United States Attorney, for relief in accordance with the prayer of the

This decree represents a careful attempt to fit the remedy to the needs of this case. The record upon which

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complaint, and the defendants having severally appeared by counsel, it is ordered, adjudged and decreed as follows:

"1. The term 'titanium pigments' as used herein shall mean any product containing two percent (2%) or more of the element titanium in a chemically, mechanically or physically combined state and mixtures thereof which can be used as pigments, whether or not adapted for other uses, and also extenders to be used in conjunction with any such product.

"2. The term 'defendants' shall mean the corporations hereinafter listed who may be identified by the designated abbreviations:

NL	National Lead Company
Tinc	Titan Company, Inc.
DP	E. I. du Pont de Nemours and Company

"3. The term 'co-conspirators' shall mean the corporations hereinafter listed, who may be identified by the designated abbreviations:

TP	The Titanium Pigment Company, Inc.
Krebs	Krebs Pigment & Color Corporation
TAS	Titan Co. A/S
IG	Interessengemeinschaft Farbenindustrie Aktiengesellschaft
TG	Titangesellschaft m.b.H.
SIT	Société Industrielle du Titane
ICI	Imperial Chemical Industries, Ltd.
GW	Goodlass Wall and Lead Industries, Ltd.
ISC	Imperial Smelting Corporation, Ltd.
BTP	British Titan Products Company, Ltd.
NTP or Laporte	National Titanium Pigments, Ltd.
CIL	Canadian Industries, Ltd.
CTP	Canadian Titanium Pigments, Ltd.
Kokusan or KK	Kokusan Kogyo Kabushiki Kaisha
TK	Titan Kogyo Kabushiki Kaisha
Terres Rares	Société des Produits Chimiques des Terres Rares
Thann	Fabriques des Produits Chimiques de Thann et de Mulhouse
Montecatini	Societa Anonima Titanium
Aussig	Verein für Chemische und Metallurgische Produktion

it is based consists of two large volumes of testimony and four larger volumes of exhibits, representing a total of

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"4. The term 'patents as herein defined' shall mean United States letters patent and applications as follows: (a) the letters patent and patent applications listed in Appendix A hereof; (b) all divisions, continuations or reissues of any of the foregoing patents and applications; (c) all patents issued upon such applications; (d) all patents which cover any titanium pigments or any process for the manufacture of titanium pigments issued to any of the defendants within five years from the date of this decree; and all such patents which any of the defendants acquires within such five years; and all such patents of which any of the defendants becomes the exclusive licensee within such five years with power to sublicense.

"5. The following agreements are hereby adjudged to be unlawful under Section 1 of the Sherman Act and each of them is hereby cancelled and the defendants and each of them and all persons acting or claiming to act through, for or under them and all successors and subsidiaries of any of the defendants are hereby enjoined and restrained from the further performance of any of the provisions of said agreements and of any agreements amendatory thereof or supplemental thereto:

Agreement dated July 30, 1920, between TP and TAS (Exhibit A);

Agreement between TP and Krebs dated January 1, 1933, as amended January 1, 1941 (Exhibits E and E–3);

Agreements dated July 30, 1920, between NL, TP, The Titanium Alloy Manufacturing Company and TAS (Exhibits A–1 and A–2);

Agreement between TAS and SIT dated March 3, 1927 (Exhibit B);

Agreement between TAS and IG dated Ocotber 3 and 20, 1927 (Exhibit C);

Agreement between TAS and IG signed June 24 and October 20, 1927 (Exhibit C–1);

Agreement between TAS and TG signed October 3 and 20, 1927 (Exhibit C–3);

Agreement between TG and TAS dated October 3 and 20, 1927 (Exhibit C–7);

Agreement between TG and TAS dated October 3 and 20, 1927 (Exhibit C–8);

Agreement dated February 16, 1933 between ICI, ISC, GW and TINC (Exhibit F);

Agreements between TINC, SIT, TERRES RARES, and Thann

over 5,500 pages, reflecting more than three months of trial. It demonstrates a commendable procedure. Pro-

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dated June 5 and 17, 1935 (Exhibits G–1 and G–2);

Agreements between TINC, TERRES RARES, and IG, and between TINC, Terres Rares, IG, TG, Tharn, and Doitsu [Doitsu Senryo Gomei Kaisha, Kobe/Japan] both dated January 18, 1936 (Exhibits J and J–2);

Agreement between NL and CIL dated January 1, 1937 (Exhibit K);

Agreement between NL and CTP dated January 1, 1937, as amended February 27, 1939 (Exhibits K–1 and K–5);

Agreements between DP and TINC dated July 27, 1937, June 20, 1938, April 21, 1939, May 10, 1940, and June 23, 1941 (Exhibits M, N, Q, R and S), and the

'License Field Extender' agreements to which NL or TINC were parties, including the agreement between NL and TINC dated March 28, 1939 (Exhibit O);

provided, however, that the provisions of this paragraph with respect to the agreements between TP and Krebs dated January 1, 1933, as amended January 1, 1941 (Exhibits E and E–3) shall not go into effect until the expiration of [illegible] months from the date of this decree.

"6. Each of the defendants and each of their directors, officers, agents, employees, successors and subsidiaries and all persons acting, or claiming to act under, through or for them or any of them are hereby enjoined and restrained (a) from entering into, adhering to, maintaining or furthering, directly or indirectly, or claiming any rights under any contract, agreement, understanding, plan or program among themselves, the co-conspirators, or with any other person, partnership or corporation, which has as its purpose or effect the continuing or renewing of any of the agreements listed in paragraph 5 hereof; (b) from entering into, adhering to, maintaining or furthering, directly or indirectly, any contract, agreement, undertaking, plan or program with any other producer or dealer relating to titanium pigments which has as its purpose or effect (1) to divide sales or manufacturing territories, (2) to allocate markets, (3) to limit or prevent United States imports or exports, (4) to grant to any third party any market as its exclusive territory, (5) to keep any third party out of any market; provided, however, that nothing contained in this subdivision (b) of this paragraph 6 shall prohibit any normal and usual arrangements between any defendant and its directors,

posed findings of fact and conclusions of law were submitted on behalf of the respective parties and a form of

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officers, employees, agents, subsidiaries, or any dealer or distributor, whether or not a co-conspirator; (c) from restricting any purchaser of titanium pigments in the use thereof.

"7. Each of the defendants is ordered to grant to any applicant therefor, including any defendant or co-conspirator, a non-exclusive license under any or all of the patents as herein defined at a uniform, reasonable royalty. Such grant may, at the option of the licensor, be conditioned upon the reciprocal grant of a license by the applicant, at a reasonable royalty, under any and all patents covering titanium pigments or their manufacture, now issued or pending, or issued within five years from the date of this decree, if any, owned or controlled by such applicant. Such license or reciprocal license may, at the option of either party, contain a provision for the inspection of the books and records of the licensee by an independent auditor who shall report to the licensor only the amount of royalty due and payable and no other information. During a period of three years from the date of this decree such license or reciprocal license may at the option of either party contain a provision for the imparting in writing, at a reasonable charge, by the licensor to the licensee, of the methods and processes used by the former at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments. The Court reserves jurisdiction to pass upon the reasonableness of any royalty or charge herein directed to be reasonable. Defendants are restrained from attempting to enforce any rights under any foreign patents owned by them or under which they are the exclusive licensees to prevent the exportation of titanium pigments from the United States to any foreign country.

"8. Within one year from the date of this decree, defendants NL and Tinc shall present to the Court for its approval a plan for divesting themselves of their stock holdings and other financial interest, direct and indirect, in BTP, CTP, TG and TK, or for the purchase of the entire stock holdings and other financial interests, direct and indirect, in said companies or any of them. Such plan of sale shall not provide for the transfer of such stock or interest to any other defendant or to any corporation in which any defendant will, upon consummation of the plan, have any interest, provided that this provision shall not preclude transfer of said defendants' stock holdings in BTP to ISC, GW, and ICI, or any of them, or preclude transfer of said defendants' stock holdings in CTP to CIL. The

decree was submitted on behalf of the Government to the District Court immediately following the trial. The

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plan shall provide for its completion within two years from the date of this decree.

"9. Either American Zirconium Corporation or Virginia Chemical Corporation, their successors or assigns, may at their option, if exercised within six months from the date of this decree, apply for licenses from DP under the provisions of paragraph 7. In the event American Zirconium Corporation, Virginia Chemical Corporation or their respective successors or assigns exercise the foregoing option, DP is enjoined from collecting royalties under any existing license agreement relating to titanium pigments between it and the person exercising the option in respect of any period subsequent to such exercise. Defendants NL, Tinc and DP are hereby enjoined from bringing, or threatening to bring, any action against any person or corporation for the alleged infringement prior to the date of this decree of any patent as herein defined.

"10. The Attorney General of the United States or his proper representative shall, for the purpose of securing compliance with this decree, be permitted (1) access, during the office hours of the defendants, to all books, ledgers, accounts, correspondence, memoranda, and other records and documents in the possession or under the control of the defendants, relating to any matters contained in this decree, (2) subject to any legally recognized privilege, without restraint or interference from the defendants, to interview officers or employees of the defendants, who may have counsel present, regarding any such matters; provided, however, that information obtained by the means permitted in this paragraph shall not be divulged by any representative of the Department of Justice to any person other than a duly authorized representative of the Department of Justice except in the course of legal proceedings for the purpose of securing compliance with this decree in which the United States is a party or as otherwise required by law.

"11. Judgment is entered against the defendants for all costs to be taxed in this proceeding.

"12. The cancellation, injunctions and all executory action provided for under this decree shall not become effective or operative until ninety days from the date of this decree.

"13. Jurisdiction of this cause, and of the parties hereto, is retained by the Court for the purpose of enabling any of the parties to this decree, or any other person or corporation that may hereafter become bound, in whole or in part, thereby to apply to the Court at any

opinion of the District Court, when filed, formed the basis of further consultation and argument. After the District Court's findings of fact and conclusions of law were entered, further conferences were held with counsel and full opportunity was given to them to propose changes in the findings of fact and the decree. Much of this discussion was reported in the record and has been of benefit to this Court in reviewing the decree.

In our opinion, the provisions of this decree, to a large extent, are matters lying within the discretion of the District Court as a court of equity whose duty it was to make the remedy as effective as possible. The District Court was confronted with an obligation to give effect to the provisions, on the one hand, of the patent laws granting certain valuable rights in the nature of monopolies to the patentees and their licensees, and also to give effect, on the other hand, to the provisions of the Sherman Antitrust Act prohibiting any combination or conspiracy in restraint of trade among the several states or with foreign nations. We believe that the District Court has not exceeded its discretion in the provisions of this decree but has employed its discretion with commendable fairness having especial regard to the needs of this case. It has succeeded in keeping within the lines of precedent thus far established, although, in this field, such lines cannot be much

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time for such further orders, modifications, vacations or directions as may be necessary or appropriate.

(1) for the construction or carrying out of this decree, and

(2) for the enforcement of compliance therewith and the punishment of violations thereof."

"Appendix A" consists only of the identification of National Lead's 82 patents and 20 applications for patents; Titan Inc.'s 19 patents and 1 application; Titan Co. A/S's 2 patents; I. G. Farbenindustrie's 22 patents; Titangesellschaft's 2 patents; and du Pont's 175 patents and 30 applications. The references in the decree to Exhibits refer to such exhibits as they are identified in the record of this case in the District Court.

more than guides. The essential consideration is that the remedy shall be as effective and fair as possible in preventing continued or future violations of the Antitrust Act in the light of the facts of the particular case.

The issues are presented by the assignments of error in the three appeals. They will be considered separately in conjunction with their supporting arguments. In each instance we sustain the present decree.

A. Request to omit the requirement of the granting of compulsory, nonexclusive licenses at uniform, reasonable royalties and to substitute for that requirement, either a perpetual injunction against the enforcement of the titanium patents presently owned or controlled by the respective appellant companies, or a provision for compulsory licenses to be issued under those patents, free of royalties.

This is the major legal issue in this case.

The material provisions in the present decree are as follows:

> "4. The term 'patents as herein defined' shall mean United States letters patent and applications as follows: (a) the letters patent and patent applications listed in Appendix A hereof; (b) all divisions, continuations or reissues of any of the foregoing patents and applications; (c) all patents issued upon such applications; (d) all patents which cover any titanium pigments or any process for the manufacture of titanium pigments issued to any of the defendants within five years from the date of this decree; and all such patents which any of the defendants acquires within such five years; and all such patents of which any of the defendants becomes the exclusive licensee within such five years with power to sublicense.
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> . . . . . .
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> "7. Each of the defendants is ordered to grant to any applicant therefor, including any defendant or

co-conspirator, a non-exclusive license under any or all of the patents as herein defined at a uniform, reasonable royalty. Such grant may, at the option of the licensor, be conditioned upon the reciprocal grant of a license by the applicant, at a reasonable royalty, under any and all patents covering titanium pigments or their manufacture, now issued or pending, or issued within five years from the date of this decree, if any, owned or controlled by such applicant. Such license or reciprocal license may, at the option of either party, contain a provision for the inspection of the books and records of the licensee by an independent auditor who shall report to the licensor only the amount of royalty due and payable and no other information. During a period of three years from the date of this decree such license or reciprocal license may at the option of either party contain a provision for the imparting in writing, at a reasonable charge, by the licensor to the licensee, of the methods and processes used by the former at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments. The Court reserves jurisdiction to pass upon the reasonableness of any royalty or charge herein directed to be reasonable. Defendants are restrained from attempting to enforce any rights under any foreign patents owned by them or under which they are the exclusive licensees to prevent the exportation of titanium pigments from the United States to any foreign country."

The assignment of error originally made by the Government, in No. 89, as to this point was as follows:

"1. The court erred in failing to require each defendant to license its existing titanium pigment patents free of royalty until the court shall have determined, on application by any defendant, that the

effects of the defendants' illegal combination, as set forth in the court's findings of fact and conclusions of law, have been fully dissipated."

Later the Government moved to amend this assignment of error so that it would read as follows:

"The court erred in failing to enter an injunction perpetually enjoining the defendants from enforcing the titanium patents presently owned or controlled by them."

This Court postponed consideration of the above motion to the hearing of the case on its merits. On oral argument, the Government supported its second proposal but indicated that, if that proposal were not satisfactory, it would prefer its original request to the provision for uniform, reasonable royalties now in the decree. The Government's motion to amend its assignment of errors accordingly is granted. National Lead, in its assignments of error in No. 90, however, assigns the orders contained in paragraph 7 of the decree on this subject as error and, in its briefs, argues that "The court erred in refusing to order royalty-free licensing of all patents as defined in the judgment." Accordingly, both proposals have been considered.

While it has been contended that, because of the decision of this Court in *Hartford-Empire Co.* v. *United States*, 323 U. S. 386, the District Court was not free in the present case to require the issuance of royalty-free licenses, we feel that, without reaching the question whether royalty-free licensing or a perpetual injunction against the enforcement of a patent is permissible as a matter of law in any case, the present decree represents an exercise of sound judicial discretion.

This is a civil, not a criminal, proceeding. The purpose of the decree, therefore, is effective and fair enforcement, not punishment. An understanding of the findings of

fact is essential to an appreciation of the reasons for the decree.

Pure titanium pigment and its compounds represent a product of comparatively recent development but of major commercial value. The District Court found that—

> "Titanium pigments are possessed of great opacity, hiding power and chemical inertness, and are largely displacing other pigments such as lithopone and white lead. Titanium pigments are used in the manufacture of paints and are also used in the manufacture of rubber, glass, paper, vitreous enamels, and many other products. . . .
>
> "In and before 1920 there was no substantial trade or commerce in, and no commercial manufacture of, titanium pigments for use in paint, paper, rubber, or other products; . . . ." Finding of Fact 33.
>
> "The production of titanium pigments in the United States has risen from 100 tons (on the basis of pure TiO_2 content) in 1920 to approximately 110,000 tons in 1943 with a peak production of approximately 128,000 tons in the United States in 1941. The total production of titanium pigments and compounds outside of the United States has shown less growth, the estimated foreign production of titanium pigments and compounds being approximately 1,000 tons in 1920 and approximately 23,000 tons in 1938." Finding of Fact 35.

There are four producers of titanium products in the United States—National Lead, du Pont, American Zirconium (here called Zirconium), which is a subsidiary of Glidden Company, and Virginia Chemical Company (here called Virginia Chemical), which is a subsidiary of American Cyanamid Company. National Lead and du Pont have cross-licensed each other under their respective patents. Zirconium entered the field in 1935 with licenses

from National Lead and du Pont, but the National Lead license has been canceled. Virginia Chemical entered the field in 1937 with a license from du Pont. Finding of Fact 42.

National Lead has assets of over $100,000,000 and is the largest manufacturer of titanium pigments and compounds not only in the United States but in the world. In 1943 it manufactured and sold 76.5% of composite pigments and 46.4% of pure TiO_2 made in the United States. Finding of Fact 3. Du Pont is one of the largest chemical companies in the United States with assets of over $1,000,000,000. It is one of the largest manufacturers of titanium pigments in the United States. In 1943 it manufactured and sold approximately 23.5% of the composite pigments and 45.1% of pure TiO_2 made in the United States. Finding of Fact 9.

National Lead took an early lead in promoting the commercial manufacture and use of titanium pigments. In 1920 it acquired an interest in The Titanium Pigment Company, Inc., which had been organized by the Titanium Alloy Manufacturing Company at Niagara Falls, New York. It made use of a patented process developed by Barton and Rossi. At about that time, a Norwegian chemist, Gustav Jebsen, made similar investigations but along different lines in Norway. He and his associates perfected a patented means for producing relatively pure titanium dioxide by a process much less costly than that in use at Niagara Falls. These associates had not, however, perfected processes for the manufacture of composite pigments. Finding of Fact 33. In about 1922, Joseph Blumenfeld, a chemist and managing director of a French company, obtained patents relating to the manufacture of titanium compounds. Finding of Fact 34.

On July 30, 1920, The Titanium Pigment Company, Inc., (affiliated with National Lead) and Titan Co. A/S

(representing the Jebsen interests) entered into an agreement which is still uncanceled. Its principles became the basis for more than 60 subsequent agreements and for an international cartel [5] in titanium pigments. The essential features of this agreement are stated in Finding of Fact 44 and in the opinion of the District Court, 63 F. Supp. at 517–518.

Briefly stated, it applied to a licensed field, defined as including all substances containing above 2% of titanium unless containing by weight more than 5% of a metal other than titanium in its purely metallic form. It applied to all apparatus, methods and processes useful in obtaining or manufacturing such substances both in the titanium and in the titanium compound field.

Both parties agreed to grant and accept a license, exclusive of all others including the licensor, under all "existing or future" patents of the licensing party. They

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[5] "Cartels have been defined by two of the foremost members and advocates of such bodies. In the words of Sir Alfred Mond, organizer of Imperial Chemical Industries:

"'I use the word cartel to include fusion, pooling arrangement, quota arrangement and price convention, because a cartel is protean in its form. . . . In an ultratechnical way, a cartel might be defined as a combination of producers for the purpose of regulating, as a rule, production, and, frequently, prices. . . .'

"In the words of Sir Felix J. C. Pole, chairman of Associated Electrical Industries, Ltd.:

"'A cartel or association usually means an association by agreement of companies or sections of companies having common interests. It is designed to prevent extreme or unfair competition and allocate markets, and it may also extend to interchange of knowledge resulting from scientific and technical research, exchange of patent rights, standardization of products, etc. Competition is not eliminated, but it is regulated. Competition in quality, efficiency, and service takes the place of the crude method of price cutting.'" Monograph No. 1, Subcommittee on War Mobilization of the Committee on Military Affairs, U. S. Senate, 78th Cong., 2d Sess., Part I, p. 1. Quoted also in *United States* v. *National Lead Co.*, 63 F. Supp. 513, 523, note 5.

divided the globe territorially. The American company was to have the North American continent. The Norwegian company was to have the rest of the world, except that reciprocal, nonexclusive rights of sale were reserved for both companies in South America.

Detailed provision was made for exchange of copies of applications for patents filed by the parties or their other licensees. Neither party was ever to question or contest the validity of any patent of the other under which it was licensed within the field described.

The American company became the exclusive agent for the Norwegian company in North America and vice versa outside of North and South America. Sales were to be at prices and on terms determined by the agent. Notwithstanding these agencies, however, importations of "finished articles"—that is, paint, paper, rubber, glass, etc.—containing titanium products of the principal, its licensees or sublicensees, would be permitted provided such products did not constitute such an important part of such finished articles that sales within the agent's territory would interfere substantially with the agent's sales of its own titanium products.

Each party would impart semiannually to the other information in detail as to knowledge obtained in and applicable to the "licensed field," and would permit the other to inspect and study operations in its plants (exclusive of research laboratories). The reciprocal grants of exclusive licenses would extend to December 31, 1936, and thereafter for periods of ten years each, with provision for termination by notice to be given at least five years before the end of any such period. In particular, so long as each company held an exclusive license from the other under this agreement, it would have the right to grant licenses under its own patents, and sublicenses under the other's patents, on the condition, nevertheless,

that every such licensee or sublicensee would grant to the party to the 1920 agreement (other than its licensor), its patent rights in the "licensed field" identical in character, territorial scope, and duration to those given by its licensor to such other party under the 1920 agreement, and would impart technical information to such other party in the same manner and to the same extent as its licensor.

In 1929, the obligations of Titan Co. A/S under this agreement were assumed by Titan Inc. and, in 1936, the obligations of The Titanium Pigment Company, Inc., were assumed by National Lead.

Other companies throughout the world joined in carrying out this program to restrain international commerce and to establish an international combination or conspiracy in restraint of trade. The complaint in the present case lists many of these foreign companies as co-conspirators with National Lead, Titan Inc. and du Pont, but it does not attempt to make such co-conspirators parties defendant. The District Court recognized that it did not have jurisdiction over such co-conspirators and found in that circumstance one of its difficulties in effectively restraining National Lead, Titan Inc. and du Pont from further violations of the Sherman Antitrust Act, pursuant to this international as well as domestic program. To accomplish this purpose, the District Court has adjudged these agreements to be unlawful and it has canceled them. In addition, it has enjoined all three defendants, National Lead, Titan Inc. and du Pont, from further performance of any of the provisions of such agreements and of any agreements amendatory thereof or supplemental thereto. Pars. 5 and 6 of the decree, 63 F. Supp. at 533–534.

National Lead acquired an 87% interest in Titan Co. A/S, Jebsen retaining 13%. The District Court found that "The intended purpose of the acquisition of control

of TAS by NL was to utilize TAS and the contract of 1920 to further control competition in the manufacture of titanium pigments and compounds in all markets of the world including the United States." Finding of Fact 47.[8] While this combination and conspiracy in restraint of interstate and foreign commerce thus was developing from 1920 to 1931, with National Lead and Titan Inc. at its center, du Pont was unconnected with it. Du Pont had initiated independent, but unsuccessful, efforts to develop, through research, a new and patentable commercially feasible process in this field. It became convinced that if it were to undertake the manufacture and sale of titanium pigments as a delevopment of its white pigment business, it would be necessary to enter the field as

[8] "This purpose was accomplished. The defendant NL and TAS agreed to have TAS and subsequently defendant Tinc form in each of the important industrial countries of the world, in association with a local corporation or firm which contemplated the manufacture and sale of titanium pigments and compounds or which could contribute to the technical or commercial development or which threatened to be a serious competitor of NL and TAS, a new company in which NL or TAS were to have a part interest. Any new company so formed was to be given certain territory in which it would have the exclusive right to manufacture and sell titanium pigments and compounds free from any exports into said territory by NL. The new company so organized was to refrain from competing with NL in its territory (the United States and other countries of North America) or in the territory of any other company associated with NL. TAS and subsequently defendant Tinc were to make said contracts providing for the formation of the new companies and NL was to be bound to adhere to all of the territorial restrictions placed on TAS and subsequently defendant Tinc in such contracts by virtue of contract Exhibit A. [The agreement of July 30, 1920.] All the present and future patents belonging to NL or TAS or any of the companies associated with either in the formation of such new companies, as well as those of the new companies to be organized, were to be licensed exclusively to NL for North America and to the new companies to be organized for their respective exclusive territories and to TAS and subsequently defendant Tinc for the rest of the world." Finding of Fact 48.

promptly as possible through the acquisition of the patents and of the going business of Commercial Pigments Company. That company had been formed by Commercial Solvents Corporation in 1928 and had acquired the Blumenfeld and other patents in the United States relating to the manufacture and sale of titanium pigments and compounds. It was operating a plant in Baltimore, Maryland, where it manufactured pure TiO_2 pigment only and sold it in competition with the The Titanium Pigment Company, Inc. (the affiliate of National Lead). In July, 1931, du Pont, through its subsidiary, Krebs Pigment & Color Corporation, acquired all of the assets and assumed some of the obligations of Commercial Pigments Company. It thus continued and, in fact, increased its competition in the titanium pigment field against National Lead. Findings of Fact 70, 12, 10 and 71.

> "Both NL and DP in good faith claimed that each infringed certain of the other's titanium pigment patents and both in good faith denied such infringement claiming, among other things, that the patents alleged to be infringed were of doubtful validity. NL and DP agreed in October, 1932, that the validity of the patents claimed to be infringed should not be questioned except as a last resort and that they should try to arrive at a general understanding." Finding of Fact 72.

Finally, in 1933, The Titanium Pigment Company, Inc. (by that time a 100% subsidiary of National Lead), and Krebs Pigment & Color Corporation (subsidiary of du Pont) were the only producers of titanium pigments in the United States. The 1920 agreement, however, prevented The Titanium Pigment Company, Inc. (National Lead), from entering into a contract with Krebs Pigment & Color Corporation (du Pont) unless the latter subscribed to the provisions of the 1920 agreement. Such a

subscription would have required an agreement by Krebs (du Pont) not to export into the territories of National Lead's foreign associates, and an agreement to grant to National Lead's foreign associates exclusive licenses under all of Krebs' (du Pont's) present and future patents for titanium pigments and compounds in the territories of the foreign associates. Finding of Fact 73. After extensive negotiations, National Lead and du Pont formulated an agreement in writing, dated as of January 1, 1933, which was executed August 28, 1933. It is summarized in Finding of Fact 73 and in the opinion of the lower court, 63 F. Supp. at 520–521. By its terms, it provided for cross-licensing but did not provide for the exclusive licensing and restrictive territorial and agency agreements specified in the 1920 program. Certain foreign associates of National Lead, particularly Interessengemeinschaft Farbenindustrie Aktiengesellschaft (usually referred to as I. G. Farbenindustrie), insisted upon some such commitment from du Pont or its subsidiary. This insistence never was abandoned. After further negotiations and an exchange of letters, all as set forth in full in Finding of Fact 73 and in the opinion of the District Court, 63 F. Supp. at 528–529, some understanding was reached as to the future conduct of du Pont, or of its subsidiary. On the strength of this, I. G. Farbenindustrie agreed to the situation. On the basis of all the evidence, the District Court found that—

> "DP, through Rupprecht [President of Krebs Pigment & Color Corporation] and Krebs [the corporation], by these assurances and Exhibit E [the agreement dated as of January 1, 1933], joined the conspiracy found herein to exist between NL and its foreign associates. DP's status rights and obligations were different from those of the other members of the combination. DP did not thereafter withdraw." Finding of Fact 73.

That finding, which we accept, throws important light upon the conditions to which the decree is to be applied. Furthermore, although National Lead and du Pont exchanged technical information relating to the manufacturing or use of titanium pigments or compounds from about April, 1932, until April, 1940, this exchange was discontinued May 1, 1940. The agreement of 1933 between The Titanium Pigment Company, Inc., and Krebs Pigment & Color Corporation which then had been assumed by National Lead and du Pont, respectively, was amended on January 1, 1941, to eliminate provisions for the exchange of technical information. Finding of Fact 75. It was further amended to include extender pigments, which theretofore had been included by implication and practice. Finding of Fact 76. After January 1, 1941, patent applications were to be available between National Lead and du Pont only after six months from the date of their filing, instead of immediately. Finding of Fact 77.

"From 1933 on there was active competition between NL and DP for customers. There has been a vast increase in sales; and repeated reductions in the price of titanium pigments have taken place and a very few increases. DP entered the titanium pigment business in 1931 and since that date it has made frequent plant expansions for the manufacture of pure and composite TiO_2 and its production increased from 20,027 tons in 1935 to 50,674 tons in 1941 and then decreased to 42,843 tons in 1943.

"NL and DP have endeavored to match each other's titanium products; but each also manufactures certain titanium pigments having special applications not manufactured by the other.

"There is no allocation of territory or customers between NL and DP; and each maintains a large, highly trained technical sales force engaged in en-

deavoring to sell titanium pigments. To a very large extent the salesmen of the two companies are chemists whose contact with consumers (that is, manufacturers of paint, rubber, glass, etc.) consists in endeavoring to demonstrate that their products merit acceptance on the basis of technical superiority. The buyers of titanium pigments are mainly well-informed, experienced purchasing agents. NL and DP sell for identical prices; there is no evidence that such price identity is the product of agreement or collusion." Finding of Fact 78.

These findings disclose the special conditions which confronted the District Court in framing its decree. They disclose a vigorous, comparatively young, but comparatively large, world-wide industry in which two great companies, National Lead and du Pont, now control approximately 90% of the domestic production in substantially equal shares. The balance of that production is in the hands of two smaller companies. Each of these is affiliated with larger organizations, not parties to this case. The findings show vigorous and apparently profitable competition on the part of each of the four producers, including an intimation that the smaller companies are gaining ground rather than losing it. Keen competition has existed both before and after the elimination, by the 1933 agreement and understanding, of certain patent advantages from among the weapons of competition. The competition between National Lead and du Pont has been carried into this Court where today National Lead supports the Government's proposal for royalty-free licenses, while du Pont argues strongly for a complete dismissal of the proceedings and contends that, in any event, if there are to be compulsory licenses they at least should require payment of uniform, reasonable royalties as provided in the present decree.

Assuming, as is justified, that violation of the Sherman Act in this case has consisted primarily of the misuse of

patent rights placing restraint upon interstate and foreign commerce, that conduct is not before this Court for punishment. It is brought before this Court in order to secure an order for its immediate discontinuance and for its future prevention. That will be accomplished largely through the strict prohibition of further performance of the provisions of the unlawful agreements. Further assurance against continued illegal restraints upon interstate and foreign commerce through misuse of these patent rights is provided through the compulsory granting to any applicant therefor of licenses at uniform, reasonable royalties under any or all patents defined in the decree. Such patents include not only the patents and patent applications listed in the appendix to the decree, but also, among others, all patents which cover any titanium pigments or any process for the manufacture of such pigments issued to, or acquired by, any of the appellant companies within five years from the date of the decree. It applies also to all such patents of which any of the appellant companies shall become the exclusive licensee within such five years with power to sublicense.

On the facts before us, neither the issuance of such licenses on a royalty-free basis nor the issuance of a permanent injunction prohibiting the patentees and licensees from enforcing those patents has been shown to be necessary in order to enforce effectively the Antitrust Act. We do not, in this case, face the issue of the constitutionality of such an order. That issue would arise only in a case where the order would be more necessary and appropriate to the enforcement of the Antitrust Act than here. In the absence of a showing to the contrary, it is obvious that some patents should entitle their owners to receive higher royalties than others. Also, it is clear that several patents, each of equal value, ordinarily should entitle their owners to a larger total return in

royalties than would one of them alone. It follows that to reduce all royalties automatically to a total of zero, regardless of their nature and regardless of their number, appears, on its face, to be inequitable without special proof to support such a conclusion. On the other hand, it may well be that uniform, reasonable royalties computed on some patents will be found to be but nominal in value. Such royalties might be set at zero or at a nominal rate. The conclusion, however, would depend on the facts of each case.

Recognizing the difficulty of computing a reasonable royalty,[7] nevertheless, that conception is one that already has been recognized both by Congress and by this Court.[8]

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[7] *Hearings before Committee on Patents on H. R. 23,417*, 62d Cong., 2d Sess. (1912), Part XII, pp. 10–11; H. R. Rep. 1161, 62d Cong., 2d Sess. (1912), Part 2, p. 8; Report of Subcommittee of the American Bar Association appointed to consider the King Bill, S. 383, 74th Cong. (1935), p. 38.

[8] A recent recognition of a reasonable royalty test is contained in Chapter 726 of the 79th Congress, 2d Session:

". . . upon any judgment being rendered in any case for an infringement the complainant shall be entitled to recover general damages which shall be due compensation for making, using, or selling the invention, *not less than a reasonable royalty therefor*, together with such costs, and interest, as may be fixed by the court. . . ." (Italics supplied.) R. S. § 4921, as amended August 1, 1946, 60 Stat. 778, 35 U. S. C. A. § 70 (Supp. 1946), relating to the power of courts to grant injunctions and estimate damages.

The most recent and outstanding example of its recognition is in *Hartford-Empire Co. v. United States*, 323 U. S. 386, 413–417.

In patent accounting suits, where the profits or damages cannot be ascertained and no standard of comparison is available, the court may allow a reasonable royalty.

"But, as the patent had been kept a close monopoly, there was no established royalty. In that situation it was permissible to show the value by proving what would have been a reasonable royalty, considering the nature of the invention, its utility and advantages, and the extent of the use involved. Not improbably such proof was more difficult to produce, but it was quite as admissible as that of

The term frequently has been employed in Sherman Anti-trust case consent decrees.* In the present case, the royalties charged to and paid by Zirconium and Virginia Chemical provide enough guidance to indicate that the reasonableness of future royalties may be determined in this case with less difficulty than often might confront a court faced with such a task. Cf. *Sinclair Refining Co.* v. *Jenkins Petroleum Process Co.*, 289 U. S. 689, 697–698. The growing strength of those two royalty-paying licensees has demonstrated that royalty-free licenses have not been essential to such progress ever under past conditions. Finally, the District Court, under paragraphs 7 and 13 of the decree, will retain sufficient jurisdiction to enable it to vacate or modify its orders fixing reasonable royalty rates if it finds such action to be necessary or appropriate. We hold, therefore, that paragraphs 4 and 7 of the decree should not be modified either so as to provide for compulsory royalty-free licenses or so as to enjoin the patentees or licensees from enforcing the terms of the patents involved.

B. Request to add a provision requiring National Lead and du Pont each to submit, within a year, a plan for the divestiture by it of one of its two principal titanium

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an established royalty." *Dowagiac Mfg. Co.* v. *Minnesota Plow Co.*, 235 U. S. 641, 648.

See also, *Sheldon* v. *Metro-Goldwyn Corp.*, 309 U. S. 390, 404; *Suffolk Co.* v. *Hayden*, 3 Wall. 315, 320; 3 Walker on Patents § 833 (Deller's ed. 1937) (*Id.* 1945 pocket supp.); 56 Yale L. J. 77.

* *United States* v. *Owens-Ill. Glass Co.*, CCH Trade Reg. Serv. ¶ 57,498 (D. C. N. D. Calif. 1946); *United States* v. *American Air Filter Co.*, CCH Trade Reg. Serv. ¶ 57,492 (D. C. W. D. Ky. 1946); *United States* v. *Libbey-Owens-Ford Glass Co.*, CCH Trade Reg. Serv. ¶ 57,489 (D. C. N. D. Ohio 1946); *United States* v. *Diamond Match Co.*, CCH Trade Reg. Serv. ¶ 57,456 (D. C. S. D. N. Y. 1946); *United States* v. *General Elec. Co.*, CCH Trade Reg. Serv. ¶ 57,448 (D. C. N. J. 1946); *United States* v. *Bendix Aviation Corp.*, CCH Trade Reg. Serv. ¶ 57,444 (D. C. N. J. 1946); *Crosby Steam Gage & Valve Co.* v. *Manning, Maxwell & Moore*, CCH Trade Reg. Serv. ¶ 57,336 (D. C. Mass. 1945).

pigment plants, together with the related physical property. This request is urged by the Government in No. 89. It is strongly opposed both by National Lead and du Pont. The issue was discussed at length by the parties and the District Court in the reported conferences as to the form of the decree.

We believe there is neither precedent nor good reason for such a requirement. The violation of the Sherman Act is found in these cases in the patent pooling and in the related agreements restraining interstate and foreign commerce. There is neither allegation in the complaint nor finding of fact by the District Court that the physical properties of either National Lead or du Pont have been acquired or used in a manner violative of the Sherman Act, except as such acquisition or use may have been incidental or related to the agreements above mentioned. The cancellation of such agreements and the injunction against the performance of them by the appellant companies eliminate them. Paragraph 8 of the decree goes further. It requires National Lead and its subsidiary, Titan Inc., to present, within one year, a plan for divesting themselves of their stockholdings and other financial interests in certain foreign corporations, or for the purchase of the entire stockholdings and other financial interests, direct or indirect, in such corporations or any of them. Such a plan, which was required also to provide for its completion within two years from the date of the decree, will go as far toward divestiture as the findings of fact indicate should be necessary to make the decree effective.

There is no finding of fact, and apparently no evidence, showing that the respective principal titanium plants of National Lead or du Pont were acquired in violation of law, that they ever were separately owned or operated, or that they are adapted to such operation. Presumably, the requested divestiture would be for the purpose of providing four instead of two independent major competing

plants in the titanium pigment industry. However, there is no showing whether or not the two licensees, Zirconium (subsidiary of Glidden Company) and Virginia Chemical (subsidiary of American Cyanamid Company), may not be able to develop, under the decree, even more substantial competition against National Lead and du Pont than would new concerns operating the divested plants. No comparable precedents have been presented. Existing precedents of divestiture provide examples of the restoration of a pre-existing separate status to companies or properties which have been unlawfully combined rather than to the fission of units which never have been separated. *United States* v. *Crescent Amusement Co.*, 323 U. S. 173, 189; *Standard Oil Co.* v. *United States*, 221 U. S. 1, 77–82. Cf. *Northern Securities Co.* v. *United States*, 193 U. S. 197, 354–360.

There is no showing that four major competing units would be preferable to two, or, including Zirconium and Virginia Chemical, that six would be better than four. Likewise, there is no showing of the necessity for this divestiture of plants or of its practicality and fairness. The findings of fact have shown vigorous and effective competition between National Lead and du Pont in this field. The general manager of the pigments department of du Pont characterized the competition with Zirconium and Virginia Chemical as "tough" and that with National Lead as "plenty tough." Such competition suggests that the District Court would do well to remove unlawful handicaps from it but demonstrates no sufficient basis for weakening its force by divesting each of the two largest competitors of one of its principal plants. It is not for the courts to realign and redirect effective and lawful competition where it already exists and needs only to be released from restraints that violate the antitrust laws. To separate the operating units of going concerns without more supporting evidence than has been pre-

sented here to establish either the need for, or the feasibility of, such separation would amount to an abuse of discretion.

C. Request to add a provision requiring National Lead and du Pont to furnish to any applicant, at a reasonable charge, during a period of three years, technical information desired by the applicant relating to the methods and processes for manufacturing titanium pigments. This would supersede the provision now in the decree which, during a period of three years, makes available to a licensee certain information in writing, at a reasonable charge, as to the methods and processes used by his licensor at the date of the license. This is urged by the Government in No. 89 and opposed by National Lead and du Pont. Du Pont, in No. 91, goes further and urges the omission of all requirements compelling it to furnish technical information.

The request by du Pont to eliminate this requirement altogether is based, in part, upon the experience of the appellant companies. Du Pont emphasizes the fact that the titanium pigment industry has matured and that, since about May 1, 1940, the exchange of technical information between National Lead and du Pont has ceased. Also, the agreement between them which called for the exchange of technical information was amended January 1, 1941, to eliminate the provisions requiring such exchange. Finding of Fact 75. Du Pont argues that neither Zirconium, which entered the industry in 1934, nor Virginia Chemical, which entered the industry in 1935, ever exchanged technical information with du Pont or received any from du Pont. However, Finding of Fact 84 shows that, as to National Lead in 1935—

> ". . . NL and Zirconium cross licensed each other under all patents in the titanium pigment field, then owned or thereafter acquired, and both parties

agreed to exchange technical information and experience. . . .

"NL did render some engineering assistance to Zirconium in connection with the installation and use of its processes and imparted some technical information but frequently it refused to convey such technology to Zirconium on the ground that it was prevented by other agreements from so doing.

"On occasions before 1940 there was exchange of information between DP and NL relative to Zirconium's production."

Virginia Chemical was not licensed under National Lead's patents and apparently did not receive technical information from National Lead.

Finding of Fact 95, subparagraph 8, contains a further material finding, although this is disputed by du Pont:

"The defendants NL and DP secured a monopoly on technical information relating to the manufacture and use of titanium pigments and certain apparatus and equipment necessary to the manufacture of certain titanium pigments to the exclusion and detriment of other producers now engaged in the titanium pigment business in the United States; when NL and DP ceased exchanging technical information, the titanium pigment business was a mature industry."

The requirement for the exchange of technical knowledge under the present decree is merely that included in paragraph 7, which is as follows:

"During a period of three years from the date of this decree such license or reciprocal license may at the option of either party contain a provision for the imparting in writing at a reasonable charge, by the

licensor to the licensee, of the methods and processes used by the former at the date of the license in its commercial practice under the licensed patents in connection with the production of titanium pigments."

The limited scope of this access to technical information is apparent. On the other hand, there is reason to believe that the knowledge which thus can be secured may be vital in giving value to the compulsory licenses which are a central feature of the decree. The information is put upon a basis comparable to that of a license. Just as a licensee is required to pay a uniform, reasonable royalty for the privilege of operating under the patent, so, also, he is required to pay a reasonable charge for the information as to methods and processes which may be important to him in his commercial practice under the licensed patents.

The need for technical information to accompany patent licenses in this field, at least where desired by a newcomer, is testified to repeatedly. If there be such a need, the reasonableness of this limited availability of it as stated in the decree is hard to deny. Findings of fact evidencing the importance of such information include the following:

"NL wished to pool with DP all their patents and technical information relating to the manufacture or use of titanium pigments in the United States in order to settle its patent controversies with DP and to obtain access to DP's patents and technical facilities and jointly to control and dominate the manufacture and sale of titanium pigments and compounds; . . . . Both TP and Krebs began to exchange extensively technical information relating to the manufacture and use of titanium pigments in 1932 and the information so exchanged related to much more than any alleged claims of patent in-

fringement by either company. Blumenfeld and his foreign associates furnished technical aid and assistance to Krebs at its instance from August 1931 until the approximate date at which TP and Krebs commenced the exchange of technical information in 1932." Finding of Fact 72.

"DP and NL exchanged technical information relating in any manner to the manufacturing or use of titanium pigments or compounds from about April, 1932, until April, 1940." Finding of Fact 75.

"In entering into the agreement, Ex. E [the agreement of July 1, 1933], NL had several purposes:

1) For about a year prior to the making of Ex. E. officials of NL had been concerned by the early expiration dates of many of the patents upon which NL relied. By exchanging patents and technology with DP, a large and powerful corporation, possessed of great research facilities, NL expected to strengthen the patent monopoly of NL and DP jointly, as against newcomers in the titanium pigment business.

. . . . . .

"DP's purpose in entering into the agreement Ex. E were:

. . . . . .

3) To obtain access to NL's technical experience and patents in the titanium pigment field as well as the patents and the experience of NL's foreign associates.

. . . . . .

"The necessary effects of the agreement Ex. E and of DP assurances have been

1) The achievement of NL purposes.

2) The achievement of DP's purposes.

3) To give NL and DP together domination and control over the titanium pigment business in the U. S." Finding of Fact 79.

National Lead on this point now takes a middle ground. Apparently it supports the present provision in the decree and opposes its expansion as proposed by the Government. It expressly endorses the present provisions if the decree is amended so as to put the compulsory licenses on a royalty-free basis. If it approves this grant of access to technical information on that basis, it hardly can object to it in connection with licenses on a uniform, reasonable royalty basis.

The fact that this Court eliminated, without discussion, paragraph 24 (c) from the *Hartford-Empire* decree is not controlling here. *Hartford-Empire Co. v. United States, supra*, 413, 418. The fact that the violations of the Anti-trust Act may have been more reprehensible in that case than here is not persuasive because this provision is not and should not be punitive. The justification for the compulsory imparting of methods and processes rests upon its appropriateness and upon the necessity for it in providing an effective decree. In the *Hartford-Empire* decree, paragraph 24 (c) proposed to make available to any licensee under paragraph 24 (a) (without royalties), or under paragraph 24 (b) (with reasonable royalties), at cost, plus a reasonable profit, "all drawings and patterns 'relating to the machinery or methods used in the manufacture of glassware' embodied in the licensed inventions . . . ." *Id.* at 413–414. This Court, in that case, modified paragraphs 24 (a) and 24 (b) and deleted paragraph 24 (c). In the absence of a statement of this Court's reasons for the deletion of paragraph 24 (c), it cannot be assumed that, by such deletion, it announced its disapproval, in all future decrees, of provisions requiring the supplying of technical information to licensees at a reasonable charge.

It may well be that the District Court, in the present case, took into consideration the argument made by National Lead that, in this field, "The product claims cover practically all such improved titanium pigments." Thus,

of 23 different grades of titanium pigments (*i. e.* different products) sold by NL. 21 are covered by unexpired patents." Finding of Fact 37. Therefore, the imparting to the newcomer of methods and processes covered by the decree might be particularly important to him in entering this industry where substantially all the commercial products are covered either by process or product patents.

Du Pont has presented a strong case against compelling it to make further disclosure of its technical information to its leading competitor, National Lead, in this comparatively mature technical industry, especially since the agreement of 1941 between these companies expressly terminated their pre-existing agreement to supply such information. This argument does not apply, however, with comparable force, to the many other situations toward which this provision is directed. Under all the circumstances, and in view of the narrow limits written into the provision by the District Court, we believe that it represents a permissible exercise of judicial discretion. It is to be judged from the point of view of the public interest as well as that of the private interests concerned. That public interest requires that the court be permitted to produce the most effective and generally fair decree that it can devise to give effect simultaneously to the antitrust laws and the patent laws.

This decision relies also on the permissible breadth of the District Court's discretion over the conditions under which technical information shall be required to be shared with the world. The attempt of the Government to throw the field of technical knowledge in the titanium pigment industry wide-open would reduce the competitive value of the independent research of the parties. It would discourage rather than encourage competitive research. It would be contrary to, rather than in conformity with, the policy of the patent laws now in force.

Changes in the underlying policies of the patent laws frequently have been presented to Congress,[10] but Congress, by its failure to accept those changes, has added to, rather than detracted from, the strength of the present and traditional patent policies.

"D. Request to omit the provision that National Lead and du Pont, respectively, may make the grant of any license by either of them to an applicant under the decree, conditioned upon the reciprocal grant of a license by the applicant at a reasonable royalty, under certain described patents owned or controlled by such applicant. This is urged by the Government in No. 89 and opposed by the appellant companies.

The District Court, during the conferences on the terms of the decree, summarized the need for this provision by a concrete illustration of what it suggested might happen without it. It said:

> "Otherwise you will arrive at a situation conceivably where Virginia Chemical would simply change places with du Pont in becoming the dominating factor in the industry under this extraordinary advantage of being able to take everything for itself and keeping everything that it has."

The District Court distinguished the present case from the *Hartford-Empire* case by showing that, in the latter, there had not been a similar reason for inserting the reciprocal requirement. In that case, the court was dealing with a licensor organization which had no use for patents except for the resulting control over licensing and, consequently, it would have derived no benefit from cross-

[10] H. R. 20488, 60th Cong., 1st Sess. (1908); H. R. 11,796, 61st Cong., 1st Sess. (1909); H. R. 2030, 62d Cong., 1st Sess. (1911); H. R. 16828, 62d Cong., 2d Sess. (1912); H. R. 23,417, as amended, 62d Cong., 2d Sess. (1912); H. R. 1700, 63d Cong., 1st Sess. (1913); H. R. 14,865, 63d Cong., 2d Sess. (1914); S. 2783, 70th Cong., 1st Sess. (1928); S. 2491, 77th Cong., 2d Sess. (1942).

licenses. The reciprocal clause includes an appropriate reference to future patents. As a five-year limit is put on the patents which will be subject to the compulsory license clause, under paragraphs 4 and 7 of the decree, so also the reciprocal licenses are limited by paragraph 7 to "patents covering titanium pigments or their manufacture, now issued or pending or issued within five years from the date of this decree. . . ."

Here again, the provision is well within the discretion of the District Court in seeking means to fit the relief it grants to the needs of the particular case, always with due regard to the underlying public interest that is inherent in the antitrust and patent laws.[11]

E. Request to omit the six-months' time limit imposed by the decree upon the options of American Zirconium Corporation and Virginia Chemical Corporation, respectively, to secure certain licenses under the decree. This is urged by the Government in No. 89. It is not discussed here in the briefs of the other parties. The effective date of the decree of October 11, 1945, was stayed and suspended, by the order of MR. JUSTICE REED entered January 2, 1946, pending determination of the present appeals to this Court, so that more than six months already have passed since the original date of the decree without prejudicing the rights of the parties affected. In view of such suspension and of the new effective date to be given to the decree, pursuant to the order of this Court, there will be ample time for the exercise of this option under its terms.

F. Request to modify the language of the decree so as to eliminate language which, it is claimed, enjoins normal

[11] Provisions for reciprocal licensing have been incorporated in consent decrees. See *United States* v. *General Elec. Co.*, CCH Trade Reg. Serv. ¶ 52,777 (D. C. N. J. 1942); *United States* v. *American Bosch Corp.*, CCH Trade Reg. Serv. ¶ 52,888 (D. C. S. D. N. Y. 1942).

and usual business arrangements betwen the appellant companies and other producers of titanium products. This is urged by National Lead in No. 90 and is opposed by the Government. The precise request is to strike from paragraphs 5 and 6 of the decree certain language shown in the margin of this text in italics and to insert in paragraph 6 the word "producer" at the point there shown in capital letters.[12] National Lead contends that the cancellation of the agreements, as ordered in paragraph 5, and the injunction, as ordered in paragraphs 5 and 6, against

[12] "'5. The following agreements are hereby adjudged to be unlawful under Section 1 of the Sherman Act and each of them is hereby cancelled *and the defendants and each of them and all persons acting or claiming to act through, for or under them and all successors and subsidiaries of any of the defendants are hereby enjoined and restrained from the further performance of any of the provisions of said agreements and of any agreements amendatory thereof or supplemental thereto:* [followed by a list of the canceled agreements]

"'6. Each of the defendants and each of their directors, officers, agents, employees, successors and subsidiaries and all persons acting, or claiming to act under, through or for them or any of them are hereby enjoined and restrained (a) *from entering into, adhering to, maintaining or furthering, directly or indirectly, or claiming any rights under any contract, agreement, understanding, plan or program among themselves, the co-conspirators, or with any other person, partnership or corporation, which has as its purpose or effect the continuing or renewing of any of the agreements listed in paragraph 5 hereof;* (b) from entering into, adhering to, maintaining or furthering, directly or indirectly, any contract, agreement, undertaking, plan or program with any other producer or dealer relating to titanium pigments which has as its purpose or effect (1) to divide sales or manufacturing territories, (2) to allocate markets, (3) to limit or prevent United States imports or exports, (4) to grant to any third party any market as its exclusive territory, (5) to keep any third party out of any market; provided, however, that nothing contained in this subdivision (b) of this paragraph 6 shall prohibit any normal and usual arrangements between any defendant and its directors, officers, employees, agents, subsidiaries, or any PRODUCER, dealer or distributor, whether or not a co-conspirator; (c) from restricting any purchaser of titanium pigments in the use thereof.'"

the further performance or the continuation or renewal of the unlawful provisions thereof (namely, division of sales or manufacturing territory, allocation of markets, limitation of imports or exports, restrictions on use, etc.) will insure complete and effective relief without subjecting National Lead or du Pont to undue hardship and losses. Accordingly, National Lead states that it asks for the changes here indicated in the interest of promoting trade and competition in titanium pigments.

We agree, however, with the Government's interpretation that paragraph 5 deals solely with the future enforceability of existing contracts and that the deletion of the words requested by National Lead is not necessary in order to remove barriers to future contracts. Paragraph 6 deals with future contracts. Clause (a) enjoins the parties from entering into or adhering to any agreement, plan or program "which has as its purpose or effect the continuing or renewing of any of the agreements listed in paragraph 5 . . . . ." Since such agreements have been found to violate the Sherman Act, this provision imposes no unjustified restriction on National Lead's power to contract. We find also no sufficient basis for inserting the word "producer" as requested in paragraph 6. If National Lead later can demonstrate that its right of contract has been unduly restricted, it may, under the terms of the decree, apply to the District Court for a modification of the judgment.

G. Request to omit the requirement that National Lead and Titan Inc., within one year, shall present to the District Court, for its approval, a plan for divesting themselves of their stockholdings and other financial interests in certain foreign companies or for the purchase of the entire stockholdings and interests, direct or indirect, in such companies or any of them. To accomplish this, National Lead and Titan Inc., in No. 90, urge the deletion

of paragraph 8 from the decree.[13] The Government opposes such deletion. The requirement imposed by paragraph 8 is merely that certain parties shall present to the District Court, within one year, a plan subject to its approval. That court, during the conferences on the terms of the decree, said: "In other words, the stock acquisitions were part and parcel of the territorial allocation agreements, and probably were a necessary element in the establishment of the territorial arrangement." We find ample reasons in the record for the action of the District Court in inserting paragraph 8 in the decree. It is related directly to the injunction against further performance of any of the provisions of the agreements listed in the decree as being in violation of the Sherman Act.

In thus disposing of the points relied upon in the respective appeals, the decree will remain as originally entered by the District Court, excepting only that, as a result of the dissolution of the stay and suspension of certain provisions of the decree contained in paragraphs 5, 8, 9, 10 and 11 thereof, which were granted pending determination of these appeals to this Court, the decree shall be deemed, for the purposes of those paragraphs and for the running of time thereunder, to take effect on the effective date of the mandate to be issued by this Court.

For the reasons set forth, the motion of the United States to amend its assignments of error is granted and the judgment of the District Court is

Affirmed.

MR. JUSTICE BLACK and MR. JUSTICE JACKSON took no part in the consideration or decision of these cases.

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[13] For paragraph 8, *see* note 4, *supra*.

SUPREME COURT OF THE UNITED STATES

Nos. 89, 90, 91.—October Term, 1946.

The United States of America, Appellant, 89 v. National Lead Company, Titan Company, Inc., and E. I. du Pont de Nemours and Company.	On Appeals from the District Court of the United States for the Southern District of New York.
National Lead Company, and Titan Company, Inc., Appellants, 90 v. The United States of America.	
E. I. du Pont de Nemours and Company, Appellant, 91 v. The United States of America.	

[June 23, 1947.]

Mr. Justice Douglas, with whom Mr. Justice Murphy and Mr. Justice Rutledge concur, dissenting in part.

I cannot agree that royalties should be charged on patents whose misuse has been so flagrant as to persuade us to approve compulsory licensing of all who desire to use the inventions. Nor do I think that the failure to provide for royalty free licensing may be sustained as an exercise of the judicial discretion of the District Court. That would be the case if the District Court had been free to frame its decree unembarrassed by the ruling in *Hartford-Empire Co.* v. *United States*, 323 U. S. 386, 324 U. S. 570. In that case this Court modified an anti-trust decree so as to permit "reasonable" royalties on patents which had been ordered licensed without charge to all applicants. The language there used well might

lead a court to the conclusion that royalty-free licensing is a remedy unacceptable as a matter of law.[1] In these circumstances it is fair to assume that the action of the district judge in the present case was in deference to the *Hartford-Empire* rule rather than a reflection of his own judgment.[2]

The *Hartford-Empire* case presented the first instance, so far as I am aware, of the incorporation of a royalty free licensing provision in an antitrust decree. Since the question is one of the greatest importance in the administration of the antitrust laws, and was not considered by the full Court,[3] I think it remains an open one, except as applied to the *Hartford-Empire* case, and we are free to consider whether that case should be followed under the facts and circumstances here presented.

In the *Hartford-Empire* case the Court stressed the fact that Congress had not specifically authorized for-

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[1] "That a patent is property, protected against appropriation both by individuals and by government, has long been settled. In recognition of this quality of a patent the courts, in enjoining violations of the Sherman Act arising from the use of patent licenses, agreements, and leases, have abstained from action which amounted to a forfeiture of the patents.

"The Government urges that such forfeiture is justified by our recent decisions. . . . But those cases merely apply the doctrine that, so long as the patent owner is using his patent in violation of the antitrust laws, he cannot restrain infringement of it by others. We were not there concerned with the problem whether, when a violation of the antitrust laws was to be restrained and discontinued, the court could, as part of the relief, forfeit the patents of those who had been guilty of the violation. Lower federal courts have rightly refused to extend the doctrine of those cases to antitrust decrees by inserting forfeiture provisions." 323 U. S. pp. 415–416.

[2] He, indeed, stated on argument of a motion to determine reasonable royalties: "I would have liked to go along on the question of royalty-free patents, but I felt that I hadn't been given the green light on that."

[3] The *Hartford-Empire* decision was four to two on this point.

feiture of patents in antitrust actions. It thought that "if, as we must assume on this record, a defendant owns valid patents, it is difficult to say that, however much in the past such defendant has abused the rights thereby conferred, it must now dedicate them to the public." 323 U. S. p. 415. The difficulty with that argument is that it proves too much. For the Court was at the same time sanctioning compulsory licensing, a most serious inroad on patent rights. The patent law gives to the patentee or his assignee the "exclusive right to make, use, and vend the invention or discovery. . . ." R. S. § 4884, 35 U. S. C. § 40. If the antitrust court could not interfere with patent rights, then it could not order licensing on any terms, for mandatory licensing is hardly consistent with exclusive rights. Again, if the failure of Congress specifically so to provide prevents a court from directing royalty-free licensing, then by the same token the failure to provide for compulsory licensing is a bar to that relief also.

It is thus clear that the criterion for choosing the appropriate antitrust remedies cannot be found in Congressional silence. The task of putting an end to monopolistic practices and restoring competition is one of magnitude and complexity; Congress has authorized use of the broadest powers of equity to cope with it. Under a statute providing more detailed remedies than do the antitrust laws, we have held that an equity court may mould additional ones. *See Porter* v. *Warner Holding Co.*, 328 U. S. 395. And its powers under the antitrust laws, though not specifically enumerated, are ample to thwart the plans of those who would build illegal empires, no matter how imaginative their undertakings or subtle their techniques. The power of the court is not limited to the restraint of future transgressions. The impairment of property rights is no barrier to the fashioning of a decree which will grant effective relief. *United States*

v. *Union Pacific R. Co.*, 226 U. S. 470, 476–477. Divestiture or dissolution may be ordered in spite of hardship, inconvenience, or loss. *United States* v. *Crescent Amusement Co.*, 323 U. S. 173, 189. Devices or instrumentalities which may be used for legitimate ends may nevertheless be outlawed entirely where they have been employed to build the monopoly or to create the restraint of trade. *United States* v. *Crescent Amusement Co.*, *supra*, pp. 187–188. For the aim of the decree is not only to prevent a repetition of the unlawful practice but to undo what was done, to neutralize power unlawfully acquired, to prevent the defendants from acquiring any of the fruits of the condemned project. *Standard Oil Co.* v. *United States*, 221 U. S. 1, 78.

If that is to be done here, I think we must do more than forbid further expansion of the existing monopolistic situation. The defendants have unlawfully acquired control and domination over this industry to the exclusion of competitors. This control was obtained in part through the unlawful acquisition and use of patents. As stated by the District Court, "These patents, through the agreements in which they are enmeshed and the manner in which they have been used, have, in fact, been forged into instruments of domination of an entire industry. The net effect is that a business, originally founded upon patents which have long since expired, is today less accessible to free enterprise than when it was first launched." 63 F. Supp. 513, 532. If defendants are allowed royalties on those patents, they do, indeed, reap dividends from their unlawful activities. As stated in a dissent in the *Hartford-Empire* case, "Every dollar hereafter, as well as heretofore, secured from licenses on the patents illegally aggregated in the combination's hands is money to which the participants are not entitled by virtue of the patent laws or others. It is the immediate product of the conspiracy." 323 U. S. p. 443.

But beyond that is the effect on the industry. Here defendants have been in a commanding and impregnable position. They have dominated the field and suppressed competition. If competition is to be restored strong measures must be adopted to provide the maximum opportunity for new ventures to compete with the established giants of the industry. It is here that the major vice of permitting royalties on the licensed patents becomes apparent. Each dollar of royalty adds a dollar to the costs of the new competitor and gives the established licensor another dollar with which to fight that competition. As stated by National Lead in its brief before this Court:

> "National and du Pont not only compete with their licensees but dominate the titanium industry. A requirement of uniform, reasonable royalties in no way frees competition because, no matter what the royalty may be, *in this industry* a licensee required to pay more than its licensor will be at a competitive disadvantage."
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> . . . . . .
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> "Compulsory licensing alone would not be enough to restore the industry to a healthy, competitive condition. If National and du Pont are permitted to receive royalties on their existing patents, they will still be in position to dominate the industry."

If National Lead, the world's largest producer of titanium pigments, expects to find itself at a competitive disadvantage as a result of reasonable royalty licenses, what can be the probable fate of newcomers or existing independents of smaller stature?[4]

[4] It must be remembered that one of the consequences of the unhealthy monopolistic condition in the industry has been a dearth of the ordinary patent litigation. The burden of testing potentially invalid patents will thus be placed on the first enterprise unwilling to pay the royalties.

The decree approved by the Court stops short of granting effective relief. Divestiture is refused. Compulsory licensing is ordered, but only to those who are willing reciprocally to license use by the defendants of their patents. In this additional respect the decree will enable the large established companies to strengthen their dominant position. To get the benefits of the decree an independent must give up one of his few competitive advantages—the exclusive right to use such patents as he may possess. These provisions, plus the additional requirement of royalties on the misused patents, even though those royalties be "reasonable," greatly increase the odds against restoration of competition in this industry.

Except as to the matters mentioned, I join in the opinion of the Court.